

RECEIVED

Dec 09 2021

SC Court of Appeals

THE STATE OF SOUTH CAROLINA
In The Court of Appeals

APPEAL FROM SPARTANBURG COUNTY
Appellate Panel of the South Carolina Workers' Compensation Commission

R. Michael Campbell, II; Avery B. Wilkerson, Jr.; Aisha Taylor
South Carolina Workers' Compensation Commissioners

Case No. 1614297
Appellate Case No. 2021-000669

Kenneth D. Christian, Employee,

Appellant,

v.

Sew Eurodrive, Inc., Employer and
Great American Alliance Insurance Company, Carrier,

Respondents.

RECORD ON APPEAL

VOLUME IV

Thomas S. Phillips, Esq. (SC Bar No. 102802)
Smith Jordan, P.A.
P.O. Box 1207
Easley, SC 29641
864-855-1661
phillips@smithjordan.com
Attorney for Appellant

Benjamin M. Renfrow, Esq. (SC Bar No. 71245)
Willson Jones Carter & Baxley, P.A.
325 Rocky Slope Road, Suite 201
Greenville, SC 29607
864-527-3296
bmrenfrow@wjcblaw.com
Attorney for Respondents

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 8/17/2017
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 8/17/2017 4:01 PM (continued)

	Instructions
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
esomeprazole (Nexium) 40 MG capsule	Take 40 mg by mouth every other day Indications: Heartburn.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take by mouth.
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.
ONETOUGH DELICA LANCETS 33 gauge	
ONETOUGH ULTRA TEST	
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.
ciprofloxacin HCl (CIPRO) 500 mg tablet	Take 1 tablet AM & PM; the day before procedure, the day of procedure, and the day after procedure
docusate sodium (COLACE) 100 mg capsule	Take 1 capsule (100 mg) 2 (two) times a day.
ondansetron (ZOFTRAN ODT) 4 mg disintegrating tablet	Place 1 tablet (4 mg) under the tongue 3 (three) times a day as needed for nausea or vomiting.

ROS

Review of Systems

Constitutional: Negative for fever, chills and unexpected weight change.

HENT: Positive for congestion. Negative for nosebleeds, postnasal drip and sinus pressure.

Respiratory: Positive for cough and wheezing. Negative for shortness of breath.

Cardiovascular: Negative for chest pain and palpitations.

Gastrointestinal: Negative for nausea, vomiting and diarrhea.

Objective:

Physical Exam

Constitutional: He is active. No distress.

HENT:

Head: Normocephalic.

Nose: No mucosal edema or septal deviation.

Mouth/Throat: Oropharynx is clear and moist and mucous membranes are normal. Normal dentition.

Neck: Neck supple. No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: Effort normal and breath sounds normal. No accessory muscle usage or stridor. No respiratory distress. He has no wheezes. He has no rales.

Abdominal: Soft. Bowel sounds are normal. There is no hepatosplenomegaly. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patwood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 8/17/2017
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 8/17/2017 4:01 PM (continued)

Skin: Skin is intact. No lesion and no rash noted. No cyanosis. Nails show no clubbing.

Lab Review:

	6/28/2016	2/9/2017	8/17/2017
FVC	3.33 L	2.9 L	2.85 L
% Pred	78 %	68 %	67 %
FEV1	2.61 L	2.49 L	2.41 L
% Pred	82 %	79 %	77 %
FEV1/FVC	78 %	86 %	85 %
FVC (post)	3.17 L		
% Pred	74 %		
FEV1 (post)	2.59 L		
FEV1 post %Pred	81 %		
FEV1/FVC (post)	82 %		
TLC	4.35 L	4.2 L	
% Pred	66 %	63 %	
RV	1.02 L	1.18 L	
% Pred	45 %	52 %	
RV/TLC	23 %	28 %	
DLCO		10.6 mL/mmHg/min	9.6 mL/mmHg/min
% Pred		44 %	41 %

Pulmonary function tests reveal a mild restrictive ventilatory impairment with significant decrease in the DLCO to 41% of predicted. The PFTs including the DLCO are approximately same as that of 2/2017.

Assessment/Plan:

Hypersensitivity pneumonitis

Assessment & Plan:

Changes on VATS biopsy 8/26/16. Patient no longer is working in the environment that was felt to cause his problems. His pulmonary function tests are stable from 2/2017 and showed a mild restrictive ventilatory impairment and significant decrease in DLCO. Patient is not hypoxic.

SOB (shortness of breath)

Assessment & Plan:

Improved with Breo and will continue.

FOLLOW UP:

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
Greenville SC 29615-6338 Encounter date: 8/17/2017
Amb Encounter Report

Progress Notes (continued)**Leonard James Cochrane Jr., MD at 8/17/2017 4:01 PM (continued)**

Return in about 8 months (around 4/17/2018) for w pft/dlco and 6MWT.

Complete By:

Leonard James Cochrane Jr, MD
8/17/2017

Electronically signed by Leonard James Cochrane Jr., MD on 8/17/2017 5:38 PM

H&P Notes

No notes of this type exist for this encounter.

Follow-up and Disposition History

08/17/2017 1737 - Leonard James Cochrane Jr., MD

Disposition: Return in about 8 months (around 4/17/2018) for w pft/dlco and 6MWT.

08/17/2017 1621 - Kathy Lynn Rea

Disposition: Return in about 8 months (around 4/17/2018) for w pft/dlco.

Encounter-Level Documents:

There are no encounter-level documents.

Order-Level Documents:

There are no order-level documents.

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 4/25/2018
 Amb Encounter Report

All Orders and Results Except Lab and Imaging (continued)

6 Min Walk Test - Outpatients (continued)

Max during exercise Borg-Dyspnea Scale: 4
 Rest required?: yes
 Reason(s) for rest: to apply O2

Impression:

6 minute walk test shows mild reduction in walk distance. Patient desats to 86% on room air requires 1 L/min of oxygen.

Resulted: 04/25/18 1108, Result status: In process

6 Min Walk Test - Outpatients [94974673]

Narrative:

Six Minute Walk Test Results

Distance Walked (meters): 365 m
 % Predicted (distance): 67
 LLN: 402
 SpO2 resting: 94
 HR resting: 110
 Suppl O2 resting: 0
 BP resting: 142/60
 Pre-exercise Borg-Dyspnea Scale (RPE): 3
 Lowest SpO2 exercise: 86
 Max HR exercise: 115
 % Predicted (HR): 75
 Suppl O2 exercise: 1
 BP after exercise: 144/72
 Max during exercise Borg-Dyspnea Scale: 4
 Rest required?: yes
 Reason(s) for rest: to apply O2

Result Summary

All Lab and Imaging Orders and Results

No orders and results found

Progress Notes

Leonard James Cochrane Jr., MD at 4/25/2018 11:00 AM

Author Type: Physician

Status: Addendum

Chief Complaint:

Interstitial Lung Disease

HPI:

Kenneth Dorsey Christian is a 67 y.o. male previously followed by Dr. Gregg for interstitial lung disease. He is a lifelong nonsmoker.

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 4/25/2018
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 4/25/2018 11:00 AM (continued)

8/26/16 VATS biopsy showed chronic hypersensitivity pneumonitis. This has been felt secondary to soldering fumes. He no longer works in this environment. He was on prednisone from 8/29/16 till 10/30/16. Patient had previously been started on Breo and continued on this since it did help his breathing.

Patient overall feels that he is more SOB including bending overall, making bed and moderate exertion. For the last 2 1/2 weeks he has had green/yellow phlegm production without fever or chills. He received a steroid injection X 1 by PCP without improvement.

Medications:

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
cholecalciferol, vitamin D3, 1,000 unit tablet	Take 1,000 Units by mouth daily Indications: Prevention of Vitamin D Deficiency.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take by mouth.
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.
albuterol (VENTOLIN HFA, PROAIR HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 6 (six) hours as needed for wheezing.
ciprofloxacin HCl (CIPRO) 500 mg tablet	Take 1 tablet AM & PM; the day before procedure, the day of procedure, and the day after procedure
docusate sodium (COLACE) 100 mg capsule	Take 1 capsule (100 mg) 2 (two) times a day.
esomeprazole (NexIUM) 40 MG capsule	Take 40 mg by mouth every other day Indications: Heartburn.
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.
ondansetron (ZOFTRAN ODT) 4 mg disintegrating tablet	Place 1 tablet (4 mg) under the tongue 3 (three) times a day as needed for nausea or vomiting.

ROS

Review of Systems

Constitutional: Negative for chills, fatigue and fever.

Generated on 5/30/18 10:36 AM

Page 91

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 4/25/2018
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 4/25/2018 11:00 AM (continued)

HENT: Positive for congestion and sinus pressure. Negative for postnasal drip, sinus pain, sore throat, trouble swallowing and voice change.

Respiratory: Positive for cough (producing yellow/green sputum) and shortness of breath. Negative for wheezing.

Cardiovascular: Negative for chest pain, palpitations and leg swelling.

Gastrointestinal: Negative for nausea and vomiting.

Neurological: Negative for dizziness, weakness, light-headedness and headaches.

Psychiatric/Behavioral: Negative for sleep disturbance. The patient is not nervous/anxious.

Objective:

Physical Exam

Constitutional: No distress.

HENT:

Head: Normocephalic.

Mouth/Throat: Oropharynx is clear and moist.

Neck: No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: No stridor. No respiratory distress. He has no wheezes. He has rales (dry crackles).

Abdominal: Soft. Bowel sounds are normal. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: No rash noted. Nails show clubbing.

Lab Review:

PFT

	2/9/2017	8/17/2017	4/25/2018
FVC	2.9 L	2.85 L	2.43 L
% Pred	68 %	67 %	67 %
FEV1	2.49 L	2.41 L	2.13 L
% Pred	79 %	77 %	77 %
FEV1/FVC	86 %	85 %	87 %
TLC	4.2 L		
% Pred	63 %		
RV	1.18 L		
% Pred	52 %		
RV/TLC	28 %		
DLCO	10.6 mL/mmHg/min	9.6 mL/mmHg/min	12.2 mL/mmHg/min

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 4/25/2018
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 4/25/2018 11:00 AM (continued)

% Pred	44 %	41 %	54 %
--------	------	------	------

Pulmonary function test reveals stable mild restrictive ventilatory impairment. DLCO has improved from previous 9.6 to now 12.2 or 54% of predicted.

6MWT

6 MIN WALK TEST - OUTPATIENTS

Impression 6 minute walk test shows mild reduction in walk distance. Patient desats to 86% on room air requires 1 L/min of oxygen.

Distance walked: 365 m (67)
 LLN: 402 m

	Rest	Walk
Sat	94	86
Supp O2	0	1
HR	110	115 (75%pred)
BP	142/60	144/72
Dyspnea	3	4

CXR

Imaging Results

XR Chest 2 Vw 4/25/2018

Narrative

GHS LUNG CENTER IMAGING RESULT NOTE:

Indication: ILD, new hypoxia and discolored sputum.

Findings: Continued bibasilar predominant reticulonodular abnormalities.

Impression: Continued reticulonodular opacities.

Assessment/Plan:

ILD (interstitial lung disease) (HCC)

Patient with stable spirometry and improved DLCO. Now with exertional desaturation that is new. Question is if this is due to worsening ILD or secondary to superimposed acute bronchitis. Will not start O2 today after discussion with patient. Instead will start antibiotics and have patient return in 6 weeks with 6MWT only--if still exertional desat will start O2 then. Will follow up with me in 4 months. Will arrange for Handicap Sticker.

SOB (shortness of breath)

Secondary to ILD. Has subjectively felt less SOB with Breo suggesting another component also. Continue Breo and add as needed albuterol.

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patewood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 4/25/2018
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 4/25/2018 11:00 AM (continued)

Acute bronchitis due to infection
 Place on Zpak.

Orders Placed This Encounter

Procedures

- 6 Min Walk Test - Outpatients

FOLLOW UP:

Return for 6 weeks for NURse visit for 6MWT only, 4 months with Dr. Cochrane with CXR.

Complete By:

Leonard James Cochrane Jr, MD
 4/25/2018

Electronically signed by Leonard James Cochrane Jr., MD on 4/25/2018 12:57 PM

H&P Notes

No notes of this type exist for this encounter.

Follow-up and Disposition History

04/25/2018 1157 - Jessica Lamb

Disposition: Return for 6 weeks for NURse visit for 6MWT only, 4 months with Dr. Cochrane with CXR.

04/25/2018 1150 - Jessica Lamb

Disposition: Return for 6 weeks for NURse visit for 6MWT only, 4 months with Dr. Cochrane.



**GREENVILLE
HEALTH SYSTEM**

Lung Center-
Patewood
200 PATEWOOD DR
STE B-300
GREENVILLE SC
29615-6338

Christian, Kenneth Dorsey
MRN: 970179298, DOB: 8/13/1950, Sex:
M
Encounter date: 6/12/2018

Christian, Kenneth Dorsey

MRN: 970179298
Description: 67 year old male

Office Visit 6/12/2018
Lung Center-Patewood

Provider: Mary Jeanne Williams, NP (Nurse Practitioner)
Primary diagnosis: Chronic respiratory failure with hypoxia (HCC)
Reason for Visit: Follow up O2 recert

Progress Notes

Mary Jeanne Williams, NP (Nurse Practitioner) • Nurse Practitioner

Cosigned by: Clayton Joel Shamblin, MD at 6/13/2018 11:06 AM

Attestation signed by Clayton Joel Shamblin, MD at 6/13/2018 11:06 AM

I have reviewed the notes, assessments, and/or procedures performed by Jeanne Williams NP, I concur with her documentation of Kenneth Christian

Clayton Joel Shamblin, MD

Expand All Collapse All

GHS Lung Center Pulmonary Disease Associates



Patewood Lung Center
200 Patewood Dr., Building B, Suite 300
Greenville, SC 29615
864-454-4200

06/12/18

Chief Complaint

Patient presents with
• Follow up O2 recert

HPI

Kenneth Dorsey Christian is a 67 y.o. year old male with a history of CAD, hx of MI, s/p PCI who presents for O2 certification.. He is followed in pulmonology by Dr. Cochrane for interstitial lung disease, bronchiectasis, and chronic respiratory failure last seen April 2018.

He had a walk test in April 2018 demonstrating exertional hypoxemia but he was also mildly exacerbated at the time, treated with a zpack. He was brought back to the clinic June 6th for a repeat 6MWT to see if exertional hypoxemia persisted after treatment of his acute bronchitis. Follow up testing showed he needed supplemental O2 2L/min to maintain adequate oxygenation.

He reports his chronic cough, sputum production and shortness of breath to be at baseline. He is compliant with Breo use and uses Proair 1-2 x per day. Reports sputum production varies in quantity and the mucinex has been helpful with clearance. No f/c/night sweats, hemoptysis, unexplained weight loss. He has a history of allergies, tx with zyrtec, sx managed.

He is s/p VATs biopsy August 2016 which demonstrated chronic hypersensitivity pneumonitis felt to be secondary to prior hx of exposure to soldering fumes. He is a never smoker. Father had lung cancer.

Dr. Cochranes notes reviewed.

Immunization History

Administered	Date(s) Administered
• Pneumococcal Conjugate 13-Valent	04/04/2016, 12/13/2016
• Pneumococcal Polysaccharide	12/27/2017
• Td	11/13/2011
• Zoster	11/13/2011

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.
albuterol (VENTOLIN HFA, PROAIR HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 6 (six) hours as needed for wheezing.
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
cholecalciferol, vitamin D3, 1,000 unit tablet	Take 1,000 Units by mouth daily Indications: Prevention of Vitamin D Deficiency.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.

	Instructions
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL) Handicap Placard	Take by mouth. Supply prescription to SCDMV with completed form RG-007A.
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.
ciprofloxacin HCl (CIPRO) 500 mg tablet	Take 1 tablet AM & PM; the day before procedure, the day of procedure, and the day after procedure
docusate sodium (COLACE) 100 mg capsule	Take 1 capsule (100 mg) 2 (two) times a day.
esomeprazole (NexIUM) 40 MG capsule	Take 40 mg by mouth every other day Indications: Heartburn.
ondansetron (ZOFTRAN ODT) 4 mg disintegrating tablet	Place 1 tablet (4 mg) under the tongue 3 (three) times a day as needed for nausea or vomiting.
oxygen, O2,	Use as instructed. 2 lpm w exertion

No Known Allergies

Past Medical History:

Diagnosis	Date
• Coronary artery disease <i>MI (no damage to heart) 2002 w/ stent</i>	
• HLD (hyperlipidemia)	
• Myocardial infarction (HCC)	2002
• Other PULMONARY Hx <i>CT of chest on EPIC from 8/10/16; 6 minute walk test on EPIC from 6/28/16</i>	
• Other PULMONARY Hx <i>SOB on exertion, steps, hills, working out in gym</i>	
• Stented coronary artery <i>no problems since</i>	2002

Past Surgical History:

Procedure	Laterality	Date
• COLONOSCOPY <i>tubular adenoma & hyperplastic polyps x2 removed</i>		11/09/15
• COLONOSCOPY <i>adenomatous polyps removed</i>		8/14/17
• LUNG BIOPSY		8/2016
• SINUS SURGERY		2005
• SKIN CANCER EXCISION		

Social History

Social History

- Marital status: Married
Spouse N/A
name:
- Number of children: N/A
- Years of education: N/A

Occupational History

- Not on file.

Social History Main Topics

- Smoking status: Never Smoker
- Smokeless tobacco: Never Used
- Alcohol use: Yes
Comment: rarely
- Drug use: No
- Sexual activity: Yes

Other Topics

Concern

- Not on file

Social History Narrative

- No narrative on file

Family History

Problem	Relation	Age of Onset
• Cancer	Mother	
• Lung cancer	Father	
• Cancer	Father	
• Cancer	Brother	

Review of Systems

Review of Systems

Constitutional: Negative for activity change, chills, fatigue, fever and unexpected weight change.

HENT: Negative for congestion, ear pain, mouth sores, postnasal drip, rhinorrhea, sinus pressure, sore throat, trouble swallowing and voice change.

Eyes: Negative for discharge and itching.

Respiratory: Positive for cough and shortness of breath. Negative for apnea, choking, chest tightness, wheezing and stridor.

No hemoptysis

Cardiovascular: Negative for chest pain, palpitations and leg swelling.

Gastrointestinal: Negative for abdominal pain, blood in stool, nausea and vomiting.

Genitourinary: Negative for hematuria.

Skin: Negative for pallor and rash.

Allergic/Immunologic: Positive for environmental allergies.
 Neurological: Negative for syncope.
 Hematological: Negative for adenopathy.
 Psychiatric/Behavioral: Negative for confusion and sleep disturbance.

Physical

BP 100/58 | Pulse 73 | Temp 97.8 °F (36.6 °C) (Oral) | Resp 18 | Ht 1.727 m (5' 8") | Wt 70 kg (154 lb 6.4 oz) | SpO2 96% | BMI 23.48 kg/m²

Body mass index is 23.48 kg/m².

Physical Exam

Constitutional: He is oriented to person, place, and time. He appears well-developed and well-nourished. Non-toxic appearance. He does not have a sickly appearance. He does not appear ill. No distress.

HENT:

Head: Normocephalic and atraumatic.

Right Ear: Tympanic membrane normal.

Left Ear: Tympanic membrane normal.

Nose: No mucosal edema.

Mouth/Throat: Uvula is midline, oropharynx is clear and moist and mucous membranes are normal.

Mallampati III

Eyes: Conjunctivae are normal. Pupils are equal, round, and reactive to light.

Neck: Neck supple. No JVD present. No tracheal deviation present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: Effort normal and breath sounds normal. No accessory muscle usage. No tachypnea. No respiratory distress. He has no decreased breath sounds. He has no wheezes. He has no rales.

Bilateral basilar crackles

Abdominal: Soft. Bowel sounds are normal. There is no tenderness. There is no rebound.

Musculoskeletal: He exhibits no edema.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert and oriented to person, place, and time.

Skin: Skin is warm and dry.

Psychiatric: He has a normal mood and affect.

Nursing note and vitals reviewed.

Labs

Lab Results

Component	Value	Date
WBC	9.8	08/27/2016
HGB	12.6 (L)	08/27/2016
HCT	37.0 (L)	08/27/2016
MCV	94.0	08/27/2016
PLT	191	08/27/2016

Lab Results

Component	Value	Date
GLUCOSE	156 (H)	08/27/2016
CALCIUM	8.5	08/27/2016
NA	136	08/27/2016
K	4.3	08/27/2016
CO2	28	08/27/2016
CL	102	08/27/2016
BUN	15	08/27/2016
CREATININE	1.00	12/28/2017

	6/28/2016	2/9/2017	8/17/2017	4/25/2018
FVC	3.33	2.9	2.85	2.43
% Pred	78	68	67	67
FEV1	2.61	2.49	2.41	2.13
% Pred	82	79	77	77
FEV1/FVC	78	86	85	87
FVC (post)	3.17	-	-	-
% Pred	74	-	-	-
FEV1 (post)	2.59	-	-	-
% Pred	81	-	-	-
FEV1/FVC (post)	82	-	-	-
TLC	4.35	4.2	-	-
% Pred	66	63	-	-
RV	1.02	1.18	-	-
% Pred	45	52	-	-
RV/TLC	23	28	-	-
DLCO	-	10.6	9.6	12.2
% Pred	-	44	41	54

Distance walked: ()
 LLN: m

	Rest	Walk
Sat		
Supp O2		
HR		(%pred)
BP		
Dyspnea		

Radiology

Chronic respiratory failure with hypoxia (HCC)

Assessment & Plan:

The patient had abnormal gas exchange on 6MWT in April 2018 at which time he also had an acute bronchitis. He returned to the clinic on 6/6 for a follow up walk test after his sx of acute bronchitis had resolved. The 6MWT demonstrated a mildly reduced walk distance. Gas exchange was abnormal and he required supplemental O2 2L/min

to maintain adequate oxygen saturation. Cardiovascular reserves were being approached. The patient will benefit from supplemental O2 therapy.

Hypersensitivity pneumonitis (HCC)

Assessment & Plan:

The patient had questions about stability of last CXR. I reviewed his last two CXR's with him as well as last CT chest. CXR's are relatively stable in comparison. Plan; continue current meds and follow up with Dr. Cochrane in ~ 2-3 months.

Return in about 2 months (around 8/12/2018) for w/Dr. Cochrane the end of August - first of September.

I personally spent 20 Minutes with the patient. More than 50% of time spent with counseling/coordination of care of the above Diagnosis and Treatment plan.

Mary Jeanne Williams, NP
06/12/18
3:40 PM

Instructions

 Return in about 2 months (around 8/12/2018) for w/Dr. Cochrane the end of August - first of September.

After Visit Summary (Printed 6/12/2018)

Additional Documentation

Vitals: BP 100/58 Pulse 73 Temp 97.8 °F (36.6 °C) (Oral) Resp 18 Ht 1.727 m (5' 8")
Wt 70 kg (154 lb 6.4 oz) SpO2 96% BMI 23.48 kg/m² BSA 1.83 m² More Vitals
Flowsheets: Travel and Exposure Screening, Fall Risk, Custom Formula Data, Vitals Reassessment
Encounter Info: Billing Info, History, Allergies, Detailed Report

Communications

 Chart Routed to Leonard James Cochrane Jr., MD

Chart Review Routing History

No encounter routing history is on file

Orders Placed

None

Medication Changes

As of 6/12/2018 2:48 PM

None

Visit Diagnoses

Chronic respiratory failure with hypoxia (HCC) J96.11
Hypersensitivity pneumonitis (HCC) J67.9

Allergies

No Known Allergies

Medical History

Diagnosis	Date	Comment	Source
Coronary artery disease		MI (no damage to heart) 2002 w/ stent	Provider
HLD (hyperlipidemia)			Provider
Myocardial infarction (HCC)	2002		Provider
Other PULMONARY Hx		CT of chest on EPIC from 8/10/16; 6 minute walk test on EPIC from 6/28/16	Provider
Other PULMONARY Hx		SOB on exertion, steps, hills, working out in gym	Provider
Stented coronary artery	2002	no problems since	Provider

Surgical History

Procedure	Laterality	Date	Comment	Source
COLONOSCOPY		11/09/15	tubular adenoma & hyperplastic polyps x2 removed	Provider
COLONOSCOPY		8/14/17	adenomatous polyps removed	Provider
LUNG BIOPSY		8/2016		Provider
SINUS SURGERY		2005		Provider
SKIN CANCER EXCISION				Provider

Family History

Relation	Problem	Comments
Mother (Deceased)	Cancer	
Father (Deceased)	Cancer	
	Lung cancer	
Brother	Cancer	

Tobacco Use

Never smoked or used smokeless tobacco.

Alcohol Use

Yes.

Comments: rarely

Drug Use

No.

Sexual Activity

Sexually active.



**GREENVILLE
HEALTH SYSTEM**

Lung Center-
Patewood
200 PATEWOOD DR
STE B-300
GREENVILLE SC
29615-6338

Christian, Kenneth Dorsey
MRN: 970179298, DOB: 8/13/1950, Sex:
M
Encounter date: 9/26/2018

Christian, Kenneth Dorsey

MRN: 970179298

Progress Notes Encounter Date: 9/26/2018

Leonard James Cochrane Jr., MD

Internal Medicine - Pulmonary Disease

Chief Complaint:

Interstitial Lung Disease

HPI:

Kenneth Dorsey Christian is a 68 y.o. male followed for interstitial lung disease. Patient is a lifelong non-smoker.

8/26/16 VATS biopsy showed chronic hypersensitive pneumonitis. This was felt secondary to his history of soldering fumes and he no longer works in this environment. He was on prednisone 8/29/16 through 10/30/16. He had previously been started on Brito and continued on this when it helped his breathing.

The patient on 4/25/18 was noted to have improvement of his DLCO. He however had exertional desaturation which was new. Repeat 6 minute walk test on 6/6/18 showed that he continued to desaturate need 2 L/min with exertion. The patient is mainly not wearing oxygen when he leaves the house and only uses when he feels short of breath. Overall he feels that his shortness of breath has worsened.

Medications:

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.

	Instructions
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.
Handicap Placard	Supply prescription to SCDMV with completed form RG-007A.
oxygen, O2,	Use as instructed. 2 lpm w exertion
VITAMIN B COMPLEX & VIT C	Take 1 tablet by mouth daily.
NO.4 (SUPER B COMPLEX + C ORAL)	
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.

ROS**Review of Systems**

Constitutional: Negative for chills, fever and unexpected weight change.

HENT: Positive for congestion. Negative for nosebleeds, postnasal drip and sinus pressure.

Respiratory: Positive for cough and shortness of breath.

Cardiovascular: Negative for chest pain and palpitations.

Gastrointestinal: Negative for diarrhea, nausea and vomiting.

Objective:**Physical Exam**

Constitutional: He is active. No distress.

HENT:

Head: Normocephalic.

Nose: No mucosal edema or septal deviation.

Mouth/Throat: Oropharynx is clear and moist and mucous membranes are normal. Normal dentition.

Neck: Neck supple. No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: Effort normal. No accessory muscle usage or stridor. No respiratory distress.

He has no wheezes. He has rales (**dry crackles**).

Abdominal: Soft. Bowel sounds are normal. There is no hepatosplenomegaly. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: Skin is intact. No lesion and no rash noted. No cyanosis. Nails show clubbing.

Lab Review:**Imaging Results**

XR Chest 2 Vw 9/26/2018

Narrative*Location: Interstitial lung disease**Findings: Question increase in interstitial lung markings.**Impression: Question worsening of interstitial changes.**Signed,
L. James Cochrane, MD***Assessment/Plan:****ILD (interstitial lung disease) (HCC)****Assessment & Plan:**

Last pulmonary function test showed improvement of DLCO. Has been removed from the offending environment. The patient has developed need for exertional oxygen and chest x-ray has questionable worsening. I therefore will obtain a CT of the chest.

Orders:

- CT Chest w/o Contrast; Future

SOB (shortness of breath)**FOLLOW UP:**

Return in about 4 weeks (around 10/24/2018). After CT Chest.

Complete By:

Leonard James Cochrane Jr, MD
9/26/2018

Electronically signed by Leonard James Cochrane Jr., MD at 9/26/2018 12:54 PM

Office Visit
on
9/26/2018

Chart Review Routing History

Routing history could not be found for this note. This is because the note has never been routed or because communication record creation was suppressed.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 10/29/2018

Medications and Orders (continued)

Your Current Medications Are (continued)

atorvastatin (LIPITOR) 40 mg tablet (Taking/Discontinued)	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
finasteride (PROSCAR) 5 mg tablet (Taking/Discontinued)	Take 1 tablet (5 mg) by mouth daily.
fluticasone-vilanterol (BREO ELLIPTA) 100- 25 mcg/dose inhaler (Taking/Discontinued)	Inhale 1 puff daily.
NITROSTAT 0.4 mg SL tablet (Taking/Discontinued)	0.4 mg every 5 (five) minutes as needed.

Upcoming Administrations

None

Clinical Orders

No orders found

Other Orders

No orders found

Laboratory Results

No results found

Radiology, ECG/EMG, and Cardiac Results

No results found

Progress Notes

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM

Author: Leonard James Cochrane Jr., MD	Service: (none)	Author Type: Physician
Filed: 10/29/2018 12:19 PM	Encounter Date: 10/29/2018	Status: Signed
Editor: Leonard James Cochrane Jr., MD (Physician)		

Chief Complaint:

Interstitial Lung Disease

HPI:

Kenneth Dorsey Christian is a 68 y.o. male followed for interstitial lung disease. Patient is on lifelong non-smoker.

On 8/26/16 VATS biopsy the pathology showed chronic hypersensitive pneumonitis. This was felt secondary to soldering fumes which he no longer does. He had been started on Breo in the past and continued on this medicine when it helped with his breathing.

Overall the patient has need to increase his exertional oxygen from 1 L to 2 L/min starting 6/2018. He also felt that his breathing had worsened some. Because of this we obtained a high-resolution CT since last visit with follow-up today. Patient does use Breo and as needed Pro Air and feels that both of these help his breathing. He refuses influenza vaccine today. Has had both pneumococcal vaccines.

Medications:

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 10/29/2018

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM (continued)

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.
Handicap Placard	Supply prescription to SCDMV with completed form RG-007A.
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.
oxygen, O2,	Use as instructed. 2 lpm w exertion
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.

ROS

Review of Systems

Constitutional: Positive for unexpected weight change (weight loss). Negative for chills, fatigue and fever.

HENT: Positive for congestion. Negative for postnasal drip, sinus pain, sinus pressure, sore throat, trouble swallowing and voice change.

Respiratory: Positive for cough (producing brown sputum) and shortness of breath. Negative for wheezing.

Cardiovascular: Positive for chest pain. Negative for palpitations and leg swelling.

Gastrointestinal: Negative for nausea and vomiting.

Reflux

Neurological: Negative for dizziness, weakness, light-headedness and headaches.

Psychiatric/Behavioral: Negative for sleep disturbance. The patient is not nervous/anxious.

Objective:

Physical Exam

Constitutional: No distress.

HENT:

Head: Normocephalic.

Mouth/Throat: Oropharynx is clear and moist.

Neck: No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: No stridor. No respiratory distress. He has no wheezes.

Abdominal: Soft. Bowel sounds are normal. There is no tenderness.

Generated by 168398 at 4/5/19 4:20 PM

Page 6

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 10/29/2018

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM (continued)

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: No rash noted.

Lab Review:

CT Chest

10/10/2018 CT of the chest was independently reviewed by me and compared to 12/21/16. Patient continues with subpleural fibrosis and patchy groundglass changes in both lungs in the bases. There is minimal increase in the groundglass opacities.

Assessment/Plan:

ILD (interstitial lung disease) (HCC)

Minimal increase in groundglass opacities over almost 2 years. Have emphasized the need to use oxygen with exertion. Otherwise patient has received both pneumococcal vaccines and refuses influenza vaccine. On the next visit we will check Spiro, lung volumes, DLCO and 6-minute walk test.

SOB (shortness of breath)

Subjective improvement with Breo and ProAir air. Will continue.

FOLLOW UP:

Return in about 6 months (around 4/29/2019) for spiro/LV/DLCO and 6 mwt.

Complete By:

Leonard James Cochrane Jr, MD
10/29/2018

Electronically Signed by Leonard James Cochrane Jr., MD on 10/29/2018 12:19 PM

History & Physicals

No notes of this type exist for this encounter.

Call Information

Time	Provider	Department	Center
10/29/2018 11:00 AM	Leonard James Cochrane Jr., MD	Pulmonology-Palewood	PTWD CENTERS

Reason for Call

Interstitial Lung Disease

Call Documentation

No notes of this type exist for this encounter.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 10/29/2018

Encounter Status

Closed by Leonard James Cochrane Jr., MD on 10/29/18 at 12:19

Care Advice Given

No Care Advice given for this encounter.

Follow-up and Disposition History

10/29/2018 1130 - Jessica Lamb

Disposition: Return in about 6 months (around 4/29/2019) for spiro/LV/DLCO and 6 mwt.

Encounter-Level Documents:

There are no encounter-level documents.

Order-Level Documents:

There are no order-level documents.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 10/29/2018

Flowsheets (all recorded) (continued)

Vitals Reassessment - Mon October 29, 2018 (continued)

Row Name	3050
Restart Vitals	Yes -ss
Timer	

User Key

(r) = Recorded By, (t) = Taken By, (c) = Cosigned By

Initials	Name	Effective Dates
SB	Shirmauri Brown, CMA	09/24/18 -
DF	Diane Farrugia	-

Progress Notes

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM

Author: Leonard James Cochrane Jr., MD Service: (none) Author Type: Physician
 Filed: 10/29/2018 12:19 PM Encounter Date: 10/29/2018 Status: Signed
 Editor: Leonard James Cochrane Jr., MD (Physician)

Chief Complaint:

Interstitial Lung Disease

HPI:

Kenneth Dorsey Christian is a 68 y.o. male followed for interstitial lung disease. Patient is on lifelong non-smoker.

On 8/26/16 VATS biopsy the pathology showed chronic hypersensitive pneumonitis. This was felt secondary to soldering fumes which he no longer does. He had been started on Breo in the past and continued on this medicine when it helped with his breathing.

Overall the patient has need to increase his exertional oxygen from 1 L to 2 L/min starting 6/2018. He also felt that his breathing had worsened some. Because of this we obtained a high-resolution CT since last visit with follow-up today. Patient does use Breo and as needed Pro Air and feels that both of these help his breathing. He refuses influenza vaccine today. Has had both pneumococcal vaccines.

Medications:

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.

PULMONOLOGY-PATEWOOD
200 PATEWOOD DR STE B-300
GREENVILLE SC 29615-6338

Christian, Kenneth Dorsey
MRN: 970179298, DOB: 8/13/1950, Sex: M
Enc. Date: 10/29/2018

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM (continued)

	Instructions
atorvastatin (LIPITOR) 40 mg tablet	Take 40 mg by mouth daily Indications: Hypercholesterolemia.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.
Handicap Placard	Supply prescription to SCDMV with completed form RG-007A.
NITROSTAT 0.4 mg SL tablet	0.4 mg every 5 (five) minutes as needed.
oxygen, O2,	Use as instructed. 2 lpm w exertion
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.

ROS

Review of Systems

Constitutional: Positive for unexpected weight change (**weight loss**). Negative for chills, fatigue and fever.

HENT: Positive for congestion. Negative for postnasal drip, sinus pain, sinus pressure, sore throat, trouble swallowing and voice change.

Respiratory: Positive for cough (producing brown sputum) and shortness of breath. Negative for wheezing.

Cardiovascular: Positive for chest pain. Negative for palpitations and leg swelling.

Gastrointestinal: Negative for nausea and vomiting.

Reflux

Neurological: Negative for dizziness, weakness, light-headedness and headaches.

Psychiatric/Behavioral: Negative for sleep disturbance. The patient is not nervous/anxious.

Objective:

Physical Exam

Constitutional: No distress.

HENT:

Head: Normocephalic.

Mouth/Throat: Oropharynx is clear and moist.

Neck: No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: No stridor. No respiratory distress. He has no wheezes.

Abdominal: Soft. Bowel sounds are normal. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: No rash noted.

Lab Review:

CT Chest

Generated by 168398 at 4/5/19 4:20 PM

Page 12

PULMONOLOGY-PATEWOOD
200 PATEWOOD DR STE B-300
GREENVILLE SC 29615-6338

Christian, Kenneth Dorsey
MRN: 970179298, DOB: 8/13/1950, Sex: M
Enc. Date: 10/29/2018

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 10/29/2018 11:00 AM (continued)

10/10/2018 CT of the chest was independently reviewed by me and compared to 12/21/16. Patient continues with subpleural fibrosis and patchy groundglass changes in both lungs in the bases. There is minimal increase in the groundglass opacities.

Assessment/Plan:

ILD (interstitial lung disease) (HCC)

Minimal increase in groundglass opacities over almost 2 years. Have emphasized the need to use oxygen with exertion. Otherwise patient has received both pneumococcal vaccines and refuses influenza vaccine. On the next visit we will check Spiro, lung volumes, DLCO and 6-minute walk test.

SOB (shortness of breath)

Subjective improvement with Breo and ProAir air. Will continue.

FOLLOW UP:

Return in about 6 months (around 4/29/2019) for spiro/LV/DLCO and 6 mwt.

Complete By:

Leonard James Cochrane Jr, MD
10/29/2018

Electronically Signed by Leonard James Cochrane Jr., MD on 10/29/2018 12:19 PM

Encounter-Level Documents:

There are no encounter-level documents.

Order-Level Documents:

There are no order-level documents.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 01/30/2019

Radiology, ECG/EMG, and Cardiac Results (continued)

No results found

Progress Notes

Progress Notes by Leonard James Cochrane Jr., MD at 1/30/2019 11:00 AM

Author: Leonard James Cochrane Jr., MD	Service: (none)	Author Type: Physician
Filed: 1/30/2019 5:38 PM	Encounter Date: 1/30/2019	Status: Signed
Editor: Leonard James Cochrane Jr., MD (Physician)		

Chief Complaint:

Interstitial Lung Disease

HPI:

Kenneth Dorsey Christian is a 68 y.o. male followed for interstitial lung disease. Patient is a lifelong non-smoker.

The patient has had an 8/26/16 VATS biopsy with pathology showing chronic hypersensitive pneumonitis. The this was felt secondary to his soldering fumes exposure. The patient described some exposure beginning 1984 for 9 years and then he was transferred to an area with significant exposure daily for 23 years. He otherwise is without unusual exposures. He feels that he is progressively worsened with his shortness of breath. He still tries to work out on a treadmill every other day. He is wearing his oxygen 2 L/min 24 hours a day and when he exercises he uses oxygen. Also complains of significant sinus Russian and drainage at the present time. With this significant blowing of his nose he has had some blood but minimal.

Medications:

Pulmonary Medications

	Instructions
fluticasone-vilanterol (BREO ELLIPTA) 100-25 mcg/dose inhaler	Inhale 1 puff daily.

Non-Pulmonary Medications

	Instructions
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 1 tablet (40 mg) by mouth daily.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.
Handicap Placard	Supply prescription to SCDMV with completed form RG-007A.
oxygen, O2,	Use as instructed. 2 lpm w exertion
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.

ROS

Review of Systems

Generated by 168398 at 4/5/19 4:20 PM

Page 25

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 01/30/2019

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 1/30/2019 11:00 AM (continued)

Constitutional: Negative for chills, fever and unexpected weight change.
HENT: Positive for postnasal drip. Negative for nosebleeds and sinus pressure.
Respiratory: Positive for cough and shortness of breath.
Cardiovascular: Negative for chest pain and palpitations.
Gastrointestinal: Negative for diarrhea, nausea and vomiting.
Neurological: Positive for dizziness.

Objective:

Physical Exam

Constitutional: He is active. No distress.

HENT:

Head: Normocephalic.

Nose: No mucosal edema or septal deviation.

Mouth/Throat: Oropharynx is clear and moist and mucous membranes are normal. Normal dentition.

Neck: Neck supple. No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: Effort normal. No accessory muscle usage or stridor. No respiratory distress. He has no wheezes. He has rales (minimal dry crackles).

Abdominal: Soft. Bowel sounds are normal. There is no hepatosplenomegaly. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: Skin is intact. No lesion and no rash noted. No cyanosis. Nails show no clubbing.

Slight clubbing

Lab Review:

Pulmonary Results

6 Min Walk Test - Outpatients 1/30/2019

<i>Narrative</i>	<i>Six Minute Walk Test Results 1/30/2019</i>
	<i>Distance Walked (meters) 255</i>
	<i>% Predicted (distance) 47</i>
	<i>LLN 403</i>
	<i>SpO2 resting 92</i>
	<i>HR resting 114</i>
	<i>Suppl O2 resting -</i>
	<i>BP resting 116/68</i>
	<i>Pre-exercise Borg-Dyspnea Scale (RPE) 6</i>
	<i>Lowest SpO2 exercise 86</i>
	<i>Max HR exercise 113</i>
	<i>% Predicted (HR) 74</i>
	<i>Suppl O2 exercise 2</i>
	<i>BP after exercise 138/60</i>
	<i>Max during exercise Borg-Dyspnea Scale 8</i>
	<i>Rest required? yes</i>
	<i>Reason(s) for rest to apply O2</i>

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 01/30/2019

Progress Notes (continued)

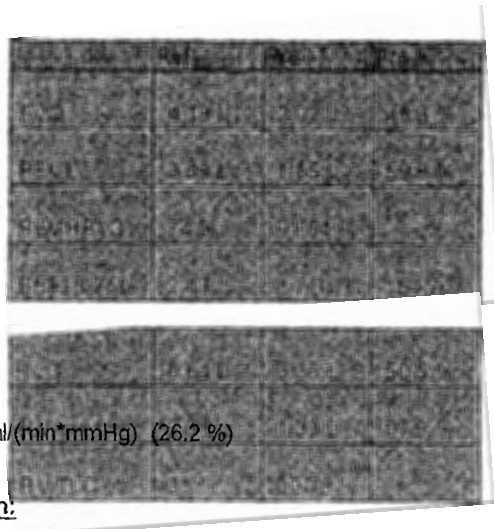
Progress Notes by Leonard James Cochrane Jr., MD at 1/30/2019 11:00 AM (continued)

6MWT shows a moderately reduced walk distance with exertion desaturation on room air requiring addition of 2 lpm oxygen to maintain sat. Walk distance has decreased from previous 474 meters to present 255 meters.

Complete PFT Battery - DLCO, Spirometry, & Plethysmography 1/30/2019

Narrative

Pulmonary function tests show a severe restrictive ventilatory impairment and a severe reduction of DLCO. PFTs have progressively worsened.



DLCO: 6.76 ml/(min*mmHg) (26.2 %)

Assessment/Plan:

ILD (interstitial lung disease) (HCC)

Assessment & Plan:

Positive biopsy as above for chronic hypersensitivity pneumonitis felt secondary to soldering. Patient has progressively worsened with decreased walk distance and with worsening pulmonary function test. I therefore will try addition of steroids. I will place patient on 30 mg/day for probably 8 weeks and then taper from there. I will schedule follow-up in 6-8 weeks to see his response subjectively and with repeat pulmonary function test and 6-minute walk test.

Orders:

- prednisONE (DELTASONE) 10 mg tablet; Take 3 tablets (30 mg) by mouth daily.

SOB (shortness of breath)

- 6 Min Walk Test - Outpatients; Future

Chronic rhinitis

- montelukast (SINGULAIR) 10 mg tablet; Take 1 tablet (10 mg) by mouth daily.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 01/30/2019

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 1/30/2019 11:00 AM (continued)

FOLLOW UP:

Return for 6-8 weeks w battery/6mwt.

Complete By:

Leonard James Cochrane Jr, MD
1/30/2019

Electronically Signed by Leonard James Cochrane Jr., MD on 1/30/2019 5:38 PM

History & Physicals

No notes of this type exist for this encounter.

Call Information

	Provider	Department	Center
1/30/2019 11:00 AM	Leonard James Cochrane Jr., MD	Pulmonology-Patewood	PTWD CENTERS

Reason for Call

Interstitial Lung Disease

Call Documentation

No notes of this type exist for this encounter.

Encounter Status

Closed by Leonard James Cochrane Jr., MD on 1/30/19 at 17:38

Care Advice Given

No Care Advice given for this encounter.

Follow-up and Disposition History

01/30/2019 1131 - Kathy Lynn Rea

Disposition: , Return for 6-8 weeks w battery/6mwt.

Encounter-Level Documents:

There are no encounter-level documents.

Order-Level Documents:

There are no order-level documents.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 03/11/2019

Medications - Clinical Orders (continued)

prednisONE (DELTASONE) 10 mg tablet [158081668] (continued)

Frequency: 03/11/19 - Until Discontinued

Diagnoses

ILD (interstitial lung disease) (HCC) [J84.9]

PFT - Other Orders

6 Min Walk Test - Outpatients [158081665]

Electronically signed by: Jessica Lamb on 03/11/19 1121

Status: Completed

Ordering user: Jessica Lamb 03/11/19 1121

Ordering provider: Leonard James Cochrane Jr., MD

Authorized by: Leonard James Cochrane Jr., MD

Cosigning events

Electronically cosigned by Leonard James Cochrane Jr., MD 03/11/19 1339 for Ordering

Frequency: 03/11/19 -

Diagnoses

SOB (shortness of breath)

Laboratory Results

No results found

Radiology, ECG/EMG, and Cardiac Results

No results found

Progress Notes

Progress Notes by Leonard James Cochrane Jr., MD at 3/11/2019 11:40 AM

Author: Leonard James Cochrane
Jr., MD

Service: (none)

Author Type: Physician

Filed: 3/11/2019 4:42 PM

Encounter Date: 3/11/2019

Status: Signed

Editor: Leonard James Cochrane Jr., MD (Physician)

Chief Complaint:

Interstitial Lung Disease and Chronic Rhinitis

HPI:

Kenneth Dorsey Christian is a 68 y.o. male is a 68 y.o. male followed for interstitial lung disease. Patient is a lifelong non-smoker.

The patient underwent an 8/26/16 VATS biopsy with pathology showing chronic hypersensitive pneumonitis and this was felt secondary to his soldering fumes exposure. Per the patient he had some exposure beginning 1984 for 9 years and then he was transferred to an area with significant exposure daily for next 23 years.

Otherwise he is without unusual exposures. He is on 2 lpm oxygen. On the last visit he described progressively worsening of his shortness of breath. Additionally, he had worsening PFTs and 6MWT. Because of this I placed him on 30 mg/day prednisone. With prednisone he feels that his breathing is better but still limited. With prednisone he is having insomnia issues.

On the last visit he described significant sinus congestion and drainage. I placed him on Singulair with marked improvement of sinus symptoms.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 03/11/2019

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 3/11/2019 11:40 AM (continued)

Medications:

Pulmonary Medications

	Instructions
BREO ELLIPTA 100-25 mcg/dose inhaler	USE 1 INHALATION DAILY EQUIVALENT TO FLUTICASONE-VILANTEROL
montelukast (SINGULAIR) 10 mg tablet	Take 1 tablet (10 mg) by mouth daily.
predniSONE (DELTASONE) 10 mg tablet	Take 3 tablets (30 mg) by mouth daily.

Non-Pulmonary Medications

	Instructions
albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler	Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.
aspirin (ECOTRIN) 81 mg EC tablet	Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.
atorvastatin (LIPITOR) 40 mg tablet	Take 1 tablet (40 mg) by mouth daily.
CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)	Take 1,000 mcg by mouth daily.
finasteride (PROSCAR) 5 mg tablet	Take 1 tablet (5 mg) by mouth daily.
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.
Handicap Placard	Supply prescription to SCDMV with completed form RG-007A.
oxygen, O2,	Use as instructed. 2 lpm w exertion
tamsulosin (FLOMAX) 0.4 mg 24 hr capsule	TAKE 1 CAPSULE BY MOUTH DAILY
VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL)	Take 1 tablet by mouth daily.

ROS

Review of Systems

Constitutional: Positive for unexpected weight change. Negative for chills and fever.

HENT: Positive for nosebleeds. Negative for postnasal drip and sinus pressure.

Respiratory: Positive for cough and shortness of breath.

Cardiovascular: Negative for chest pain and palpitations.

Gastrointestinal: Negative for diarrhea, nausea and vomiting.

Psychiatric/Behavioral: Positive for sleep disturbance.

All other systems reviewed and are negative.

Objective:

Physical Exam

Constitutional: No distress.

HENT:

Head: Normocephalic.

Generated by 168398 at 4/5/19 4:20 PM

Page 57

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 03/11/2019

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 3/11/2019 11:40 AM (continued)

Mouth/Throat: Oropharynx is clear and moist.

Neck: No JVD present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Pulmonary/Chest: No stridor. No respiratory distress. He has no wheezes.

Abdominal: Soft. Bowel sounds are normal. There is no tenderness.

Musculoskeletal: He exhibits no edema or tenderness.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: No rash noted.

Lab Review:

Pulmonary Results

6 Min Walk Test - Outpatients 3/11/2019

Narrative Six Minute Walk Test Results 3/11/2019
Distance Walked (meters) 255
% Predicted (distance) 47
LLN 399
SpO2 resting 96
HR resting 88
Suppl O2 resting 0
BP resting 100/48
Pre-exercise Borg-Dyspnea Scale (RPE) 4
Lowest SpO2 exercise 87
Max HR exercise 104
% Predicted (HR) 68
Suppl O2 exercise 2
BP after exercise 132/68
Max during exercise Borg-Dyspnea Scale 6
Rest required? yes
Reason(s) for rest to apply O2

6-minute walk test shows a moderate reduction in walk distance and desaturation on room air requiring 2 L/min of oxygen to maintain adequate saturation.

Complete PFT Battery - DLCO, Spirometry, & Plethysmography 3/11/2019

Narrative Pulmonary function test show a moderate restrictive ventilatory impairment. There is restriction on spirometry, lung volumes and on flow volume loops. DLCO is reduced at 33% of predicted. Compared to 1/30/19 PFTs prior to prednisone, the present pulmonary function test have improved with increase of FVC from 2.02 to present 2.11 L. DLCO has improved from 26 to 33% predicted.

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 03/11/2019

Progress Notes (continued)

Progress Notes by Leonard James Cochrane Jr., MD at 3/11/2019 11:40 AM (continued)

FVC	3.99 L	2.41 L	52.9%
FEV1	2.85 L	1.96 L	66.4%
FEV1/FVC	71.4%	82.6%	
FEF25-75%	2.28 L/S	4.26 L/S	

1. 3.33 ml/(min*mmHg) (33.1%)

Assessment/Plan:

ILD (interstitial lung disease) (HCC)

Biopsy positive for chronic hypersensitivity pneumonitis felt secondary to soldering. Worsened signs and symptoms last visit and started on prednisone with some improvement. Will try to taper to 25 mg/day for 2 weeks and then 20 mg/day till follow up. At that time will reevaluate symptoms as well as 6MWT, spiro/LV/DLCO and CXR.

Chronic rhinitis

Significantly improved with Singulair. Will continue.

Insomnia

Secondary to prednisone and hopefully will improve with taper. Will start 5 mg Ambien for now.

Orders Placed This Encounter

Procedures

- 6 Min Walk Test - Outpatients

FOLLOW UP:

Return in about 2 months (around 5/11/2019) for 6mwt/spiro/LV/DLCO/XRAY.

Complete By:

Leonard James Cochrane Jr, MD
3/11/2019

Electronically Signed by Leonard James Cochrane Jr., MD on 3/11/2019 4:42 PM

Christian, Kenneth Dorsey (MRN # 970179298) DOB:
08/13/1950

Encounter Date: 03/11/2019

History & Physicals

No notes of this type exist for this encounter.

Call Information

Time	Provider	Department	Center
3/11/2019 11:40 AM	Leonard James Cochrane Jr., MD	Pulmonology-Patewood	PTWD CENTERS

Reason for Call

Interstitial Lung Disease

Chronic Rhinitis

Call Documentation

No notes of this type exist for this encounter.

Encounter Status

Closed by Leonard James Cochrane Jr., MD on 3/11/19 at 16:42

Care Advice Given

No Care Advice given for this encounter.

Follow-up and Disposition History

03/11/2019 1143 - Tiffany Lynn Fletcher, RRT

Disposition: Return in about 2 months (around 5/11/2019) for 6mwt/spiro/LV/DLCO/XRAY.

Encounter-Level Documents:

There are no encounter-level documents.

Order-Level Documents:

There are no order-level documents.

Smith Jordan Lavery^{PA}

- Attorneys at Law -

Ronnie L. Smith †
W. Grady Jordan
C. Nicholas Lavery
† Of Counsel

James E. Sterling
Raymond T. Wooten*
Thomas S. Phillips
*Licensed in SC & GA

November 19, 2018

Leonard James Cochrane, Jr., M.D.
GHS Lung Center - Patewood
200 Patewood Drive, Suite B-300
Greenville, SC 29615-6338

Re: Kenneth Dorsey Christian vs. Sew Eurodrive, Inc.
WCC file No.: 1614297

Dear Dr. Cochrane:

I hope this letter finds you well. This firm represents Kenneth Dorsey Christian (DOB: 08/13/1950; SSN: [REDACTED]) in the above-referenced workers' compensation claim. Regarding your diagnosis of interstitial lung disease, I would appreciate your answering the following questions to a reasonable degree of medical certainty:

1. Have you diagnosed Kenneth Dorsey Christian with interstitial lung disease?
☒ Yes ☐ No
2. Is the above-referenced diagnosis causally-related to Mr. Christian's history of working around smoldering fumes at Sew Eurodrive?
☒ Yes ☐ No
3. If your answer to No. 2 is "Yes", is Mr. Christian at maximum medical improvement (MMI)?
☒ Yes ☐ No
4. If Mr. Christian is at MMI, what degree of permanent impairment has he sustained?

75%

SERVING THE UPSTATE OF SOUTH CAROLINA

1810 East Main Street | P.O. Box 1207 | Easley, SC 29641 | P. 864-343-2222 | F. 864-855-1685
www.SmithJordan.com

5. If Mr. Christian is at MMI, what ongoing medical treatment and/or medication will he need to maintain MMI?

Oxygen, Breo, Proloher

6. If Mr. Christian is at MMI, will he be able to return to work?

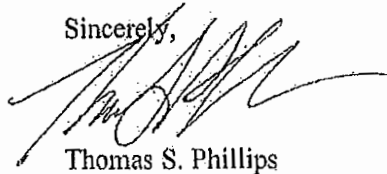
Now, desk job only, no exposure soldering iron, no over
flame, with
oxygen

7. If Mr. Christian is **not** at MMI, what additional treatment do you recommend?

I very much appreciate your prompt attention to this matter. Please forward us a bill for your time in answering these questions.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Thomas S. Phillips

TSP/pmh

2019-01-16 08:53
 2018-12-17 10:22

GHS Lung Center 9 >> 8648551685
 a 1 >> PMOB Lung Center
 una Lung Center 1 >> Greenville Health sy
Smith Jordan Lavery
 -- Attorneys at Law --

P 2/2
 P 3/3
 P 4/4

Ronnie L. Smith
 W. Grady Jordan
 C. Nicholas Lavery
 f O'Connor

December 14, 2018

James T. Sterling
 Raymond T. Wooten
 Thomas S. Phillips
 f O'Connor

Leonard James Cochrane, Jr., M.D.
 GHS Lung Center - Palawood
 200 Palawood Drive, Suite B-300
 Greenville, SC 29615-6338

Re: Kenneth Dorsey Christian vs. Sew Eurodrive, Inc.
 WCC file No.: 1614297

Dear Dr. Cochrane:

Thank you for taking the time to fill out the Questionnaire pertaining to Kenneth Dorsey Christian. I am writing to request clarification regarding the 75% permanent impairment you listed. To a reasonable degree of medical certainty:

1. Has Mr. Christian sustained 75% permanent impairment to each lung?

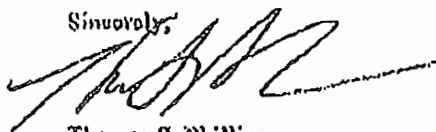
____ Yes ☒ No

2. If not, please explain the 75% rating:

*Diffusion capacity 41% consistent
 with 50% impairment.*

I appreciate your prompt attention to this matter. Should you have any questions, please do not hesitate to contact me.

Sincerely,



Thomas S. Phillips

TSP/pmh



**GREENVILLE
HEALTH SYSTEM**

LUNG CENTER-PATEWOOD
200 Patewood Dr Ste B-300
Greenville SC 29615-6338
Loc: 864-454-4200

Kenneth Dorsey Christian
MRN: 970179298
DOB: 8/13/1950
Sex: male

Christian, Kenneth Dorsey

MRN: 970179298

Fady F Nassif, MD

Physician

Internal Medicine - Pulmonary Disease

Progress Notes

Signed

Encounter Date: 4/16/2019

4/16/2019

CC:

Chief Complaint

Patient presents with

- Interstitial Lung Disease
- Follow-up

HPI

The patient is a 68-year-old male with history of interstitial lung disease/hypersensitivity pneumonitis/pulmonary fibrosis. The patient is followed by Dr. Cochran and he was taking prednisone 30 mg daily. He was advised to start weaning the prednisone dose to 20 mg. He stated that when he got down to 25 mg daily he started feeling worsening shortness of breath with exertion and he went down to 20 mg started having more difficulty breathing even at rest. He had noticed some increase cough but no fever or chills or hemoptysis. He denies any wheezing. He takes Brio daily but he wants to switch to Symbicort because of cost. He takes also Singulair daily as well but he start using oxygen with exertion more often the last few days since he tapered down to 20 mg of prednisone daily. He is here for further evaluation

Medications:

Home Medications 4/16/19 0840

albuterol (VENTOLIN HFA) 90 mcg/actuation inhaler

aspirin (ECOTRIN) 81 mg EC tablet

atorvastatin (LIPITOR) 40 mg tablet

BREO ELLIPTA 100-25 mcg/dose inhaler

CYANOCOBALAMIN, VITAMIN B-12, (VITAMIN B-12 ORAL)

finasteride (PROSCAR) 5 mg tablet

Handicap Placard

Sig

Inhale 2 puffs every 4 (four) hours as needed for wheezing or shortness of breath.

Take 81 mg by mouth daily Indications: Myocardial Infarction Prevention.

Take 1 tablet (40 mg) by mouth daily.

USE 1 INHALATION DAILY EQUIVALENT TO FLUTICASONE-VILANTEROL

Take 1,000 mcg by mouth daily.

Take 1 tablet (5 mg) by mouth daily.

Supply prescription to SCDMV with completed form RG-007A.

montelukast (SINGULAIR) 10 mg tablet oxygen, O2,	Take 1 tablet (10 mg) by mouth daily. Use as instructed. 2 lpm w exertion Patient taking differently: Use as instructed. 2 lpm w exertion
predniSONE (DELTASONE) 10 mg tablet	Take 2.5 tablets for 2 weeks then take 2 tablets for 45 days Patient taking differently: 30 mg daily Take 2.5 tablets for 2 weeks then take 2 tablets for 45 days
tamsulosin (FLOMAX) 0.4 mg 24 hr capsule VITAMIN B COMPLEX & VIT C NO.4 (SUPER B COMPLEX + C ORAL) zolpidem (AMBIEN) 5 mg tablet	TAKE 1 CAPSULE BY MOUTH DAILY Take 1 tablet by mouth daily. Take 1 tablet (5 mg) by mouth nightly. Patient taking differently: Take 5 mg by mouth as needed
GUAIFENESIN (MUCINEX ORAL)	Take 1 tablet by mouth 2 (two) times a day.

Past Medical History:

Diagnosis	Date
• Cancer (HCC) <i>skin</i>	
• Coronary artery disease <i>MI (no damage to heart) 2002 w/ stent</i>	
• HLD (hyperlipidemia)	
• Myocardial infarction (HCC)	2002
• Other PULMONARY Hx <i>interstitial lung disease</i>	
• Other PULMONARY Hx <i>SOB on exertion, steps, hills, working out in gym</i>	
• Reflux gastritis <i>no meds</i>	
• Stented coronary artery <i>no problems since</i>	2002

Past Surgical History:

Procedure	Laterality	Date
• COLONOSCOPY <i>tubular adenoma & hyperplastic polyps x2 removed</i>		11/09/15
• COLONOSCOPY <i>adenomatous polyps removed</i>		8/14/17
• LUNG BIOPSY	Right	08/2016
• OTHER SURGICAL HISTORY <i>pelvic mass excision / path=hyalinized fat necrosis</i>		08/22/2018
• SINUS SURGERY		2005
• SKIN CANCER EXCISION <i>top of head</i>		

Social History

Socioeconomic History

- **Marital status:** Married
- Spouse name:** Not on file
- **Number of children:** Not on file
- **Years of education:** Not on file
- **Highest education level:** Not on file

Social Needs

- **Financial resource strain:** Not on file
- **Food insecurity - worry:** Not on file
- **Food insecurity - inability:** Not on file
- **Transportation needs - medical:** Not on file
- **Transportation needs - non-medical:** Not on file

Occupational History

- **Not on file**

Tobacco Use

- **Smoking status:** Never Smoker
- **Smokeless tobacco:** Never Used

Substance and Sexual Activity

- **Alcohol use:** No
- Alcohol/week:** 0.0 oz
- **Drug use:** No
- **Sexual activity:** Yes

Other Topics Concern

- **Not on file**

Social History Narrative

- **Not on file**

Family History

Problem

- Cancer
- Lung cancer
- Cancer
- Cancer

Relation

Mother
Father
Father
Brother

Age of Onset

ROS

Review of Systems

Constitutional: Negative for appetite change, chills, fever and unexpected weight change.

HENT: Negative for nosebleeds, postnasal drip and sinus pressure.
Respiratory: Positive for cough (**moderate whitish clear mucous**) and shortness of breath.
Negative for wheezing.
Increased SOB, difficulty even putting pants on causing distress. Decreased from prednisone 30 to prednisone 20. Prednisone was increased back to 30 but unable to stabilize.
Cardiovascular: Negative for chest pain, palpitations and leg swelling.
Gastrointestinal: Negative for constipation, diarrhea, nausea and vomiting.
All other systems reviewed and are negative.

Physical Exam

Vitals:

04/16/19 0831
BP: 98/40
Pulse: 85
Resp: 17
Temp: 97.8 °F (36.6 °C)
SpO2: 92%

Body mass index is 22.75 kg/m².

Physical Exam

Constitutional: He appears well-developed. No distress.

HENT:

Head: Normocephalic.

Low soft palate, large tongue. Mallampati score III

Eyes: Pupils are equal, round, and reactive to light. Conjunctivae are normal.

Neck: No tracheal deviation present. No thyromegaly present.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds. Exam reveals no gallop and no friction rub.

No murmur heard.

Pulmonary/Chest: Effort normal. He has no wheezes. He has rales.

Lymphadenopathy:

He has no cervical adenopathy.

Neurological: He is alert.

Skin: He is not diaphoretic.

Vitals reviewed.

Imaging Reviewed

I personally reviewed CT scan of the chest done on 10/10/18 which showed diffuse groundglass opacity as well honeycombing in the right middle lobe and bilateral lower lobes which was worsened compared to the scan done in 12/21/2016

PFT Reviewed

	Latest Ref Rng & Units	3/11/2019	1/30/2019
FVC	L	2.11	2.02

% Pred	%	52.9	48.3
FEV1	L	1.96	1.85
% Pred	%	66.4	59.9
FEV1/FVC	%	92.61	91.64
TLC	L	2.88	3.36
% Pred	%	45	50.5
RV	L	0.64	1.33
% Pred	%	28.5	57.9
RV/TLC	%	22.14	39.76
DLCO	ml/(min*mmHg)	8.39	6.76
% Pred	%	33.1	26.2

	4/25/2018	8/17/2017	2/9/2017	6/28/2016
FVC	2.43	2.85	2.9	3.33
% Pred	67	67	68	78
FEV1	2.13	2.41	2.49	2.61
% Pred	77	77	79	82
FEV1/FVC	87	85	86	78
FVC (post)	-	-	-	3.17
% Pred	-	-	-	74
FEV1 (post)	-	-	-	2.59
% Pred	-	-	-	81
FEV1/FVC (post)	-	-	-	82
TLC	-	-	4.2	4.35
% Pred	-	-	63	66
RV	-	-	1.18	1.02
% Pred	-	-	52	45
RV/TLC	-	-	28	23
DLCO	12.2	9.6	10.6	-
% Pred	54	41	44	-

ASSESSMENT & PLAN

ILD (interstitial lung disease) (HCC)

Assessment & Plan:

I advised him to increase prednisone to 40 mg daily for 7 days then then taper down to 30 mg until he sees Dr. Cochrane in May I advised him to call me sooner if problems develop

Orders:

- predniSONE (DELTASONE) 10 mg tablet; Take 40 mg x 7 days. Continue 30 mg daily.
- budesonide-formoterol (SYMBICORT) 80-4.5 mcg/actuation inhaler; Inhale 2 puffs 2 (two) times a day Rinse mouth with water and spit after each use

Fady F Nassif, MD

4/16/2019
12:57 PM

Return for keep scheduled app with Dr Cochrane.

Referring: No referring provider defined for this encounter.

PCP: Eric C Phillips, DO
309 EAST 1ST AVENUE MEDICAL CENTER EASLEY
Easley SC 29640-3040

Last edited by Fady F Nassif, MD at 4/16/2019 12:59 PM

Office Visit
on
4/16/2019

Chart Review Routing History

Routing history could not be found for this note. This is because the note has never been routed or because communication record creation was suppressed.



GREENVILLE
HEALTH SYSTEM

Kenneth Dorsey Christian
[REDACTED] Cir
Easley SC 29640-3030

Date of Birth: **8/13/1950**

Today's Date: **4/16/2019**

To Whom it May Concern:

Kenneth Dorsey Christian is followed by this practice for Interstitial Lung Disease. He is on continuous oxygen. He has progressive shortness of breath, weakness and weight loss. It is for this reason that it would be beneficial for him to have a portable oxygen concentrator which is lighter and easier for him to manage which may help him to increase his daily activities and functional capacity.

If you have any questions or concerns, please don't hesitate to call.

Sincerely,

A handwritten signature in cursive script that reads "L. James Cochrane, Jr.".

Leonard J. Cochrane, MD
LUNG CENTER-PATEWOOD
200 Patewood Drive, Ste B300
Greenville SC 29615-6338
864-454-4200

CC: No Recipients

2019-05-15 11:57

GHS Lung Ctr Pat 9 >> 8648551685

P 1/1

Smith Jordan
 — Attorneys at Law ^{PA} —

Ronnie L. Smith †
 W. Grady Jordan
 James E. Sterling
 † On Counsel

Raymond T. Wooten*
 Thomas S. Phillips
 *Licensed in SC & GA

May 14, 2019

VIA E-MAIL

Leonard James Cochrane, Jr., M.D.
 GHS Lung Center -- Patewood
 200 Patewood Drive, Suite B-300
 Greenville, SC 29615-6338

Re: Kenneth Dorsey Christian vs. Sew Eurodrive, Inc.
 WCC file No.: 1614297

Dear Dr. Cochrane:

I hope this letter finds you well. As you know, this firm represents Kenneth Dorsey Christian (DOB: 08/13/1950; SSN: [REDACTED]) in the above-referenced workers' compensation claim. I am writing to request an update on your treatment recommendations and referrals. Please provide the same in the space provided below:

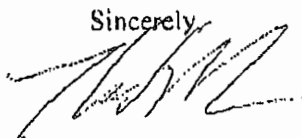
1. Updated Treatment Recommendations & Referrals of Mr. Christian:

Continued progression on 30 mg/day of prednisone. Being referred to MASC for consideration of lung transplant

Leonard James Cochrane, Jr., M.D.
 Leonard James Cochrane, Jr., M.D.

I very much appreciate your prompt attention to this matter. Should you have any questions, please do not hesitate to contact me.

Sincerely,



Thomas S. Phillips

TSP/pmh



Kenneth Dorsey Christian
 [REDACTED] Cir
 Easley SC 29640-3030

Date of Birth: 8/13/1950
 Today's Date: 6/5/2019

To Whom it may concern,

Mr. Christian is followed by me for interstitial lung disease requiring oxygen. He needs a walk-in tub for safety to help with shortness of breath and decrease risk of fall.

Sincerely,

Leonard J Cochrane, MD
 Lung Center Patewood
 200 Patewood Drive, Ste B300
 Greenville SC 29615-6338
 864-454-4200

Department of Medicine

ghs.org

Lung Center

M. Tariq Ansari, MD
 Robert A. Brevetta, DO
 Sandra Calmes, ACNP
 L. James Cochrane, MD
 Sean Callahan, MD
 William D. Curran, MD
 Joseph G. Dakermadjji, PA-C
 J. Michael Fuller, MD
 Justin W. Gregg, MD
 Lloyd Hayes, MD
 Will Healy, MD
 John Kudlak, DO
 Adam Manko, MD
 Daniel T. Matthews, MD
 Kyle P. Meade, MD
 Armin Meyer, MD
 Fady Nassif, MD
 Anand Pariyadath, MD
 Clayton J. Shamblyn, MD
 Antine E. Stenbit, MD, PhD
 Azim Surka, MD
 Amy Treece, MD
 Christopher J. Vaughan, MD
 Jeanne Williams, MS ANP

200 Patewood Dr., Suite B300
 Greenville, SC 29615
 (864) 454-4200 P
 (864) 454-4205 F

890 W. Faris Rd., Suite 580
 Greenville, SC 29605
 (864) 455-7874 P
 (864) 455-8933 F

315 Medical Parkway, Suite 240
 Greer, SC 29650
 (864) 797-9040 P
 (864) 797-9045 F

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

Greenville Health System Radiology Imaging Result

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Outpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
CT chest with contrast	12/21/2016 11:45 AM	None Specified	SOB (shortness of breath)
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Outpatient Radiology Ct 1210 West Faris Road Greenville SC 29605	GOR200483067	Michele Hawkins	Kemmerlin, W Richard

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 11CT
 PT. CLASS: O CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000059389235

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG202 CT CHEST W CONTRAST ACCESSION NO: GOR200483067
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 12/21/2016 11:15
 REASON FOR EXAM: R06.02^Shortness of breath^I10

ADMISSION DATE: 12/21/2016 11:15

Chest CT 12/21/2016.

COMPARISON:
 Chest CT 08/10/2016.

HISTORY:
 Of interstitial lung disease and shortness of breath.

TECHNIQUE:

During the IV administration of 70 mL Omnipaque 350, routine helical imaging was obtained to the chest with form axial and coronal reformatted images provided. There are additional 8 mm axial MIP Images.

FINDINGS:

Surgical change is seen in the right perihilar lung parenchyma, new in the interval. This produces some distortion in anatomy. Of course, today's study is a routine exam rather than a high resolution study. Still, bilateral subpleural fibrosis is apparent, appearing very similar to the reference exam. Patchy geographic ground-glass opacities are again noted in the lower lung zones, also appearing very similar to the prior exam. I do not appreciate definite evidence for new or progressive pleural or parenchymal disease. There are no pleural effusions.

Note is again made of hilar and mediastinal lymphadenopathy. This also appears without significant interval change. There continues to be no scalene or axillary disease.

The heart, pericardium and great vessels appear stable and within normal limits. Scanning into the upper abdomen reveals several small low attenuation lesions of the liver which can be seen as far back as 12/18/2015. I do not appreciate any new liver lesions. There are no adrenal nodules.

Finally, I do not appreciate any bony changes in the interval.

IMPRESSION:

1. INTERSTITIAL LUNG DISEASE AND LYMPHADENOPATHY REVEALED NO DEFINITE INTERVAL CHANGE AS COMPARED TO 12/18/2015.

TRANSCRIPTIONIST: sef

TRANSCRIBE TIME/DATE: 12/21/2016 03:01 pm

READ BY: S. ERIC FARNSWORTH, MD

ELECTRONICALLY SIGNED BY:

12/21/2016 3:01 PM: S. ERIC FARNSWORTH, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Samuel Eric Farnsworth, MD on 12/21/2016 3:01 PM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

Greenville Health System Radiology Imaging Result

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Outpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 2 Vw	09/21/2016 1:46 PM	None Specified	SOB (shortness of breath)
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Outpatient Radiology X-Ray	GOR200482677	Brittany Holdren	Kemmerlin, W Richard
1210 West Faris Road Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 11XRAY
 PT. CLASS: O CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000048808864

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG36 XR CHEST 2 VW ACCESSION NO: GOR200482677
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 09/21/2016
 REASON FOR EXAM: R06.02^Shortness of breath^I10

ADMISSION DATE: 09/21/2016 13:42

Frontal and lateral views were submitted.

Comparison: 08/29/2016 and 06/28/2016.

Cardiac size remains normal. Elevation of the right hemidiaphragm persists. Postoperative findings are now noted laterally in the right mid lung field. Chronically increased interstitial densities are again noted

in the lower lung fields bilaterally. Upon comparison with several prior studies, more confluent density is now suspected in the base of the right lower lobe. No pleural fluid is identified. Biapical pleural and pulmonary scarring is again noted.

IMPRESSION:

Persistent elevation right hemidiaphragm with chronically increased bibasilar interstitial densities and postoperative findings laterally in the right mid lung field. Upon comparison with prior studies, more confluent density projected in the right lung base suggest acute infiltrate. Clinical correlation and follow-up is recommended

TRANSCRIPTIONIST: lca

TRANSCRIBE TIME/DATE: 09/21/2016 01:52 pm

READ BY: L. CHASE ALLEN, MD

ELECTRONICALLY SIGNED BY:

9/21/2016 1:52 PM: L. CHASE ALLEN, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Leighton Chase Allen Jr., MD on 9/21/2016 1:52 PM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

Greenville Health System Radiology Imaging Result

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Inpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 1 Vw	08/29/2016 3:40 PM	pneumothorax	None Specified
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Memorial X-Ray	GMH200435561	Sallie Chappell	Kemmerlin, W Richard
701 Grove Road Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 084D4413
 PT. CLASS: I CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000035765276

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG1259 XR CHEST 1 VW ACCESSION NO: GMH200435561
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 08/29/2016
 REASON FOR EXAM: ^pneumothorax

ADMISSION DATE: 08/26/2016 10:32

History given pneumothorax.

A single AP portable chest film is provided to me. Patchy opacity/infiltrate is seen in the lungs bilaterally. This is unchanged since 08/29/2016. The right thoracotomy tube has been removed in the interim. I see no pneumothorax. Mild pleural thickening seen left apex. The heart and mediastinum appear normal. Scoliosis is noted.

IMPRESSION:

Patchy opacity/infiltrate in the lungs bilaterally.

TRANSCRIPTIONIST: jwg

TRANSCRIBE TIME/DATE: 08/29/2016 05:26 pm

READ BY: JOHN W. GILPIN, MD

ELECTRONICALLY SIGNED BY:

8/29/2016 5:26 PM: JOHN W. GILPIN, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: John Witherspoon Gilpin, MD on 8/29/2016 5:26 PM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

Greenville Health System Radiology Imaging Result

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Inpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 1 Vw	08/29/2016 8:21 AM	pneumothorax	None Specified
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Memorial X-Ray	GMH200434371	Angela G Camp	Kemmerlin, W Richard
701 Grove Road Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 084D4413
 PT. CLASS: I CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000035765276

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG1259 XR CHEST 1 VW ACCESSION NO: GMH200434371
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 08/29/2016
 REASON FOR EXAM: ^pneumothorax

ADMISSION DATE: 08/26/2016 10:32

Portable AP upright chest: Compared to 08/28/2016

The heart is normal in size. Mild bilateral opacities may be slightly worse. The right chest tube is stable. No pneumothorax is seen. Mild spondylosis is seen.

Impression:

Slight worsening in the bilateral opacities.

TRANSCRIPTIONIST: lbg
TRANSCRIBE TIME/DATE: 08/29/2016 10:04 am
READ BY: LEWIS B. GILPIN, MD

ELECTRONICALLY SIGNED BY:
8/29/2016 10:04 AM: LEWIS B. GILPIN, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Lewis Bailey Gilpin, MD on 8/29/2016 10:04 AM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

Greenville Health System Radiology Imaging Result

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Inpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 1 Vw	08/28/2016 10:57 AM	pneumothorax	None Specified
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Memorial X-Ray	GMH200433513	Kimberly J Garrett	Kemmerlin, W Richard
701 Grove Road			
Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 084D4413
 PT. CLASS: 1 CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000035765276

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG1259 XR CHEST 1 VW ACCESSION NO: GMH200433513
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 08/28/2016
 REASON FOR EXAM: ^pneumothorax

ADMISSION DATE: 08/26/2016 10:32

Portable Chest

Indication: Pneumothorax

Comparison: Radiograph from 08/27/2016

Findings: The right-sided thoracostomy tube is unchanged in position. No pneumothorax is identified. There are persistent bilateral right lung and left basilar opacities. No pleural effusion.

Impression: No significant interval change.

TRANSCRIPTIONIST: jrh

TRANSCRIBE TIME/DATE: 08/28/2016 12:41 pm

READ BY: JONATHAN R. HINSHELWOOD, MD

ELECTRONICALLY SIGNED BY:

8/28/2016 12:41 PM: JONATHAN R. HINSHELWOOD, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Jonathan Robert Hinshelwood, MD on 8/28/2016 12:41 PM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

**Greenville Health System Radiology
 Imaging Result**

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Inpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 1 Vw Portable in AM post op day one	08/27/2016 8:43 AM	s/p wedge resection	None Specified
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Memorial X-Ray	GMH200432707	Jenna L Ashley	Kemmerlin, W Richard
701 Grove Road Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 084D4413
 PT. CLASS: I CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000035765276

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG1259 XR CHEST 1 VW ACCESSION NO: GMH200432707
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 08/27/2016
 REASON FOR EXAM: ^s/p wedge resection

ADMISSION DATE: 08/26/2016 10:32

Portable Chest

Indication: Status post wedge resection

Comparison: Radiograph from 08/26/2016

Findings: The right-sided thoracostomy tube is unchanged in position.
 Interval resolution of the tiny medial pneumothorax. There are persistent

bilateral basilar opacities. No pleural effusion.

Impression: Interval resolution in the tiny medial right-sided pneumothorax. Otherwise, no significant interval change.

TRANSCRIPTIONIST: jrh

TRANSCRIBE TIME/DATE: 08/27/2016 11:08 am

READ BY: JONATHAN R. HINSHELWOOD, MD

ELECTRONICALLY SIGNED BY:

8/27/2016 11:08 AM: JONATHAN R. HINSHELWOOD, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Jonathan Robert Hinshelwood, MD on 8/27/2016 11:08 AM

Auth Prov: William David Bolton
 890 West Faris Road
 Suite 320
 Greenville SC 29605-4281

**Greenville Health System Radiology
 Imaging Result**

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	Inpatient
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
XR Chest 1 Vw Portable on arrival to PACU	08/26/2016 3:10 PM	s/p wedge resection	None Specified
Performing Department:	Accession Number:	Performing Tech:	PCP:
Greenville Memorial X-Ray	GMH200431864	Candy Mak	Kemmerlin, W Richard
701 Grove Road Greenville SC 29605			

Greenville Health System
 GREENVILLE MEMORIAL HOSPITAL
 GREENVILLE, SOUTH CAROLINA

PATIENT NAME: Christian, Kenneth Dorsey MED. REC. NO.: 970179298
 DOB: 08/13/1950
 SEX: M PT. NS./ROOM: 08RRGMH PA
 PT. CLASS: I CORP. ACCOUNT
 NO.:
 ADMISSION NO.: 1000035765276

ORDERING MD: WILLIAM D. BOLTON, MD OP LOCATION:

IMG1259 XR CHEST 1 VW ACCESSION NO: GMH200431864
 ORDERED BY: WILLIAM D. BOLTON, MD

DATE OF EXAM: 08/26/2016
 REASON FOR EXAM: ^s/p wedge resection

ADMISSION DATE: 08/26/2016 10:32

3:10 p.m.:

Comparison: 06/28/2016.

Surgical staples are faintly visualized over the right mid lung field and right chest tube is now in place. A small anterior pneumothorax is likely at the right cardiophrenic angle.

Cardiac size is normal. Examination was obtained at low lung volumes and a degree of chronic interstitial fibrosis is again noted in the lower lung fields bilaterally. Subtly more confluent density in the right mid lung field is likely postoperative. No pleural fluid is apparent. A curvilinear lucency is identified in the medial aspect of the right upper lung field which probably relates to either gas within the esophagus or herniation of the left upper lung field across the midline. Attention this finding on future studies is recommended.

IMPRESSION:

1. Postoperative findings right hemithorax with right chest tube in place. Very small anterior pneumothorax is likely.
2. Expiratory examination with chronic bibasilar fibrosis. Limited postoperative findings are present in the right mid lung field.
3. Lucency over the medial aspect of the right upper lung field. Attention this finding on future studies is recommended.

TRANSCRIPTIONIST: lca

TRANSCRIBE TIME/DATE: 08/26/2016 03:32 pm

READ BY: L. CHASE ALLEN, MD

ELECTRONICALLY SIGNED BY:

8/26/2016 3:32 PM: L. CHASE ALLEN, MD

The above report was produced by using a computer based typing program that converts spoken words to text. Random mistakes in words identified by the computer are very often initially present. Despite careful review some mistakes may still be found in the final released report.

All CT scans at this facility use specific methods available to minimize radiation exposure to our patients. We use techniques such as dose modulation, iterative reconstruction, and/or weight based dosing when appropriate to reduce radiation dose to as low as reasonably achievable.

Signed By: Leighton Chase Allen Jr., MD on 8/26/2016 3:32 PM

Auth Prov: Edward Bert Knight III
 200 Patewood Drive Suite B300
 Greenville SC 29615-3593

**Greenville Health System Radiology
 Imaging Result**

Name:	DOB:	Sex:	Patient Class:
Christian, Kenneth Dorsey	8/13/1950	Male	
Procedures Performed:	Exam Time:	Reason for Exam:	Diagnosis:
X-ray chest 2 views (Clinic Performed)	06/28/2016 1:42 PM	None Specified	ILD (interstitial lung disease)
Performing Department:	Accession Number:	Performing Tech:	PCP:
Pulmonology Lung Center Radiology	PUE200318291	Sonja Hawkins	Kemmerlin, W Richard
No address on file			

GHS LUNG CENTER IMAGING RESULT NOTE:

PA and lateral views the chest and in the office today and reviewed by me reveal a bilateral lower lobe interstitial changes, somewhat reticular nodule in pattern.

Signed By: Edward Bert Knight III, MD on 6/28/2016 5:46 PM



ANDERSON RADIOLOGY

Anderson Radiology
2110 North Highway 81 Anderson, SC 29621
p: (864) 225-6286 f: (864) 231-6738

PATIENT: CHRISTIAN, KEN
DOB: 08/13/1950
MRN: 1090746
PHONE: 864-999-9999 (Home)
PHYSICIAN: RICHARD KEMMERLIN, MD
EXAM DATE: 08/25/2015

EXAM: XR-Chest 2 views

REASON FOR EXAM:

HISTORY: Chronic cough.

COMPARISON: None

FINDINGS: Frontal and lateral views of the chest show hyperinflation of the lungs. There is no focal air-space disease or blunting of the costophrenic angles. Interstitial markings are increased throughout the lungs. There is symmetric pleural thickening in the lung apices. The cardiac silhouette is normal in size and contour. Mild bony degenerative changes are present.

IMPRESSION:

1. No evidence of focal consolidation or effusion.
2. Hyperinflation suggests COPD. There is diffuse fibrosis.

Jennifer Cranny, MD

JRC/rim

DD: 08/28/2015 03:35 P

DT: 08/28/2015 05:40 P

Accession#: 08-2145069 VS#: 120536076 CS#: 1559965

cc:

Electronically Signed and Reviewed by Jennifer Cranny, MD 08/31/2015 08:51 A



SOUTH CAROLINA DIAGNOSTIC IMAGING

Piedmont Imaging
684 N. Pine St Spartanburg, SC 29303
p: (864) 542-0033 f: (864) 542-0025

PATIENT: CHRISTIAN, KEN
DOB: 08/13/1950
MRN: 1090746
PHONE: 864-611-1170 (Home)
PHYSICIAN: DEBORAH S MARTIN SEXTON, NP
EXAM DATE: 09/09/2015

EXAM: CT-Chest without contrast (Lung Screening)

REASON FOR EXAM: chronic cough

ADDITIONAL INDICATION: Productive cough for 1.5 years. States had a chest x-ray taken at Dr.s office and saw something and wanted to get a better look.

TECHNIQUE: Helical imaging of the chest without contrast.

FINDINGS: Chronic bilateral peripheral interstitial lung changes. Sites of basilar ground glass opacities could reflect acute alveolitis. Coronary atherosclerosis. Normal evaluation of the heart and pericardia. Calcifications at the aortic valve level.

No enlarged mediastinal or hilar lymph nodes.

CONCLUSION: Chronic bilateral interstitial lung changes. Ground glass opacities within the inferior and posterior aspects of the lungs raise the question of acute alveolitis or pneumonitis and brings consideration acute phase of an interstitial pneumonitis. Chronic biapical pleuroparenchymal changes.

Jeffrey K Shramek, MD

JS/bl

DD: 09/09/2015 12:08 P

DT: 09/09/2015 12:58 P

Accession#: 08-2151825 VS#: 120549341 CS#: 1573271

cc:

Electronically Signed and Reviewed by Jeffrey K Shramek, MD 09/09/2015 02:09 P



SOUTH CAROLINA DIAGNOSTIC IMAGING

Piedmont Imaging
684 N. Pine St Spartanburg, SC 29303
p: (864) 542-0033 f: (864) 542-0025

PATIENT: CHRISTIAN, KEN
DOB: 08/13/1950
MRN: 1090746
PHONE: 864-569-9673 (Home)
PHYSICIAN: DEBORAH S MARTIN SEXTON, NP
EXAM DATE: 10/13/2015

EXAM: CT-Chest without contrast

REASON FOR EXAM: follow up for abnormal done on 9/9/15

ADDITIONAL HISTORY: Has been on Prednisone treatment. Previous scan 09/09/15.

TECHNIQUE: Helical chest imaging without contrast.

COMPARISON: Chest CT 09/09/15.

FINDINGS: There has been no interval improvement in bilateral lung opacities and ground-glass changes compared to the prior study. Stable heart, mediastinum, and pulmonary hila. Similar splaying of the carina when compared to the prior study.

IMPRESSION: No change in bilateral ground-glass opacities compared to the prior study. No new lung findings.

Jeffrey K Shramek, MD

JS/es

DD: 10/13/2015 12:51 P

DT: 10/13/2015 01:54 P

Accession#: 08-2174095 VS#: 120596121 CS#: 1620202

cc:

Electronically Signed and Reviewed by Jeffrey K Shramek, MD 10/13/2015 02:49 P



SOUTH CAROLINA DIAGNOSTIC IMAGING

Piedmont Imaging
684 N. Pine St Spartanburg, SC 29303
p: (864) 542-0033 f: (864) 542-0025

PATIENT: CHRISTIAN, KEN
DOB: 08/13/1950
MRN: 1090746
PHONE: 864-569-9673 (Home)
PHYSICIAN: WILLIAM BOLTON, MD
EXAM DATE: 08/10/2016

EXAM: CT-Chest with contrast

REASON FOR EXAM: Interstitial pulmonary disease, unspecified

ADDITIONAL HISTORY: Patient states having a biopsy on lungs, history of
ILD, productive cough.

LOMC: 100 mL Isovue-300 non-ionic contrast media was selected for its
greater safety margin.

TECHNIQUE: Helical imaging of the chest with contrast and reformats.

COMPARISON: None.

FINDINGS: Diffuse chronic bilateral interstitial lung disease. Increased
lung density within the posterior aspects of both lungs and I cannot exclude
alveolitis. Also increased lung density toward the caudal aspects of both
lungs. No lung mass. Patent trachea and mainstem bronchi. Prominent air
within the esophagus. Esophagus is to the right of the spine within the
upper thorax. Curvilinear calcium along the right azygos arch. Coronary
atherosclerosis. Normally opacified heart.

IMPRESSION: Bilateral interstitial lung disease with increased lung density
in the lower lung fields especially the dependent or posterior aspects of
the lower lobes where I cannot exclude zones of alveolitis.

Jeffrey K Shramek, MD

JS/cr

DD: 08/10/2016 02:06 P

DT: 08/10/2016 05:00 P

Accession#: 08-2370963 VS#: 120969560 CS#: 1994942

cc:

Electronically Signed and Reviewed by Jeffrey K Shramek, MD 08/10/2016 05:40 P

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

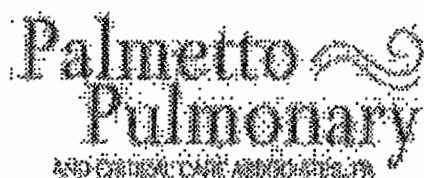
Encounter Date: 10/30/2015

Christian, Kenneth

MRN: 815009435
Description: 65 year old maleOffice Visit 10/30/2015
Palmetto Pulmonary and
Critical CareProvider: Julia G Payne, MD (Pulmonary Disease)
Primary diagnosis: Dyspnea
Reason for visit: New Patient; Referred by Travis J Greer, MD

Progress Notes

Julia G Payne, MD (Physician) • Pulmonary Disease

Dr. Julie Payne, MD
3 St. Francis Dr., Ste. 300
Greenville, SC 29601
(864)233-8063Patient Name: Kenneth Christian
Date of Birth: 8/13/1950

Date of Visit: 10/30/2015

CHIEF COMPLAINT:**Chief Complaint**

Patient presents with:

- New Patient
cough, abnormal chest CT

HISTORY OF PRESENT ILLNESS:

Kenneth Christian is a pleasant 65-year-old gentleman with a past medical history of hyperlipidemia, allergic rhinitis, acid reflux and coronary artery disease who presented to Palmetto pulmonary as a new patient today with dry cough, exertional dyspnea and an abnormal CT scan. He reports he had a cough for years, but it had worsened when he was seen in annual physical this summer. An x-ray was performed and was abnormal and led to CT scan, which was done in early September. This revealed peripheral groundglass opacities and the patient was started on a prednisone course for >1 month (40mg x 10 days, 30mg x 10 days, 20mg x 10 days, 10mg x 10 days, 5mg x 10 days) for "early interstitial pneumonitis". His dyspnea on exertion improved dramatically, but his CT findings were persistent, and so he was referred to our office.

Mr. Christian does not report any use of pulmonary toxic drugs like methotrexate, amiodarone nitrofurantoin or others. His occupational exposures include metal fumes from soldering and several chemicals, but he is unsure of the chemical ingredients in the cleaners he's been using. His only pet is a small dog, and he has no h/o asthma. He denies fevers, weight loss, fatigue.

Past Medical History

Diagnosis	Date
• History of shingles	2011

Past Surgical History

Procedure	Laterality	Date
-----------	------------	------

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 10/30/2013

- Hx heent 2000
sinus
- Pr cardiac surg procedure unlist 052701
one stent

No flowsheet data found.

History**Social History**

- Marital Status: MARRIED
- Spouse Name: N/A
- Number of Children: N/A
- Years of Education: N/A

Occupational History

- engineering tech

Social History Main Topics

- Smoking status: Never Smoker
- Smokeless tobacco: Never Used
- Alcohol Use: No
- Drug Use: Not on file
- Sexual Activity: Not on file

Other Topics

Concern

- Not on file

Social History Narrative

Does lots of soldering at work
Previously lived in Georgia
Small dog

Family History

Problem	Relation	Age of Onset
• Heart Attack	Sister	
• Diabetes	Sister	
• Cancer	Brother	
• Cancer	Brother	

No Known Allergies**Current Outpatient Prescriptions**

Medication	Sig
• fluticasone (FLONASE) 50 mcg/actuation	nightly.
nasal spray	
• Cholecalciferol, Vitamin D3, (VITAMIN D3) 1,000 unit cap	Take by mouth.
• cyanocobalamin (VITAMIN B-12) 1,000 mcg tablet	Take 1,000 mcg by mouth daily.
• omega-3 fatty acids-vitamin e (FISH OIL) 1,000 mg cap	Take 1 Cap by mouth.
•	Take by mouth.

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 10/30/2015

vitamin b comp & c no.4 (SUPER B
COMPLEX + C) 150 mg tab

• NEXIUM 40 mg capsule	TAKE 1 CAPSULE DAILY
• aspirin delayed-release 81 mg tablet	TAKE 1 TABLET DAILY
• atorvastatin (LIPITOR) 20 mg tablet	Take by mouth daily.

No current facility-administered medications for this visit.

REVIEW OF SYSTEMS:

CONSTITUTIONAL: There is no history of fever, chills, night sweats, weight loss, weight gain, persistent fatigue, or lethargy/hypersomnolence.

EYES: Denies problems with eye pain, erythema, blurred vision, or visual field loss.

ENTM: Denies history of tinnitus, epistaxis, sore throat, hoarseness, or dysphonia.

LYMPH: Denies swollen glands.

CARDIAC: No chest pain, pressure, discomfort, palpitations, orthopnea, murmurs, or edema.

GI: No dysphagia, heartburn reflux, nausea/vomiting, diarrhea, abdominal pain, or bleeding.

GU: Denies history of dysuria, hematuria, polyuria, or decreased urine output.

MS: No history of myalgias, arthralgias, bone pain, or muscle cramps.

SKIN: No history of rashes, jaundice, cyanosis, nodules, or ulcers.

ENDO: Negative for heat or cold intolerance. No history of DM.

PSYCH: Negative for anxiety, depression, insomnia, hallucinations.

NEURO: There is no history of AMS, persistent headache, decreased level of consciousness, seizures, or motor or sensory deficits.

PHYSICAL EXAM:

Visit Vitals

Item	Reading
• Temp(Src)	97.7 °F (36.5 °C) (Oral)
• Resp	16
• Ht	5' 9" (1.753 m)
• Wt	165 lb (74.844 kg)
• BMI	24.36 kg/m ²
• SpO2	

General Appearance: The patient is comfortable and in no respiratory distress.

HEENT: PERRLA. Conjunctivae unremarkable. Nasal mucosa is without epistaxis, exudate, or polyps.

Gums and dentition are unremarkable. There is no oropharyngeal narrowing. TMs are clear.

Neck/Lymphatic: Symmetrical with no elevation of jugular venous pulsation. Trachea midline. No thyroid enlargement. No cervical adenopathy.

Lungs: Normal respiratory effort with symmetrical lung expansion. Breath sounds with bilateral posterior crackles

Heart: Regular rate and rhythm no murmurs

Abdomen: Soft and non-tender. No hepatosplenomegaly. Bowel sounds are normal.

Extremity: No edema, clubbing or cyanosis

Musculoskeletal: No weakness, normal muscle tone and bulk.

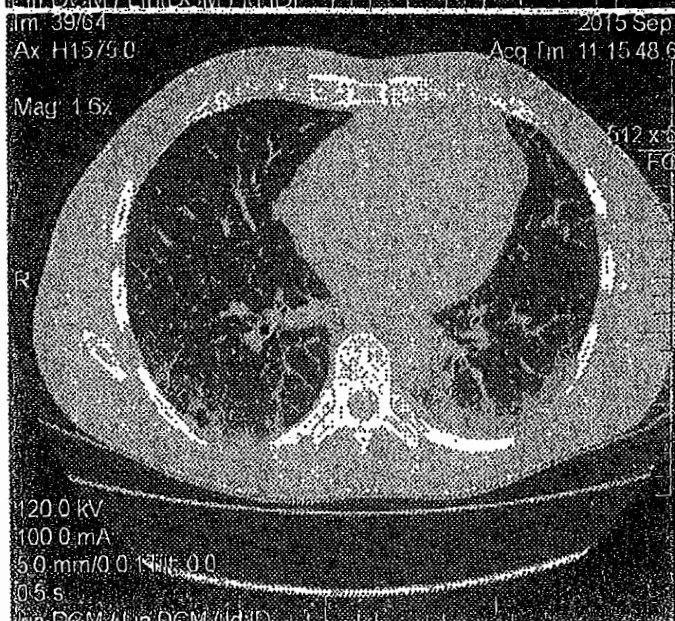
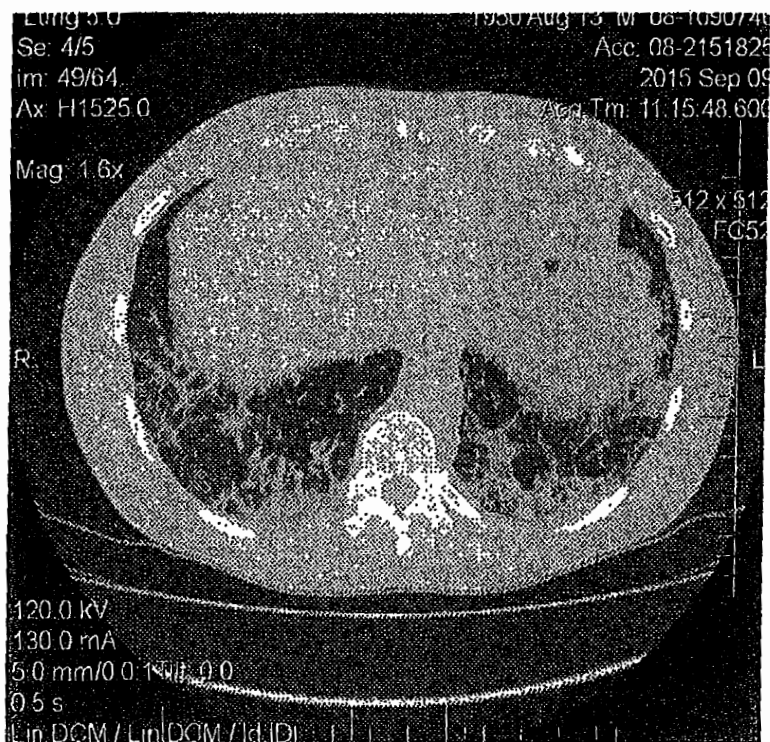
Neuro: The patient is alert and oriented to person, place, and time. Memory appears intact and mood is normal. No gross sensorimotor deficits are present.

DIAGNOSTIC TESTS:

CT of chest September and 9, 2015:

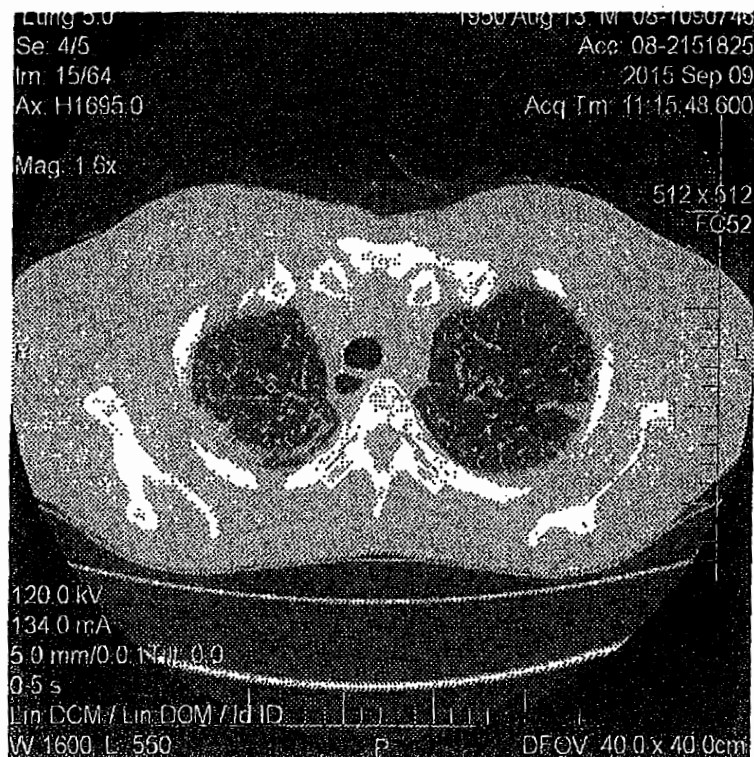
Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 10/30/2015



Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

ENCOUNTER DATE: 10/30/2015

**CT 10/13/15:****EXAM DATE:** 10/13/2015**EXAM:** CT-Chest without contrast**REASON FOR EXAM:** Follow up for abnormal done on 9/9/15**ADDITIONAL HISTORY:** Has been on Prednisone treatment. Previous scan 09/09/15.**TECHNIQUE:** Helical chest imaging without contrast.**COMPARISON:** Chest CT 09/09/15.**FINDINGS:** There has been no interval improvement in bilateral lung opacities and ground-glass changes compared to the prior study. Stable heart, mediastinum, and pulmonary hila. Similar splaying of the carina when compared to the prior study.**IMPRESSION:** No change in bilateral ground-glass opacities compared to the prior study. No new lung findings.

Jeffrey K. Shanek, MD

Spirometry 10/29/15: Normal

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 10/30/2015

	Units	Predicted	Pre/Actual	Pre % Pred
FVC	L	4.44	3.77	85 %
FEV1	L	3.31	3.03	92 %
FEV1/FVC	%	75 %	81 %	108 %
FVC 75%	L/S	7.53	7.41	98 %
FVC 50%	L/S	4.07	3.99	98 %
FVC 75%	L/S	1.46	1.26	87 %
PEF 25-75%	L/S	2.63	3.05	116 %
PEF	L/S	8.60	7.64	89 %
Exp. Time	Sec.		6:35	

ASSESSMENT & PLAN: (Medical Decision Making)

	ICD-10 CM	ICD-9 CM	
1. Dyspnea Will obtain complete PFTs and patient will complete full survey of pulmonary toxins, exposures and related medical conditions which increase risk for ILD	R06.00	786.09	AMB POC SPIROMETRY AMB POC PLETHYSMOGRAPHY LUNG VOLUMES W/WO AIRWAY RESIST AMB POC SPIROMETRY W/BRONCHODILATOR AMB POC SPIROMETRY AMB POC DIFFUSING CAPACITY AMB POC GAS DILUTION(LUNG VOLUMES) INHAL RX, AIRWAY OBST/DX SPUTUM INDUCT
2. Abnormal CT scan: With peripheral GGO and occasional peripheral cyst. Concern for hypersensitivity pneumonitis, chronic eosinophilic pneumonia or other early ILD. May need bronchoscopy for cell count/diff.	R93.8	793.99	
3. Cough: persistent chronic cough for years, unclear if related to new dyspnea and abnormal CT scan. Will f/u cpfts and further evaluate at next appointment. very healthy	R05	786.2	

F/u within a month with complete PFTs and survey of ILD exposures. Will discuss need for bronchoscopy vs lung biopsy.

Orders Placed This Encounter

- AMB POC SPIROMETRY - 94010
- AMB POC PLETHYSMOGRAPHY LUNG VOLUMES W/WO AIRWAY RESIST (POC94726)
- AMB POC SPIROMETRY W/BRONCHODILATOR (POC94060)
- AMB POC SPIROMETRY (POC94010)
- AMB POC DIFFUSING CAPACITY (POC94729)
- AMB POC GAS DILUTION(LUNG VOLUMES) (POC94727)
- INHAL RX, AIRWAY OBST/DX SPUTUM INDUCT (PRO94640)

Julia G Payne, MD
Electronically signed

Instructions

To Take With You (Printed 10/30/2015)

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 10/30/2015

Additional Documentation

Vitals: Temp 97.7 °F (36.5 °C) (Oral) Resp 16 Ht 5' 9" (1.753 m) Wt 165 lb (74.8 kg)
BMI 24.37 kg/m2

Encounter Info: Billing Info, History, Allergies, Detailed Report

Orders Placed

AMB POC DIFFUSING CAPACITY (Resulted 11/6/2015)
AMB POC PLETHYSMOGRAPHY LUNG VOLUMES WWO AIRWAY RESIST (Resulted 11/6/2015)
AMB POC SPIROMETRY (Resulted 10/30/2015)
AMB POC SPIROMETRY W/BRONCHODILATOR (Resulted 11/6/2015)

Medication Changes

As of 10/30/2015 9:39 AM

None

Visit Diagnoses

Primary: **Dyspnea** R06.00
Abnormal CT scan R93.8
Cough R05

Christian, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 02/17/2016

Christian, Kenneth

MRN: 815009435
Description: 65 year old male**Office Visit 2/17/2016**
Palmetto Pulmonary and
Critical CareProvider: Julia G Payne, MD (Pulmonary Disease)
Primary diagnosis: Interstitial lung disease (HCC)
Reason for visit: Follow-up; Referred by Ezzat El Bayoumi, MD**Progress Notes**

Julia G Payne, MD (Physician) • Pulmonary Disease



Dr. Julie Payne, MD
3 St. Francis Dr., Ste. 300
Greenville, SC 29601
(864)233-8063

Patient Name: Kenneth Christian
Date of Birth: 8/13/1950

Date of Visit: 2/17/2016**CHIEF COMPLAINT:**

No chief complaint on file.

HISTORY OF PRESENT ILLNESS:

Kenneth Christian is a pleasant 65-year-old gentleman with a past medical history of hyperlipidemia, allergic rhinitis, acid reflux and coronary artery disease who presented to Palmetto pulmonary as a new patient today with dry cough, exertional dyspnea and an abnormal CT scan. He reports he had a cough for years, but it had worsened when he was seen in annual physical this summer. An x-ray was performed and was abnormal and led to CT scan, which was done in early September. This revealed peripheral groundglass opacities and the patient was started on a prednisone course for >1 month (40mg x 10 days, 30mg x 10 days, 20mg x 10 days, 10mg x 10 days, 5mg x 10 days) for "early interstitial pneumonitis". His dyspnea on exertion improved dramatically, but his CT findings were persistent, and so he was referred to our office.

Mr. Christian does not report any use of pulmonary toxic drugs like methotrexate, amiodarone nitrofurantoin or others. Mr. Christian brings in a list of the chemicals he works with including "Flux- Off Rosin" which contains aethanol, isopropyl alcohol, n-hexane, methypentane, difluoroethane and methylpentane. He also uses electronic silver solder (2% silver 62% tin, 36% lead). Occasionally he uses a "green" cleaner as well. His only pet is a small dog, and he has no h/o asthma. He denies fevers, weight loss, fatigue.

Since his last visit here he has been doing well. He continues to have a morning cough which is productive of phlegm. His posterior crackles continued. His lung function test was concerning for mild restrictive changes with a moderate diffusing defect. He denies significant shortness of breath.

He underwent bronchoscopy in December which yielded negative cytology, negative cultures, high CD4:CD8 ratio as can be seen in sarcoidosis and 26% eosinophils. He has been treated with prednisone in the past and did not like the side effects. CEP, sarcoidosis are both in ddx. Though skin tests for ABPA have been positive, remaining serum testing has been negative.

Past Medical History

CHRISTIAN, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 04/17/2016

Diagnosis	Date
• History of shingles	2011
• CAD (coronary artery disease) one stent	

Past Surgical History

Procedure	Laterality	Date
• Hx heent sinus		2000
• Pr cardiac surg procedure unlist one stent		052701

No flowsheet data found.

History

Social History	
• Marital Status:	MARRIED
Spouse Name:	N/A
• Number of Children:	N/A
• Years of Education:	N/A

Occupational History
• engineering tech

Social History Main Topics	
• Smoking status:	Never Smoker
• Smokeless tobacco:	Never Used
• Alcohol Use:	No
• Drug Use:	Not on file
• Sexual Activity:	Not on file

Other Topics	Concern
• Not on file	

Social History Narrative
Does lots of soldering at work Previously lived in Georgia Small dog

Family History

Problem	Relation	Age of Onset
• Heart Attack	Sister	
• Diabetes	Sister	
• Cancer	Brother	
• Cancer	Brother	

No Known Allergies**Current Outpatient Prescriptions**

Medication	Sig
------------	-----

Christman, Kenneth (MR # 815009435) DOB: 08/13/1950

ENCOUNTER DATE: 04/17/2010

- guaifenesin (MUCINEX) 1,200 mg Ta12 Take 1,200 mg by mouth two (2) times a day.
ER tablet

- amoxicillin-clavulanate (AUGMENTIN) Take by mouth every twelve (12) hours.
875-125 mg per tablet

- SOD CHLOR&BICARB/SQUEEZ by Nasal route two (2) times a day.
BOTTLE (NEILMED SINUS RINSE
COMPLETE NA)

- fluticasone (FLONASE) 50 mcg/actuation 2 Sprays by Both Nostrils route daily.
nasal spray

- Cholecalciferol, Vitamin D3, (VITAMIN D3) 1,000 unit cap Take by mouth daily.

- cyanocobalamin (VITAMIN B-12) 1,000 mcg tablet Take 1,000 mcg by mouth daily.

- omega-3 fatty acids-vitamin e (FISH OIL) 1,000 mg cap Take 1 Cap by mouth daily.

- vitamin b comp & c no.4 (SUPER B COMPLEX + C) 150 mg tab Take by mouth daily.

- NEXIUM 40 mg capsule TAKE 1 CAPSULE DAILY

- aspirin delayed-release 81 mg tablet TAKE 1 TABLET DAILY

- atorvastatin (LIPITOR) 20 mg tablet Take by mouth daily.

No current facility-administered medications for this visit.

REVIEW OF SYSTEMS:

CONSTITUTIONAL: There is no history of fever, chills, night sweats, weight loss, weight gain, persistent fatigue, or lethargy/hypersomnolence.

EYES: Denies problems with eye pain, erythema, blurred vision, or visual field loss.

ENTM: Denies history of tinnitus, epistaxis, sore throat, hoarseness, or dysphonia.

LYMPH: Denies swollen glands.

CARDIAC: No chest pain, pressure, discomfort, palpitations, orthopnea, murmurs, or edema.

GI: No dysphagia, heartburn reflux, nausea/vomiting, diarrhea, abdominal pain, or bleeding.

GU: Denies history of dysuria, hematuria, polyuria, or decreased urine output.

MS: No history of myalgias, arthralgias, bone pain, or muscle cramps.

SKIN: No history of rashes, jaundice, cyanosis, nodules, or ulcers.

ENDO: Negative for heat or cold intolerance. No history of DM.

PSYCH: Negative for anxiety, depression, insomnia, hallucinations.

NEURO: There is no history of AMS, persistent headache, decreased level of consciousness, seizures, or motor or sensory deficits.

PHYSICAL EXAM:

Visit Vitals

Item	Reading
• BP	127/66 mmHg
• Pulse	75
• Temp(Src)	98.2 °F (36.8 °C) (Oral)
• Resp	20
• Ht	5' 9" (1.753 m)
• Wt	164 lb (74.39 kg)
• BMI	24.21 kg/m2
• SpO2	97%

General Appearance: The patient is comfortable and in no respiratory distress.

HEENT: PERRLA. Conjunctivae unremarkable. Nasal mucosa is without epistaxis, exudate, or polyps.

Gums and dentition are unremarkable. There is no oropharyngeal narrowing. TMs are clear.

Carrasani, Kenneth (MR # 815007455) DOB: 08/15/1950

Encounter Date: 02/17/2010

Neck/Lymphatic: Symmetrical with no elevation of jugular venous pulsation. Trachea midline. No thyroid enlargement. No cervical adenopathy.

Lungs: Normal respiratory effort with symmetrical lung expansion. Breath sounds with bilateral posterior crackles

Heart: Regular rate and rhythm no murmurs

Abdomen: Soft and non-tender. No hepatosplenomegaly. Bowel sounds are normal.

Extremity: No edema, clubbing or cyanosis

Musculoskeletal: No weakness, normal muscle tone and bulk.

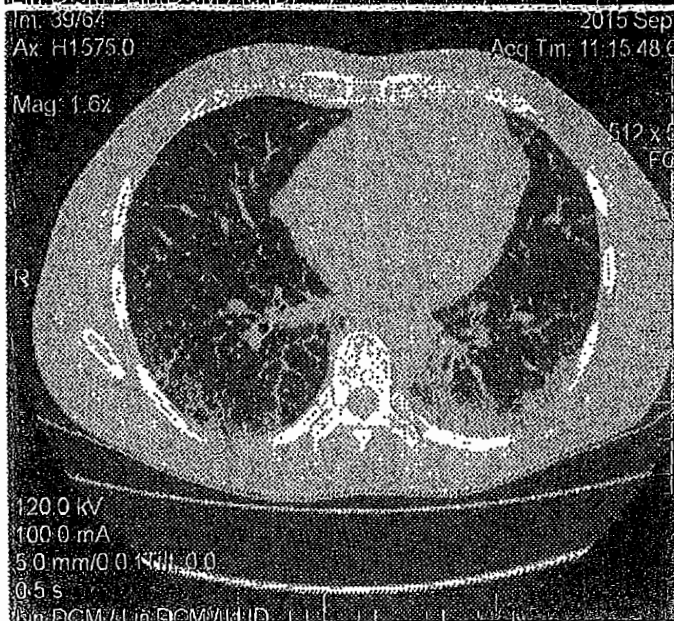
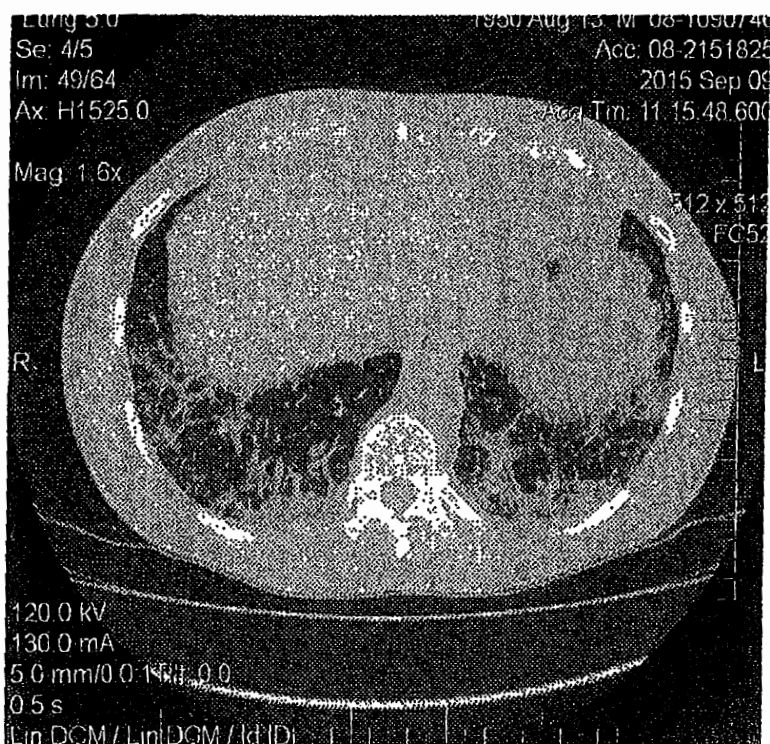
Neuro: The patient is alert and oriented to person, place, and time. Memory appears intact and mood is normal. No gross sensorimotor deficits are present.

DIAGNOSTIC TESTS:

CT of chest September 9, 2015:

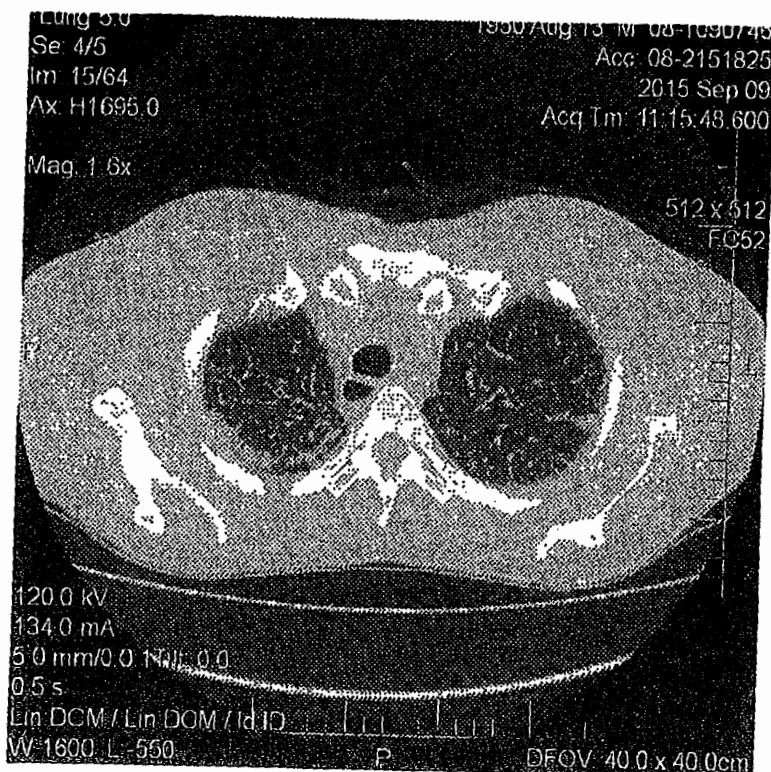
Christman, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 02/17/2010



Chiusan, Kenneth (MR # 815009435) DOB: 08/13/1950

Encounter Date: 02/11/2016



CT 10/13/15:

EXAM DATE: 10/13/2015

EXAM: CT-Chest without contrast

REASON FOR EXAM: follow up for abnormal done on 9/9/15

ADDITIONAL HISTORY: Has been on Prednisone treatment. Previous scan 09/09/15.

TECHNIQUE: Helical chest imaging without contrast.

COMPARISON: Chest CT 09/09/15.

FINDINGS: There has been no interval improvement in bilateral lung opacities and ground-glass changes compared to the prior study. Stable heart, mediastinum, and pulmonary hila. Similar splaying of the carina when compared to the prior study.

IMPRESSION: No change in bilateral ground-glass opacities compared to the prior study. No new lung findings.

Jeffrey K. Szadek, MD

Spirometry 10/29/15: Normal

MR # 815009455) DOB: 08/13/1950

Encounter Date: 02/11/2010

	Units	Predicted	Pre Actual	Pre % Pred
FVC	L	4.44	3.77	85 %
FEV1	L	3.31	3.03	92 %
FEV1/FVC	%	75 %	81 %	108 %
PEF25%	L/S	7.53	7.41	98 %
PEF50%	L/S	4.07	3.99	98 %
PEF75%	L/S	1.46	1.26	87 %
PEF25-75%	L/S	2.63	3.05	116 %
PEF	L/S	8.60	7.64	89 %
Exp Time	Sec		6.35	

CPFTs 11/11/15:

This is complete pulmonary function performed on 11/6/2015.
Patient with history of dyspnea.

SPIROMETRY:

FVC 4.05 L and 91 % of predicted.
FEV1 3.19 L and 92 % of predicted.
Ratio 79%.

There was no improvement with bronchodilator

LUNG VOLUMES:

TLC 5.15 L and 76 % of predicted.
RV 1.10 L and 48 % of predicted.

DIFFUSION:

The diffusing capacity was corrected for hemoglobin of 13.0 g/dL
and was 15.5 mL/mmHg/minute and 48 % of predicted.

IMPRESSION:

Spirometry is normal however lung volume analysis is consistent
with mild restrictive defect.. The diffusion capacity was
corrected for hemoglobin is significantly decreased. This is
consistent with interstitial lung disease as the residual volume
is significantly decreased. Please correlate clinically

Ezzat El Bayoumi, MD

12/30/2015 11:20

Encounter Date: 02/17/2016

12/30/2015 1120	
BODY FLUIDS	
BODY FLUID TYPE	BRONCHIAL LAVAGE *
FLUID APPEARANCE	CLEAR *
FLUID COLOR	COLORLESS *
FLUID RBC COUNT	<1000 *
FLUID NUCLEATED CELLS	157 *
FLUID SEGS	50 *
FLUID LYMPHS	16 *
FLUID EOSINS	26 *
FLUID COMMENT	MANY LARGE UNI. *

12/30/2015 1120	
OTHERS	
CD4:CD8 RATIO, C49RBT	5.25 *

Aspergillus IgE 28**Aspergillus fumigatus Ab negative <1:1****ANCA negative****ASSESSMENT & PLA****IgE pending****ASSESSMENT & PLAN: (Medical Decision Making)**

	ICD-10	ICD-9
	10-99	CM
	CM	
1. Pulmonary infiltrate: s/p bronchoscopy with high eosinophil count as well as CD4:CD8 >5. Aspergillus skin test +, though other Aspergillus Abs negative. Patient reluctant to consider steroid therapy, whether for sarcoid or ABPA, other eosinophilic lung disease. Currently we plan to await resolution of acute bronchitis/sinusitis and f/u within 1 month with spirometry to assess for any incremental decline in lung function or clear indication steroids are necessary.	R91.8	793.19 CT CHEST WO CONT
2. Bronchitis: Currently improving on amoxicillin and delysym. Is also using neti-pot for sinus symptoms.		

No orders of the defined types were placed in this encounter.

Julia G Payne, MD
Electronically signed**Instructions**

To Take With You (Printed 2/17/2016)

Additional Documentation

Vitals: BP 127/66 Pulse 75 Temp 98.2 °F (36.8 °C) (Oral) Resp 20 Ht 5' 9" (1.753 m)
Wt 164 lb (74.4 kg) SpO2 97% BMI 24.22 kg/m2 More Vitals

Encounter Info: Billing Info, History, Allergies, Detailed Report

Orders Placed

None

Medication Changes

Patient # 615009435) DOB: 08/13/1950

Encounter Date: 02/17/2016

As of 2/17/2016 5:12 PM

None

Visit Diagnoses**Primary: Interstitial lung disease (HCC) J84.9**
Bronchitis J40

Christian, Kenneth

MRN: 815009435
Description: 65 year old male

Office Visit 3/28/2016
Palmetto Pulmonary and
Critical Care

Provider: Julia G Payne, MD (Pulmonary Disease)
Primary diagnosis: Interstitial lung disease (HCC)
Reason for visit: Follow-up; Referred by Julia G Payne, MD

Progress Notes

Julia G Payne, MD (Physician) • Pulmonary Disease



Dr. Julie Payne, MD
3 St. Francis Dr., Ste. 300
Greenville, SC 29601
(864)233-8063

Patient Name: Kenneth Christian
Date of Birth: 8/13/1950

Date of Visit: 3/28/2016

CHIEF COMPLAINT:

Chief Complaint

Patient presents with

- Follow-up
ILD

HISTORY OF PRESENT ILLNESS:

Kenneth Christian is a pleasant 65-year-old gentleman with a past medical history of hyperlipidemia, allergic rhinitis, acid reflux and coronary artery disease who presented to Palmetto pulmonary as a new patient in October 2015 with dry cough, exertional dyspnea and an abnormal CT scan with bilateral lower lobe interstitial changes. He reports he had a cough for years, but it had worsened when he was seen in annual physical this summer. An x-ray was performed and was abnormal and led to CT scan, which was done in early September. This revealed peripheral groundglass opacities and the patient was started on a prednisone course for >1 month (40mg x 10 days, 30mg x 10 days, 20mg x 10 days, 10mg x 10 days, 5mg x 10 days) for "early interstitial pneumonitis". His dyspnea on exertion improved dramatically, but his CT findings were persistent, and so he was referred to our office.

Mr. Christian does not report any use of pulmonary toxic drugs like methotrexate, amiodarone nitrofurantoin or others. Mr. Christian brings in a list of the chemicals he works with including "Flux- Off Rosin" which contains aethanol, isopropyl alcohol, n-hexane, methypentane, difluoroethane and methylpentane. He also uses electronic silver solder (2% silver 62% tin, 36% lead). Occasionally he uses a "green" cleaner as well. His only pet is a small dog, and he has no h/o asthma. He denies fevers, weight loss, fatigue.

He underwent bronchoscopy in December which yielded negative cytology, negative cultures, high CD4:CD8 ratio as can be seen in sarcoidosis (though not a lymphocytic bronch) and 26% eosinophils. ANA, ANCA and IgE have been negative. He has been treated with prednisone in the past and did not like the side effects. CEP, sarcoidosis, HSP in ddx. Though skin tests for ABPA have been positive, remaining serum testing has been negative. Over the last 4-5 months, Mr. Christian has continued to have a cough, but his lung function has remained stable and he has not been short of breath. He has nasal allergies. He denies fever or weight loss fatigue and he is able to exercise regularly.

Given his clinical stability, he's been reluctant to use steroids after having side effects from his initial prednisone course. He also is hesitant to pursue lung biopsy for definitive diagnosis since he has been feeling so well. We discussed the risks and benefits of lung biopsy and watchful waiting at length and he understands. He favors monitoring lung function, symptoms and imaging and if there is decline he wants to re-consider open lung biopsy. He declines further steroid courses.

Past Medical History

Diagnosis	Date
• History of shingles	2011
• CAD (coronary artery disease) one stent	

Past Surgical History

Procedure	Laterality	Date
• Hx heent sinus		2000
• Pr cardiac surg procedure unlist one stent		052701

No flowsheet data found.

History

Social History	
• Marital Status:	MARRIED
• Spouse Name:	N/A
• Number of Children:	N/A
• Years of Education:	N/A

Occupational History
• engineering tech

Social History Main Topics	
• Smoking status:	Never Smoker
• Smokeless tobacco:	Never Used
• Alcohol Use:	No
• Drug Use:	Not on file
• Sexual Activity:	Not on file

Other Topics	Concern
• Not on file	

Social History Narrative
Does lots of soldering at work Previously lived in Georgia Small dog

Family History

Problem	Relation	Age of Onset
• Heart Attack	Sister	

MRN # 815009435) DOB: 08/13/1950

Encounter Date: 03/28/2010

- Diabetes
 - Cancer
 - Cancer
- Sister
 - Brother
 - Brother

No Known Allergies

Current Outpatient Prescriptions

Medication	Sig
• montelukast (SINGULAIR) 10 mg tablet	Take 1 Tab by mouth daily.
• SOD CHLOR&BICARB/SQUEEZ BOTTLE (NEILMED SINUS RINSE COMPLETE NA)	by Nasal route daily as needed.
• Cholecalciferol, Vitamin D3, (VITAMIN D3) 1,000 unit cap	Take by mouth daily.
• cyanocobalamin (VITAMIN B-12) 1,000 mcg tablet	Take 1,000 mcg by mouth daily.
• omega-3 fatty acids-vitamin e (FISH OIL) 1,000 mg cap	Take 1 Cap by mouth daily.
• vitamin b comp & c no.4 (SUPER B COMPLEX + C) 150 mg tab	Take by mouth daily.
• NEXIUM 40 mg capsule	TAKE 1 CAPSULE DAILY (Patient taking differently: every other day)
• aspirin delayed-release 81 mg tablet	TAKE 1 TABLET DAILY
• atorvastatin (LIPITOR) 20 mg tablet	Take by mouth daily.

No current facility-administered medications for this visit.

REVIEW OF SYSTEMS:

CONSTITUTIONAL: There is no history of fever, chills, night sweats, weight loss, weight gain, persistent fatigue, or lethargy/hypersomnolence.

EYES: Denies problems with eye pain, erythema, blurred vision, or visual field loss.

ENTM: Denies history of tinnitus, epistaxis, sore throat, hoarseness, or dysphonia.

LYMPH: Denies swollen glands.

CARDIAC: No chest pain, pressure, discomfort, palpitations, orthopnea, murmurs, or edema.

GI: No dysphagia, heartburn reflux, nausea/vomiting, diarrhea, abdominal pain, or bleeding.

GU: Denies history of dysuria, hematuria, polyuria, or decreased urine output.

MS: No history of myalgias, arthralgias, bone pain, or muscle cramps.

SKIN: No history of rashes, jaundice, cyanosis, nodules, or ulcers.

ENDO: Negative for heat or cold intolerance. No history of DM.

PSYCH: Negative for anxiety, depression, insomnia, hallucinations.

NEURO: There is no history of AMS, persistent headache, decreased level of consciousness, seizures, or motor or sensory deficits.

PHYSICAL EXAM:

Visit Vitals

Item	Reading
• BP	117/71 mmHg
• Pulse	59
• Temp(Src)	97 °F (36.1 °C) (Oral)
• Resp	20
• Ht	5' 9" (1.753 m)
• Wt	163 lb 1 oz (73.965 kg)
• BMI	24.07 kg/m2
• SpO2	97%

General Appearance: The patient is comfortable and in no respiratory distress.

HEENT: PERRLA. Conjunctivae unremarkable. Nasal mucosa is without epistaxis, exudate, or polyps. Gums and dentition are unremarkable. There is no oropharyngeal narrowing. TMs are clear.

Neck/Lymphatic: Symmetrical with no elevation of jugular venous pulsation. Trachea midline. No thyroid enlargement. No cervical adenopathy.

Lungs: Normal respiratory effort with symmetrical lung expansion. Breath sounds with bilateral posterior crackles

Heart: Regular rate and rhythm no murmurs

Abdomen: Soft and non-tender. No hepatosplenomegaly. Bowel sounds are normal.

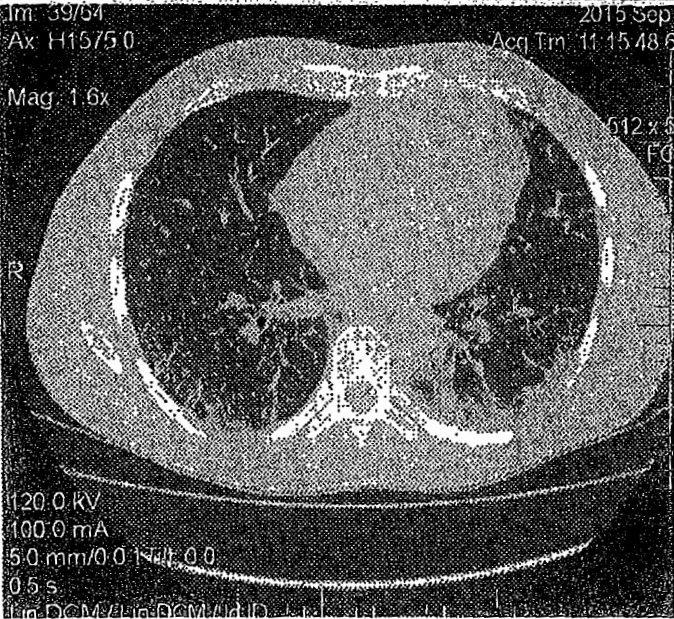
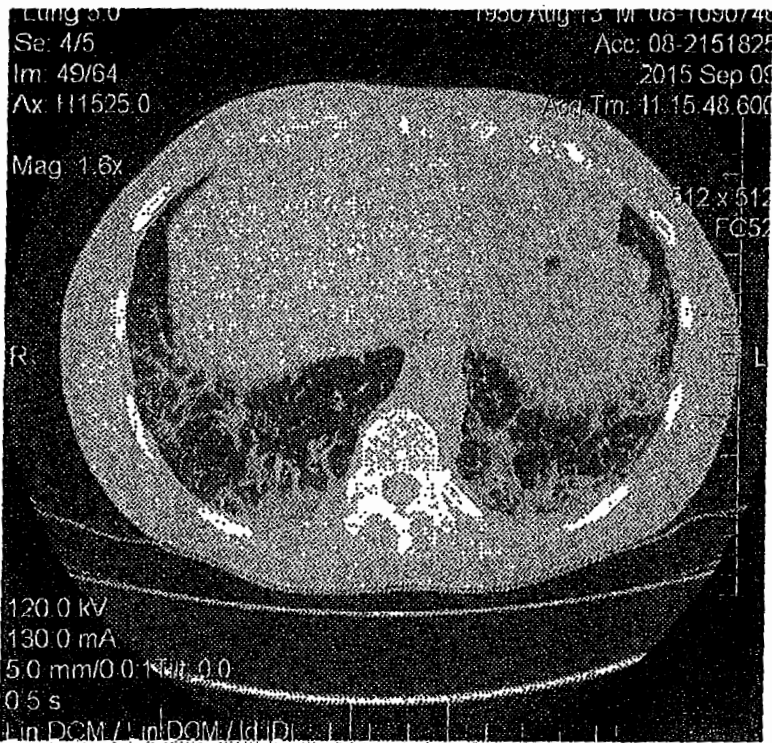
Extremity: No edema, clubbing or cyanosis

Musculoskeletal: No weakness, normal muscle tone and bulk.

Neuro: The patient is alert and oriented to person, place, and time. Memory appears intact and mood is normal. No gross sensorimotor deficits are present.

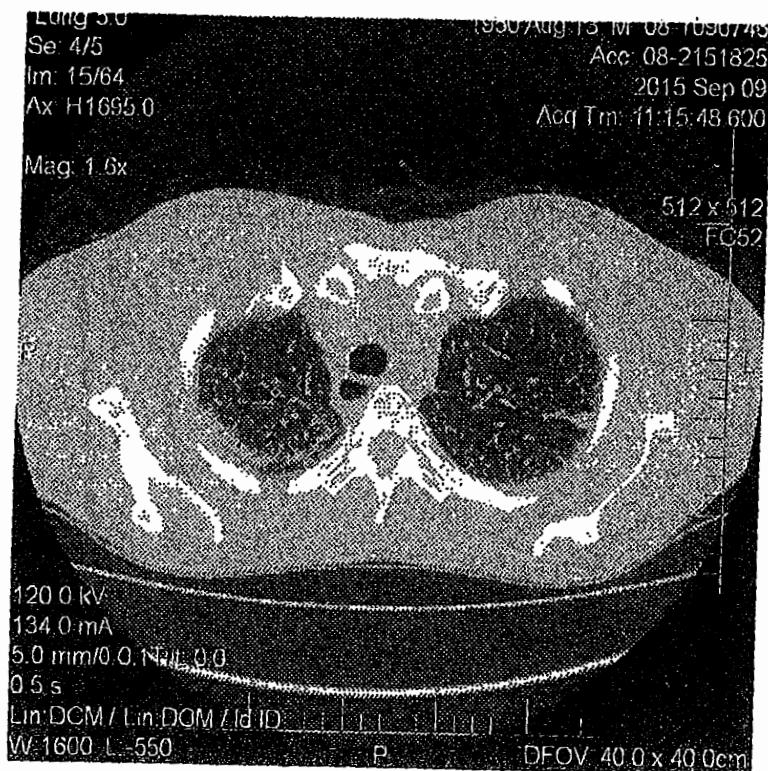
DIAGNOSTIC TESTS:

CT of chest September 9, 2015:



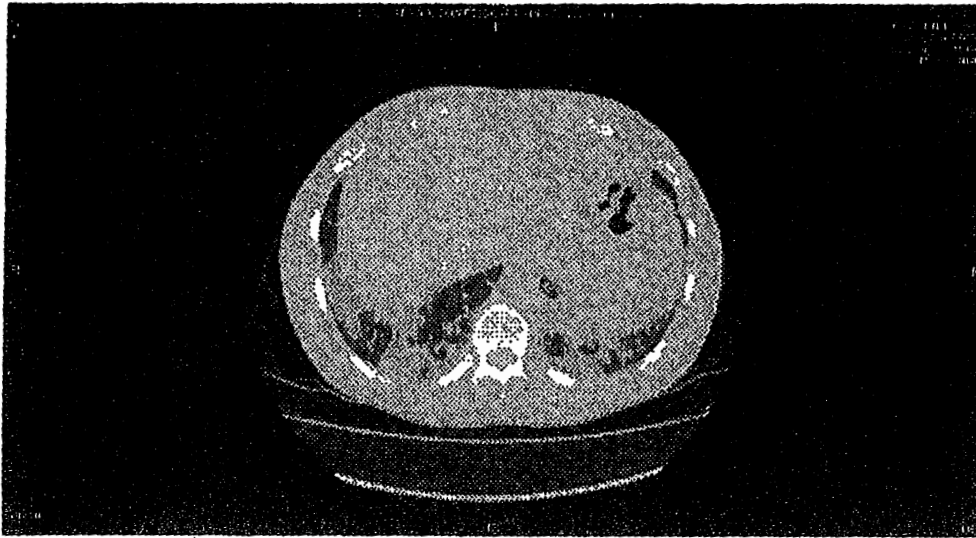
DOB: 08/13/1950

Encounter Date: 09/26/2016

**CT 10/13/15:****EXAM DATE:** 10/13/2015**EXAM:** CT-Chest without contrast**REASON FOR EXAM:** follow up for abnormal done on 9/9/15**ADDITIONAL HISTORY:** Has been on Prednisone treatment. Previous scan 09/09/15.**TECHNIQUE:** Helical chest imaging without contrast.**COMPARISON:** Chest CT 09/09/15.**FINDINGS:** There has been no interval improvement in bilateral lung opacities and ground-glass changes compared to the prior study. Stable heart, mediastinum, and pulmonary hila. Similar splaying of the carina when compared to the prior study.**IMPRESSION:** No change in bilateral ground-glass opacities compared to the prior study. No new lung findings.

Jeffrey K Shramek, MD

CT chest 12/8/2015:

**CT Chest:**

The base of the neck is unremarkable in appearance. No axillary, or mediastinal lymphadenopathy is seen. Mildly prominent, although grossly nonenlarged mediastinal lymph nodes are seen. Evaluation of the hila is limited due to noncontrast technique although no obvious bulky hilar changes are seen. The thoracic aorta is normal in caliber.

Evaluation with lung windows demonstrates no worrisome nodules or masses. Peripheral reticular interstitial prominence is seen most evident in the lung bases. Mild central bronchiectasis is suggested particularly in the upper lobes. Patchy areas of groundglass attenuation are seen most evident in the lung bases these do not improve with prone positioning and therefore not felt to represent atelectasis. No pleural effusion is seen. Lungs are expanded without evidence for pneumothorax.

Limited evaluation of the upper abdomen demonstrates no acute abnormality. The adrenal glands are unremarkable in appearance.

IMPRESSION:

1. Peripheral reticular changes, mild central bronchiectasis, and patchy groundglass changes. These findings are most suggestive of a process such as an NSIP, or hypersensitivity pneumonitis. No prior studies are currently available to compare.

Spirometry 10/29/15: Normal

	Units	Predicted	Pre Actual	Pre % Pred
FVC	L	4.44	3.77	85 %
FEV1	L	3.31	3.03	92 %
FEV1/FVC	%	75 %	81 %	108 %
PEF25%	L/S	7.53	7.41	98 %
PEF50%	L/S	4.07	3.99	98 %
PEF75%	L/S	1.46	1.26	87 %
PEF25-75%	L/S	2.63	3.05	116 %
PEF	L/S	8.60	7.64	89 %
Exp Time	Sec		6.35	

CPFTs 11/11/15:

This is complete pulmonary function performed on 11/6/2015. Patient with history of dyspnea.

DOB: 08/13/1950

Encounter Date: 03/28/2010

SPIROMETRY:

FVC 4.05 L and 91 % of predicted.
FEV1 3.19 L and 92 % of predicted.
Ratio 79%.

There was no improvement with bronchodilator

LUNG VOLUMES:

TLC 5.15 L and 76 % of predicted.
RV 1.10 L and 48 % of predicted.

DIFFUSION:

The diffusing capacity was corrected for hemoglobin of 13.0 g/dL and was 15.5 mL/mmHg/minute and 48 % of predicted.

IMPRESSION:

Spirometry is normal however lung volume analysis is consistent with mild restrictive defect.. The diffusion capacity was corrected for hemoglobin is significantly decreased. This is consistent with interstitial lung disease as the residual volume is significantly decreased. Please correlate clinically

Ezzat El Bayoumi, MDfollow

Spirometry March 28, 2010

	Units	Predicted	Pre Actual	Pre % Pred
FVC	L	4.44	3.75	84 %
FEV1	L	3.31	2.99	90 %
FEV1/FVC	%	75 %	80 %	107 %
PEF25%	L/S	7.53	7.35	98 %
PEF50%	L/S	4.07	3.64	89 %
PEF75%	L/S	1.46	0.95	65 %
PEF25-75%	L/S	2.63	2.95	112 %
PEF	L/S	8.60	8.25	96 %
Exp. Time	Sec		6.95	

12/30/2015 1120	
BODY FLUIDS	
BODY FLUID TYPE	BRONCHIAL LAVAGE *
FLUID APPEARANCE	CLEAR *
FLUID COLOR	COLORLESS *
FLUID RBC COUNT	<10000 *
FLD NUCLEATED CELLS	151 *
FLD SEGS	58 *
FLD LYMPHS	16 *
FLD EOSINS	26 *
FLUID COMMENT	MANY LARGE UNI... *

12/30/2015 1120	
OTHERS	
CD4/CD8 RATIO, C48R01	5.25 *

Aspergillus IgE 28
Aspergillus fumigatus Ab negative <1:1
ANCA negative

110007433) DOB: 08/13/1950

Encounter Date: 03/28/2016

ASSESSMENT & PLA
IgE pending

ASSESSMENT & PLAN: (Medical Decision Making)

- Pulmonary infiltrate:** s/p bronchoscopy with high eosinophil count as well as CD4:CD8 >5. Aspergillus skin test +, though other Aspergillus Abs negative. Patient declines empiric steroid therapy given lack of symptoms of dyspnea or progressive lung function decline. We will re-image in Dec 2016. He should have cPFTs at that time as well.
- Cough:** Continue singulair, chlorpheniramine, flonase for cough thought due to post-nasal drip and possibly bronchiectasis.

ICD-10- CM ICD-9- CM
R91.8 793.19 CT CHEST WO
CONT

F/u in 6 mos or earlier if symptoms develop or worsen

Orders Placed This Encounter

- AMB POC SPIROMETRY
- CT CHEST WO CONT
- montelukast (SINGULAIR) 10 mg tablet

Julia G Payne, MD
Electronically signed

Instructions

 Return in about 6 months (around 9/28/2016).

To Take With You (Printed 3/28/2016)

Additional Documentation

Vitals: BP 117/71 Pulse 59 (Abnormal) Temp 97 °F (36.1 °C) (Oral) Resp 20 Ht 5' 9" (1.753 m)
Wt 163 lb 1 oz (74 kg) SpO2 97% BMI 24.08 kg/m2 More Vitals
Encounter Info: Billing Info, History, Allergies, Detailed Report

Orders Placed

CT CHEST WO CONT
AMB POC SPIROMETRY (Resulted 3/28/2016)

Medication Changes

As of 3/28/2016 4:52 PM

	Refills	Start Date	End Date
Added: montelukast (SINGULAIR) 10 mg tablet	6	3/28/2016	6/6/2016
Take 1 Tab by mouth daily. - Oral			

Visit Diagnoses

Primary: **Interstitial lung disease (HCC)** J84.9
Cough R05

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 07/06/16

All Lab and Imaging Orders and Results (07/06/16 - 07/06/16)

CT Chest w Contrast

Electronically signed by: **Kaitlyn Marie Myers, RN on 07/06/16 0831** Status: **Active**
 Ordering user: Kaitlyn Marie Myers, RN 07/06/16 0831 Ordering provider: William David Bolton, MD
 Authorized by: William David Bolton, MD
 Cosigning events:
 Electronically cosigned by William David Bolton, MD 07/06/16 0842 for Ordering
 Frequency: 07/06/16 -
 Diagnoses:
 ILD (interstitial lung disease) [J84.9]

Progress Notes

William David Bolton, MD at 7/6/2016 8:13 AM

Author Type: Physician Status: Signed

OUTPATIENT THORACIC SURGERY CLINIC

Date of Visit: 7/6/2016

Referring Provider: Pulmonologist: Edward Knight, III, MD

Surgeon: William Bolton, MD, Thoracic Surgery

Primary Care Provider: W. Richard Kemmerlin, MD

Chief Problem: Interstitial lung disease

Brief History: The patient is a 65 y.o. male with a past medical history significant for shortness of breath. He was seen by pulmonology and started on Sterilize. CT scan showed changes for interstitial lung disease. The Sterilize had significant improvement in his symptoms. He was able to walk the three-quarter mile Schrack with Hills without difficulty. Eventually the shortness of breath returned after he discontinued the Sterilize. The cough which was nonproductive also increased in intensity. He was seen again by Dr. Knight and recommended to be seen by thoracic surgery to discuss VATS biopsy. He presents today for that visit and has no additional complaints.

Asbestos Exposure: Many chemicals, no asbestos

TB Exposure: No

Tobacco Use: The patient denies current or previous tobacco use.

ROS/Changes from Previous Visit:

Review of Systems

Constitutional: Positive for activity change and unexpected weight change. Negative for fever, chills and diaphoresis.

HENT: Positive for congestion, hearing loss and sinus pressure. Negative for dental problem, trouble swallowing and voice change.

Eyes: Negative for visual disturbance.

Respiratory: Positive for cough and shortness of breath. Negative for wheezing.

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 07/06/16

Progress Notes (continued)

William David Bolton, MD at 7/6/2016 8:13 AM (continued)

Hemoptysis: No

Cardiovascular: Negative for chest pain, palpitations and leg swelling.

Gastrointestinal: Positive for constipation. Negative for nausea, vomiting, abdominal pain, diarrhea, blood in stool and abdominal distention.

Endocrine: Positive for polydipsia and polyuria. Negative for heat intolerance.

Genitourinary: Positive for urgency and decreased urine volume. Negative for dysuria, frequency, hematuria and difficulty urinating.

Musculoskeletal: Positive for neck pain and neck stiffness. Negative for myalgias, arthralgias and gait problem.

Neurological: Negative for dizziness, tremors, seizures, speech difficulty, weakness and headaches.

Hematological: Bruises/bleeds easily.

All other systems reviewed and are negative.

Physical Exam:

Filed Vitals:

BP:	122/72
Pulse:	75
Temp:	97.8 °F (36.6 °C)
Resp:	20
SpO2:	97%

Body mass index is 24.52 kg/(m²).

Current Weight: 73.12 kg (161 lb 3.2 oz)

New patient exam:

General appearance: well nourished, well developed, white male in no acute distress

HEENT: extraocular motion intact, anicteric sclera

Neck: supple, no lymphadenopathy, no JVD

Heart: Regular rate & rhythm without murmurs

Lungs: clear to auscultation bilaterally

Abdomen: soft, nontender

Neurologic: No focal defects

Musculoskeletal: no joint deformities

Extremities: no clubbing or edema

Imaging Studies: I personally reviewed the imaging studies.

12/23/2015 CT chest: Groundglass reticular changes in bilateral bases area was not significantly diseased in the upper lobes. No obvious masses.

Pulmonary Function Tests:

6/28/2016: FEV1 = 2.59 (81%)

Assessment/Plan: This is a 65 y.o. male with a shortness of breath and interstitial lung changes. Would recommend VATS wedge resection. I discussed with him that this would not cure him but would hopefully be able to give Dr. Knight and his associates better information with which to treat him. Would recommend we get a repeat CT scan prior to surgery since his last one was in December 2015. Follow-up 2 weeks after surgery. All questions and concerns were addressed with the patient the office today

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/07/16

All Lab and Imaging Orders and Results (09/07/16 - 09/07/16)

XR Chest 2 Vw

Electronically signed by: **Tonya Renee Hughes, RN on 09/07/16 1453** Status: **Completed**

Ordering user: Tonya Renee Hughes, RN 09/07/16 1453 Ordering provider: William David Bolton, MD

Authorized by: William David Bolton, MD

Cosigning events:

Electronically cosigned by William David Bolton, MD 09/07/16 1610 for Ordering

Frequency: 09/07/16 -

Diagnoses:

SOB (shortness of breath) [R06.02]

Progress Notes

William David Bolton, MD at 9/7/2016 3:00 PM

Author Type: Physician

Status: Signed

OUTPATIENT THORACIC SURGERY CLINIC

Date of Visit: 9/7/2016

Referring Provider: Pulmonologist: Justin Greg MD

Surgeon: William Bolton, MD, Thoracic Surgery

Primary Care Provider: W. Richard Kemmerlin, MD

Chief Problem: Interstitial lung disease

Brief History: The patient is a 66 y.o. male with a past medical history significant for shortness of breath. He was seen by pulmonology and started on Sterilize. CT scan showed changes for interstitial lung disease. The Sterilize had significant improvement in his symptoms. He was able to walk the three-quarter mile Schrack with Hills without difficulty. Eventually the shortness of breath returned after he discontinued the Sterilize. The cough which was nonproductive also increased in intensity. He was seen again by Dr. Knight and recommended to be seen by thoracic surgery to discuss VATS biopsy. He underwent a right VATS wedge resection and returns for a postop visit complaining of mild pain and shortness of breath. He has no other issues in the office today.

Surgery date:

1. 8/26/2016 - VATS right upper lobe/middle lobe/lower lobe wedge resection

Asbestos Exposure: Many chemicals, no asbestos

TB Exposure: No

Tobacco Use: The patient denies current or previous tobacco use.

ROS/Changes from Previous Visit:

Review of Systems

Respiratory: Tobacco use No. Worsening dyspnea No. Difficulty breathing No. Prolonged hoarseness No.

Productive cough No.

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/07/16

Progress Notes (continued)

William David Bolton, MD at 9/7/2016 3:00 PM (continued)

Cardiac: CHF No. Angina No.

Digestive System: Nausea No. Vomiting No. Dysphagia No.

Constitutional: Fevers No. Chills No. Weight loss No.

The review of systems is otherwise negative unless stated in the HPI.

Physical Exam:

Filed Vitals:

BP:	125/67
Pulse:	74
Temp:	97.7 °F (36.5 °C)
Resp:	19
SpO2:	99%

Body mass index is 22.38 kg/(m²).

CurrentWeight: 68.765 kg (151 lb 9.6 oz)

Physical Exam

Neck: Neck supple. No JVD present.

Cardiovascular: Normal heart sounds.

Pulmonary/Chest: Clear to auscultation bilaterally

Abdominal: Soft. Bowel sounds are normal.

Musculoskeletal: No edema

Skin: Incision, clean, dry, intact, no erythema or drainage

Imaging Studies: I personally reviewed the imaging studies.

12/23/2015 CT chest: Groundglass reticular changes in bilateral bases area was not significantly diseased in the upper lobes. No obvious masses.

Pathology studies:

8/26/2016: Right upper lobe/middle lobe/lower lobe wedge resections = interstitial fibrosis with UIP pattern, favor chronic hypersensitivity pneumonitis

Culture studies:

8/26/2016: Few colonies of Propionibacterium acnes

Pulmonary Function Tests:

6/28/2016: FEV1 = 2.59 (81%)

Assessment/Plan: This is a 66 y.o. male with a shortness of breath and interstitial lung changes. Status post VATS wedge. Pathology = benign. We'll have him follow-up with Dr. Justin Greg with pulmonology. Follow-up with me in 2 weeks with a chest x-ray. All questions and concerns were addressed with the patient the office today

Electronically signed by William David Bolton, MD on 9/8/2016 9:54 AM

Generated on 10/7/2016 1:35 PM

Page 28

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/07/16

Progress Notes (continued)

William David Bolton, MD at 9/7/2016 3:00 PM (continued)

H&P Notes

No notes of this type exist for this encounter.

Follow-up and Disposition History

User	Date & Time
HUGHES, TONYA	9/7/2016 2:53 PM

Disposition:

Return in about 2 weeks (around 9/21/2016) for cxray.

Follow-up:

N/A

Instructions:

N/A

Check-out Note:

N/A

Send Reminder:

N/A

Encounter-Level Documents - 09/07/2016:

Document on 9/7/2016 3:00 PM by Julie Barnett : AVS - Outpatient (below)

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/21/16

All Lab and Imaging Orders and Results (09/21/16 - 09/21/16)

CT chest with contrast

Electronically signed by: William David Bolton, MD on 09/21/16 1607 Status: Active

Mode: Ordering in Verbal Order with Readback mode Communicated by: Mary L Henley, RN

This order may be acted on in another encounter.

Ordering user: Mary L Henley, RN 09/21/16 1500

Ordering provider: William David Bolton, MD

Authorized by: William David Bolton, MD

Frequency: 09/21/16 -

Diagnoses:

SOB (shortness of breath) [R06.02]

Progress Notes

William David Bolton, MD at 9/21/2016 3:07 PM

Author Type: Physician

Status: Signed

OUTPATIENT THORACIC SURGERY CLINIC

Date of Visit: 9/21/2016

Referring Provider: Pulmonologist: Justin Greg MD

Surgeon: William Bolton, MD, Thoracic Surgery

Primary Care Provider: W. Richard Kemmerlin, MD

Chief Problem: Interstitial lung disease

Brief History: The patient is a 66 y.o. male with a past medical history significant for shortness of breath. He was seen by pulmonology and started on Sterilize. CT scan showed changes for interstitial lung disease. The Sterilize had significant improvement in his symptoms. He was able to walk the three-quarter mile Schrack with Hills without difficulty. Eventually the shortness of breath returned after he discontinued the Sterilize. The cough which was nonproductive also increased in intensity. He was seen again by Dr. Knight and recommended to be seen by thoracic surgery to discuss VATS biopsy. He underwent a right VATS wedge resection and returns for a postop visit complaining of mild pain and shortness of breath. He also complains of difficulty tolerating the sterile right. He complains of weakness. He has shortness of breath but nothing keeps him from being able to walk very far distances. Otherwise no significant thoracic issues in the office today.

Surgery date:

1. 8/26/2016 - VATS right upper lobe/middle lobe/lower lobe wedge resection

Asbestos Exposure: Many chemicals, no asbestos

TB Exposure: No

Tobacco Use: The patient denies current or previous tobacco use.

ROS/Changes from Previous Visit:

Review of Systems

Respiratory: Tobacco use No. Worsening dyspnea No. Difficulty breathing No. Prolonged hoarseness No.

Generated on 10/7/2016 1:35 PM

Page 50

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/21/16

Progress Notes (continued)

William David Bolton, MD at 9/21/2016 3:07 PM (continued)

Productive cough No.

Cardiac: CHF No. Angina No.

Digestive System: Nausea No. Vomiting No. Dysphagia No.

Constitutional: Fevers No. Chills No. Weight loss No.

The review of systems is otherwise negative unless stated in the HPI.

Physical Exam:

Filed Vitals:

BP:	129/67
Pulse:	84
Temp:	98.1 °F (36.7 °C)
Resp:	20
SpO2:	99%

Body mass index is 21.52 kg/(m²).

Current Weight: 66.134 kg (145 lb 12.8 oz)

Physical Exam

Neck: Neck supple. No JVD present.

Cardiovascular: Normal heart sounds.

Pulmonary/Chest: Clear to auscultation bilaterally

Abdominal: Soft. Bowel sounds are normal.

Musculoskeletal: No edema

Skin: Incision, clean, dry, intact, no erythema or drainage

Imaging Studies: I personally reviewed the imaging studies.

9/21/2016 chest x-ray: Groundglass changes bilaterally, slightly worse on the right. No significant effusion or pneumothorax

12/23/2015 CT chest: Groundglass reticular changes in bilateral bases area was not significantly diseased in the upper lobes. No obvious masses.

Pathology studies:

8/26/2016: Right upper lobe/middle lobe/lower lobe wedge resections = interstitial fibrosis with UIP pattern, favor chronic hypersensitivity pneumonitis

Culture studies:

8/26/2016: Few colonies of Propionibacterium acnes

Pulmonary Function Tests:

6/28/2016: FEV1 = 2.59 (81%)

Assessment/Plan: This is a 66 y.o. male with a shortness of breath and interstitial lung changes. Status post VATS wedge. Pathology = benign. Chest x-ray looks fair. Recommend continue follow-up with Dr. Greg pulmonology. Follow-up with me in 3 months with a CT chest. All questions and concerns were addressed with the patient the office today

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/21/16

Progress Notes (continued)

William David Bolton, MD at 9/21/2016 3:07 PM (continued)

Electronically signed by William David Bolton, MD on 9/22/2016 9:06 AM

Ashley Jana Marie Jones, MD at 9/21/2016 2:37 PM

Author Type: Resident Physician Status: Signed

Cosigner: William David Bolton, MD at
9/21/2016 3:07 PM

OUTPATIENT THORACIC SURGERY CLINIC

Date of Visit: 9/21/2016

Primary Care Provider: W. Richard Kemmerlin, MD

Chief Problem: Interstitial lung disease

Surgery Date: 8/26/2016

Resection type: VATS Right upper, middle, and lower Wedge Resection

Brief History: Mr. Christian returns today for follow-up after right VATS/wedge resection for his interstitial lung disease which is followed by Dr. Gregg. He presents today for follow-up chest x-ray. Since his last office visit, Mr. Christian was started on a steroid taper and complains of symptoms associated with the prednisone including flushing, chills, anxiety, poor appetite and light-headedness. He has also had a 15 pound weight loss since surgery. His post-operative pain is controlled. Mr. Christian does have a predominately dry cough with occasional clear/white phlegm production. He is concerned about returning to work on 10/6 due to his symptoms.

ROS/Changes from Previous Visit:

Review of Systems: negative except per HPI.

Physical Exam:

Filed Vitals:

BP:	129/67
Pulse:	84
Temp:	98.1 °F (36.7 °C)
Resp:	20
SpO2:	99%

Body mass index is 21.52 kg/(m²).

Follow up exam:

General appearance: well nourished, well developed, no acute distress
HEENT: extraocular motion intact, anicteric sclera
Heart: Regular rate & rhythm without murmurs
Lungs: clear to auscultation bilaterally
Abdomen: soft, nontender
Neurologic: No focal defects

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN, KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/21/16

Progress Notes (continued)

Ashley Jana Marie Jones, MD at 9/21/2016 2:37 PM (continued)

Imaging Studies: I personally reviewed the imaging studies.

IMPRESSION:

Persistent elevation right hemidiaphragm with chronically increased bibasilar interstitial densities and postoperative findings laterally in the right mid lung field. Upon comparison with prior studies, more confluent density projected in the right lung base suggest acute infiltrate. Clinical correlation and follow-up is recommended

Assessment/Plan: 66 year old male one month s/p VATS/wedge resection for ILD.

Mr. Christian's inhaler was refilled. Clinically, there is no concern for pneumonia. He will continue with medical management of his ILD per pulmonology. Follow-up in three months with repeat CT chest.

Electronically signed by Ashley Jana Marie Jones, MD on 9/21/2016 3:07 PM

H&P Notes

No notes of this type exist for this encounter.

Follow-up and Disposition History

User	Date & Time
BOLTON, WILLIAM	9/21/2016 3:07 PM

Disposition:

Return in about 3 months (around 12/21/2016) for 3 months with ct.

Follow-up:

N/A

Instructions:

N/A

Check-out Note:

N/A

Send Reminder:

N/A

User	Date & Time
HENLEY, MARY	9/21/2016 3:01 PM

Disposition:

Return for 3 months with ct.

Follow-up:

N/A

Instructions:

N/A

Check-out Note:

N/A

Send Reminder:

CANCER INSTITUTE-GROVE
3 Butternut Dr, Ste B
Greenville SC 29605-4653
Amb Encounter Report

CHRISTIAN,KENNETH DORSEY
MRN: 970179298
DOB: 8/13/1950, Sex: M
Enc. Date: 09/21/16

Send Reminder: (continued)

N/A

User	Date & Time
HENLEY, MARY	9/21/2016 2:59 PM

Disposition:

Return for 3 months.

Follow-up:

N/A

Instructions:

N/A

Check-out Note:

N/A

Send Reminder:

N/A

User	Date & Time
HENLEY, MARY	9/21/2016 2:48 PM

Disposition:

Return for 3 weeks.

Follow-up:

N/A

Instructions:

N/A

Check-out Note:

N/A

Send Reminder:

N/A

Encounter-Level Documents - 09/21/2016:

Document on 9/21/2016 3:03 PM by Julie Barnett : AVS - Outpatient (below)

Allergy Partners of the Upstate

48 Creekview Court Greenville, SC 29615
864-458-7431 Fax: 864-458-7463

October 11, 2016

Page 1
Office Visit

Kenneth Christian

66 Years Old Male DOB: 08/13/1950 Patient ID: 904509 Home: (864) 569-9673

Provider: Andrea Lantz MD Ins: Cigna/ M (7433) Grp: 90131

01/14/2016 - Office Visit: New Pt Visit**Provider: Andrea Lantz MD****Location of Care: Allergy Partners of the Upstate****Vital signs entered by: Kathryn Young CMA****Referring Physician: Julia Gillespie Payne, MD****History from: patient****Chief Complaint: allergies****Patient type: New Patient****Immunotherapy**

Patient is not on immunotherapy.

Prior Immunotherapy: No**History of Present Illness:**

Chest: The patient is most bothered by coughing. Symptoms first appeared 2 years ago. Symptoms are chronic, and occur daily. Symptom severity is described as moderate. No triggers have been identified. Symptoms do not have a seasonal pattern, and are generally worse during the morning and evening. Chest xray showed ground glass appearance. Eosinophils by bronchoscopy.

HEENT: Somewhat bothered by nasal congestion and snoring. Denies rhinorrhea, sneezing, nasal pruritus, ear congestion, eye pruritus, eye tearing and eye redness.

Environmental History**Housing:** house**Foundation:** basement**Air Conditioning:** central**Heating:** natural gas**Indoor mold:** none**Water damage:** none**Pests:** none**Tobacco smoke exposure:** none**Bedroom:** carpet, ceiling fans, sleeps in own bed**Bed:** standard mattress, dust ruffle, allergy pillow cover, allergy mattress cover**Outdoor environment:** none**Pets:** There is 1 dog, and it is in the house on a regular basis.**Past Medical History**

GERD/reflux

Snoring

Surgical History

Sinus Surgery

Family History

Mother's History: no problems

Father's History: no problems

Sibling's History: heart disease, hyperlipidemia (high cholesterol)

Children's History: no problems

Diagnostics History No pertinent diagnostics performed.

Allergy Partners of the Upstate
 48 Creekview Court Greenville, SC 29615
 864-458-7431 Fax: 864-458-7463

October 11, 2016
 Page 2
 Office Visit

Kenneth Christian Patient ID: 904509 Home: (864)569-9673
 66 Years Old Male DOB: 08/13/1950 Provider: Andrea Lantz MD Ins: Cigna/ M (7433) Grp: 90131

Social History Reported For: Self

The patient is married. He has never smoked. He does not drink alcohol. He drinks 0 caffeinated beverages per day.

Tobacco Status/Cessation

Status: never smoker

ROS

General: Patient denies fevers, fatigue, or weight loss

Eyes: Patient denies itchy, watery, red eyes.

Ears: Patient complains of decreased hearing.

Nose: Patient complains of nasal congestion

Throat: Patient complains of throat clearing.

Cardio: Patient denies chest pains or palpitations

Respiratory: Patient complains of cough, snoring.

GI: Patient complains of constipation.

Musculo-Skeletal: Patient denies back pain, joint pain and joint swelling.

Skin: Patient complains of rash

Neuro: Patient denies headaches and dizziness.

Mental Health: Patient denies hyperactivity problems or behavioral problems.

Allergy-Immunology: Patient denies recurring infections, bee sting reaction, latex reaction or food reaction.

Provider Reviewed by: Andrea Lantz MD January 14, 2016 2:14 PM

There are no reported medication allergies.

Vital Signs

Ht: 69.5 in **Wt:** 165 lbs **BMI:** 24.10 **T:** 97.8 F **T Site:** Tympanic **R:** 16 **P:** 84 **Rhythm:** Regular **BP:** 110/60

Physical Exam

GENERAL APPEARANCE

Well developed well hydrated in no acute distress.

EYES

The conjunctivae and lids are normal. Pupils are equal and reactive to light.

EARS

Auricles are normal with no lesions or deformities. Canals are clear. TMs intact with light reflex bilaterally, no erythema or effusion. Hearing is grossly intact.

NOSE

External nose is normal. No lesions or deformities. Mucosa is normal. Septum is midline. Turbinates are normal. No drainage.

MOUTH

Normal dentition, mucosa without evidence of cyanosis. Tongue normal, posterior pharynx without erythema or exudate.

NECK

Neck is supple with no palpable masses. No nodules, masses, tenderness, or enlargement.

RESPIRATORY

No intercostal retractions or use of accessory muscles. Normal breath sounds.

CARDIOVASCULAR

S1 and S2 are normal. No murmurs, gallops, or rubs are appreciated. Rhythm is regular. No cyanosis,

Allergy Partners of the Upstate
48 Creekview Court Greenville, SC 29615
864-458-7431 Fax: 864-458-7463

October 11, 2016
Page 3
Office Visit

Kenneth Christian Patient ID: 904509 Home: (864)569-9673
66 Years Old Male DOB: 08/13/1950 Provider: Andrea Lantz MD Ins: Cigna/M (7433) Grp: 90131

clubbing, edema are present.

LYMPHATIC

No submandibular or cervical adenopathy noted. No supraclavicular adenopathy.

MUSCULOSKELETAL

Normal gait and motion appropriate for age. No clubbing, cyanosis, or peripheral edema.

DERM

No rashes, lesions. Normal turgor. No induration noted.

MENTAL STATUS

Judgment insight are appropriate for age. Oriented to time, place, and person. Intact for recent and remote events. No depression, anxiety, or agitation.

Skin Test Results

Other: Positive ID to aspergillus with appropriate controls.

Skin test results reviewed with patient/family and all questions were answered.

Impression

- Pulmonary infiltrate.
- Interstitial lung disease.
- Chronic rhinitis.

Plan

- Positive intradermal to aspergillus
- Followup with Dr. Payne

Electronically Signed by Andrea Lantz MD on 01/14/2016 at 2:55 PM

Allergy Partners of the Upstate

10/11/2016 09:17 AM

48 Creekview Court, Greenville, SC, USA 29615

Page 1

(864) 458-7431 Fax: (864) 458-7463

Medications Report

Home: (864) 569-9673

Kenneth Christian

66 Years Old Male DOB: 08/13/1950

875279-2309001

Insurance: Cigna/ M (7433) Group: 90131

Medications

Last Reviewed: 01/14/2016

ADULT ASPIRIN EC LOW STRENGTH 81 MG TBEC (ASPIRIN), Prescriptions/Refills
1 tablet by mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:06 PM
Comment:

NEXIUM 40 MG CPDR (ESOMEPRAZOLE MAGNESIUM), Take Prescriptions/Refills
1 tablet daily before breakfast

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:06 PM
Comment:

ATORVASTATIN CALCIUM 40 MG TABS (ATORVASTATIN Prescriptions/Refills
CALCIUM), 1 tablet by mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:07 PM
Comment:

B-12 TR 1000 MCG CR-TABS (CYANOCOBALAMIN), 1 tablet Prescriptions/Refills
by mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:07 PM
Comment:

Report run by Sonja R Bridges, MA

Allergy Partners of the Upstate

10/11/2016 09:17 AM

48 Creekview Court, Greenville, SC, USA 29615

Page 2

(864) 458-7431 Fax: (864) 458-7463

Medications Report

Kenneth Christian

Home: (864) 569-9673

66 Years Old Male DOB: 08/13/1950

875279-2309001

Insurance: Cigna/ M (7433) Group: 90131

VITAMIN D3 1000 UNIT TABS (CHOLECALCIFEROL), 1 tablet Prescriptions/Refills
by mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:09 PM
Comment:

SUPER B-100 TABS (B COMPLEX-BIOTIN-FA), 1 tablet by Prescriptions/Refills
mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:09 PM
Comment:

CVS FISH OIL 1200 MG CAPS (OMEGA-3 FATTY ACIDS), 1 Prescriptions/Refills
tablet by mouth once daily

Med Status: Active Medication
Last Refill:
Start Date:
Stop Date: <no stop date>
Stop Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:10 PM
Comment:

Allergy Partners of the Upstate

10/11/2016 09:17 AM

48 Creekview Court, Greenville, SC, USA 29615

Page 1

(864) 458-7431 Fax: (864) 458-7463

Problems Report

Kenneth Christian

Home: (864) 569-9673

66 Years Old Male DOB: 08/13/1950

875279-2309001

Insurance: Cigna/ M (7433) Group: 90131

PULMONARY INFILTRATE**Assessments**

Problem Status: Active Problem
Problem Type: Dx of
Problem Code: ICD-518.3
Onset Date: 01/14/2016
End Date: <no end date>
End Reason:
Entered By: Andrea Lantz MD
Entry Date: 01/14/2016 2:52 PM

Comments:

INTERSTITIAL LUNG DISEASE**Assessments**

Problem Status: Active Problem
Problem Type: Dx of
Problem Code: ICD-515
Onset Date: 01/14/2016
End Date: <no end date>
End Reason:
Entered By: Andrea Lantz MD
Entry Date: 01/14/2016 2:52 PM

Comments:

CHRONIC RHINITIS**Assessments**

Problem Status: Active Problem
Problem Type: Dx of
Problem Code: ICD-472.0
Onset Date: 01/14/2016
End Date: <no end date>
End Reason:
Entered By: Andrea Lantz MD
Entry Date: 01/14/2016 2:51 PM

Comments:

GERD**Assessments**

Problem Status: Active Problem
Problem Type: Dx of
Problem Code: ICD-530.81
Onset Date: 01/14/2016
End Date: <no end date>
End Reason:
Entered By: Kathryn Young CMA
Entry Date: 01/14/2016 2:12 PM

Comments:

ALLERGY PARTNERS of the UPSTATE

Medical Services Provided by Allergy Partners, PA

Name: Kenneth ChristianAge: 65 DOB: 8/13/50 ACCT# 901509Date: 1/14/16

		W/E	W/E		W/E
1	Aspergillus fumigatus	0	1		1
2		1	2		1
3	Histamine	3	3		1
4	Saline	0	4		1
5		1	5		1
6	IED Aspergillus	2	6		1
7	IA Saline	0	7		1
8		1	8		1
1		1	1		1
2		1	2		1
3		1	3		1
4		1	4		1
5		1	5		1
6		1	6		1
7		1	7		1
8		1	8		1
1		1	1		1
2		1	2		1
3		1	3		1
4		1	4		1
5		1	5		1
6		1	6		1
7		1	7		1
8		1	8		1

CRITERIA FOR PRICK

- 0- Reaction no different than negative control
- 1+ Erythema less than a nickel (2.1mm) in diameter
- 2+ Wheal less than 3 mm and erythema larger than a nickel
- 3+ Wheal greater than 3 mm with surrounding erythema
- 4+ Wheal with pseudopods and surrounding erythema

Technician Cristal EPhysician Andrea LantzInterpretation: Ladymon AL

Oct. 14. 2016 8:14AM

No. 5004 P. 6

Allergy Partners of the Upstate

48 Creekview Court, Greenville, SC, USA 29615

(864) 458-7431 Fax: (864) 458-7463

10/14/2016 07:59 AM

Page 1

Problems Report

Kenneth Christian

Home: (864) 569-9673

66 Years Old Male DOB: 08/13/1950

876279-2309001

Insurance: Cigna/ M (7433) Group: 90131

PULMONARY INFILTRATE**Assessments**

Problem Status: Active Problem
 Problem Type: Dx of
 Problem Code: ICD-518.3
 Onset Date: 01/14/2016
 End Date: <no end date>
 End Reason:
 Entered By: Andrea Lantz MD
 Entry Date: 01/14/2016 2:52 PM

Comments:

INTERSTITIAL LUNG DISEASE**Assessments**

Problem Status: Active Problem
 Problem Type: Dx of
 Problem Code: ICD-515
 Onset Date: 01/14/2016
 End Date: <no end date>
 End Reason:
 Entered By: Andrea Lantz MD
 Entry Date: 01/14/2016 2:52 PM

Comments:

CHRONIC RHINITIS**Assessments**

Problem Status: Active Problem
 Problem Type: Dx of
 Problem Code: ICD-472.0
 Onset Date: 01/14/2016
 End Date: <no end date>
 End Reason:
 Entered By: Andrea Lantz MD
 Entry Date: 01/14/2016 2:51 PM

Comments:

GERD**Assessments**

Problem Status: Active Problem
 Problem Type: Dx of
 Problem Code: ICD-530.81
 Onset Date: 01/14/2016
 End Date: <no end date>
 End Reason:
 Entered By: Kathryn Young CMA
 Entry Date: 01/14/2016 2:12 PM

Comments:

Oct. 14, 2016 8:14AM

No. 5004 P. 7

Allergy Partners of the Upstate
 48 Creekview Court Greenville, SC 29615
 864-458-7431 Fax: 864-458-7463

October 14, 2016
 Page 1
 Office Visit

Kenneth Christian Patient ID: 904509 Home: (864)569-9673
 66 Years Old Male DOB: 08/13/1950 Provider: Andrea Lantz MD Ins: Cigna/M (7439) Grp: 90131

01/14/2016 - Office Visit: New Pt Visit
 Provider: Andrea Lantz MD
 Location of Care: Allergy Partners of the Upstate

Vital signs entered by: Kathryn Young CMA
 Referring Physician: Julia Gillespie Payne, MD
 History from: patient
 Chief Complaint: allergies
 Patient type: New Patient

Immunotherapy

Patient is not on immunotherapy.
 Prior Immunotherapy: No

History of Present Illness:

Chest: The patient is most bothered by coughing. Symptoms first appeared 2 years ago. Symptoms are chronic, and occur daily. Symptom severity is described as moderate. No triggers have been identified. Symptoms do not have a seasonal pattern, and are generally worse during the morning and evening. Chest xray showed ground glass appearance. Eosinophils by bronchoscopy.
HEENT: Somewhat bothered by nasal congestion and snoring. Denies rhinorrhea, sneezing, nasal pruritus, ear congestion, eye pruritus, eye tearing and eye redness.

Environmental History

Housing: house
Foundation: basement
Air Conditioning: central
Heating: natural gas
Indoor mold: none
Water damage: none
Pests: none
Tobacco smoke exposure: none
Bedroom: carpet, ceiling fans, sleeps in own bed
Bed: standard mattress, dust ruffle, allergy pillow cover, allergy mattress cover
Outdoor environment: none
Pets: There is 1 dog, and it is in the house on a regular basis.

Past Medical History

GERD/reflux
 Snoring

Surgical History

Sinus Surgery

Family History

Mother's History: no problems
 Father's History: no problems
 Sibling's History: heart disease, hyperlipidemia (high cholesterol)
 Children's History: no problems

Diagnostics History No pertinent diagnostics performed.

Oct. 14. 2016 8:14AM

No. 5004 P. 8

Allergy Partners of the Upstate
 48 Creekview Court Greenville, SC 29616
 864-458-7431 Fax: 864-458-7463

October 14, 2016
 Page 2
 Office Visit

Kenneth Christian Patient ID: 904509 Home: (864) 569-9673
 66 Years Old Male DOB: 08/13/1950 Provider: Andrea Lantz MD Ins: Cigna/ M (7433) Grp: 90131

Social History Reported For: Self

The patient is married. He has never smoked. He does not drink alcohol. He drinks 0 caffeinated beverages per day.

Tobacco Status/Cessation

Status: never smoker

ROS

General: Patient denies fevers, fatigue, or weight loss.

Eyes: Patient denies itchy, watery, red eyes.

Ears: Patient complains of decreased hearing.

Nose: Patient complains of nasal congestion.

Throat: Patient complains of throat clearing.

Cardio: Patient denies chest pains or palpitations.

Respiratory: Patient complains of cough, snoring.

GI: Patient complains of constipation.

Musculo-Skeletal: Patient denies back pain, joint pain and joint swelling.

Skin: Patient complains of rash.

Neuro: Patient denies headaches and dizziness.

Mental Health: Patient denies hyperactivity problems or behavioral problems.

Allergy-Immunology: Patient denies recurring infections, bee sting reaction, latex reaction or food reaction.

Provider Reviewed by: Andrea Lantz MD.....January 14, 2016 2:14 PM

There are no reported medication allergies.

Vital Signs

Ht: 89.5 in Wt: 165 lbs BMI: 24.10 T: 97.8 F T Site: Tympanic R: 16 P: 84 Rhythm: Regular BP: 110/60

Physical Exam

GENERAL APPEARANCE

Well developed well hydrated in no acute distress.

EYES

The conjunctivae and lids are normal. Pupils are equal and reactive to light.

EARS

Auricles are normal with no lesions or deformities. Canals are clear. TMs intact with light reflex bilaterally, no erythema or effusion. Hearing is grossly intact.

NOSE

External nose is normal. No lesions or deformities. Mucosa is normal. Septum is midline. Turbinates are normal. No drainage.

MOUTH

Normal dentition, mucosa without evidence of cyanosis. Tongue normal, posterior pharynx without erythema or exudate.

NECK

Neck is supple with no palpable masses. No nodules, masses, tenderness, or enlargement.

RESPIRATORY

No intercostal retractions or use of accessory muscles. Normal breath sounds.

CARDIOVASCULAR

S1 and S2 are normal. No murmurs, gallops, or rubs are appreciated. Rhythm is regular. No cyanosis,

Oct. 14. 2016 8:14AM

No. 5004 P. 9

Allergy Partners of the Upstate
48 Creekview Court Greenville, SC 29615
864-458-7431 Fax: 864-458-7463

October 14, 2016
Page 3
Office Visit

Kenneth Christian Patient ID: 904509 Home: (864) 569-9673
66 Years Old Male DOB: 08/13/1950 Provider: Andrea Lantz MD Ins: Cigna/M (7433) Grp: 90181

clubbing, edema are present.

LYMPHATIC

No submandibular or cervical adenopathy noted. No supraclavicular adenopathy.

MUSCULOSKELETAL

Normal gait and motion appropriate for age. No clubbing, cyanosis, or peripheral edema.

DERM

No rashes, lesions. Normal turgor. No induration noted.

MENTAL STATUS

Judgment insight are appropriate for age. Oriented to time, place, and person. Intact for recent and remote events. No depression, anxiety, or agitation.

Skin Test Results

Other: Positive ID to aspergillus with appropriate controls.

Skin test results reviewed with patient/family and all questions were answered.

Impression

- Pulmonary infiltrate.
- Interstitial lung disease.
- Chronic rhinitis.

Plan

- Positive Intradermal to aspergillus
- Followup with Dr. Payne

Electronically Signed by Andrea Lantz MD on 01/14/2016 at 2:55 PM

UPSTATE CARDIOLOGY, PA

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950



Date of Service: 10/15/2003

Document ID: 00656877 - E:\07\07\00656877.TIF

Image Desc:

Scanned Date: 11/21/2008 11:23:10 AM by adrianh

Last Updated: 11/21/2008 11:23:10 AM by adrianh

Category: CAR-EKG

Cabinet: MED REC

Drawer: MED REC

MEDCOST INC.

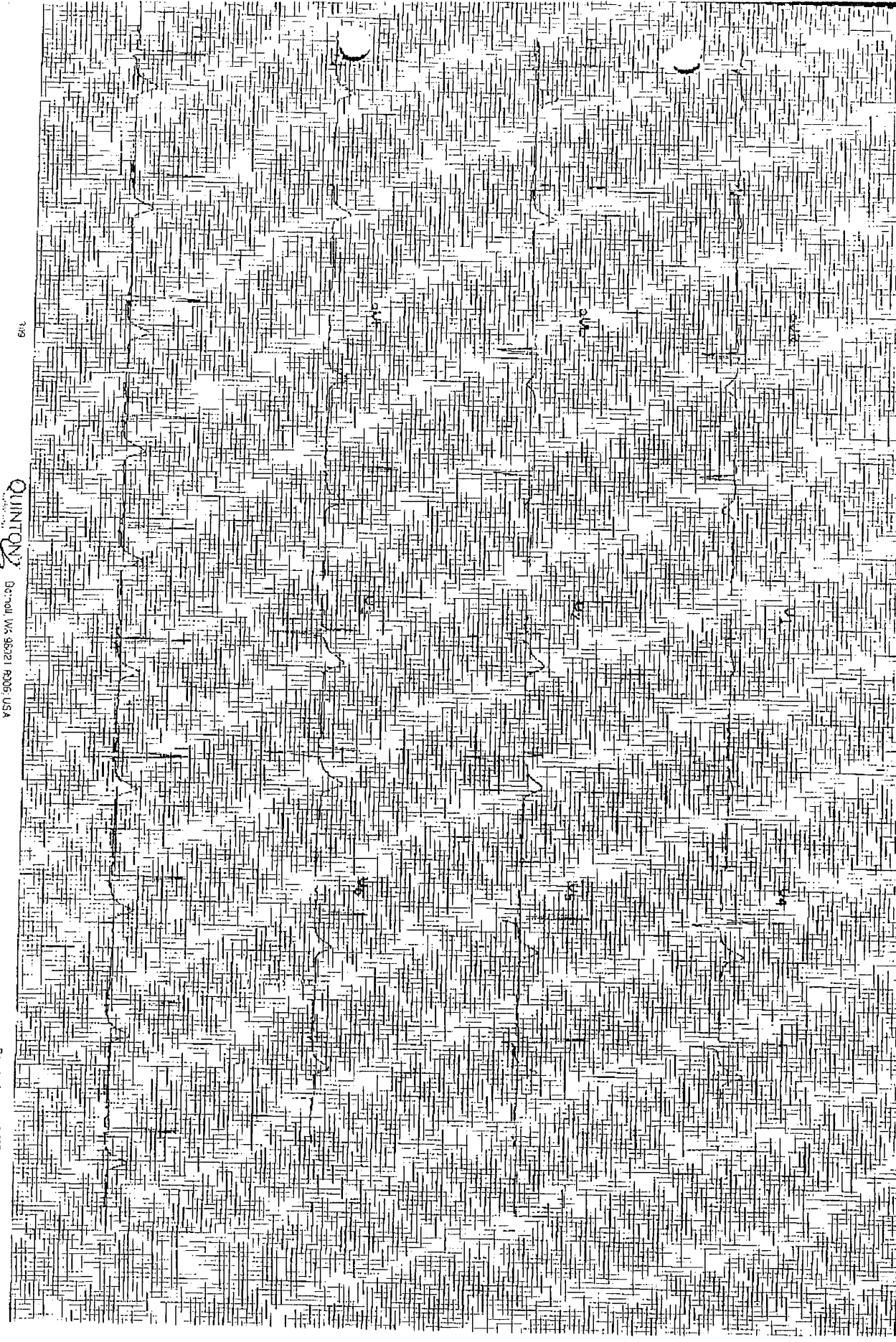
Page 1 of 1

CHRISTIAN KENNETH H. B.
Present headquarter 02
on 1st 1st 1st 1st 1st
1st 1st 1st 1st 1st

CHRISTIAN KENNETH H. B.
Present headquarter 02
on 1st 1st 1st 1st 1st
1st 1st 1st 1st 1st

CHRISTIAN KENNETH H. B.
Present headquarter 02
on 1st 1st 1st 1st 1st
1st 1st 1st 1st 1st

CHRISTIAN KENNETH H. B.
Present headquarter 02
on 1st 1st 1st 1st 1st
1st 1st 1st 1st 1st



QUINCY
Detrol WA 96021 R006 USA

UPSTATE CARDIOLOGY, PA

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 12/01/2008

CHIEF COMPLAINT: Kenneth Christian is a 58 year old patient seen today for a follow-up of current cardiac condition.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA The patient's hyperlipidemia has not changed. The patient denies myalgia. The patient is using statin drugs and is tolerating this well.

414.01-ASCAD - OF THE NATIVE VESSEL The angina has not changed with no episodes of chest pain since the last visit.

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's medication list.dd

CURRENT MEDICATION LIST:

LIPITOR ORAL TABLET 10 MG, 1 Every Day

ASPIRIN 81 MG, 1 Every Day

MULT VIT, 1 Every Day

B12VIT, 1 Every Day

METAMUCIL 7MG, qd

FISH OIL, OIL, 1 Every Day

PAST MEDICAL HISTORY:

SURGICAL: PTCA with cardiac stenting.

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 68 Right Radial, Regular

VS-BLOOD PRESSURE: 110/60 Left Arm Sitting

VS-WEIGHT: 162lbs

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIOVASCULAR:

Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds

MEDCOST INC.

UPSTATE CARDIOLOGY, PA

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 12/01/2008

are active.

EKG INTERPRETATION: Normal sinus rhythm. ST or T-wave changes suggestive of ischemia.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

414.01-ASCAD - OF THE NATIVE VESSEL

STATUS: Unknown.

MEDICATIONS: Continue medications as prescribed.

PROCEDURES: Schedule for a Stress Myoview according to scheduling provisions at our facility. Procedure indication and risks were discussed.

FAX TO REFERRING DOCTOR: THOMAS KENDALL MD

Electronically Signed by: Douglas S Head, MD on Monday, December 01, 2008

MEDCOST INC.

Page 2 of 2

UPSTATE CARDIOLOGY, PA

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950



Date of Service: 12/19/2008

Document ID: 00672366 - I:\06\06\00672366.TIF

Image Desc:

Scanned Date: 12/19/2008 2:15:51 PM by guest4

Last Updated: 12/19/2008 2:15:51 PM by guest4

Category: CAR-EKG

Cabinet: MED REC

Drawer: MED REC

MEDCOST INC.

Page 1 of 1

Name: Kenneth Christian

ID: 52124

12/19/2008 08:30:57

HR: 68

Department:

BP: 120/70

Technician:

Age: 58 Years

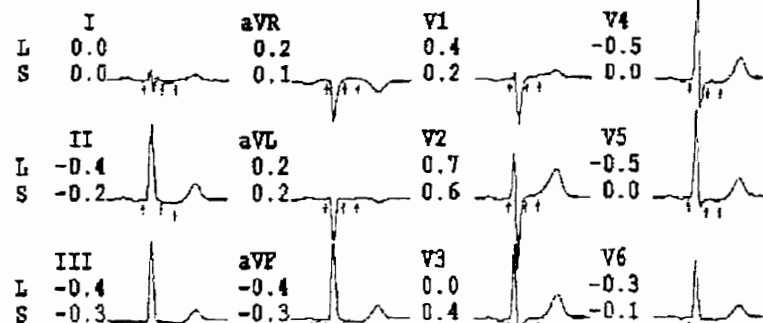
Physician:

Gender: Male

Race: Caucasian

Height: 69 in

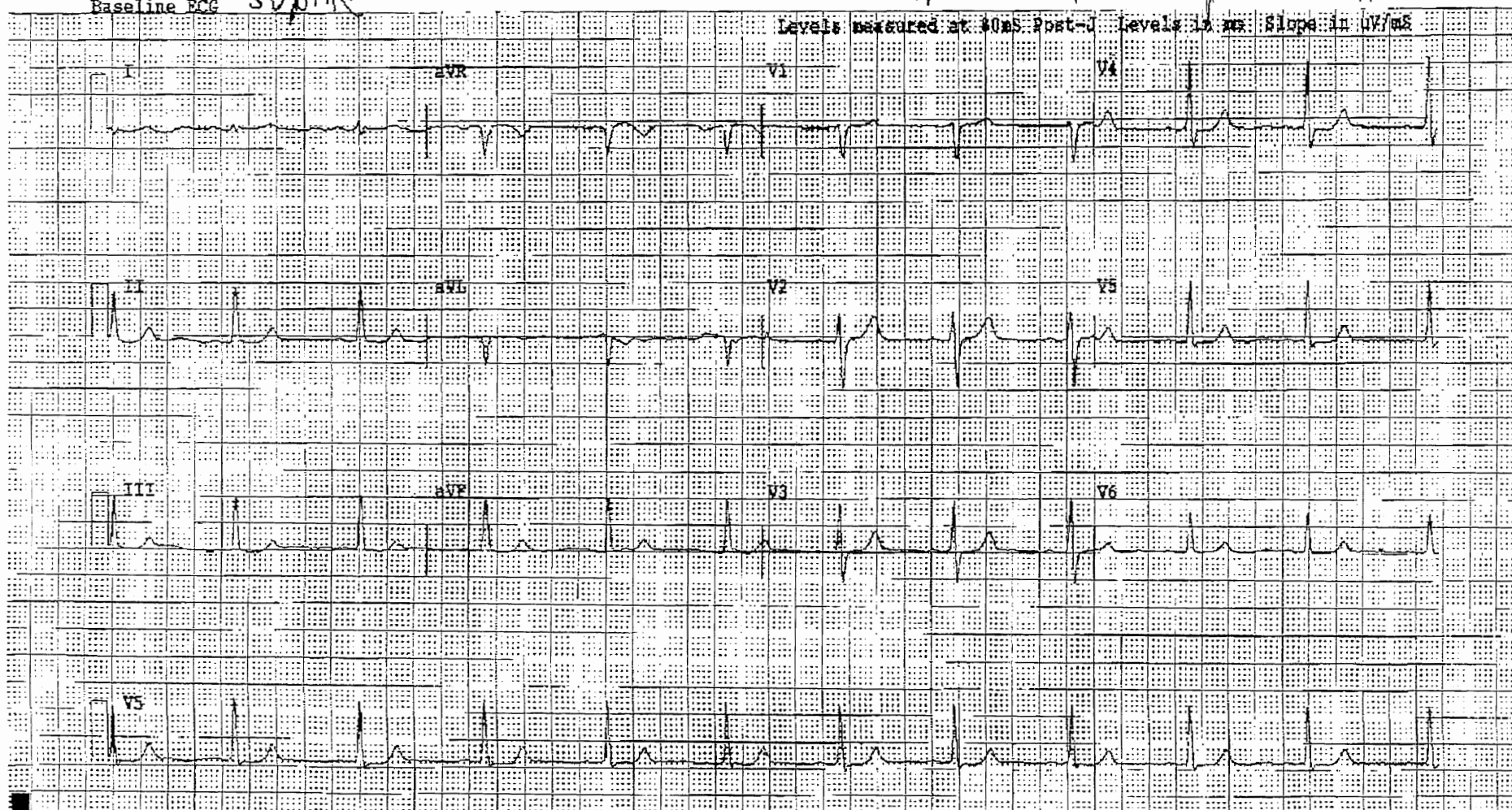
Weight: 162 lbs



Baseline ECG

Supine

Levels measured at 40ms Post-Q Levels in mV Slope in mV/ms



Speed: 25mm/Sec

Gain: Limb 10mm/mV Chest 10mm/mV

Filter: 60, Stable-20Hz

Pacer: OFF

Q Rev: 4.22-e-B

Page 1

BURDICK

BURDICK REORDER NO/REF 716 0247-01

807

UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/14/2010

CHIEF COMPLAINT: Kenneth Christian is a 60 year old patient here today for a consultation. Here for routine annual follow up. Known CAD s/p stent to unknown vessel (probably the LAD) in 2001. Working hard doing landscaping without any limitations. No exertional chest discomfort, SOB, DOP, or palpitations. BP and HR excellent today. Lipids followed by Dr. Kendall.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA
410.11-ANTERIOR MYOCARDIAL INFARCTION
414.01-ASCAD - OF THE NATIVE VESSEL
V45.82-STATUS POST PTCA /STENT

CURRENT ALLERGY LIST:

NK1A

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's memory, Nurse's initials: ag

CURRENT MEDICATION LIST:

LIPITOR ORAL TABLET 10 MG, 1 Every Day
ASPIRIN 81 MG, 1 Every Day
MULT VIT, 1 Every Day
NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 qd
FISH OIL CONCENTRATE ORAL CAPSULE CONVENTIONAL 1000 MG, 1 qd

SOCIAL HISTORY:

TOBACCO: Does not give any significant history of tobacco usage.
ALCOHOL: Does not give any significant history of alcohol usage.

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.
EYES: No history of blurred vision or glaucoma.
EARS/NOSE/MOUTH/ THROAT: No history of hearing changes or epistaxis.

1331

**UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/14/2010

RESPIRATORY: No cough, hemoptysis or wheezing.
CARDIAC: See HPI.
GI: No history of pain, melena, hematochezia or ulcers.
GU: No history of renal failure, stones or recent infections.
MUSCULOSKELETAL: No history of inflammation, claudication or edema.
NEUROLOGICAL: No history of stroke or TIA.
SKIN: No history of rash or non-healing wounds.
PSYCHIATRIC: No history of depression.
ENDOCRINE: No history of diabetes or thyroid disease.
HEMATOLOGIC: No history of bleeding diathesis, clotting disorder or prior DVT/Pulmonary embolus.

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 68 Right Radial, Regular
VS-BLOOD PRESSURE: 110/66 Left Arm Sitting
VS-HEIGHT: 5ft9in
VS-WEIGHT: 170lbs
BMI: 25.1

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIOVASCULAR:

Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.

EXTREMITIES No varicosities of the extremities or edema, pulses are full and symmetrical.

EKG INTERPRETATION: Normal sinus rhythm. Normal tracing.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA
STATUS: Stable.

1331

**UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 10/14/2010

MEDICATIONS: Continue medications as prescribed.
410.11-ANTERIOR MYOCARDIAL INFARCTION
STATUS: Resolved.
MEDICATIONS: Continue medications as prescribed.
414.00-ASCAD - (UNSPECIFIED)
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.
V45.82-STATUS POST PTCA /STENT
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 1 year.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: THOMAS KENDALL MD Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Thursday, October 14, 2010 8:11 am

**UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 10/14/2010

**Document ID: 01084073 - I:\03\07\01084073.TIF
Image Desc:
Scanned Date: 10/14/2010 4:14:40 PM by krystalc
Last Updated: 10/14/2010 4:14:40 PM by krystalc

Category: CAR-EKG
Cabinet: MED REC
Drawer: MED REC**

1331

Name: Benjamin Christian DOB: 10/5/21/81
 Sex: Male Date: Aug 13, 1990 Age: 60 years
 Unit: 16 malla
 Medication 1:
 Medication 2:
 Room No. 52 ag

Oct 11, 2010 7:55 AM 62 bpm

9.10 Sinus rhythm
 ** normal ECG **

Signature

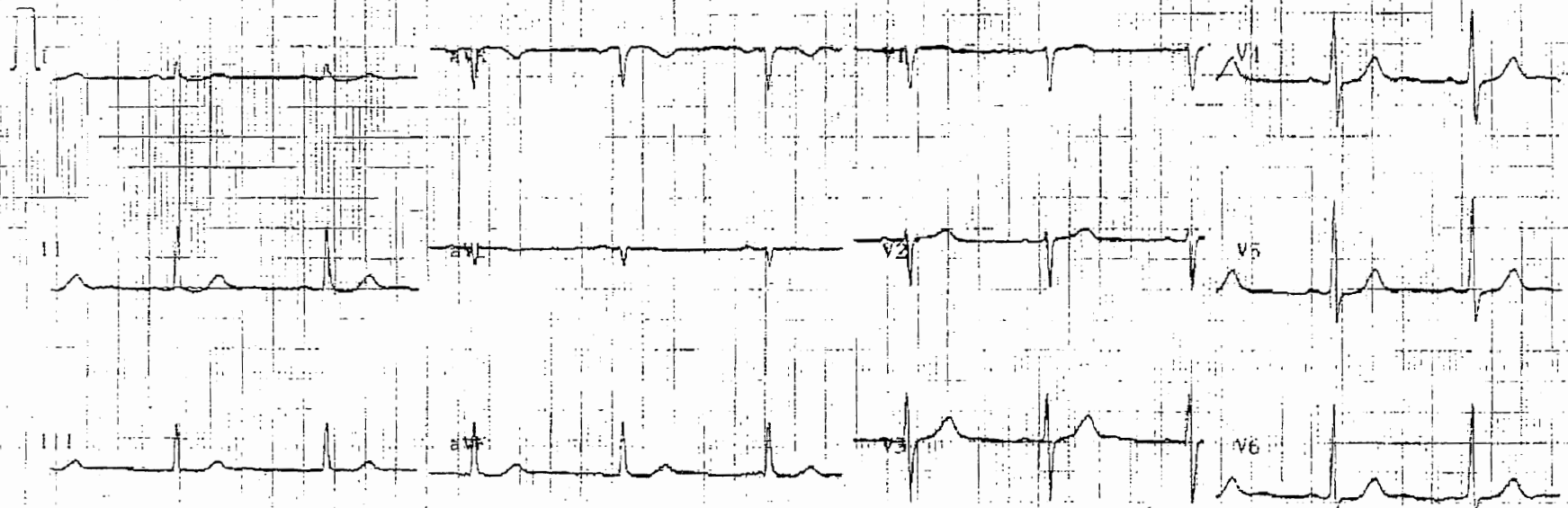
vent. rate 62 bpm
 PR int. 156 ms
 QRS dur. 88 ms
 QT/QTc int. 405/409 ms
 P/QRS/T axis -46/ 72/ 64
 RV5/SV1 amp. 1.625/ 0.660 mV
 RV5/SV1 amp. 2.335 mV

Unconfirmed Report
 Reviewed by:

10 mm/mV 25 mm/s Filter 35 Hz H 60 d 10 mm/mV

10 mm/mV

10 mm/mV



Rhythm (II) 10 mm/mV

**UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/26/2011

CHIEF COMPLAINT: Kenneth Christian is a 61 year old patient seen today for annual follow-up. Doing great without chest pain, SOB, DOE, edema or palpitations. Working hard but not getting much cardio exercise. Watching diet and recently increased lipitor (per Dr. Kendall).

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA
410.11-ANTERIOR MYOCARDIAL INFARCTION
414.00-ASCAD - (UNSPECIFIED)
V45.82-STATUS POST PTCA /STENT

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's medication list, Nurse's initials:./sp

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day
MULT VIT, 1 Every Day
NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 qd
FISH OIL CONCENTRATE ORAL CAPSULE CONVENTIONAL 1000 MG, 1 qd
LIPITOR ORAL TABLET 20 MG, 1 Every Day

SOCIAL HISTORY:

TOBACCO: Does not give any significant history of tobacco usage.
ALCOHOL: Does not give any significant history of alcohol usage.

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.
EYES: No history of blurred vision or glaucoma.
EARS/NOSE/MOUTH/ THROAT: No history of hearing changes or epistaxis.

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/26/2011

RESPIRATORY: No cough, hemoptysis or wheezing.
CARDIAC: See HPI.
GI: No history of pain, melena, hematochezia or ulcers.
GU: No history of renal failure, stones or recent infections.
MUSCULOSKELETAL: No history of inflammation, claudication or edema.
NEUROLOGICAL: No history of stroke or TIA.
SKIN: No history of rash or non-healing wounds.
PSYCHIATRIC: No history of depression.
ENDOCRINE: No history of diabetes or thyroid disease.
HEMATOLOGIC: No history of bleeding diathesis, clotting disorder or prior DVT/Pulmonary embolus.

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 62 Right Radial, Regular

VS-BLOOD PRESSURE: 102/68 Left Arm Sitting

VS-WEIGHT: 168lbs6oz

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

EYES: Sclera clear and pupils are round and equal.

EARS/NOSE/MOUTH/THROAT: Hearing grossly normal.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIOVASCULAR:

Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.

EXTREMITIES: No varicosities of the extremities or edema, pulses are full and symmetrical.

MUSCULOSKELETAL EXAM:

EXAM: No peripheral clubbing, cyanosis or edema is present.

SKIN: Skin is warm and dry.

NEUROLOGICAL: No motor weakness noted. Gait normal.

MENTAL STATUS: Normal mood and affect.

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/26/2011

EKG INTERPRETATION: Normal sinus rhythm.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

STATUS: Stable. Target LDL <70 optimally, at least <100 given known CAD s/p PCI (per Dr. Kendall)

MEDICATIONS: Continue medications as prescribed.

410.11-ANTERIOR MYOCARDIAL INFARCTION

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

414.00-ASCAID - (UNSPECIFIED)

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

V45.82-STATUS POST PTCA /STENT

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 1 year.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: THOMAS KENDALL MD Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Wednesday, October 26, 2011 9:03 am

**UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 10/26/2011

**Document ID: 01336681 - I:\01\08\01336681.TIF
Image Desc:
Scanned Date: 10/26/2011 4:10:09 PM by phyllisb
Last Updated: 10/26/2011 4:10:09 PM by phyllisb**

**Category: CAR-EKG
Cabinet: MED REC
Drawer: MED REC**

1331

Christian, Kenneth
ID: 52124

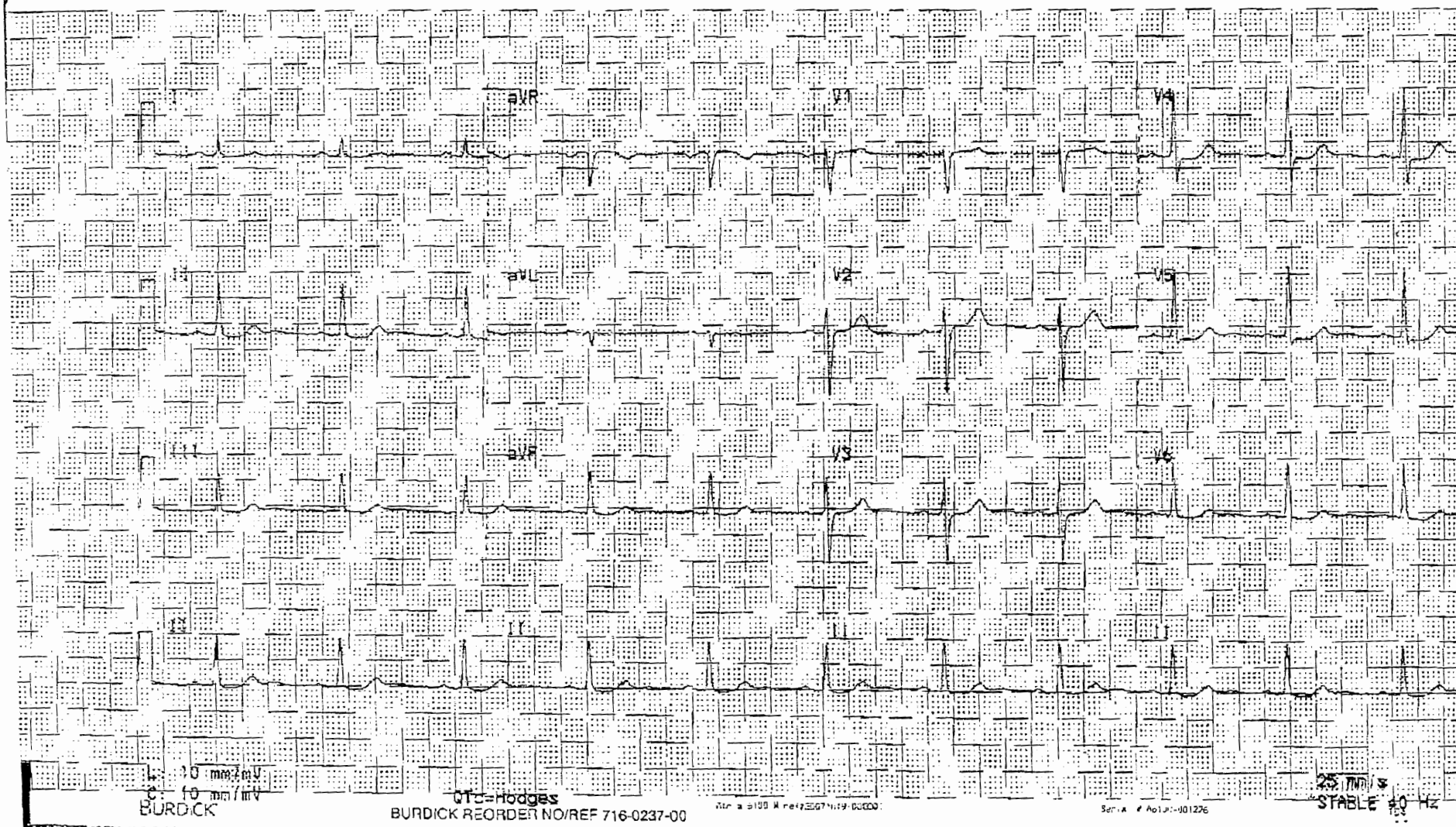
10/26/2011 8:54:22

D.O.B.: 08/13/1950 61 YEARS
Dr:
Tech:

Vent. Rate: 66 bpm
RR Interval: 906 ms
PR Interval: 166 ms
QRS Duration: 92 ms
QT Interval: 398 ms
QTc Interval: 408 ms
QT Dispersion: 44 ms
P-R-T AXIS: 8° 69° 59°

NSR

Siachot



UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 11/01/2012

CHIEF COMPLAINT: Kenneth Christian is a 62 year old patient seen today for annual follow-up. Doing well without angina, CHF, palpitations, edema, orthopnea, or PND. Tolerating meds well. Dr. Kenall recently increased his lipitor to 40mg QHS, getting repeat lipid profile in mid November. Tolerating statin well. Mowing grass and working hard without any limitations. BP and IIR control excellent.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA
410.11-ANTERIOR MYOCARDIAL INFARCTION s/p lytics and Nir stent in 2001 Dr. Ross
414.00-ASCAD - (UNSPECIFIED)
V45.82-STATUS POST PTCA /STENT

CURRENT ALLERGY LIST:
NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's medication list, Nurse's initials:..yc

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day
MULT VIT, 1 Every Day
NITROSTAT SUBLINGUAL TABLET SUBLINGUAL 0.4 MG, PLACE 1 TABLET UNDER THE TONGUE EVERY 5 MINUTES FOR UP TO 3 DOSES AS NEEDED FOR CHEST PAIN. CALL 911 IF PAIN PERSISTS.
LIPITOR ORAL TABLET 40 MG, 1 Every Day
COMPLEX B-100 ORAL TABLET CONTROLLED RELEASE, 1 Every Day
NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 Every Other Day
FISH OIL ORAL CAPSULE CONVENTIONAL 1200 MG, 1 qd

SOCIAL HISTORY: no current tobacco or ETOH use

REVIEW OF SYSTEMS:

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 11/01/2012

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.
RESPIRATORY: No cough, hemoptysis or wheezing.
CARDIAC: No history of shortness of breath, palpitations, orthopnea, pre-syncope or syncope.
GI: No history of pain, melena, hematochezia or ulcers.

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 80 Right Radial, Regular
VS-BLOOD PRESSURE: 122/80 Left Arm Sitting
VS-HEIGHT: 5ft9.5in
VS-WEIGHT: 166lbs7oz
BMI: 24.22

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIOVASCULAR:

Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.

EXTREMITIES No edema, no varicosities. Distal pulses 2+ and symmetric

EKG ORDERED AND REVIEWED WITH PATIENT: Normal sinus rhythm. 71bpm, normal axis, normal intervals, normal ST and T's. No prior ECG evidence of anterior MI.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

STATUS: Stable. Target LDL <70 optimally, but at least <100. Per Dr. Kendall.

MEDICATIONS: Continue medications as prescribed.

410.11-ANTERIOR MYOCARDIAL INFARCTION

STATUS: Resolved. Stable. No Q waves on ECG, looks good. Great result s/p lytics and

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 11/01/2012

stenting with Nir stent 11 years ago.
MEDICATIONS: Continue medications as prescribed.
414.00-ASCAD - (UNSPECIFIED)
STATUS: Stable.
Working hard without any angina or anginal equivalent symptoms
MEDICATIONS: Continue medications as prescribed.
V45.82-STATUS POST PTCA /STENT
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 1 year.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: THOMAS KENDALL MD Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Thursday, November 01, 2012 4:13 pm

**UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 11/01/2012

**Document ID: 01608244 - I:\04\04\01608244.TIF
Image Desc:
Scanned Date: 11/02/2012 8:30:00 AM by michelle
Last Updated: 11/02/2012 8:30:00 AM by michelle**

**Category: CAR-EKG
Cabinet: MED REC
Drawer: MED REC**

Name: kenneth christian ID: 52124
Sex: Male Birth date: Aug 13, 1950 62 years
inch lb / mmHg
Medication 1:
Medication 2:
Room No. 9a
siachos yc

Nov 1, 2012 3:58 PM 71 bpm

1100 Sinus rhythm
9110 ** normal ECG **

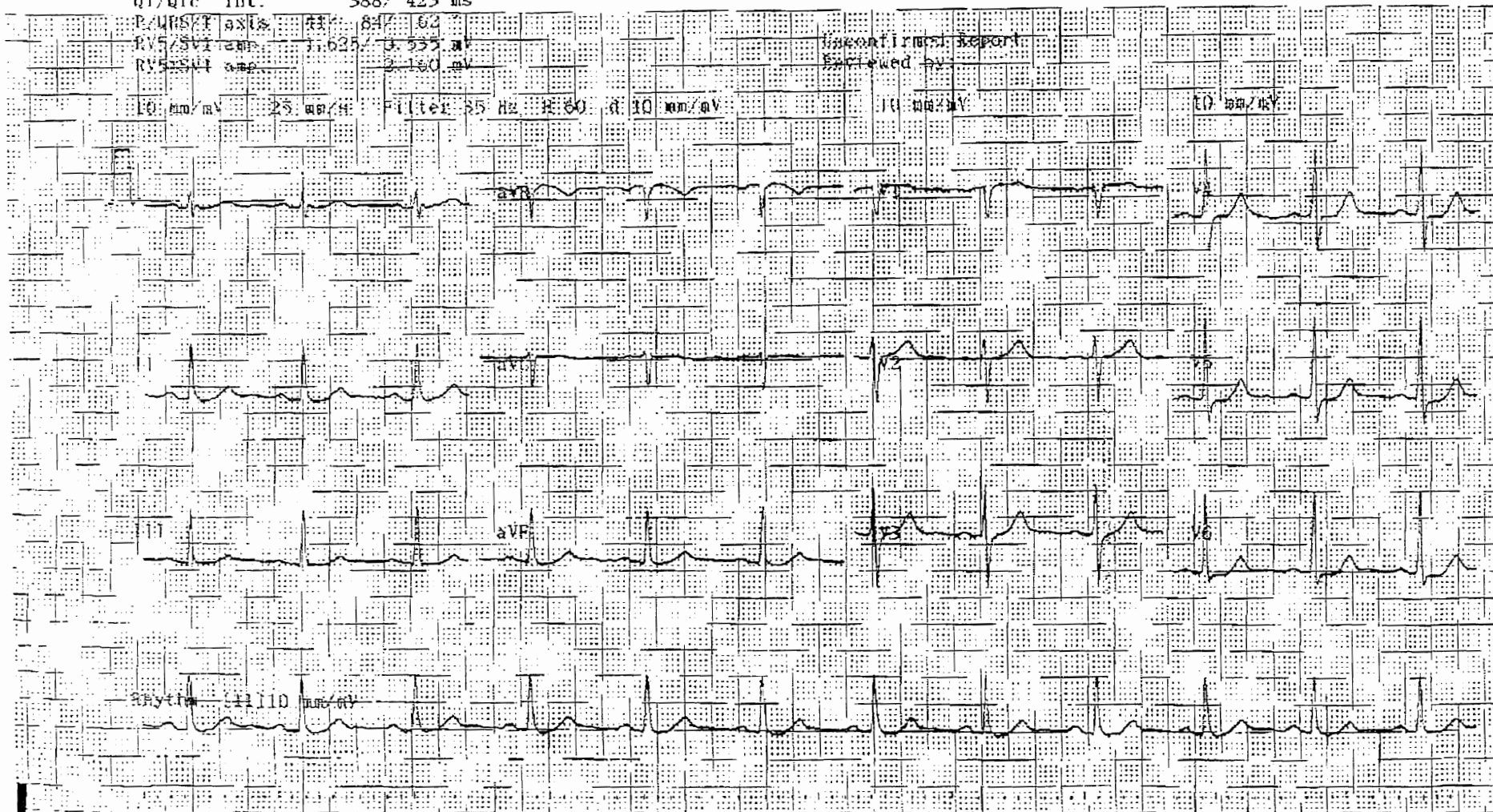
Vent. rate 71 bpm
PR int. 180 ms
QRS dur. 88 ms
QT/QTc int. 388/423 ms

P/QRS/T axis 84° 62°
RV5/SV1 amp 1.625/3.555 mV
RV5/SV1 amp 2.160 mV

Unconfirmed Report
Reviewed by

10 mm/mV 25 mm/mV Filter 35 Hz RE:60 d 10 mm/mV 10 mm/mV 10 mm/mV

Siachos



UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 11/05/2013

Document ID: 01876589 - I:\09\08\01876589.TIF
Image Desc:
Scanned Date: 11/06/2013 9:01:42 AM by vanessam
Last Updated: 11/06/2013 9:01:42 AM by vanessam

Category: CAR-EKG
Cabinet: MED REC
Drawer: MED REC

1331

ID: 52124
DOB: 8/13/1950 (63 yr)
Gender: Male

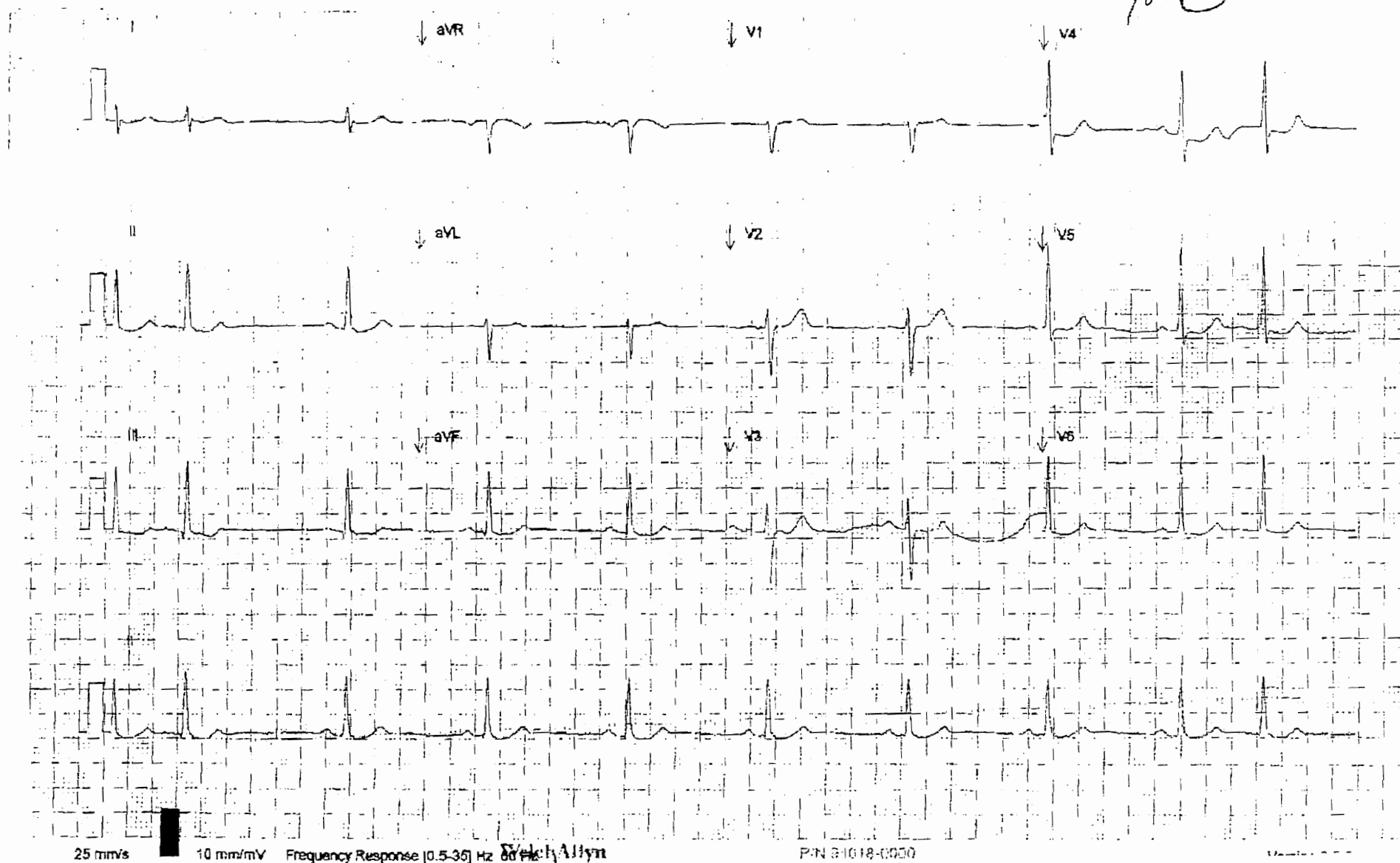
Name: Christian, Kenneth
Comments:

11/5/2013 2:12:14 AM

P/PR: 108/166 ms
QRS: 100 ms
QT/QTc: 394/373 ms
P/QRS/T Axis: 59/82/16 deg
Heart Rate: 54 BPM

sinus arrhythmia
vertical axis
Normal variant of ECG

Unconfirmed Report



25 mm/s

10 mm/mV

Frequency Response [0.5-35] Hz

80 Hz

P/N 81018-0000

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 11/05/2013

CHIEF COMPLAINT: Kenneth Christian is a 63 year old patient seen today for a follow-up.

Doing well without angina, CHF, palpitations, edema, orthopnea, or PND. Tolerating meds well. Tolerating statin well, recent lipids and liver look great. BP and HR control excellent. HR in 50's during rest, without any beta blockers on board. He complains of slowly worsening fatigue over the past few months, with daytime fatigue and occasional somnolence. He denies resting or exertional chest discomfort or abnormal dyspnea but notes persistent fatigue symptoms. Recent labs totally normal (see scanned sheet). He admits to nightly snoring (wife complains about it) but has never had a sleep study.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

410.11-ANTERIOR MYOCARDIAL INFARCTION s/p lytics and Nir stent in 2001 Dr. Ross

414.00-ASCAD - (UNSPECIFIED)

V45.82-STATUS POST PTCA /STENT

SOCIAL HISTORY: no current tobacco or ETOH use

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.

RESPIRATORY: No cough, hemoptysis or wheezing.

CARDIAC: No history of shortness of breath, palpitations, orthopnea, pre-syncope or syncope.

GI: No history of pain, melena, hematochezia or ulcers.

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's medication list, Nurse's initials:ml

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 11/05/2013

MULT VIT, 1 Every Day
NITROSTAT SUBLINGUAL TABLET SUBLINGUAL 0.4 MG, PLACE 1 TABLET UNDER THE TONGUE EVERY 5 MINUTES FOR UP TO 3 DOSES AS NEEDED FOR CHEST PAIN. CALL 911 IF PAIN PERSISTS.
LIPITOR ORAL TABLET 40 MG, 1 Every Day
COMPLEX B-100 ORAL TABLET CONTROLLED RELEASE, 1 Every Day
NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 Every Other Day
FISH OIL ORAL CAPSULE CONVENTIONAL 1200 MG, 1 qd

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 60 Right Radial, Regular
VS-BLOOD PRESSURE: 110/60 Left Arm Sitting
VS-HEIGHT: 5ft9.5in
VS-WEIGHT: 161lbs3oz
BMI: 23.46

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.
NECK: Supple. No JVD. No Carotid Bruits.
CARDIAC: Heart rate and rhythm are regular. Normal S1, S2, no murmur.
CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.
ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.
EXTREMITIES No edema, no varicosities.

EKG ORDERED AND REVIEWED WITH PATIENT: Normal sinus rhythm. 54bpm, sinus arrhythmia, vertical axis, NSSTW changes, normal intervals.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

1331

**UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 11/05/2013

STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.
410.11-ANTERIOR MYOCARDIAL INFARCTION
STATUS: Resolved. Stable.
MEDICATIONS: Continue medications as prescribed.
414.00-ASCAD - (UNSPECIFIED)
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.
V45.82-STATUS POST PTCA /STENT
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.
780.79-MALAISE/FATIGUE/WEAKNESS/TIREDNESS
STATUS: Worsening.
MEDICATIONS: Continue medications as prescribed.
PROCEDURES: Exercise nuclear stress test for anterior perfusion, chronotropic competence,
and sleep study for possible sleep apnea.

RETURN VISIT: Patient is to return after the procedure has been completed.
Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding
further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.
FAX TO REFERRING DOCTOR: THOMAS KENDALL MD Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Tuesday, November 05, 2013 4:37 pm

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

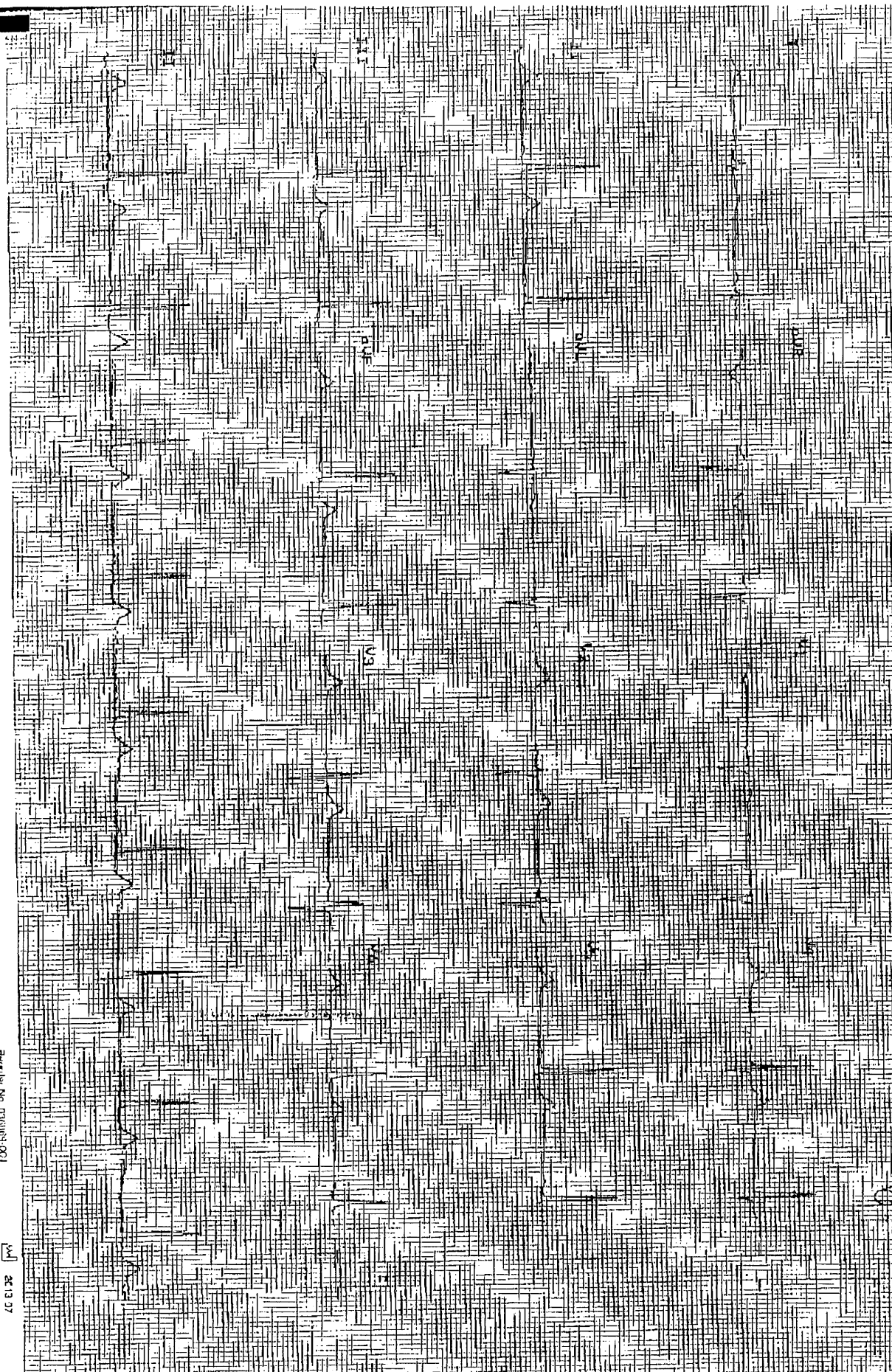
Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 11/25/2013

Document ID: 01891594 - I:\04\09\01891594.TIF
Image Desc:
Scanned Date: 11/26/2013 9:49:10 AM by adrianh
Last Updated: 11/26/2013 9:49:10 AM by adrianh

Category: CAR-EKG
Cabinet: MED REC
Drawer: MED REC

12 lead simultaneous ECG: 18 mm/40 Baseline filter: 1 Hz
 Standard X-axis 1 sec 10 sec 1 sec 10 sec
 Unipolar leads: I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
 Bipolar leads: I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
 Per Speed: 25 mm/sec
 12/25/13
 Date: 12/25/13
 Time: 10:10
 Patient: [illegible]
 Bed: 1010
 Room: 1010
 Physician: [illegible]
 Nurse: [illegible]
 Technician: [illegible]



UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 12/16/2013

CHIEF COMPLAINT: Kenneth Christian is a 63 year old patient seen today for a follow-up. Nuclear imaging was normal, with normal EF and wall motion. He had a HTNive response to high level stress with abnormal exercise ECG but without angina or arrhythmias. Overall his nuclear stress test showed no frank ischemia. He feels well and is without complaint today. His BP and IIR are well controlled without any therapy. Dr Kemmerlin is following his lipids.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

410.11-ANTERIOR MYOCARDIAL INFARCTION s/p lytics and Nir stent in 2001 Dr. Ross

414.00-ASCAD - (UNSPECIFIED)

V45.82-STATUS POST PTCA /STENT

SOCIAL HISTORY: no current tobacco or ETOH use

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.

RESPIRATORY: No cough, hemoptysis or wheezing.

CARDIAC: No history of shortness of breath, palpitations, orthopnea, pre-syncope or syncope.

GI: No history of pain, melena, hematochezia or ulcers.

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's memory, Nurse's initials. Patient declined refills for cardiac medications today.—tnix

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day

MULT VIT, 1 Every Day

NITROSTAT SUBLINGUAL TABLET SUBLINGUAL 0.4 MG, PLACE 1 TABLET UNDER THE TONGUE EVERY 5 MINUTES FOR UP TO 3 DOSES AS NEEDED FOR CHEST PAIN.CALL 911

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 12/16/2013

IF PAIN PERSISTS.

LIPITOR ORAL TABLET 40 MG, 1 Every Day

COMPLEX B-100 ORAL TABLET CONTROLLED RELEASE, 1 Every Day

NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 Every Other Day

FISH OIL ORAL CAPSULE CONVENTIONAL 1200 MG, 1 qd

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 58 Right Radial, Regular

VS-BLOOD PRESSURE: 106/60 Left Arm Sitting

VS-HEIGHT: 5ft9.5in

VS-WEIGHT: 161lbs

BMI: 23.43

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIAC: Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.

EXTREMITIES No edema, no varicosities.

ASSESSMENT/PLAN:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

STATUS: Stable. Unchanged. Target LDL at least <100 given prior stenting

MEDICATIONS: Continue medications as prescribed.

410.11-ANTERIOR MYOCARDIAL INFARCTION

STATUS: Resolved. Stable.

MEDICATIONS: Continue medications as prescribed.

414.00-ASCAD - (UNSPECIFIED)

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

1331

**UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 12/16/2013

786.50-CHEST PAIN, UNSPECIFIED

STATUS: Resolved. Stable.

MEDICATIONS: Continue medications as prescribed.

V45.82-STATUS POST PTCA /STENT

STATUS: Stable.

MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 9 months.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: Richard K. Kemmerlin MD

**1817 Woodruff Road
Greenville, SC 29607**

Electronically Signed by: A. Thomas Siachos, MD on Monday, December 16, 2013 4:48 pm

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/24/2014

CHIEF COMPLAINT: Kenneth Christian is a 64 year old patient seen today for a follow-up.6 months
Doing great since last visit without interval angina, anginal equivalent symptoms. Exercising vigorously without
any limitations. BP and HR excellent without specific medications. Tolerating current meds well. Lipids
recently evaluated by Dr. Kemmerlin, excellent per patient report.

Nuclear imaging 11 months ago was normal, with normal EF and wall motion. He had a ITNive response to
high level stress with abnormal exercise ECG but without angina or arrhythmias. Overall his nuclear stress test
showed no frank ischemia.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA

410.11-ANTERIOR MYOCARDIAL INFARCTION s/p lytics and Nir stent in 2001 Dr. Ross

414.00-ASCAD - (UNSPECIFIED)

V45.82-STATUS POST PTCA /STENT

SOCIAL HISTORY: no current tobacco or ETOH use

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.

RESPIRATORY: No cough, hemoptysis or wheezing.

CARDIAC: No history of shortness of breath, palpitations, orthopnea, pre-syncope or syncope.

GI: No history of pain, melena, hematochezia or ulcers.

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's memory,
Nurse's initials:tr

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day

MULT VIT, 1 Every Day

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/24/2014

NITROSTAT SUBLINGUAL TABLET SUBLINGUAL 0.4 MG. PLACE 1 TABLET UNDER THE TONGUE EVERY 5 MINUTES FOR UP TO 3 DOSES AS NEEDED FOR CHEST PAIN. CALL 911 IF PAIN PERSISTS.

LIPITOR ORAL TABLET 40 MG, 1 Every Day

COMPLEX B-100 ORAL TABLET CONTROLLED RELEASE, 1 Every Day

NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 Every Other Day

FISH OIL ORAL CAPSULE CONVENTIONAL 1200 MG, 1 qd

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 70 Right Radial, Regular

VS-BLOOD PRESSURE: 112/60 Left Arm Sitting

VS-HEIGHT: 5ft9in

VS-WEIGHT: 155lbs4oz

BMI: 22.92

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.

NECK: Supple. No JVD. No Carotid Bruits.

CARDIAC: Heart rate and rhythm are regular. Normal S1, S2, no murmur.

CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.

ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.

EXTREMITIES No edema, no varicosities.

ASSESSMENT/PLAN:

272.4-IIYPERLIPIDEMIA OTHER UNSPECIFIED DYSLIPIDEMIA

STATUS: Improved. Unchanged.

MEDICATIONS: Continue medications as prescribed.

410.11-ANTERIOR MYOCARDIAL INFARCTION

STATUS: Resolved.

414.00-ASCAID - (UNSPECIFIED)

STATUS: Stable.

1331

UPSTATE CARDIOLOGY, PA
UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN

Date of Birth: 08/13/1950

Date of Service: 10/24/2014

MEDICATIONS: Continue medications as prescribed.
V45.82-STATUS POST PTCA /STENT
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 1 year.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: THOMAS KENDALL Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Friday, October 24, 2014 4:24 pm

UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 07/16/2015

CHIEF COMPLAINT: Kenneth Christian is a 64 year old patient seen today for a follow-up.

Doing great since last visit without interval angina, anginal equivalent symptoms. Exercising vigorously nearly every day without any limitations. BP and HR excellent without specific medications. Tolerating current meds well. Lipids routinely evaluated by Dr. Kemmerlin, excellent per patient report, getting lipids again in a few weeks. Tolerating ASA and statin. BP too low for any beta blockers, but EF normal despite Ant MI with PCI about 14 years ago.

Nuclear imaging ~18 months ago was normal, with normal EF and wall motion. He had a ITNive response to high level stress with abnormal exercise ECG but without angina or arrhythmias. Overall his nuclear stress test showed no frank ischemia. He remains asymptomatic.

HISTORY:

272.4-DYSLIPIDEMIA/HYPERLIPIDEMIA
410.11-ANTERIOR MYOCARDIAL INFARCTION s/p lytics and Nir stent in 2001 Dr. Ross
414.00-ASCAD - (UNSPECIFIED)
V45.82-STATUS POST PTCA /STENT

SOCIAL HISTORY: no current or prior tobacco or ETOH use, no illicit drug use

REVIEW OF SYSTEMS:

CONSTITUTIONAL: Denies history of fever, unexplained weight loss or new fatigue.
RESPIRATORY: No cough, hemoptysis or wheezing.
CARDIAC: No history of shortness of breath, palpitations, orthopnea, pre-syncope or syncope.
GI: No history of pain, melena, hematochezia or ulcers.

CURRENT ALLERGY LIST:

NKDA

MEDICATION INFORMATION SOURCE: Medication information source comes from the patient's memory,
Nurse's initials:ml

1331

UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665

PatientID: 52124KC

Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950

Date of Service: 07/16/2015

CURRENT MEDICATION LIST:

ASPIRIN 81 MG, 1 Every Day
MULT VIT, 1 Every Day
NITROSTAT SUBLINGUAL TABLET SUBLINGUAL 0.4 MG, PLACE 1 TABLET UNDER THE TONGUE EVERY 5 MINUTES FOR UP TO 3 DOSES AS NEEDED FOR CHEST PAIN. CALL 911 IF PAIN PERSISTS.
LIPITOR ORAL TABLET 40 MG, 1 Every Day
COMPLEX B-100 ORAL TABLET CONTROLLED RELEASE, 1 Every Day
NEXIUM ORAL CAPSULE DELAYED RELEASE 40 MG, 1 Every Other Day
FISII OIL ORAL CAPSULE CONVENTIONAL 1200 MG, 1 qd

PHYSICAL EXAM:

VITAL SIGNS:

VS-PULSE: 62 Right Radial, Regular
VS-BLOOD PRESSURE: 102/60 Left Arm Sitting
VS-HEIGHT: 5ft9.5in
VS-WEIGHT: 159lbs5oz
BMI: 23.19

CONSTITUTIONAL:

GENERAL APPEARANCE: Well developed, well nourished individual in no acute distress.
NECK: Supple. No JVD. No Carotid Bruits.
CARDIAC: Heart rate and rhythm are regular. Normal S1, S2, no murmur.
CHEST: Equal bilateral expansion. The lungs are clear to anterior and posterior auscultation.
ABDOMEN: Soft, non-tender, without pulsatile masses, no organomegaly or bruit noted. Bowel sounds are active.
EXTREMITIES No edema, no varicosities.

ASSESSMENT/PLAN:

272.4-LIPID - HYPERLIPIDEMIA OTHER UNSP DYSLIPIDEMIA
STATUS: Unknown. He will fax next lab draw over for my review, always excellent though.
MEDICATIONS: Continue medications as prescribed.
410.11-ANTERIOR MYOCARDIAL INFARCTION
STATUS: Stable. Resolved.

1331

**UPSTATE CARDIOLOGY, PA
2 INNOVATION DR.
SUITE 400
GREENVILLE, SC 29607
864-235-7665**

PatientID: 52124KC

**Patient Name: KENNETH D CHRISTIAN
Date of Birth: 08/13/1950**

Date of Service: 07/16/2015

MEDICATIONS: Continue medications as prescribed.
414.00-ASCAD - (UNSPECIFIED)
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.
V45.82-STATUS POST PTCA /STENT
STATUS: Stable.
MEDICATIONS: Continue medications as prescribed.

RETURN VISIT: Patient instructed to return in 1 year.

Thank you for allowing us to participate in the care of your patient. We plan to keep you informed regarding further cardiac evaluation. Please don't hesitate to contact us if you have any questions or suggestions.

FAX TO REFERRING DOCTOR: THOMAS KENDALL Phone: 234-7000

Electronically Signed by: A. Thomas Siachos, M.D. on Thursday, July 16, 2015 4:50 pm



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950. Sex: M
Enc. Date: 06/06/16



SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/06/16

Progress Notes

Progress Notes by Arthur Thomas Siachos, MD at 06/06/16 1445

Author: Arthur Thomas Siachos, MD
Service: (none)
Author Type: Physician
Filed: 06/06/16 1502
Encounter Date: 6/6/2016
Status: Addendum
Editor: Arthur Thomas Siachos, MD (Physician)



UPSTATE CARDIOLOGY, PA
2 INNOVATION DRIVE, SUITE 400
GREENVILLE, SC 29607
PHONE: 864-235-7665

SUBJECTIVE:

Kenneth Christian is a 65 y.o. male seen for a follow up visit regarding the following:

Chief Complaint

Patient presents with:

- Follow-up
sob, cough

HPI:

He reports several weeks of DOE, fatigue, malaise and mild left sided chest discomfort with strenuous work. The chest discomfort is very mild and not worsening, and he's mostly bothered with the fatigue and exertional dyspnea. He denies edema, orthopnea, PND or palpitations. He is clinically euvolemic with a dry mouth and marginal systolic BP today. He is still working. He has a chronic cough as well (see below) with pulmonary evaluation negative thus far.

Past Medical History, Past Surgical History, Family history, Social History, and Medications were all reviewed with the patient today and updated as necessary.

Outpatient Prescriptions Marked as Taking for the 6/6/16 encounter (Office Visit) with Arthur Thomas Siachos, MD

Medication	Sig	Dispense	Refill
SOD CHLOR&BICARB/SQUEEZ BOTTLE (NEILMED SINUS RINSE COMPLETE NA)	by Nasal route daily as needed		
Cholecalciferol, Vitamin D3, (VITAMIN D3) 1,000 unit cap	Take by mouth daily.		
cyanocobalamin (VITAMIN B-12) 1,000 mcg tablet	Take 1,000 mcg by mouth daily.		
omega-3 fatty acids-vitamin e (FISH OIL) 1,000 mg cap	Take 1 Cap by mouth daily		
vitamin b comp & c no.4 (SUPER B COMPLEX + C) 150 mg tab	Take by mouth daily.		
NEXIUM 40 mg capsule	TAKE 1 CAPSULE DAILY	90 Cap	2



St. JOSEPH'S HEALTH SYSTEM, LLC

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/06/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/06/16 1445 (continued)

(Patient taking differently:
every other day)

- | | | | |
|--|----------------------|--------|---|
| • aspirin delayed-release 81 mg tablet | TAKE 1 TABLET DAILY | 90 Tab | 2 |
| • atorvastatin (LIPITOR) 20 mg tablet | Take by mouth daily. | | |

No Known Allergies

Patient Active Problem List

Diagnosis

- Dyspnea on exertion
- Chronic fatigue
- Anterior myocardial infarction (HCC)
s/p lytics and Nir stent in 2001 Dr. Ross

- CAD (coronary artery disease)
- Post PTCA
- Chest pain
- Interstitial lung disease (HCC)
- H/O seasonal allergies
- Dyslipidemia

Past Surgical History

Procedure	Laterality	Date
• Hx heent sinus		2000
• Pr cardiac surg procedure unlist ane stsnt		052701
• Hx ptca		

Family History

Problem	Relation	Age of Onset
• Heart Attack	Sister	
• Diabetes	Sister	
• Cancer	Brother	
• Cancer	Brother	

History

Substance Use Topics	
• Smoking status:	Never Smoker
• Smokeless tobacco:	Never Used
• Alcohol Use:	No

ROS:



Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/06/16 1445 (continued)

Review of Systems

Constitution: Negative for fever, malaise/fatigue and weight loss.

Cardiovascular: Negative for chest pain, dyspnea on exertion, orthopnea, palpitations and paroxysmal nocturnal dyspnea.

Respiratory: Positive for cough, shortness of breath and sputum production (clear to white sputum, occasionally green/yellow). Negative for hemoptysis and wheezing.

Gastrointestinal: Negative for hematemesis, hematochezia and melena.

PHYSICAL EXAM:

BP 104/58 mmHg | Pulse 64 | Ht 5' 9" (1.753 m) | Wt 161 lb (73.029 kg) | BMI 23.76 kg/m²

Physical Exam

Constitutional: He is oriented to person, place, and time. He appears well-developed and well-nourished.

Neck: Neck supple. No JVD present. Carotid bruit is not present. No thyromegaly present.

Cardiovascular: Normal rate and regular rhythm. Exam reveals no gallop and no friction rub. No murmur heard.

Pulmonary/Chest: Breath sounds normal. He has no wheezes. He has no rales.

Abdominal: Soft. He exhibits no distension. There is no tenderness.

Musculoskeletal: He exhibits no edema.

Neurological: He is alert and oriented to person, place, and time.

Skin: Skin is warm and dry.

Psychiatric: He has a normal mood and affect.

Medical problems and test results were reviewed with the patient today.

Lab Results

Component	Value	Date/Time
WBC	7.1	01/06/2016 04:00 PM
HGB	14.3	01/06/2016 04:00 PM
HCT	41.6	01/06/2016 04:00 PM
PLATELET	189	01/06/2016 04:00 PM
MCV	96.5	01/06/2016 04:00 PM

Results for orders placed or performed in visit on 06/06/16

AMB POC EKG ROUTINE W/ 12 LEADS, INTER & REP

Impression

Sinus Rhythm 60bpm

occasional PAC

normal axis, intervals, ST and T waves

WITHIN NORMAL LIMITS

ASSESSMENT and PLAN

Kenneth was seen today for follow-up.



SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/06/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/06/16 1445 (continued)

Diagnoses and all orders for this visit:

Chest pain, unspecified type- unknown- prior AMI/PCI, multiple symptoms. Needs EF and ischemic workup.

Orders:

- EKG
- ECHO COMPLETE STUDY; Future
- Stress Test, Nuclear; Future
- Cardiac Stress Test, Complete; Future

Anterior myocardial infarction (HCC)- remote with POBA- needs reassessment

Coronary artery disease involving native coronary artery of native heart, angina presence unspecified

Post PTCA

Dyslipidemia- stable, continue meds, per Dr. Kemmerlin

Chronic fatigue- ? Anginal equivalent. Check EF/coronary flow. Labs per Dr. Kemmerlin if cardiac workup negative. Marginal BP without any meds on board, mouth looks dry today. Hydrate aggressively, salt food as needed if EF OK on echo, reassess.

Orders:

- ECHO COMPLETE STUDY; Future
- Stress Test, Nuclear; Future
- Cardiac Stress Test, Complete; Future
- TSH, CMP, CBC

Dyspnea on exertion- see above

Orders:

- ECHO COMPLETE STUDY; Future
- Stress Test, Nuclear; Future
- Cardiac Stress Test, Complete; Future

Follow-up Disposition:

Return in about 2 weeks (around 6/20/2016).

ARTHUR THOMAS SIACHOS, MD

6/6/2016

2:46 PM

Electronically signed by Arthur Thomas Siachos, MD at 06/06/16 1500

Electronically signed by Arthur Thomas Siachos, MD at 06/06/16 1502



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/06/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/06/16 1445 (continued)

Revision History

Date/Time	User	Provider Type	Action
> 06/06/16 1502	Arthur Thomas Siachos, MD	Physician	Addend
06/06/16 1500	Arthur Thomas Siachos, MD	Physician	Sign

Attribution information within the note text is not available.



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/08/16



SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/08/16

BON SECOURS HEALTH SYSTEM, INC.

Progress Notes

Progress Notes by Dickie B Crisp at 06/15/16 1029

Author: Dickie B Crisp Service: (none) Author Type: Medical Assistant
Filed: 06/15/16 1029 Encounter Date: 6/8/2016 Status: Signed
Editor: Dickie B Crisp (Medical Assistant)

Patient has a f/u appt 06/21/16 to review test.

Electronically signed by Dickie B Crisp at 06/15/16 1029

Revision History

Date/Time	User	Provider Type	Action
> 06/15/16 1029	Dickie B Crisp	Medical Assistant	Sign

Attribution information within the note text is not available.

Progress Notes by Laure A Duncan at 06/08/16 0933

Author: Laure A Duncan Service: (none) Author Type: Technician
Filed: 06/09/16 0937 Encounter Date: 6/8/2016 Status: Signed
Editor: Laure A Duncan (Technician)

Echo completed. See interpretation scanned to the order.

Electronically signed by Laure A Duncan at 06/09/16 0937

Revision History

Date/Time	User	Provider Type	Action
> 06/09/16 0937	Laure A Duncan	Technician	Sign

Attribution information within the note text is not available.



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/13/16



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/13/16

Progress Notes

Progress Notes by Dickie B Crisp at 06/15/16 1028

Author: Dickie B Crisp Service: (none) Author Type: Medical Assistant
Filed: 06/15/16 1028 Encounter Date: 6/13/2016 Status: Signed
Editor: Dickie B Crisp (Medical Assistant)

Patient has a f/u appt 06/21/16 to review test.

Electronically signed by Dickie B Crisp at 06/15/16 1028

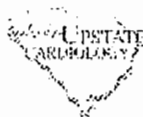
Revision History

Date/Time	User	Provider Type	Action
> 06/15/16 1028	Dickie B Crisp	Medical Assistant	Sign

Attribution information within the note text is not available.

Progress Notes by Arthur Thomas Siachos, MD at 06/13/16 1217

Author: Arthur Thomas Siachos, MD Service: (none) Author Type: Physician
Filed: 06/13/16 1816 Encounter Date: 6/13/2016 Status: Signed
Editor: Arthur Thomas Siachos, MD (Physician)



UPSTATE CARDIOLOGY, PA
2 INNOVATION DRIVE
SUITE 400
GREENVILLE, SC 29607
864-235-7665

NUCLEAR PERFUSION STUDY

Date: 6/13/2016

Name: Kenneth Christian
DOB: 8/13/1950
MRN: 815009435
Age: 65 y.o.
Sex: male

Referring Physician: Arthur Thomas Siachos
Family Physician: Thomas Kendall MD

Ordering Physician: A. Thomas Siachos, M.D.

Test Proctor: Karol Stahl, RN

TEST INDICATIONS: The patient is here for delineation of extent and severity of coronary artery disease.



Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/13/16 1217 (continued)

TEST INDICATIONS: chest pain, dyspnea and fatigue.

CAD RISK FACTORS: known cardiac disease, hypercholesterolemia/hyperlipidemia, positive family history.

OTHER CARDIAC HISTORY: CAD, Stents and MI

INFORMED CONSENT: The nature of the procedure and its benefits were discussed with the patient. Risks include, but are not limited to: Reaction to radiopharmaceutical agent, reaction to the chemical stress agent (if used), inability to complete the study, arrhythmias, MI and death. The patient had no further questions and agreed to proceed.

Stress test performed is a one day study with stress and rest performed on the same day.

SPECT IMAGING DOSAGE: The patient was injected with 10.2 mCi of Cardiolite Tc99m intravenously at rest with delayed imaging, then The patient was injected with 30.8 mCi of Cardiolite Tc99m intravenously at peak exercise with delayed imaging.

INJECTION SITE: Right wrist .

BETA BLOCKER ASSESSMENT: Patient is not currently taking a beta blocker.

TEST PROTOCOL: Bruce.

TEST TOLERANCE: The patient exercised into Stage 3 of the protocol. Total exercise time is 9:05 minutes.

SYMPTOMS: The patient experienced no chest pain. Rare to occasional PAC's noted with exercise and recovery.

TEST TERMINATION: The test was stopped due to fatigue, shortness of breath.

STRESS TEST VITALS:

Resting HR = 66 / minute
Resting B/P = 116/70
Peak HR = 132 / minute
Peak B/P = 164/70
Target HR = 132
METS = 10.1
Achieved HR 85 %

BASELINE EKG: normal sinus rhythm, nonspecific ST and T waves changes.

STRESS EKG: There is 1-2mm flat inferolateral ST depression in stress ECG which resolves in the recovery.

SPECT IMAGE INTERPRETATION

Image Quality: good.



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/13/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/13/16 1217 (continued)

Tomographic views in multiple axis show normal perfusion in all wall segments.

Artifact Suspected: none.

GATED SPECT IMAGE INTERPRETATION:

Left Ventricular Size: normal.

Transient Ischemic Dilatation: not present.

Gated cine images demonstrates reveals normal myocardial thickening and wall motion.

Ejection Fraction: 72%

CONCLUSION:

1. Stress EKG: Abnormal due to ST segment changes as described above.
2. SPECT Perfusion Imaging: Normal Perfusion.
3. LV Systolic Function is normal.

Comments: Return to cardiologist for follow up.

ARTHUR THOMAS SIACHOS, MD

6/13/2016

12:17 PM

Electronically signed by Arthur Thomas Siachos, MD at 06/13/16 1816

Revision History

Date/Time	User	Provider Type	Action
> 06/13/16 1816	Arthur Thomas Siachos, MD	Physician	Sign
06/13/16 1225	Karol A Stahl, RN	Registered Nurse	Sign at close encounter

Attribution information within the note text is not available.



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/21/16



ST. JOSEPH'S HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/21/16

Progress Notes

Progress Notes by Arthur Thomas Siachos, MD at 06/21/16 1405

Author: Arthur Thomas Siachos, MD Service: (none) Author Type: Physician
Filed: 06/21/16 1421 Encounter Date: 6/21/2016 Status: Signed
Editor: Arthur Thomas Siachos, MD (Physician)



UPSTATE CARDIOLOGY, PA
2 INNOVATION DRIVE, SUITE 400
GREENVILLE, SC 29607
PHONE: 864-235-7665

SUBJECTIVE:

Kenneth Christian is a 65 y.o. male seen for a follow up visit regarding the following:

Chief Complaint

Patient presents with:
• Follow-up
clite and echo results.

HPI:

He recently reported several weeks of DOE, fatigue, malaise and mild left sided chest discomfort with strenuous work. The chest discomfort was very mild and not worsening, and he's mostly bothered with the fatigue and exertional dyspnea. He denies edema, orthopnea, PND or palpitations. He is clinically euvolemic. He has a chronic cough as well (see below) with pulmonary infiltrates that have been evaluated by Palmetto Pulmonary with imaging, etc. He improved dramatically in the past on steroids. Nuclear stress in our office recently showed normal perfusion without ischemia, normal EF at 72%. Echo showed normal LV function and mild valvular insufficiency. He remains dyspneic with exertion but is euvolemic and has no symptoms at rest. He requests a second opinion from Dr. Knight today.

Past Medical History, Past Surgical History, Family history, Social History, and Medications were all reviewed with the patient today and updated as necessary.

Outpatient Prescriptions Marked as Taking for the 6/21/16 encounter (Office Visit) with Arthur Thomas Siachos, MD

Medication	Sig	Dispense	Refill
• SOD CHLOR&BICARB/SQUEEZ BOTTLE (NEILMED SINUS RINSE COMPLETE NA)	by Nasal route daily as needed.		
• Cholecalciferol, Vitamin D3, (VITAMIN D3) 1,000 unit cap	Take by mouth daily.		
• cyanocobalamin (VITAMIN B-12) 1,000 mcg tablet	Take 1,000 mcg by mouth daily.		
• omega-3 fatty acids-vitamin e (FISH OIL) 1,000 mg cap	Take 1 Cap by mouth daily.		



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 06/21/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/21/16 1405 (continued)

- | | | | |
|--|--|--------|---|
| • vitamin b comp & c no.4 (SUPER B COMPLEX + C) 150 mg tab | Take by mouth daily. | | |
| • NEXIUM 40 mg capsule | TAKE 1 CAPSULE DAILY
(Patient taking differently:
every other day) | 90 Cap | 2 |
| • aspirin delayed-release 81 mg tablet | TAKE 1 TABLET DAILY | 90 Tab | 2 |
| • atorvastatin (LIPITOR) 20 mg tablet | Take 40 mg by mouth daily. | | |

No Known Allergies

Patient Active Problem List

- | Diagnosis |
|---|
| • Dyspnea on exertion |
| • Chronic fatigue |
| • Anterior myocardial infarction (HCC)
s/p lytics and Nir stent in 2001 Dr. Ross |
| • CAD (coronary artery disease) |
| • Post PTCA |
| • Chest pain |
| • Interstitial lung disease (HCC) |
| • H/O seasonal allergies |
| • Dyslipidemia |

Past Surgical History

- | Procedure | Laterality | Date |
|---|------------|--------|
| • Hx heent
sinus | | 2000 |
| • Pr cardiac surg procedure unlist
one stent | | 052701 |
| • Hx ptca | | |

Family History

- | Problem | Relation | Age of Onset |
|----------------|----------|--------------|
| • Heart Attack | Sister | |
| • Diabetes | Sister | |
| • Cancer | Brother | |
| • Cancer | Brother | |

History

- | Substance Use Topics | |
|----------------------|--------------|
| • Smoking status: | Never Smoker |
| • Smokeless tobacco: | Never Used |
| • Alcohol Use: | No |



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950. Sex: M
Enc. Date: 06/21/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/21/16 1405 (continued)

ROS:

Review of Systems

Constitution: Negative for fever, malaise/fatigue and weight loss.

Cardiovascular: Negative for chest pain, dyspnea on exertion, orthopnea, palpitations and paroxysmal nocturnal dyspnea.

Respiratory: Positive for cough and shortness of breath. Negative for hemoptysis and wheezing.

Gastrointestinal: Negative for hematemesis, hematochezia and melena.

PHYSICAL EXAM:

BP 130/62 mmHg | Pulse 80 | Ht 5' 9" (1.753 m) | Wt 160 lb 12.8 oz (72.938 kg) | BMI 23.74 kg/m2

Physical Exam

Constitutional: He is oriented to person, place, and time. He appears well-developed and well-nourished.

Neck: Neck supple. No JVD present. Carotid bruit is not present. No thyromegaly present.

Cardiovascular: Normal rate and regular rhythm. Exam reveals no gallop and no friction rub. No murmur heard.

Pulmonary/Chest: Breath sounds normal. He has no wheezes. He has no rales.

Abdominal: Soft. He exhibits no distension. There is no tenderness.

Musculoskeletal: He exhibits no edema.

Neurological: He is alert and oriented to person, place, and time.

Skin: Skin is warm and dry.

Psychiatric: He has a normal mood and affect.

Medical problems and test results were reviewed with the patient today.

Lab Results

Component	Value	Date/Time
WBC	7.5	06/07/2016 12:05 PM
HGB	13.4	06/07/2016 12:05 PM
HCT	39.6	06/07/2016 12:05 PM
PLATELET	234	06/07/2016 12:05 PM
MCV	95.2	06/07/2016 12:05 PM

ASSESSMENT and PLAN

Kenneth was seen today for follow-up.

Diagnoses and all orders for this visit:

Chest pain, unspecified type- resolved, no recent discomfort, negative

Anterior myocardial infarction (HCC)- remote with POBA- needs reassessment

Printed on 10/28/2016 4:02 PM

Page 16



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950; Sex: M
Enc. Date: 06/21/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 06/21/16 1405 (continued)

Coronary artery disease involving native coronary artery of native heart, angina presence unspecified

Post PTCA- no ischemia on nuclear stress, continue meds

Dyslipidemia- stable, continue meds, per Dr. Kemmerlin

Chronic fatigue- stable, negative cardiac workup, euvoletic, no ischemia on nuclear stress, vitals well controlled.

Dyspnea on exertion- see above- refer to GHS Pulmonary per his request- improved greatly with steroids in the past

Follow-up Disposition:

Return in about 3 months (around 9/21/2016).

ARTHUR THOMAS SIACHOS, MD

6/21/2016

2:46 PM

Electronically signed by Arthur Thomas Siachos, MD at 06/21/16 1421

Revision History

Date/Time	User	Provider Type	Action
> 06/21/16 1421	Arthur Thomas Siachos, MD	Physician	Sign

Attribution information within the note text is not available.



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950. Sex: M
Enc. Date: 09/28/16



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 09/28/16

Progress Notes

Progress Notes by Arthur Thomas Siachos, MD at 09/28/16 1509

Author: Arthur Thomas Siachos, MD Service: (none) Author Type: Physician
Filed: 09/28/16 1523 Encounter Date: 9/28/2016 Status: Addendum
Editor: Arthur Thomas Siachos, MD (Physician)



UPSTATE CARDIOLOGY, PA
2 INNOVATION DRIVE, SUITE 400
GREENVILLE, SC 29607
PHONE: 864-235-7665

SUBJECTIVE:^[AS1.1]

Kenneth Christian^[AS1.2] is a^[AS1.1] 66 y.o. male^[AS1.2] seen for a follow up visit regarding the following:^[AS1.1]

Chief Complaint

Patient presents with:
• Follow-up
3 month^[AS1.2]

HPI:

He recently reported several weeks of DOE, fatigue, malaise and mild left sided chest discomfort with strenuous work. He denies edema, orthopnea, PND or palpitations. He is clinically euvolemic. He has a chronic cough as well (see below) with pulmonary infiltrates that have been evaluated by Palmetto Pulmonary with imaging, etc. He improved dramatically in the past on steroids. Nuclear stress in our office recently showed normal perfusion without ischemia, normal EF at 72%. Echo showed normal LV function and mild valvular insufficiency. He remains dyspneic with exertion but is euvolemic and has no symptoms at rest.

VATS and lung Bx at GHS showed chronic hypersensitivity pneumonitis possibly due to soldering fumes, chemical exposure. Feeling better on current meds but losing weight and trying to drink more protein and eat 3 meals daily now.

Past Medical History, Past Surgical History, Family history, Social History, and Medications were all reviewed with the patient today and updated as necessary.^[AS1.1]

Outpatient Prescriptions Marked as Taking for the 9/28/16 encounter (Office Visit) with Arthur Thomas Siachos, MD

Medication	Sig	Dispense	Refill
• prednisONE (DELTASONE) 10 mg tablet	Take by mouth daily (with breakfast).		
• Cholecalciferol, Vitamin D3, (VITAMIN D3) 1 000 unit cap	Take by mouth daily.		
• cyanocobalamin (VITAMIN B-12) 1,000	Take 1,000 mcg by mouth		



ST. VINCENT'S HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 09/28/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 09/28/16 1509 (continued)

mcg tablet	daily.		
• vitamin b comp & c no 4 (SUPER B COMPLEX + C) 150 mg tab	Take by mouth daily.		
• NEXIUM 40 mg capsule	TAKE 1 CAPSULE DAILY (Patient taking differently: every other day)	90 Cap	2
• aspirin delayed-release 81 mg tablet	TAKE 1 TABLET DAILY	90 Tab	2
• atorvastatin (LIPITOR) 20 mg tablet	Take 40 mg by mouth daily.		

No Known Allergies

Patient Active Problem List

Diagnosis
• Dyspnea on exertion
• Chronic fatigue
• Anterior myocardial infarction (HCC) s/p lytics and Nir stent in 2001 Dr. Ross
• CAD (coronary artery disease)
• Post PTCA
• Chest pain
• Interstitial lung disease (HCC)
• H/O seasonal allergies
• Dyslipidemia

Past Surgical History

Procedure	Laterality	Date
• Hx heent sinus		2000
• Pr cardiac surg procedure unlist one stsnt		052701
• Hx ptca		

Family History

Problem	Relation	Age of Onset
• Heart Attack	Sister	
• Diabetes	Sister	
• Cancer	Brother	
• Cancer	Brother	

Social History

Substance Use Topics	
• Smoking status:	Never Smoker
• Smokeless tobacco:	Never Used
• Alcohol use	No ^[AST.2]



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 09/28/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 09/28/16 1509 (continued)

ROS:

Review of Systems

Constitution: Negative for fever, malaise/fatigue and weight loss.

Cardiovascular: Negative for chest pain, dyspnea on exertion, orthopnea, palpitations and paroxysmal nocturnal dyspnea.

Respiratory: Positive for cough and shortness of breath. Negative for hemoptysis and wheezing.

Gastrointestinal: Negative for hematemesis, hematochezia and melena.

PHYSICAL EXAM: [AS1.1]

Visit Vitals

• BP	100 [AS1.3] 80 [AS1.1] / 54
• Pulse	82
• Ht	5' 9" (1.753 m)
• Wt	144 lb (65.3 kg)
• BMI	21.27 kg/m ² [AS1.3]

Physical Exam

Constitutional: He is oriented to person, place, and time. He appears well-developed and well-nourished.

Neck: Neck supple. No JVD present. Carotid bruit is not present. No thyromegaly present.

Cardiovascular: Normal rate and regular rhythm. Exam reveals no gallop and no friction rub.

No murmur heard.

Pulmonary/Chest: Breath sounds normal. He has no wheezes. He has no rales.

Faint bibasilar inspiratory crackles

Abdominal: Soft. He exhibits no distension. There is no tenderness.

Musculoskeletal: He exhibits no edema.

Neurological: He is alert and oriented to person, place, and time.

Skin: Skin is warm and dry.

Psychiatric: He has a normal mood and affect.

Medical problems and test results were reviewed with the patient today. [AS1.1]

Lab Results

Component	Value	Date/Time
WBC	7.5	06/07/2016 12:05 PM
HGB	13.4	06/07/2016 12:05 PM
HCT	39.6	06/07/2016 12:05 PM
PLATELET	234	06/07/2016 12:05 PM
MCV	95.2	06/07/2016 12:05 PM [AS1.2]



BON SECOURS HEALTH SYSTEM, INC.

SSA UPSTATE CARDIOLOGY
2 INNOVATION DR STE 400
GREENVILLE SC 29607-5270

CHRISTIAN, KENNETH
MRN: 815009435
DOB: 8/13/1950, Sex: M
Enc. Date: 09/28/16

Progress Notes (continued)

Progress Notes by Arthur Thomas Siachos, MD at 09/28/16 1509 (continued)

ASSESSMENT and PLAN

Kenneth was seen today for follow-up.

Diagnoses and all orders for this visit:

Chest pain, unspecified type- resolved, no recent discomfort, negative cardiac evaluation, monitor clinically

Anterior myocardial infarction (HCC)- remote with POBA- negative cardiac evaluation

Coronary artery disease involving native coronary artery of native heart, angina presence unspecified- stable, continue meds

Post PTCA- no ischemia on nuclear stress, continue meds

Dyslipidemia- stable, continue meds, per Dr. Kemmerlin

Chronic fatigue- stable, negative cardiac workup, euvolemic, no ischemia on nuclear stress, vitals well controlled.

Dyspnea on exertion- see above- defer to GHS Pulmonary - improved greatly with steroids in the past- continue meds per Dr. Knight.^[AS1.1]

Follow-up Disposition:

Return in about 6 months (around 3/28/2017).

Arthur Thomas Siachos, MD

9/28/2016^[AS1.2]

2:46 PM^[AS1.1]

Electronically signed by Arthur Thomas Siachos, MD at 09/28/16 1522

Electronically signed by Arthur Thomas Siachos, MD at 09/28/16 1523

Revision History

User Key	Date/Time	User	Provider Type	Action
> AS1.2	09/28/16 1523	Arthur Thomas Siachos, MD	Physician	Addend
AS1.3	09/28/16 1522	Arthur Thomas Siachos, MD	Physician	Sign
AS1.1	09/28/16 1509	Arthur Thomas Siachos, MD	Physician	

JAMES LAWRENCE PEARLE, MD
301 W. BASTANCHURY ROAD, SUITE 220
FULLERTON, CALIFORNIA 92835
(714) 992-2555

June 19, 2019

Thomas S. Phillips
Smith Jordan Attorneys at Law
Post Office Box 1207
Easley, SC 29641

PATIENT NAME: Kenneth Dorsey Christian
DATE OF BIRTH: 08/13/1950

Dear Mr. Phillips:

Thank you for the opportunity to review the medical records and provide report on Kenneth Dorsey Christian.

QUALIFICATIONS AND EXPERIENCE

My professional background is documented in the attached copy of my curriculum vitae. My hourly fee billed is \$750.00.

RECORDS REVIEWED

During my review of this matter I have had access to the following items:

- A note from Dr. A. Thomas Siachos, referring to history of coronary artery disease.
- CT chest without contrast dated December 18, 2015, with an impression of peripheral reticular change most suggestive of process that is suggestive of non-SIP or hypersensitivity pneumonitis.
- History and physical of December 23, 2015, by Dr. Julia Payne refers to history of abnormal dry cough, exertional dyspnea, and an abnormal CT scan. Reference to his occupational exposure is noted. Physical exam reveals bilateral crackles. A picture of a CT scan of September 9, 2015, is noted.
- Pulmonary function test of October 29, 2015, showed an FEV1 of 92% of predicted with a forced vital capacity of 85% of predicted. Diffusing capacity was 15.5 and 48% of predicted. Assessment was interstitial lung disease already treated with steroids.

Patient Name: Kenneth Dorsey Christian

Pearle Report

- A note from Andrea Lantz, M.D. on January 4, 2016, with an impression of pulmonary infiltrate, interstitial lung disease and chronic rhinitis and positive intradermal skin test to aspergillosis.
- Thoracic surgery note from William Walton, M.D. referring to history of shortness of breath and CT scan showing interstitial lung disease.
- A note of August 7, 2016, reports an FEV1 of 2.59 or 81% of predicted.
- A note of September 21, 2016, seen following VATS wedge resection.
- A CT scan of December 21, 2016, reported as showing interstitial lung disease and lymphadenopathy with no interval change from December 18, 2015.
- A note from Dr. Edward Bert Knight on June 28, 2015, reports a history of increasing cough and shortness of breath. Assessment was interstitial lung disease. FEV1 of June 28, 2016, was 82% of predicted at 2.61 with a forced vital capacity of 3.3 liters, 78% of predicted.
- An office note from Justin Wayne Gregg, M.D. on June 23, 2018, is a preoperative evaluation, recommend supplemental oxygen as needed, pulmonary spirometry yearly, and return to clinic in two weeks. I suspect CEP based on CT findings.
- Another progress note of Dr. Gregg from August 23, 2016, is noted.
- Pathology report of August 28, 2016, shows irregularly advanced interstitial fibrosis, chronic hypersensitivity pneumonitis.
- A report from Sloan Kettering Pathology shows fibrosing and cellular interstitial pneumonitis with partially organizing pneumonia, granuloma, and focal usual interstitial and focal interstitial pneumonia.
- Discharge summary by Dr. Tingen on August 29, 2018, with discharge following VATS.
- A note from Dr. Gregg, September 12, 2016, that the patient was started on prednisone 40 mg and taper and has chronic cough and congestion and thick jelly phlegm worse in a.m.
- A pulmonary rehab rehabilitation evaluation of October 10, 2016, from Lloyd Eugene Hayes, M.D. is noted with outcome goals of increased energy and activity and less dyspnea on exertion. Six-minute walk shows a normal walk distance with an oxygen saturation lowest at 92%.
- An encounter of November 1, 2016, with Dr. Gregg is noted. He reports that the patient did not tolerate prednisone well and had anxiety and weight loss.

Patient Name: Kenneth Dorsey Christian

Pearle Report

- A sleep study was noted with encounter date of November 1, 2016, showing obstructive sleep apnea with sleep fragmentation with a trial of positional therapy recommended.
- An encounter date of November 23, 2016, with Dr. Gregg is noted with weight gain improvement and returning to work on November 28, 2016. Assessment, chronic hypersensitivity pneumonitis/soldering fumes, advised to form fumes antigens.
- Pulmonary function report of February 9, 2017, notes an FEV1 of 79% and a forced vital capacity of 68% of predicted, diffusing capacity is 44% of predicted.
- An office visit with Dr. Gregg of February 9, 2017, is noted, referring to mild-to-moderate shortness of breath with hills and inclines with shortness of breath recovers at rest. Physical exam shows bilateral rales. Assessment, hypersensitivity pneumonitis following eight weeks of prednisone and advised to keep exercising.
- An office visit of April 4, 2017, is noted by Dr. Leonard James Cochran. Assessment, acute bronchitis and hypersensitivity pneumonitis.
- Office visit of August 17, 2017, is noted.
- Serial pulmonary function study from June 28, 2016, shows a forced vital capacity of 3.3 liters, February 9, 2017, 2.9 liters, June 17, 2017, 2.85 liters, and diffusing capacity 9.6.
- Encounter date of April 25, 2018, with Leonard James Cochran, M.D. shows forced vital capacity on April 25, 2018, at 2.4 liters, 67% of predicted. Desaturation to 86% requires 1 liter of oxygen.
- Office visit of June 12, 2018, with Mary Jane Williams, nurse practitioner, reports needing supplemental oxygen.
- Encounter date of September 26, 2018, with Dr. Cochran shows that the patient needs 2 liters of oxygen with exertion.
- Office visit October 30, 2015, of Dr. Julia Payne with Mr. Christian being seen as a new patient.
- There is an office note from Dr. Payne on March 28, 2016. An x-ray report of August 25, 2015, shows increased markings throughout the lungs with diffuse fibrosis. CT scan of August 10, 2016, shows bilateral interstitial lung disease.
- Vocational report from Welton & Associates dated December 21, 2019 (!?), reviews the history, the use of supplemental oxygen Breo and Mucinex and Mr. Christian describes difficulty with going up and down steps, showering, or walking more than

100 feet. Mr. Christian's occupational history is reviewed. It is the vocational opinion that the patient is considered permanently and total disabled.

- A visit with Dr. Cochrane of Jan 30, 2019 is noted, mentioning 02 24 hours a day. FVC was 2.02 L, 48.3 % of predicted. Prednisone was started.
- Another note from Dr. Cochrane of Mar.11, 2019 is reviewed. Better breathing is noted. FVC is up to 2.11 L, 52.9% of predicted.
- An encounter date of May 13, 2019, with Dr. Cochran again. Forced vital capacity is now 50% of predicted with diffusing capacity at 25% of predicted. Assessment: interstitial lung disease, subjectively and objectively worsening. There is consideration of lung transplantation.
- Deposition of Mr. Christian on December 13, 2016, is noted.
- A toxicology report from Ted W. Simon, Ph.D. with a conclusion that exposure to rosin/colophony and solder used at SEW-EURODRIVE is more likely than not causing Mr. Christian's respiratory symptoms and disease.

DISCUSSION

Mr. Christian clearly had occupational exposure to soldering fumes while working at SEW-EURODRIVE for approximately 33 years. He spent years in the electronic engineering lab and was frequently exposed to soldering fumes. He also worked for Teleamerica Communications and National Water Lift as an electronic technician maintaining repairs on electronics and hydraulic machinery.

It is biopsy-proven that Mr. Christian has hypersensitivity pneumonitis. This is a chronic inflammatory disease of the lung which can progress to interstitial fibrosis, but is different from the usual idiopathic pulmonary fibrosis both in radiographic appearance and pathology. It is often somewhat responsive to steroids and may have a variable course. This diagnosis is confirmed by several pathology reports and is consistent with his pulmonary function testing, physical findings of rales, and the need for supplemental oxygen. There is clear evidence that in Mr. Christian's case this disease is progressive, and there is no evidence that removal from continued occupational exposure has altered this progression.

Mr. Christian's pulmonary function has significantly declined since this diagnosis first was noted in 2015. This progression has occurred despite the use of treatment with systemic steroids, which the patient subjectively did not tolerate well. His current degree of pulmonary function at present should be considered completely and totally disabling and require at least the use of supplemental oxygen on exercise and sleep if not continuously. His medicines other than systemic steroids may add a little bit of subjective benefit, but will not factor into Mr. Christian's long term prognosis. Mr. Christian's long-term prognosis is extremely guarded.

Patient Name: Kenneth Dorsey Christian

Pearle Report

Should his lung function continue decline in the manner which it has over several years, it is difficult to project that Mr. Christian's life span would be longer than a few years. The consideration for lung transplant at this point is certainly an appropriate one and possibly offers Mr. Christian the only significant option to significantly extend his life further. Otherwise, we would expect continued progressive decline of lung function to the point where Mr. Christian's lung function will not support life at all.

Hypersensitivity pneumonitis is often idiopathic, in that no clear cause is ever identified. However, Mr. Christian has clearly had an occupational exposure that appears capable of causing hypersensitivity pneumonitis. As the name suggests, this lung disease is a hypersensitive response to an offending agent, chemical, organic, or other. The association with Mr. Christian's exposure make is medically probably that this exposure was the cause of disease.

In the absence of any other reasonable etiology for this hypersensitivity pneumonitis, to a reasonable medical probability, occupational exposure to soldering fumes possibly in conjunction with other occupational exposures caused this hypersensitivity pneumonitis. It seems rather unlikely that based on what we have seen in Mr. Christian's course that avoidance of continued exposure will make much difference in his course.

Mr. Christian should be expected to require frequent and unavoidable office visits and possible projected hospitalizations. He will require continuous supplemental oxygen as well as the cost of his supportive medicines.

OPINIONS

I have arrived at the following opinions, based upon a reasonable degree of medical certainty:

1. Mr. Christian had prolonged exposure to soldering fumes and possibly other substances.
2. Mr. Christian developed hypersensitivity pneumonitis to a reasonable medical probability due to this exposure.
3. This pneumonitis has progressed both in terms of pulmonary function and symptoms.
4. Medical treatment appear to be more palliative and supportive than curative.
5. Mr. Christian should now be considered disabled from his disease.
6. This disease can be expected to shorten Mr. Christian's life significantly.
7. Lung transplant appears to be the most viable and definite treatment option.

Patient Name: Kenneth Dorsey Christian

Pearle Report

As additional information is made available to me or as new facts are uncovered during the investigation and discovery process, my professional opinions may change to reflect the newfound information. The opinions expressed herein, however, are current and accurately reflect my conclusions based upon the information reviewed and the analysis performed as of this date.

Please contact me if I can be of further help on this interesting but unfortunate case of hypersensitivity pneumonitis.

Sincerely,



James Pearle, M.D.

JP/ng

Enclosures: Curriculum Vitae
Testifying History
Selected Pages from Medical Records

References: Occupational Hypersensitivity Pneumonitis: an EAACI Position Paper.

Allergy, 2016 Jun. 71(6):765-779; 10.1111/all.12866. Epub 2016 Mar 11.

LLN 378
 SpO2 resting 95
 HR resting 96
 Suppl O2 resting 0
 BP resting 104/52
 Pre-exercise Borg-Dyspnea Scale (RPE) 5
 Lowest SpO2 exercise 84
 Max HR exercise 103
 % Predicted (HR) 68
 Suppl O2 exercise 3
 BP after exercise 124/62
 Max during exercise Borg-Dyspnea Scale 7
 Rest required? yes
 Reason(s) for rest to apply/increase O2

Walk distance is moderately reduced. He walked 292 m today versus 255 m on the last visit. However oxygen need is higher today requiring 3 L continuous. He was also check on his pulse oximeter needed 4 LPM he was using his pulse oximeter.

Complete PFT Battery - DLCO, Spirometry, & Plethysmography 5/13/2019

Narrative

Moderate restrictive ventilatory impairment with severe reduction of DLCO.
 DLCO and FVC reduced from 3/11/19.

	Ref	Pre	Pre %
FVC	3.99 L	2 L	50 %
FEV1	2.95 L	1.75 L	59.5 %
FEV1/FVC	74 %	87.69 %	
FEF25-75%	2.29 L/s	3.85 L/s	167.8 %

TLC	6.4 L	2.83 L	44.1 %
RV	2.24 L	0.82 L	36.4 %
RV/TLC	35 %	28.88 %	

DLCO: 6.45 ml/(min*mmHg) (25.5 %)

Imaging Results

XR Chest 2 Vw 5/13/2019

PULMONOLOGY-LUNG CTR Christian, Kenneth Dorsey
 200 Patwood Drive, Ste B300 MRN: 970179298, DOB: 8/13/1950, Sex: M
 Greenville SC 29615-6338 Encounter date: 8/17/2017
 Amb Encounter Report

Progress Notes (continued)

Leonard James Cochrane Jr., MD at 8/17/2017 4:01 PM (continued)

Skin: Skin is intact. No lesion and no rash noted. No cyanosis. Nails show no clubbing.

Lab Review:

	6/28/2016	2/9/2017	8/17/2017
FVC	3.33 L	2.9 L	2.85 L
% Pred	78 %	68 %	67 %
FEV1	2.61 L	2.49 L	2.41 L
% Pred	82 %	79 %	77 %
FEV1/FVC	78 %	86 %	85 %
FVC (post)	3.17 L		
% Pred	74 %		
FEV1 (post)	2.59 L		
FEV1 post %Pred	81 %		
FEV1/FVC (post)	82 %		
TLC	4.35 L	4.2 L	
% Pred	66 %	63 %	
RV	1.02 L	1.18 L	
% Pred	45 %	52 %	
RV/TLC	23 %	28 %	
DLCO		10.6 mL/mmHg/min	9.6 mL/mmHg/min
% Pred		44 %	41 %

Pulmonary function tests reveal a mild restrictive ventilatory impairment with significant decrease in the DLCO to 41% of predicted. The PFTs including the DLCO are approximately same as that of 2/2017.

Assessment/Plan:

Hypersensitivity pneumonitis

Assessment & Plan:

Changes on VATS biopsy 8/26/16. Patient no longer is working in the environment that was felt to cause his problems. His pulmonary function tests are stable from 2/2017 and showed a mild restrictive ventilatory impairment and significant decrease in DLCO. Patient is not hypoxic.

SOB (shortness of breath)

Assessment & Plan:

Improved with Breo and will continue.

FOLLOW UP:



GHS LABORATORIES
 701 Grove Road
 Greenville, SC 29605
 Tel: (864) 455-7735 Fax: (864) 455-8926
 Jesse R. Stafford, MD, Director of Laboratories

PATHOLOGY EXAMINATIONACCESSION # **M16-21799**

PATIENT NAME: CHRISTIAN, KENNETH D.		COLLECTED: 8/26/2016
MED. REC. #: 970179298	CLIENT: GREENVILLE MEMORIAL HOSPITAL	RECEIVED: 8/26/2016
SOC. SEC. #: [REDACTED]	PHYSICIAN: WILLIAM D BOLTON, MD	REPORTED: 8/30/2016
GENDER: M DOB: 8/13/1950	ADDITIONAL: NO ADDITIONAL PHYSICIANS	LOCATION: 084D
ACCOUNT #: 1000035765278	COPY TO/NOTES:	ROOM/BED: 44134413AM

Page 1 of 4

SPECIMEN(S) RECEIVED:

- A: Right upper lobe wedge
- B: Right middle lobe wedge
- C: Right lower lobe wedge
- D: Right lower lobe wedge #2

CLINICAL DATA/HISTORY:

Interstitial lung disease.

FINAL PATHOLOGIC DIAGNOSIS:**A. RIGHT UPPER LOBE WEDGE:**

- IRREGULAR MODERATELY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, POSSIBLY DUE TO SOLDER FUME EXPOSURE. SEE COMMENT.
- UNRELATED ANCIENT SUBPLEURAL APICAL FIBROUS CAP.

B. RIGHT MIDDLE LOBE WEDGE:

- IRREGULAR MODERATELY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

C. RIGHT LOWER LOBE WEDGE:

- IRREGULAR MODERATELY TO MARKEDLY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

D. RIGHT LOWER LOBE WEDGE #2:

- IRREGULAR MODERATELY TO MARKEDLY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

COMMENT:

The multiple wedge biopsy samples show an advanced interstitial fibrotic process, with UIP pattern features of patchy spatially and temporally variable fibrosis, with areas of honeycombing. The association with minute, poorly formed granulomata is highly suggestive of a chronic hypersensitivity pneumonitis, which in advanced stages may have a UIP pattern. Clinical correlation, particularly history of possible exposure to inhaled antigens, is recommended.

Review of the patient's history shows no known exposure to animal dander or other organic antigens, and hypersensitivity precipitins have been negative. The patient is an electronics technician who has had frequent exposure to solder fumes, which has been reported as a rare cause of hypersensitivity pneumonitis.

Slides are sent for outside expert consultation to Dr. William Travis, MSK, NYC, with addendum and/or amended report to follow.

ELECTRONICALLY SIGNED OUT
 Jackson H. McCarter, MD

atl/8/29/2016

CHRISTIAN, KENNETH D.
970179298

GHS LABORATORIES
2

M16-21799
Page 2 of 4

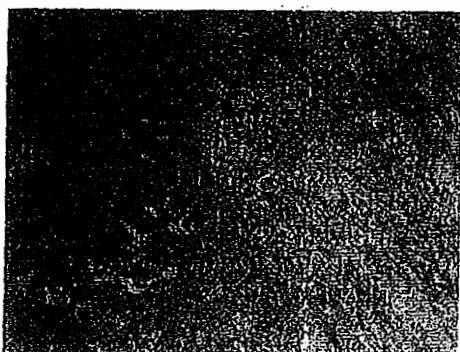


Image #1

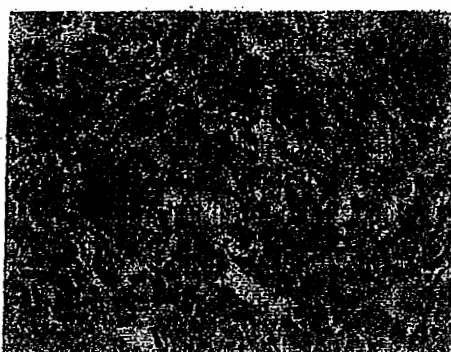


Image #2

GROSS DESCRIPTION:

CHRISTIAN--

A. Right upper lobe wedge: Received in formalin labeled as, "right upper lobe wedge, Kenneth Christian," is a 26-gram, 5 x 8.5 x 2.5 cm irregular wedge of lung tissue. The pleural surface is pink-red, fibrinous with multiple adhesions. The staple lines are removed and the resection margins are inked blue. The specimen is serially sectioned to reveal a tan-red, mildly hemorrhagic, soft cut surface with multiple areas of apparent dilated air spaces. No distinct masses are grossly noted within the parenchyma. Representative sections of the specimen to include the resection margin are submitted in blocks A1-A3.

B. Right middle lobe wedge: Received in a single formalin-filled container labeled with, "right middle lobe wedge, Kenneth Christian," is a 5-gram, 4 x 3 x 1 cm wedge of lung tissue. The pleural surface is pink-red, mildly disrupted but otherwise smooth. Sectioning reveals a pink-red, soft cut surface. No grossly identifiable lesions are found within the specimen. Representative sections are submitted in blocks B1-B3.

C. Right lower lobe wedge: Received in formalin labeled as, "right lower lobe wedge, Kenneth Christian," is a 13-gram, 6 x 2.5 x 1.7 cm wedge of lung tissue. The pleural surface is pink-tan, smooth with mild anthracosis. The staple line is removed and the resection margin is inked blue. Sectioning reveals a pink-red, soft cut surface which appears to be mildly disrupted with multiple visible thickened alveolar septae. Representative sections of the specimen are submitted in blocks C1-C3.

D. Right lower lobe wedge #2: Received in formalin labeled as, "right lower lobe wedge #2, Kenneth Christian," is a 4-gram, 4 x 1.7 x 0.4 cm wedge of lung tissue. The pleural surface is pink-tan, mildly indurated but smooth. The staple line is removed and the resection margin is inked blue. The specimen is serially sectioned to reveal a pink-tan, indurated cut surface. No lesions are grossly noted. The specimen is submitted entirely in blocks D1-D3. JEB/kvh

kh1/8/26/2016

MICROSCOPIC DESCRIPTION:

A. These are sections of pleural surface lung parenchyma. Block A1 shows a nonspecific subpleural hypocellular collagenous scar, probably not related to the interstitial disease seen in other sections. A2 and A3 show irregular, patchy areas of interstitial fibrosis involving about 50% of the parenchyma with intervening areas of uninvolved lung parenchyma showing mild emphysematous changes without fibrosis. The interstitial fibrosis shows variable degrees of cellularity including older, hypocellular fibrous tissue as well as fibrous tissue with fibroblastic proliferation. There are small numbers of plasma cells and lymphocytes within the interstitial fibrosis. Scattered minute poorly formed epithelioid/giant cell granulomata, some with inclusions, are present. Scattered foci of pale basophilic mucus are within air spaces in the fibrotic areas. There are foci of associated bronchioalveolar hyperplasia.

B. These are portions of pleural surface lung parenchyma with irregular, patchy foci of interstitial fibrosis involving about 20% of the sample with intervening nonfibrotic parenchyma. Within the areas of interstitial fibrosis there are small numbers of plasma cells and lymphocytes with a few scattered eosinophils. A few scattered small poorly formed granulomata are seen. Inter-alveolar macrophages are increased focally and there are scattered foci of fibroblastic fibrosis.

C. This is lung parenchyma also showing irregular, patchy areas of marked interstitial fibrosis with intervening uninvolved alveoli. The fibrosis involves over 60% of the air spaces and contains areas of active fibroblastic fibrosis as well as other areas of more hypocellular fibrosis. There are prominent associated areas of bronchioalveolar hyperplasia with mucus lakes within air spaces with a honeycomb pattern. There are small to moderate numbers of plasma cells and lymphocytes with small numbers of intermingled eosinophils focally. Only a

CHRISTIAN, KENNETH D.
970179298

GHS LABORATORIES
260-84-1468

M16-21799
Page 3 of 4

few small scattered poorly formed granulomata are seen within the interstitial fibrosis. A few foci of fibroblastic proliferation suggestive of bronchiolitis obliterans pattern are present.

D. These are portions of lung parenchyma with advanced honeycomb pattern interstitial fibrosis involving over 70% of the sample with similar features of mucus lakes, prominent bronchioalveolar epithelial hyperplasia, and mild focal plasmacytic and lymphocytic infiltration with small numbers of eosinophils. Only a few minute suggestions of poorly formed granulomata are seen in this sample. JHMc/att

Special stains: Block A3: No acid fast bacilli or fungi are identified on Acid Fast and GMS stains, with appropriate control staining. Masson's trichrome stain shows both collagenous fibrosis and active fibroblastic areas; control stains appropriately.

PROCEDURE/ADDENDUM:
ADDENDUM

Date Entered: 8/30/2016 **Status:** Signed Out
Date Complete: 8/30/2016 **By:** ktb
Date Reported: 9/9/2016

ADDENDUM DIAGNOSIS:

ADDENDUM COMMENT:

8/30/16, pending outside consultation from Dr. William Travis, Memorial Sloan Kettering. /kb

Case sent in consultation to Dr. William Travis, Memorial Sloan Kettering, see report (S16-46617) attached.

/tw

Jackson H. McCarter, MD

JAMES L. PEARLE, M.D.*Pulmonary Disease*

301 W. Bastanchury Road, Suite 220

Fullerton, California 92835

(714) 446-8702 Fax (714) 525-2669

MEDICAL RECORD REVIEW**PATIENT NAME:** Kenneth Dorsey Christian**DATE OF BIRTH:** 08/13/1950**DATE OF SERVICE:** 07/26/2019

To: Thomas S. Phillips
 Smith Jordan Attorneys at Law
 Post Office Box 1207
 Easley, SC 29641

Dear Mr. Phillips:

Thank you for the opportunity to review a report from Gregory Feldman, M.D. dated June 28, 2019.

Dr. Feldman has tried unsuccessfully to deny the diagnosis of chronic hypersensitivity pneumonitis, which appears to be well established. Pathological features of hypersensitivity pneumonitis described in an attached paper suggest that typical subacute HP appears as peribronchiolar (centrilobular) interstitial, chronic inflammatory infiltrates of lymphocytes, plasma cells, and sometimes a few eosinophils. Subacute Hypersensitivity Pneumonitis cases have associated non-necrotizing granulomas or giant cells.

Dr. Feldman refers to two pathologist's reports, one Dr. Jackson H. McCarter dated approximately August 29, 2016, where he describes "advanced interstitial fibrotic process with UI pattern. The association with minute poorly formed granulomata is highly suggested with a chronic hypersensitivity pneumonitis." The pathologist's description shows interstitial fibrosis on various degrees of cellularity including older hypocellular fibrous tissue as well as fibrous tissue with fibroblastic proliferation. There are small numbers of plasma cells and lymphocytes within the interstitial fibrosis, scattered minute poorly formed epithelioid/giant cell granulomata some with inclusions are present...Within the area of interstitial fibrosis, there are small numbers of plasma cells and lymphocytes with a few scattered eosinophils. His final pathological diagnosis favors chronic hypersensitivity pneumonitis and irregular moderate advanced interstitial fibrosis. A second report from William D. Travis, M.D. is noted also, agreeing with consideration of favor chronic hypersensitivity pneumonitis, bronchiolocentric fibrosis

PATIENT NAME: Kenneth Dorsey Christian

Page Two

with a cellular acute on chronic inflammatory infiltrate with eosinophils, patchy organizing pneumonia reactive type II pneumocytes and noncaseating granulomas are seen. He goes on to say that this raises the consideration of hypersensitivity pneumonitis.

It is clear that both of these pathologists described pathology very similar to that summarized in the review article which I have included. Both conclude that hypersensitivity pneumonitis is the likely diagnosis. Based on their descriptions, this seems patently obvious.

Dr. Feldman raised several other possible diagnoses in an attempt to muddle the picture, including chronic eosinophilic pneumonia. This individual clearly does not have chronic eosinophilic pneumonia proven by tissue diagnosis read by two separate pathologists. Neither pathologist diagnosed eosinophilic pneumonia.

Dr. Feldman in his assessment refers to granulomatous lung disease but it is unclear whether he is trying to make this diagnosis. Again, granulomatous lung disease was not the diagnosis of either pathologist.

Dr. Feldman says soldering would not be expected to be associated with eosinophilic lung disease and as a rule, eosinophils are completely absent on lung biopsies. As stated, this individual has been proven by biopsy NOT to have eosinophilic lung disease and the statement that "as a rule, eosinophils are completely absent on lung biopsies" makes little sense and is irrelevant. Dr. Feldman, despite two pathologists agreeing that this is likely hypersensitivity pneumonitis, tries again to raise the possibility that this is idiopathic usual interstitial pneumonitis, even though two pathologists disagree with this diagnosis. Hypersensitivity pneumonitis again is the diagnosis established by two different pathologists.

Dr. Feldman raises the possibility of sarcoidosis but clearly the pathology is not that of sarcoidosis per two pathologists. Of course this is not sarcoidosis. This is again an attempt to muddle the diagnosis of hypersensitivity pneumonitis which is of course already established.

Dr. Feldman says chronic hypersensitivity pneumonitis secondary to chemicals is not a known cause of eosinophilic lung disease. This is an irrelevant statement, since the diagnosis has been proven NOT to be eosinophilic lung disease. Neither pathologist calls this case eosinophilic lung disease. Only scattered eosinophils are described, a feature of hypersensitivity lung disease also as described in the review article, which I have attached. A finding of scattered eosinophils does not make the diagnosis of eosinophilic lung disease. Dr. Feldman raises the possibility of combined UIP with chronic

PATIENT NAME: Kenneth Dorsey Christian
Page Three

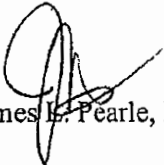
eosinophilic pneumonia. Again, pathology reports from two separate pathologists confirmed that this is NOT chronic eosinophilic pneumonia.

Rather stunningly, Dr. Feldman concludes that this is not hypersensitivity lung disease despite reports of two pathologists. He concludes this with NO supportive evidence and two pathology reports contradicting his conclusion.

It would be difficult to refute the association of soldering exposure with the diagnosis of hypersensitivity pneumonitis, since soldering is a known cause of same. Thus it is easy to understand why, despite the facts, Dr. Feldman would like to make the diagnosis here ANYTHING but hypersensitivity pneumonitis. Unfortunately for Dr. Feldman, the facts are in the way.

In conclusion, I find Dr. Feldman's report to be ambiguous, inexplicable, and rather self-serving. His conclusion flies in the face of well-documented medical records and two excellent pathology reports.

My opinion, that this is a case of hypersensitivity pneumonitis almost certainly secondary to soldering exposure, remains unchanged and even more certain.



James E. Pearle, M.D.

JP/ng



**GREENVILLE
HEALTH SYSTEM**

GHS LABORATORIES
701 Grove Road
Greenville, SC 29605
Tel: (864) 455-7735 Fax: (864) 455-8926
Jesse R. Stafford, MD, Director of Laboratories

PATHOLOGY EXAMINATION

ACCESSION # **M16-21799**

PATIENT NAME: CHRISTIAN, KENNETH D.		COLLECTED: 8/28/2016
MED. REQ. #: 970179298	CLIENT: GREENVILLE MEMORIAL HOSPITAL	RECEIVED: 8/29/2016
SOC. SEC. #: 260-84-1468	PHYSICIAN: WILLIAM D BOLTON, MD	REPORTED: 8/30/2016
GENDER: M DOB: 8/19/1950	ADDITIONAL: NO ADDITIONAL PHYSICIANS	LOCATION: 084D
ACCOUNT #: 1000035765278	COPY TO/NOTES:	ROOM/BED: 44134413AM

Page 1 of 4

SPECIMEN(S) RECEIVED:

- A: Right upper lobe wedge
- B: Right middle lobe wedge
- C: Right lower lobe wedge
- D: Right lower lobe wedge #2

CLINICAL DATA/HISTORY:

Interstitial lung disease.

FINAL PATHOLOGIC DIAGNOSIS:

A. RIGHT UPPER LOBE WEDGE:

- IRREGULAR MODERATELY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, POSSIBLY DUE TO SOLDER FUME EXPOSURE. SEE COMMENT.
- UNRELATED ANCIENT SUBPLEURAL APICAL FIBROUS CAP.

B. RIGHT MIDDLE LOBE WEDGE:

- IRREGULAR MODERATELY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

C. RIGHT LOWER LOBE WEDGE:

- IRREGULAR MODERATELY TO MARKEDLY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

D. RIGHT LOWER LOBE WEDGE #2:

- IRREGULAR MODERATELY TO MARKEDLY ADVANCED INTERSTITIAL FIBROSIS WITH UIP PATTERN AND MINUTE GRANULOMATA. FAVOR CHRONIC HYPERSENSITIVITY PNEUMONITIS, SEE COMMENT.

COMMENT:

The multiple wedge biopsy samples show an advanced interstitial fibrotic process, with UIP pattern features of patchy spatially and temporally variable fibrosis, with areas of honeycombing. The association with minute, poorly formed granulomata is highly suggestive of a chronic hypersensitivity pneumonitis, which in advanced stages may have a UIP pattern. Clinical correlation, particularly history of possible exposure to inhaled antigens, is recommended.

Review of the patient's history shows no known exposure to animal dander or other organic antigens, and hypersensitivity precipitins have been negative. The patient is an electronics technician who has had frequent exposure to solder fumes, which has been reported as a rare cause of hypersensitivity pneumonitis.

Slides are sent for outside expert consultation to Dr. William Travis, MSK, NYC, with addendum and/or amended report to follow.

ELECTRONICALLY SIGNED OUT
Jackson H. McCarter, MD

atf/8/29/2016

CHRISTIAN, KENNETH D.
970179298

GHIS LABORATORIES

M16-21799
Page 2 of 4

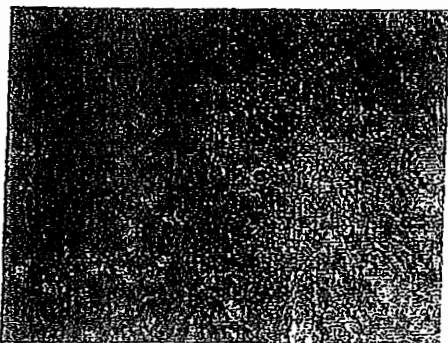


Image #1

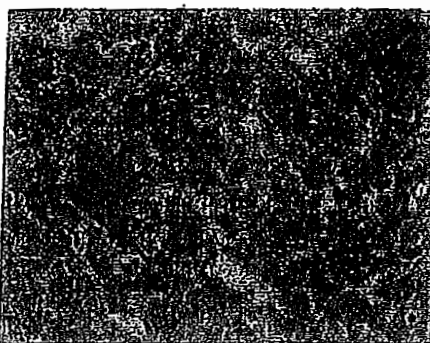


Image #2

GROSS DESCRIPTION:

CHRISTIAN -

A. Right upper lobe wedge: Received in formalin labeled as, "right upper lobe wedge, Kenneth Christian," is a 26-gram, 5 x 3.5 x 2.5 cm irregular wedge of lung tissue. The pleural surface is pink-red, fibrinous with multiple adhesions. The staple lines are removed and the resection margins are inked blue. The specimen is serially sectioned to reveal a tan-red, mildly hemorrhagic, soft cut surface with multiple areas of apparent dilated air spaces. No distinct masses are grossly noted within the parenchyma. Representative sections of the specimen to include the resection margin are submitted in blocks A1-A3.

B. Right middle lobe wedge: Received in a single formalin-filled container labeled with, "right middle lobe wedge, Kenneth Christian," is a 5-gram, 4 x 3 x 1 cm wedge of lung tissue. The pleural surface is pink-red, mildly disrupted but otherwise smooth. Sectioning reveals a pink-red, soft cut surface. No grossly identifiable lesions are found within the specimen. Representative sections are submitted in blocks B1-B3.

C. Right lower lobe wedge: Received in formalin labeled as, "right lower lobe wedge, Kenneth Christian," is a 13-gram, 6 x 2.5 x 1.7 cm wedge of lung tissue. The pleural surface is pink-tan, smooth with mild anthracosis. The staple line is removed and the resection margin is inked blue. Sectioning reveals a pink-red, soft cut surface which appears to be mildly disrupted with multiple visible thickened alveolar septae. Representative sections of the specimen are submitted in blocks C1-C3.

D. Right lower lobe wedge #2: Received in formalin labeled as, "right lower lobe wedge #2, Kenneth Christian," is a 4-gram, 4 x 1.7 x 0.4 cm wedge of lung tissue. The pleural surface is pink-tan, mildly indurated but smooth. The staple line is removed and the resection margin is inked blue. The specimen is serially sectioned to reveal a pink-tan, indurated cut surface. No lesions are grossly noted. The specimen is submitted entirely in blocks D1-D3. JEB/kvh

kh1/8/26/2016

MICROSCOPIC DESCRIPTION:

A. These are sections of pleural surface lung parenchyma. Block A1 shows a nonspecific subpleural hypocellular collagenous scar, probably not related to the interstitial disease seen in other sections. A2 and A3 show irregular, patchy areas of interstitial fibrosis involving about 50% of the parenchyma with intervening areas of uninvolved lung parenchyma showing mild emphysematous changes without fibrosis. The interstitial fibrosis shows variable degrees of cellularity including older, hypocellular fibrous tissue as well as fibrous tissue with fibroblastic proliferation. There are small numbers of plasma cells and lymphocytes within the interstitial fibrosis. Scattered minute poorly formed epithelioid/giant cell granulomata, some with inclusions, are present. Scattered foci of pale basophilic mucus are within air spaces in the fibrotic areas. There are foci of associated bronchioalveolar hyperplasia.

B. These are portions of pleural surface lung parenchyma with irregular, patchy foci of interstitial fibrosis involving about 20% of the sample with intervening nonfibrotic parenchyma. Within the areas of interstitial fibrosis there are small numbers of plasma cells and lymphocytes with a few scattered eosinophils. A few scattered small poorly formed granulomata are seen. Inter-alveolar macrophages are increased focally and there are scattered foci of fibroblastic fibrosis.

C. This is lung parenchyma also showing irregular, patchy areas of marked interstitial fibrosis with intervening uninvolved alveoli. The fibrosis involves over 60% of the air spaces and contains areas of active fibroblastic fibrosis as well as other areas of more hypocellular fibrosis. There are prominent associated areas of bronchioalveolar hyperplasia with mucus lakes within air spaces with a honeycomb pattern. There are small to moderate numbers of plasma cells and lymphocytes with small numbers of intermingled eosinophils focally. Only a

757

CHRISTIAN, KENNETH D.
970179298

GHS LABORATORIES

M16-21799
Page 3 of 4

few small scattered poorly formed granulomata are seen within the interstitial fibrosis. A few foci of fibroblastic proliferation suggestive of bronchiolitis obliterans pattern are present.

D. These are portions of lung parenchyma with advanced honeycomb pattern interstitial fibrosis involving over 70% of the sample with similar features of mucus lakes, prominent bronchioalveolar epithelial hyperplasia, and mild focal plasmacytic and lymphocytic infiltration with small numbers of eosinophils. Only a few minute suggestions of poorly formed granulomata are seen in this sample. JHMc/alf

Special stains: Block A3: No acid fast bacilli or fungi are identified on Acid Fast and GMS stains, with appropriate control staining. Masson's trichrome stain shows both collagenous fibrosis and active fibroblastic areas; control stains appropriately.

PROCEDURE/ADDENDUM:

ADDENDUM

Date Entered: 8/30/2016

Status: Signed Out

Date Complete: 8/30/2016

By: kb

Date Reported: 9/9/2016

ADDENDUM DIAGNOSIS:

ADDENDUM COMMENT:

8/30/16, pending outside consultation from Dr. William Travis, Memorial Sloan Kettering. /kb

Case sent in consultation to Dr. William Travis, Memorial Sloan Kettering, see report (S16-46617) attached.

/tw

Jackson H. McCarter, MD

CHRISTIAN, KENNETH D.
970178288

GHS LABORATORIES
260-84-1488

M16-21799
Page 4 of 4



Memorial Sloan Kettering
Cancer Center

Re: CHRISTIAN, KENNETH D
Age: 68 Sex: M

1: RIGHT UPPER LOBE WEDGE PT A, RIGHT
MIDDLE LOBE WEDGE PT B, RIGHT LOWER LOBE
WEDGE PT C AND D. 18 STAINED SLIDES LABELED
M16-21799 RECEIVED FROM PATHOLOGY
ASSOCIATES OF GREENVILLE, (NJ)

MSK: S16-46617

Jackson McCarter
McCarter, Jackson H. M.D.
Pathology Associates of Greenville
8 Memorial Medical Court
Greenville, SC 29605
Tel: 864-455-7735
Fax: 864-455-8926

MSK # S16-46617 (WD116-565) Lung, right upper, middle and lower lobes, resections (M16-21799): Fibrotic and cellular interstitial pneumonia with patchy organizing pneumonia, granulomas and focal usual interstitial pneumonia pattern.

68M electronic technician with interstitial lung disease. He has not had any exposure to medications of animal dander, but because of being an engineering technician, he has some metal fume exposure and various chemicals with his soldering. Negative ANA, hypersensitivity panel. Positive skin test to mold. Tried on prednisone with great success. Never smoker.

Dear Dr. McCarter,

This letter confirms our telephone conversation on September 7th, 2016. We agree with your consideration of favor chronic hypersensitivity pneumonitis. Sections show bronchiolecentric fibrosis with a cellular acute and chronic inflammatory infiltrate with eosinophils. Patchy organizing pneumonia, reactive type II pneumocytes and noncaseating granulomas are seen. The right lower lobe shows more extensive fibrosis with bronchiolar metaplasia. Special stains were reviewed. Fungal and mycobacteria were not identified on GMS and AFB stains. Masson's trichrome stain shows performed in the right upper lobe shows mild interstitial fibrosis.

Per report, CT showed (8-10-16) diffuse chronic bilateral interstitial lung disease with increased lung density in the lower lung fields especially the dependent or posterior aspects of the lower lobes.

In summary the resections show a fibrotic and cellular interstitial pneumonia with patchy organizing pneumonia, granulomas and focal usual interstitial pneumonia pattern. This raises the consideration of hypersensitivity pneumonitis (HP). Although the lower lobe shows more extensive fibrosis and bronchiolar metaplasia consistent with focal honeycombing or focal usual interstitial pneumonia pattern, the lesion is quite cellular and shows traction bronchiectasis supportive of hypersensitivity pneumonitis. Collagen vascular disease (CVD) or other inhalational small airway injury must be considered. It would be of interest to know the results of the rheumatologic serology/studies. Radiologic-pathologic correlation is of considerable importance. If you can send a high resolution CT in digital DICOM format on a CD with an expiratory study we will be happy to reevaluate the case. Thank you for sharing this interesting case with us.

Sincerely yours,

W.D. Travis, M.D.

Electronic Signature

William D. Travis, M.D.

Attending Thoracic Pathologist

travisw@mskcc.org; Tel: 212-639-3325; Fax: 212-717-3576

1275 York Avenue, New York, NY 10045

www.mskcc.org

MSK is an Equal Opportunity Employer

1/1 : 81 27128 91-68-68

00000

61622222016

Image #1 Consult



ARCHIVES

of Pathology & Laboratory Medicine

[Home](#) [Available Issues](#) [Subscribe](#) [Instructions For Authors](#) [Advertising](#) [Meetings](#) [Jobs](#)

[Home](#) > [Archives of Pathology & Laboratory Medicine](#) > [January 2018](#) > [Pathology of Chronic Hypersensitivity Pneumonitis What Is It? What Are...](#)
[Advanced Search](#)

 Volume 142, Issue 1
(January 2018)

[< Previous Article](#) [Volume 142, Issue 1 \(January 2018\)](#) [Next Article >](#)
[< Previous Next >](#)

[Current Issue](#)
[Available Issues](#)
[Early Online Release](#)
[Add to Favorites](#) [Share Article](#) [Export Citations](#) [Track Citations \(RSS | Email\)](#) [Permissions](#)
[Abstract](#) [PDF](#)

Article Citation:

Andrew Churg, AnaMaria Bilawich, and Joanne L. Wright (2018) Pathology of Chronic Hypersensitivity Pneumonitis What Is It? What Are the Diagnostic Criteria? Why Do We Care? Archives of Pathology & Laboratory Medicine: January 2018, Vol. 142, No. 1, pp. 109-119.

<https://doi.org/10.5858/arpa.2017-0173-RA>

REVIEW ARTICLES

Pathology of Chronic Hypersensitivity Pneumonitis What Is It? What Are the Diagnostic Criteria? Why Do We Care?

Andrew Churg, MD; AnaMaria Bilawich, MD; Joanne L. Wright, MD

 Reprints: Andrew Churg, MD, Department of Pathology, Vancouver General Hospital, JPPN 1401, 810 W 10th Ave, Vancouver, BC V5Z 1M9, Canada (email: achurg@mail.ubc.ca).

The authors have no relevant financial interest in the products or companies described in this article.

Context.—Chronic hypersensitivity pneumonitis (CHP) has emerged from obscurity during the past 15 years and is now recognized as a very common form of fibrosing interstitial pneumonia but one that is frequently misdiagnosed both clinically and on surgical lung biopsy as usual interstitial pneumonia/idiopathic pulmonary fibrosis (UIP/IPF) or fibrotic nonspecific interstitial pneumonia.

Objective.—To review the pathologic features of CHP.

Data Sources.—Clinical, pathology, and radiology literature were used.

Conclusions.—Upper lobe–predominant fibrosis and/or air-trapping on computed tomography scan are features of CHP but not UIP/IPF; however, radiologic separation is possible in only about 50% of cases. Morphologically, CHP sometimes mimics UIP/IPF, but CHP often shows isolated foci of peribronchiolar (centrilobular) fibrosis, frequently associated with fibroblast foci, and in CHP, fibrosis may bridge from the centrilobular region to another bronchiole, an interlobular septum, or the pleura ("bridging fibrosis"). This set of findings is uncommon in UIP/IPF. In addition, CHP may produce a picture of fibrotic nonspecific interstitial pneumonia. Although giant cells/granulomas are usually present in subacute hypersensitivity pneumonitis, they are much less frequently found in CHP, and their absence does not contradict the diagnosis. This diagnostic separation is clinically important because CHP is treated differently than UIP/IPF (immunosuppressive agents versus antifibrotic agents); further, there are some data to suggest that removing the patient from antigen exposure improves outcome, and there is evidence that patients with CHP have a much better survival prognosis after lung transplantation than do patients with UIP/IPF. In most cases, accurate diagnosis of CHP requires consultation among clinicians, radiologists, and pathologists.

Accepted: April 18, 2017; Published: May 24, 2017

© 2018 College of American Pathologists

Many pathologists have never heard of chronic hypersensitivity pneumonitis (CHP), but in the past 15 years, CHP has emerged as an important problem in fibrosing interstitial pneumonias, a problem that encompasses definitions of clinical, radiologic, and pathologic features required for the diagnosis and issues of treatment and prognosis (for a recent short review of clinical features and imaging see Salisbury et al).¹

In current practice, whether a patient has CHP is a common, multidisciplinary discussion, and one about which there is often considerable disagreement. In a formal study, Walsh et al² asked 7 experienced multidisciplinary discussion groups, comprising clinicians, radiologists, and pathologists, to review the same 70 cases and examined the level of agreement. The intergroup weighed k

Table of Contents

- [Abstract](#)
- [DEFINITION OF CHP](#)
- [IMAGING FEATURES OF CHP](#)
- [PATHOLOGIC FEATURES OF CHP](#)
- [RELATIONSHIP OF PATHOLOGIC FINDINGS IN CHP TO PROGNOSIS](#)
- [CONCLUSIONS](#)
- [References](#)

Related Articles

Articles Citing this Article

[Google Scholar](#)

Search for Other Articles By Author

- ☐ Andrew Chung
☐ AnaMaria Bilawich
☐ Joanne L. Wright

Search In:

- ☐ Archives
☐ PubMed
☐ Google Scholar

coefficient for a diagnosis of idiopathic pulmonary fibrosis (usual interstitial pneumonia/idiopathic pulmonary fibrosis [UIP/IPF]; the designation UIP/IPF is used here to distinguish it from CHP with a UIP-like pattern) was 0.71, for a diagnosis of connective tissue disease-associated interstitial lung disease 0.73, but, for CHP, was only 0.29. Some (unknown) proportion of cases that once would have been labeled UIP/IPF are now viewed as CHP. Ohtani et al³ described 8 of 17 patients (47%) with bird exposure ultimately diagnosed as CHP who were initially thought to have UIP/IPF, and Morell et al⁴ reported that 20 of 46 patients (43%) initially believed to have IPF on the basis of the American Thoracic Society 2011 criteria⁵ turned out to have CHP on more detailed evaluation. This problem is becoming more frequent in diagnostic pathology practice because the current recommendation is that patients with clinically and radiologically typical UIP/IPF do not need a surgical lung biopsy,⁶ so that the relative number of UIP/IPF biopsies is decreasing. However, judging from consultation cases, UIP/IPF is being overdiagnosed by pathologists with considerable frequency, and it is clear, on review, that many cases so labeled are actually CHP with a UIP-like pattern.

In the past, this distinction was probably moot because the basic approach to all fibrosing interstitial pneumonias was to treat them with steroids. However, in the current era, separation of UIP/IPF from CHP is crucial because the former is treated with antifibrotic agents (pirfenidone, nintedanib),⁶ whereas CHP is treated with immunosuppressive agents.⁷ The general definition of hypersensitivity pneumonitis (HP) includes exposure to a sensitizing antigen (sometimes called an inciting agent in the literature), and there is some evidence that removing a patient with CHP from antigen exposure improves survival,⁸ although other reports deny that.^{9,10} So correct diagnosis of CHP cases may be important to alert the clinician to look for a source of exposure. Patients with CHP have a considerably better prognosis after lung transplantation than do patients with UIP/IPF, apparently because patients with CHP are less susceptible to bronchiolitis obliterans.¹¹ All these issues mandate an accurate diagnosis of CHP versus some other form of fibrosing interstitial pneumonia.

A major part of the problem in recognizing CHP is that many of these patients (at least 50% but probably more¹) have a fibrotic lung disease without a recognizable antigen exposure. Detection of circulating immunoglobulin G against specific antigens may or may not reveal the sensitizing agent, and the same is true of inhalation-challenge testing, which is performed in only a few laboratories and which may not produce a physiologic reaction in CHP. In this circumstance, imaging and pathologic features become crucial to establishing the diagnosis, but radiologic separation of CHP from UIP/IPF or fibrotic nonspecific interstitial pneumonia (NSIP) has been estimated to be feasible in no more than 50% of cases,¹² so that the diagnosis in a significant proportion of cases will fall to the pathologist. However, the pathology literature on CHP is fairly scanty, the overall number of cases described is small, and even within those cases, there is controversy about the exact features that allow a diagnosis of CHP.

This brief review will attempt to summarize the pathology literature regarding CHP, highlight the outstanding questions, and provide pathologists with some guidelines for the diagnosis.

DEFINITION OF CHP

In a broad sense, the literature classifies HP into acute, subacute, and chronic forms, but the exact definition for each of those categories, especially for CHP, is contentious. There are basically 2 views: one is that CHP is defined by time since the appearance of symptoms (variously described in the literature as greater than 3 months, 4 months, or 1 year) and/or the pattern of disease presentation ("recurrent," "insidious," versus "acute"); the other is that CHP is defined only by the presence of fibrosis either on imaging or from biopsy (reviewed in Salisbury et al¹ and Spagnolo et al¹³). In our view, the evidence is clear (see Relationship of Pathologic Findings in CHP to Prognosis below) that the presence of fibrosis is associated with a considerably worse prognosis compared with patients with HP who do not have fibrosis (under this definition, the latter are labeled as having *acute* or *subacute* CHP, depending on presentation), and we will use *CHP* here to indicate only HP cases with fibrosis. Arguments about time course/patterns of presentation are beyond the scope of this review, but the interested reader is referred to Ohtani et al,³ Spagnolo et al,¹³ and Lacasse et al.¹⁴

IMAGING FEATURES OF CHP

Characteristic findings on high-resolution computed tomography (CT) chest scans in patients with CHP include fibrosis with reticulation, architectural distortion, traction bronchiectasis, and bronchiolactasis (Figure 1, A through D). Honeycombing, which is a requirement for a diagnosis of UIP/IPF, has been reported in 16% to 69% of CHP cases,^{12,15,16} and in contrast to the honeycombing in patients with UIP/IPF, honeycombing in patients with CHP seldom has a basal predominance. The reticulation in CHP can be patchy, random or peribronchovascular or have a predominantly subpleural distribution, mimicking UIP/IPF. Fibrosis may be predominantly mild or upper zonal with basal sparing (Figure 1, A through D) but is often predominantly in the lower zone and is sometimes evenly distributed.^{12,15,17,18} Commonly, superimposed findings of subacute HP are encountered, including patchy ground-glass opacities usually affecting less than 50% of the lung parenchyma. Lobular areas of decreased attenuation and vascularity (Figure 1, E and F) are described in approximately 80% of patients, with poorly defined centrilobular nodules in approximately 50% of patients.^{12,16-21}

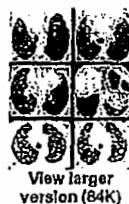


Figure 1. Representative high-resolution computed tomography (CT) imaging of chronic hypersensitivity pneumonitis (CHP). A through D, Transverse axial CT chest images obtained through the upper (A and B), mid (C), and lower (D) lung zones demonstrate upper lung zone–predominant findings of fibrosis with reticulation, architectural distortion, and traction bronchiectasis and bronchiolactasis, in a predominantly peripheral and subpleural distribution. The biopsy findings in this case are shown in Figures 2, A through C. E and F, high-resolution CT scan of the chest through the upper lung zones of a different case obtained during inspiration (E) shows patchy peribronchovascular and peripheral reticulation with superimposed, patchy, ground-glass opacities, traction bronchiectasis and bronchiolactasis, and lobular areas of decreased attenuation. Expiratory high-resolution CT scan of the chest in the same patient at the same level (F) demonstrates accentuation of the areas of air trapping (eg, as indicated by the arrow).

In contrast, UIP/IPF shows reticulation in all lobes; no or minimal ground-glass opacities; honeycombing, which is often extensive; and a peripheral and basal distribution.¹² However, as noted, these criteria fail to provide separation in 50% of cases; in particular, there can be considerable overlap between CHP and UIP/IPF.

PATHOLOGIC FEATURES OF CHP

There are relatively few articles that describe the pathologic features of CHP, and comparisons among those studies are bedeviled by the few cases, slightly differing definitions of the various patterns observed, and variable information about each particular feature. Some articles only provide pathologic diagnoses without any diagnostic criteria. For the most part, we cite articles that have enough pathologic detail to be sure about what is meant or to indicate that use standard definitions.

Subacute HP

By our stated definition, interstitial fibrosis must be present to make a diagnosis of CHP, but areas of traditional subacute HP may be present as well, and those findings are very helpful in arriving at the correct diagnosis. Typical subacute HP appears as peribronchiolar (centrilobular) interstitial, chronic inflammatory infiltrates of lymphocytes, plasma cells, and sometimes a few eosinophils (for a review see, Chung and Muller²² and Herbst and Myers²³). Subacute HPs have associated nonnecrotizing granulomas or giant cells in perhaps 70% of cases; the granulomas or giant cells are usually described as *interstitial*, but airspace giant cells and granulomas can also be found.²⁴ "Bronchiolitis" is often reported in subacute HP, but what that really means is that the chronic inflammatory infiltrate is present in the wall of the bronchioles as well as in the alveolar interstitium (and rarely present only in the bronchiolar walls and not in the interstitium). Small foci of organizing pneumonia (such as bronchiolitis obliterans organizing pneumonia and cryptogenic organizing pneumonia) may also be present but have little specificity. Less commonly, subacute HP manifests as a pattern of cellular NSIP, with or without giant cells and granulomas.

The exact frequency with which areas of subacute HP are seen in CHP is unclear. Chung et al²⁵ described subacute HP areas in 7 of 13 CHP cases (54%). Takemura et al²⁶ reported bronchiolitis in 22 of 22 cases (100%) of CHP with a UIP pattern (it is not clear from that article whether those cases also had peribronchiolar interstitial inflammation). In a later article, Chung et al²⁷ found areas of subacute HP in 12 of 18 CHP biopsies (67%) with a UIP-pattern. Chiba et al²⁸ reported bronchiolitis in 7 of 16 cases (44%) with a UIP-pattern, and Myers²⁹ stated that bronchiolitis is "universal" in HP cases.

Chronic HP: Peribronchiolar Fibrosis, Bridging Fibrosis, and UIP-like Fibrosis

Table 1 lists the various individual pathologic components and the frequency of each component, as reported in the literature, restricting the analysis to reports with pathologic details. Much of that information is derived from patients with bird exposures, but whether the mixture of those components varies with the specific antigen is not known. Using the definition we are following here, some pattern of fibrosis is always present in CHP and may be broadly divided into purely peribronchiolar (centrilobular) fibrosis, bridging fibrosis (defined below), peripheral lobular/subpleural fibrosis with or without centrilobular or bridging fibrosis, and fibrotic NSIP-like fibrosis (there are other distinctive, airway-centered morphologic entities that may represent CHP; these are discussed in Other Possible Morphologic Variants of CHP below).

Table 1.
Frequency of Pathologic Findings in Chronic Hypersensitivity Pneumonitis

The fibrosis in CHP may be predominantly upper zonal (Figure 1, A through D); for example, in the report by Takemura et al,³⁰ 7 of 17 autopsy cases (41%) of CHP demonstrated an upper zonal distribution, but Akashi et al³¹ found only 1 of 16 cases (6%) with upper lobe predominance. Predominantly, upper zonal fibrosis is useful in distinguishing CHP from UIP/IPF, which should always be predominantly lower zonal. However, many cases of CHP show a lower zonal distribution.

Centrilobular/peribronchiolar fibrosis consists of fibrosis that spreads through the interstitium adjacent to, and extending away from, the bronchioles (Figures 2, A; 3, and 4, A). The fibrosis can follow alveolar walls or form blocks of fibrous tissue around the bronchioles. Peribronchiolar fibrosis may be the only fibrotic lesion in a given CHP case (Figure 4, A), but it is commonly seen with bridging fibrosis or a UIP-like pattern (Figures 2, A and C, and 3). In CHP, peribronchiolar fibrosis is frequently associated with fibroblast foci^{25-27,30} (Figures 2, B, and 4, B); and it has been suggested that this is a useful point of distinction from UIP/IPF, which uncommonly shows peribronchiolar fibrosis, and when present, the peribronchiolar fibrosis typically does not have associated fibroblast foci.^{26,30}



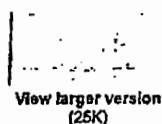
Figure 2. Chronic hypersensitivity pneumonitis (CHP) in a patient with exposure to down bedding. A, Low-power view of the biopsy of the lower lobe of the case shown in Figure 1, A through D. There is isolated peribronchiolar fibrosis as well as bridging fibrosis (bracket indicates one bridge), with relatively little subpleural disease. This is the typical appearance of CHP. B, Higher-power view of an area of peribronchiolar fibrosis showing a fibroblast focus at the arrow; peribronchiolar fibroblast foci are a feature that favors CHP, rather than usual interstitial pneumonia/idiopathic interstitial fibrosis (UIP/IPF). C, Biopsy of the upper lobe of the same case. The picture here is indistinguishable from UIP/IPF. Asterisk (*) indicates a lobule with bridging fibrosis; however, when fibrosis is this severe, bridging becomes a nonspecific finding that no longer allows separation of UIP/IPF from CHP with a UIP pattern (hematoxylin-eosin, original magnifications $\times 25$ [A and C] and $\times 200$ [B]).

Figure 3. Chronic hypersensitivity pneumonitis in a patient with a hot tub. There is peribronchiolar fibrosis with fine fibrosis bridging to the subpleural region (bracket) as well as bronchiole to bronchiole bridging and patchy, minimal subpleural fibrosis. Inset, A granuloma in this biopsy (hematoxylin-eosin, original magnifications $\times 25$ and $\times 200$ [inset]).

Figure 4. Chronic hypersensitivity pneumonitis in a patient exposed to metal-working fluid. A, Low-power view showing patches of isolated peribronchiolar fibrosis. Note the essentially normal subpleural region. B, High-power view of an area of peribronchiolar fibrosis showing 2 fibroblast foci (arrows), individual giant cells, and moderate, chronic interstitial inflammatory infiltrate (hematoxylin-eosin, original magnifications $\times 25$ [A] and $\times 200$ [B]).

Bridging fibrosis is essentially a more florid form of peribronchiolar fibrosis in which fibrosis spreads in the interstitium between a bronchiole and another bronchiole or, more often, between a bronchiole and an interlobular septum or a bronchiole and an area of subpleural fibrosis (Figures 2, A, and 3). Bridging fibrosis is common in CHP (Table 2), and some authors suggest it is a prototypical lesion that is rarely seen in UIP.^{26,30,31}

Table 2.



Separation of Chronic Hypersensitivity Pneumonitis (CHP) With a Usual Interstitial Pneumonia (UIP) Pattern From UIP/Idiopathic Pulmonary Fibrosis (IPF) From Video-Assisted Thoracoscopic Surgery Biopsies

View larger version
(25K)

A UIP-like pattern, with patchy, subpleural fibrosis; fibroblast foci; and some amount of microscopic honeycombing, is also common in CHP (Figure 2, C), but often, the pattern in CHP is subtly different from UIP/IPF, with relatively less subpleural fibrosis, little to no honeycombing, and sometimes fibrosis that follows alveolar walls immediately under the pleura, rather than forming the large solid blocks of fibrosis typical of UIP/IPF (Figures 2, A, and 3). As well, the degree of peribronchiolar fibrosis or bridging fibrosis may be as severe as, or worse than, the subpleural fibrosis (Figures 2, A, and 3). However, as fibrosis gets worse in either UIP/IPF or CHP with a UIP pattern, it tends to overrun the lobule, extending to encompass bronchioles, so in advanced disease, it is sometimes impossible to separate those entities (Figure 2, C; and see Discussion).

Wang et al³² reported that 100% of their CHP cases with a UIP pattern had fibroblast foci, and suggest that the frequency of fibroblast foci is greater in cases with a UIP pattern than in cases with only peribronchiolar fibrosis, in which they found fibroblast foci in 30%.

Some cases of CHP have very little interstitial inflammation, but other cases have a readily discernible infiltrate of lymphocytes, plasma cells, and a few eosinophils (Figure 4, B), and the numbers of inflammatory cells are greater than one would expect in UIP/IPF, which should be quite paucicellular. Lymphoid aggregates are often present in CHP; Takemura et al²⁶ reported lymphoid aggregates in 17 of 22 CHP cases (77%) with a UIP pattern versus 5 of 13 UIP/IPF cases (38%), and Chiba et al²⁸ found lymphoid aggregates in 60% of a series of 16 cases (terminology in that article is confusing because the authors appear to be using the term *follicles* for *aggregates*). Myers²⁹ explicitly noted that true lymphoid follicles can be found in CHP, but in our experience, they are uncommon and raise a question of connective tissue disease-associated interstitial lung disease (ILD) when present.

Giant cells and granulomas or Schaumann bodies (which are markers of previous granulomas) are very helpful if found (Figures 3 and 4, B), but the reported proportion of cases with those features varies widely. Chung et al²⁷ found giant cells or granulomas in 16 of 18 cases (89%) with a UIP-like pattern and 3 of 3 cases (100%) with only peribronchiolar fibrosis, and Takemura et al²⁶ found giant cells in 15 of 22 cases (68%) and granulomas in 14 of 22 cases (64%). However, Chiba et al²⁸ described giant cells or granulomas in only 4 of 16 UIP-like cases (25%). Wang et al³² found them in 2 of 7 UIP-like cases (28%), but in almost all cases with only peribronchiolar fibrosis. These data are somewhat difficult to interpret because, in the past, giant cells and granulomas tended to be viewed as requirements for the pathologic diagnosis of CHP, but that is no longer true, so that case-selection criteria probably changed over time.

Chronic HP: NSIP-like Fibrosis

Fibrotic NSIP (used here to denote both fibrotic NSIP and/or mixed cellular and fibrotic NSIP patterns) represents the other major pattern of interstitial fibrosis that is seen in CHP (Figure 5). Chung et al²⁷ reported that a fibrotic NSIP picture is less common than a UIP-like picture (4 of 25 cases [16%] versus 18 of 25 cases [72%]), but Ohtani et al³³ found about equal numbers (8 cases of fibrotic NSIP versus 11 cases UIP-like) and Wang et al³² reported the opposite pattern (22/39 NSIP versus 7/39 UIP-like).



Figure 5. Chronic hypersensitivity pneumonitis with a fibrotic, nonspecific interstitial pneumonia (NSIP) pattern in a patient with bird exposure. The biopsy shows a typical, fibrotic NSIP pattern. A Schaumann body, which is a marker of a previously present granuloma, is illustrated in the inset (hematoxylin-eosin, original magnifications ×25 and ×200 [inset]).

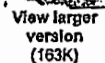


Figure 6. Chronic hypersensitivity pneumonitis (CHP) with prominent peribronchiolar metaplasia. Peribronchiolar metaplasia is present around 5 bronchioles. The inset shows the typical, extremely delicate fibrosis with overlying metaplastic bronchiolar epithelium of peribronchiolar metaplasia. Peribronchiolar metaplasia is common in biopsies of patients with CHP but is also frequent in usual interstitial pneumonia/idiopathic interstitial fibrosis cases and does not serve to separate them (hematoxylin-eosin, original magnifications ×25 and ×100 [inset]).

Many of these cases are not morphologically separable from idiopathic, fibrotic NSIP, but the presence of giant cells and granulomas or Schaumann bodies (Figure 5) favors CHP; Wang et al³² found them in 68% of their fibrotic NSIP-pattern cases, and Chung et al²⁷ observed them in 100% (4 of 4) of such cases. The interstitial inflammatory infiltrate may be sparse or may be composed of lymphocytes, plasma cells, and a few eosinophils, and lymphoid aggregates with or without germinal centers may be present. In our experience, the latter finding suggests a diagnosis of connective tissue disease-associated NSIP rather than CHP.

Peribronchiolar Metaplasia

Peribronchiolar metaplasia (PBM, known in the past as *lambreros*) refers to very fine, interstitial fibrosis that radiates outward from a bronchiole, with the fibrotic alveolar walls covered by metaplastic, ciliated bronchiolar epithelium (Figure 6). Often, but not always, the bronchiole itself shows scarring of the wall. However, PBM should be distinguished from peribronchiolar fibrosis, which typically is more coarse, may be blocklike, frequently extends much further from the airway, and does not have a covering of ciliated, metaplastic bronchiolar cells (Figures 2, A; 3; and 4, A and B).

There is some suggestion in the literature that PBM may be a marker of CHP (and that it reflects small-airway damage), but that remains to be established. Moreover, PBM can be found in otherwise healthy lungs but is particularly frequently found in lungs with any kind of fibrosing interstitial pneumonias, Fukuoka et al³⁴ reported PBM in 17 of 29 UIP cases (59%), 10 of 20 NSIP cases (50%), 3 of 6 desquamative interstitial pneumonia cases (50%), 9 of 18 HP cases (50%), and 2 of 18 respiratory bronchiolitis with interstitial lung disease cases (11%). Myers and colleagues^{29,35} concluded that PBM was present in 50% of HP biopsies and in 100% of HP autopsies but noted that the frequency of PBM was similarly high in UIP/IPF biopsies, so that it was not diagnostically useful in that context.

Separation of UIP/IPF From CHP With a UIP-like Pattern

Separating UIP/IPF from CHP with a UIP-like pattern is by far the most difficult and contentious issue in the diagnosis of CHP and is now being recognized as a problem not only in the diagnosis of CHP but also, conversely, in UIP/IPF as well. Hashisako et al³⁶ circulated 20 ILD cases to 11 pathologists; the overall κ coefficient for diagnostic agreement was 0.23. Although that rose to 0.37 when diagnoses were forced into a UIP versus non-UIP dichotomy, the 2 major issues that caused dissension were the presence of interstitial

Connective tissue disease-associated ILD often shares morphologic features with CHP, occasionally including peribronchiolar fibrosis and peripheral lobular fibrosis. In our experience, many lymphoid aggregates and/or lymphoid aggregates with germinal centers and a high proportion of plasma cells in the interstitial inflammatory infiltrate suggest a diagnosis of a connective tissue disease-associated ILD, whereas peribronchiolar metaplasia is much more common in CHP. Clinical information is again crucial; overt connective tissue disease or convincing positive connective tissue disease serology favors a diagnosis of connective tissue disease-associated ILD.

RELATIONSHIP OF PATHOLOGIC FINDINGS IN CHP TO PROGNOSIS

Imaging studies (for example¹⁰) show clearly that the prognosis of HP with fibrosis, ie, CHP as used here, is considerably worse than the prognosis of HP without fibrosis, ie, subacute HP, and Walsh et al⁴⁷ showed that the severity of fibrosis on high-resolution CT in CHP was a much better indicator of prognosis than were physiologic measurements. Vourlekis et al⁹ found that patients whose biopsies showed any (defined simply as >5% fibrosis or honeycombing) did worse than those with no fibrosis. Using more modern definitions of pathologic patterns, Ohlani et al³³ Chung et al²⁷ and Wang et al³² all concluded that patients with HP and any pathologic pattern of fibrosis (ie, CHP as used here) fare considerably worse than those without fibrosis (ie, subacute HP as used here).

A question of interest is whether specific patterns of fibrosis in CHP correlate with survival or time to transplantation, and on that, only limited data exist, some of which is contradictory. Table 3 summarizes the literature using reports where outcome by specific pathologic pattern was indicated and standard definitions have been adhered to (the NSIP and "typical" patterns described by Gaxiola et al⁴³ are excluded because the authors indicated that they included cases with and without fibrosis in those categories). Four reports^{27,32,33,43} indicated that CHP with a UIP pattern had a poor prognosis, with median survivals of 36 to 50 months, and Trahan et al³⁵ reported survivals of 9 months each for 2 patients whose biopsies showed only a UIP pattern. All those numbers were similar to the survival rates for UIP/IPF.

View larger version
(17K)

Table 3.
Median Survival in Chronic Hypersensitivity Pneumonitis (CHP) Cases by Pathologic Pattern

However, there are 2 outlier studies. Chiba et al²⁸ divided cases with a UIP pattern by the number of fibroblast foci per square centimeter and concluded that patients with fewer than 2.2 fibroblast foci/cm² did very well, with 70% survival at 100 months, whereas patients with more than 2.2 fibroblast foci/cm² had a median survival of 27 months. In a broad sense, that report is in accord with studies on UIP in which there was a survival difference by the number of fibroblast foci (eg, du Bois et al⁴⁸), but those reports usually do not show the type of dramatic difference described by Chiba et al²⁸ and other authors have found no effect of numbers of fibroblast foci on survival.^{49,50} The 2.2 fibroblast foci/cm² (which was the median in the Chiba et al²⁸ study) was a very small number of fibroblast foci, and the patients with more than 2.2 fibroblast foci/cm² had a median survival of 27 months. Takemura et al²⁹ reported a remarkably good survival of 80% at 100 months for patients with CHPs with a UIP-like pattern, but they also recorded a median survival of 100 months for a comparison group of patients with UIP/IPF, a survival that is not typical of UIP/IPF. Both the Chiba et al²⁸ and Takemura et al²⁹ studies raise a question of whether there is a subgroup of patients with CHP and a UIP-like pattern that do relatively well, whereas for most patients with a UIP-like pattern, it carries a poor prognosis.

Chung et al²⁷ found that patients with a fibrotic NSIP pattern had exactly the same poor median survival (36 months) as patients with a UIP pattern had, and Ohlani et al³³ similarly reported identical median survivals (50 months) for fibrotic NSIP and UIP patterns; however, Wang et al³² observed noticeably better survival for patients with fibrotic NSIP pattern (median 108 months) compared with patients with a UIP pattern (median 40 months), but those values were not statistically different. Wang et al³² also noted that the greater the amount of fibrosis in their fibrotic NSIP cases, the worse the prognosis. Nunes et al⁵¹ reported a median survival of 50 months for patients with CHP and an NSIP picture, a survival which was, interestingly, considerably worse than that for idiopathic NSIP or NSIP associated with a connective tissue disease.

Only 2 reports describe the outcome in patients with purely peribronchiolar fibrosis: Chung et al²⁷ found a median survival of 144 months, but Wang et al³² found a median survival of 60 months, only minimally (and not statistically) better than their patients with UIP patterns. Both those reports had few patients, so those conclusions may be tenuous, but it is hard to understand why pure centrilobular fibrosis, which is probably the earliest lesion of CHP, should lead to the same poor prognosis as a UIP picture.

CONCLUSIONS

In this review, we have attempted to summarize the pathology literature on CHP. None of the patterns described is absolutely pathognomonic of CHP. In particular, as noted above, with sufficiently severe fibrosis, the lobule tends to be overrun; for example, the lobule indicated by asterisk (*) in Figure 2, C, does have bridging fibrosis, but that lobule is almost completely overrun by fibrosis, and in our view, bridging fibrosis loses its specificity in that circumstance. The field shown in Figure 2, C, could be seen in either UIP/IPF or CHP with UIP-like pattern. At what point there is too much fibrosis to use bridging as a diagnostic separator is not clearly defined, and in some cases, the separation may be impossible. Similarly, peribronchiolar fibrosis and peribronchiolar fibroblast foci are typical of CHP when fibrosis is not too extensive, but with sufficient fibrosis in the lobule, those features may no longer be reliable separators. Sometimes those problems can be solved, even in very fibrotic cases, by finding foci of unequivocal subacute HP, but many cases do not have foci of subacute HP.

For these reasons, it is crucial to put the pathologic findings together with the clinical and imaging findings, particularly when the differential diagnosis is between UIP/IPF and CHP with a UIP-like pattern because in that circumstance, there is a difference in treatment. Predominantly upper zone disease, air-trapping, and more than minimal ground-glass opacities are high-resolution CT features that strongly favor CHP, rather than UIP/IPF. It is our policy not to sign out potential CHP cases without obtaining a detailed clinical history and having a discussion with the radiologist, preferably in the setting of a face-to-face, multidisciplinary discussion.

The exact pathologic pattern (beyond just fibrosis) on surgical lung biopsy in CHP probably correlates with prognosis. The available literature seems to indicate that CHP with a UIP pattern generally has a poorer prognosis, and the presence of numerous fibroblast foci in CHP with a UIP pattern suggests that it may be a self-perpetuating disease, as is true of UIP/IPF. However, as noted above, a few studies have cases with a UIP-like pattern and prolonged survival. Whether those cases reflect particular antigen exposures or patterns of exposure (eg, intermittent exposure to large amounts of antigen versus continuous exposure to small amounts of antigen?) is not known. These questions require studies with more cases to draw firm conclusions.

References

https://www.archivesofpathology.org/doi/10.5858/arpa.2017-0173-RA?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=cr_pub%3dpubmed⁷⁶⁴ 6/8

JAMES LAWRENCE PEARLE, MD

CURRICULUM VITAE

EDUCATION

MD	New York Medical College New York, New York	1973
BA	Biology University of Chicago Chicago, Illinois	1969

POST GRADUATE STUDIES

Fellowship	Pulmonary University of Illinois Medical Center Chicago, Illinois	1977-1979
Residency	George Washington University Washington, D.C	1975-1977
Internship	Kaiser Hospital Oakland, California	1973-1974

PROFESSIONAL EXPERIENCE

Medical Director Kindred Hospital Brea, California	2004-2017
President and Medical Director California Research Medical Group, Inc. Fullerton, California	2001-Present
Medical Director Vitalcare Neuro-sub-acute Unit Brea, California	2000-2005
Director of Respiratory Therapy Brea Community Hospital Brea, California	2000-2205

CALIFORNIA RESEARCH MEDICAL GROUP
301 W. BASTANCHURY ROAD, SUITE 220
FULLERTON, CALIFORNIA 92835
(714) 992-2555

JAMES LAWRENCE PEARLE, MD
CURRICULUM VITAE
Page 1 of 19
April 2019

President Southern California Hospitalist Network, Inc. Anaheim, California	1999-Present
President Western Pulmonary Medical Group, Inc. Fullerton, California	1982-Present
Chief of Staff Specialty Hospital La Mirada, California	1996-2001
Medical Consultant Grossman Burn Unit Martin Luther Hospital Anaheim, California	1996-2000
Director of Hyperbaric Medicine Martin Luther Hospital Anaheim, California	1996-2000
Director of Respiratory Therapy St. Jude Medical Center Fullerton, California	1995-2000
Director of Respiratory Therapy Whittier Hospital Medical Center Whittier, California	1996-1999
Director of Respiratory Therapy Martin Luther Hospital Anaheim, California	1981-1999
Director of Pulmonary Rehabilitation Martin Luther Hospital Anaheim, California	1988-1998
Director of Respiratory Therapy Rio Hondo Medical Center Pico Rivera, California	1990-1996
Director of Respiratory Therapy Coast Plaza Doctors Hospital Norwalk, California	1990-1995

CALIFORNIA RESEARCH MEDICAL GROUP
301 W. BASTANCHURY ROAD, SUITE 220
FULLERTON, CALIFORNIA 92835
(714) 992-2555

JAMES LAWRENCE PEARLE, MD
CURRICULUM VITAE
Page 2 of 19
April 2019

Director of Respiratory Therapy La Mirada Medical Center La Mirada, California	1989-1992
Medical Director Hacienda La Puente Respiratory Technician School La Puente, California	1986-1990
Director of Respiratory Therapy St. Jude-Yorba Linda Medical Center Yorba Linda, California	1988-1989
Assistant Professor of Medicine Division of Pulmonary Disease UCI School of Medicine Orange, California	1982 - 1987
Assistant Professor of Medicine Division of Pulmonary Disease UCLA School of Medicine Los Angeles, California	1979-1981
Director of Bronchoscopy UCLA School of Medicine Los Angeles, California	1980 - 1981

PROFESSIONAL REGISTRATIONS

Medical Licensures:	California	
	District of Columbia	Expired
	Illinois	Expired
Board Certifications:	Pulmonary Disease	1980
	Internal Medicine	1977

PUBLICATIONS

Articles:

Pearle J, Correlation of Helium and Plethysmographic Lung Volumes in Airway Obstruction.
Am Rev Diagnostics 2:47-48, 1983.

Pearle J, Smoking and Duration of Asbestos Exposure in the Production of Functional and Roentgenographic Abnormalities in Shipyard Workers. *JOM*: 24:33-40, 1982.

Pearle J, Simmons DH, Ventilatory and Neuromuscular Responses to Inspiratory Positive pressure During CO₂ Breathing. *Respiration* 43:277-284, 1982.

Pearle J. Exercise Performance and Functional Impairment in Asbestos-Exposed Workers. *Chest* 80:701-705, 1982.

Anzueto A, Niederman MS, Pearle J, Restrepo MI, Heyder A, Choudhri SH. Community-Acquired Pneumonia Recovery in the Elderly (CAPRIE): efficacy and safety of moxifloxacin therapy versus that of levofloxacin therapy. *Clin Infect Dis*. 42(1):73-81, 2006 . Epub 2005. Erratum in: *Clin Infect Dis*. 42(9):1350, 2006.

Cote C, Pearle JL, Sharafkhaneh A, Spangenthal S. Faster onset of action of formoterol versus salmeterol in patients with chronic obstructive pulmonary disease: a multicenter, randomized study. *Pulm Pharmacol Ther*. 22(1):44-9; 2009.

Fabbri LM, Kerwin EM, Spangenthal S, Ferguson GT, Rodriguez-Reisin R, Pearle J, Sethi S, Orevillo C, Darken P, St Rose E, Fischer T, Golden M, Dwivedi S, Reisner C. Dose-response to inhaled glycopyrrolate delivered with a novel Co-Suspension™ Delivery Technology metered dose inhaler (MDI).in patients with moderate-to-severe COPD. *Respir Res*. 17(1): 109, 2016.

Ferguson GT, Reisner C, Pearle J, DePetrillo P, Maes A, Martin UJ. Cardiovascular safety profile of a fixed-dose combination of glycopyrrolate and formoterol fumarate delivered via metered dose inhaler using co-suspension delivery technology. *Pulm Pharmacol Ther*. 49:67-74, 2018.

Lopata M, Pearle J. Diaphragmatic EMS and Occlusion Pressure Response to Elastic Loading During CO₂ Rebreathing in Humans *Appl Physio* 49: 669-675, 1980.

Lopata M, Freilich FA, Onal E, Pearle J, Lourenco RV. Ventilatory Control and the Obesity Hyperventilation Syndrome. *ARRD* 119:165, 1979.

Reisner C, Pearle J, Kerwin EM, Rose ES, Darken P. Efficacy and safety of four doses of glycopyrrolate/formoterol fumarate delivered via a metered dose inhaler compared with the monocomponents in patients with moderate-to-severe COPD. *Int J Chron Obstruct Pulmon Dis*. 13:1965-1977. 2018.

Tashkin DP, Pearle J, Lezzoni D, Varghese ST. Formoterol and tiotropium compared with tiotropium alone for treatment of COPD. *COPD*. 6(1):17-25. 2009.

Abstracts:

Pearle J. Dose-Ranging Effects of Glycopyrronium Bromide (GB) Delivered Via a Pressurized Metered Dose-Inhaler (pMDI) on Lung Function in Subjects with Chronic Obstructive Pulmonary Disease (COPD): The GLIMMER Study. ATS International Conference 2019.

Pearle, J. Environmental and Occupational Lung Disease. In Pulmonary Disease, Selecky P Ed. John Wiley and Sons, 303-336, 1982.

Pearle J, Simmons DH, Sayre JW, Tashkin DP, Relationship Between Plethysmographic and Helium Dilution Lung Volumes in Obstructive Lung Disease. ARRD 121:389, 1980.

Pearle J, Simmons DH, Ventilatory and Neuromuscular Responses to Inspiratory Positive Pressure during CO₂ Breathing. ARRD 121:175, 1980.

Pearle J, Lopata M. Respiratory Neuromuscular Responses to CO₂ Rebreathing With Elastic Loading in Humans. ARRD 119:347. 1979.

Lopata M, Freilich RA, Onal F, Pearle J, Lourenco RV. Ventilatory Control in the Obesity Hypoventilation Syndrome. Thorax 34:420, 1979.

Chapter:

Pearle J. Environmental and Occupational Lung Disease. In Pulmonary Disease, Selecky P Ed. John Wiley and Sons, 303-336, 1982.

Letters:

Pearle J. Fiber optic Bronchoscopy in Pulmonary Abscess. Chest, 77:708. 1980

Pearle J. Fiber optic Bronchoscopy: An Analysis of Proficiency. Chest. 78:497, 1980.

Pearle J. Bronchoscopy in Pulmonary Abscess. Chest. 75:409, 1979.

INTERESTS

Regulation of ventilation
Sleep disorders
Obesity hypoventilation syndrome
Occupational lung disease, asbestos-related disorders

CALIFORNIA RESEARCH MEDICAL GROUP
301 W. BASTANCHURY ROAD, SUITE 220
FULLERTON, CALIFORNIA 92835
(714) 992-2555

JAMES LAWRENCE PEARLE, MD
CURRICULUM VITAE
Page 5 of 19
April 2019

Bronchoscopy
 Pulmonary Rehabilitation
 Reviewer for Chest
 Certified in Hyperbaric Medicine, 1996
 Clinical Trials
 Burn Medicine
 Wound Care

SPEAKING ENGAGEMENTS

Toxic Torts Advocacy I, II, III, IV:	San Francisco, 1983-86
Asbestos Disease-Defense Research Institute:	Boston, 1986
Asbestos-related Lung Disorders-Medilegal Institute:	Las Vegas 1984 Palm Springs 1985

Grand Rounds and Medical Education Programs:

UCLA
 UC Irvine
 Martin Luther Hospital
 Humana Hospital, West Anaheim
 Placentia Linda Community Hospital
 St. Jude Medical Center
 Daniel Freeman Hospital
 St Joseph's Hospital
 Brea Community Hospital

Speaker For:

Rorer Pharmaceuticals
 Glaxo Pharmaceuticals
 Pfizer Pharmaceuticals
 Merck Pharmaceuticals
 Schering-Key Pharmaceuticals
 Bayer Pharmaceuticals
 Smith Kline Pharmaceuticals
 Consultant Cheisi Pharmaceuticals

CITI GCP: Training Completed.

CLINICAL TRIAL EXPERIENCE

2019-- A Randomized, Blinded, Parallel Group, Placebo-Controlled, Multiple Dose, Multicenter Study To Compare The Therapeutic Equivalence Of XXXX, XXXX To XXXX, In Adult Subjects With Asthma.

2018-- A Prospective, Phase 2, Randomized, Multi-Center, Double-Blind Study Of The Efficacy, Tolerability, And Safety Of Oral XXXX Versus Oral XXXX For Treatment Of Uncomplicated Urinary Tract Infections In Adult Women.

2018-- A Phase 2b Randomized, Double-Blind, Placebo-Controlled, Parallel-Arm, Multi-Centre Study To Assess The Efficacy And Safety Of Multiple Dose Levels Of XXXX Given Once Daily For Twelve Weeks, Compared To Placebo, In Asthmatics Symptomatic On Low Dose XXXX.

2017-- A Phase 3b, Randomized, Double-Blind, Double-Dummy, Parallel-Group, Study To Compare Once Daily Nebulized XXXX With XXXX Once Daily Delivered Via The XXXX On Lung Function In Subjects With Chronic Obstructive Pulmonary Disease And A Low Peak Inspiratory Flow Rate.

2017-- A Dose Ranging, Parallel Group, Active (XXXX) And Placebo-Controlled Study To Assess Relative Bioavailability, Pharmacodynamics And Safety Of Three Doses Of XXXX Inhalation Solution In Subjects With Mild To Moderate Chronic Obstructive Pulmonary Disease.

2017-- A Phase 3, Randomized, Double-Blind, Double-Dummy, Multicenter, Prospective Study To Assess The Efficacy And Safety Of IV XXXX Compared With XXXX In Complicated Urinary Tract Infections.

2017-- A Randomized, Blinded, Parallel-Group, Placebo-Controlled, Multiple Dose, Multicenter, Multinational Study To Compare The Therapeutic Equivalence of A XXXX Inhalation Aerosol (Manufactured By XXXX For XXXX) to XXXX (Manufactured By XXXX) In Adolescent And Adult Patients With Asthma.

2017-- An 8 Week, Randomized, Double-Blind, Placebo And Active-Controlled, Parallel Group, Dose Ranging Study To Evaluate The Efficacy And Safety Of 3 Doses Of XXXX Pmdi (XXXX) In Asthmatic Subjects.

2017-- A 6-Week, Randomized, Double-Blind, Placebo And Active-Controlled, Parallel Group, Dose Ranging Study To Evaluate The Efficacy And Safety Of 4 Doses Of XXXX Pmdi (XXXX) In Subjects With Chronic Obstructive Pulmonary Disease (COPD).

2017-- A Randomized, Double-Blind, Double-Dummy, Active-Controlled, Multi-Center, Parallel Group Study To Show The Superiority In Lung Function Of 12 Weeks Once Daily Treatment With Orally Inhaled XXXX Fixed Dose Combination Delivered By The XXXX Inhaler Vs. 12 Weeks Twice Daily Treatment With Orally Inhaled XXXX Fixed Dose Combination Delivered By The XXXX In Patients With Chronic Obstructive Pulmonary Disease (COPD).

2017-- A Randomized, Subject-And-Investigator-Blinded, Placebo-Controlled, Multi-Center, Multiple Dose Study To Assess The Efficacy And Safety Of XXXX In Patients With Inadequately Controlled Moderate To Severe Asthma.

2017-A Randomized, Double-Blind, Parallel Group, Multi-Center 24- Week Study Comparing The Efficacy And Safety Of Three Doses Of XXXX To Placebo And Open-Label XXXX In Subjects With Persistent Asthma

2016 - A Randomized, Double-Blind, Parallel Group, Multi-Center Study To Assess The Efficacy And Safety Of XXXXX Compared To XXXXX On COPD Exacerbations Over A 52-Week Treatment Period In Subjects With Moderate To Very Severe COPD.

2016 - A 24 Week Treatment, Multicenter, Randomized, Double-Blind, Parallel Group, Clinical Trial Evaluating The Efficacy And Safety of XXXXX 400µg/Formoterol Fumarate 12 µg Fixed-Dose Combination BID Compared With Each Monotherapy (XXXXX 400 µg BID And Formoterol Fumarate 12 µg BID) And Tiotropium 18 µg QD When Administered To Patients With Stable Chronic Obstructive Pulmonary Disease.

2015 – A Randomized, Double-Blind, Placebo Controlled Study To Assess The Safety, Tolerability, Pharmacokinetics And Pharmacodynamic Effects of Multiple Doses Of XXXXX In Patients With COPD.

2015 - A Randomized, Parallel-Group, Placebo-Controlled, Clinical Endpoint Bioequivalence Study Of Generic XXXXX 100µg And XXXXX 50 µg Inhalation Powder Compared With Advair Diskus® 100/50 In Subjects With Asthma.

2015 – A Phase 3, 12-Week, Randomized, Double-Blind Placebo-Controlled Parallel Group Study of Nebulized XXXXX in Subjects with COPD.

2015 – A Randomized, Double-Blind, Parallel-Group, 24-Week, Chronic-Dosing, Multi-Center Study To Assess The Efficacy And Safety Of XXXXX, XXXXX, And XXXXX Compared With Symbicort® Turbohaler® As An Active Control In Subjects With Moderate To Very Severe Chronic Obstructive Pulmonary Disease.

2015 – A Randomized, Double-Blind, Parallel-Group, 52-Week, Chronic-Dosing, Multi-Center Study To Assess The Safety And Tolerability Of XXXXX, XXXXX And XXXXX In Subjects With Moderate To Very Severe COPD.

2014 - A 28-Week, Multi-Center, Randomized, Double-Blind, Parallel-Group, Active-Controlled Safety Extension Study To Evaluate The Safety And Efficacy Of XXXX, XXXX, And XXXX In Subjects With Moderate To Very Severe COPD, With Spiriva Handihaler As An Active Control.

2014 - A Randomized, Double-Blind, Placebo-Controlled, Dose-Ranging Study To Evaluate XXXXX In Patients With Moderate To Severe, Uncontrolled Asthma.

2014 - A Phase IIB, 28-Day, Randomized, Double-Blind Placebo-Controlled Parallel Group Study Of Nebulized XXXXX In Subjects With Chronic Obstructive Pulmonary Disease.

2014 - A Randomized, Double-Blind, Double Dummy, Parallel Group Study To Determine The Local Equivalence Of Multiple Doses Of XXXXX To Advair Diskus Administered Via Oral Inhalation In Adult Asthma Patients.

2014 - A Phase IIIB, 6 Month, Double Blind, Double Dummy, Randomized, Parallel Group, Multicenter Exacerbation Study Of Symbicort XXXXX Ug X 2 Actuations Twice Daily Compared To Formoterol Turbuhaler 4.5 Ug X 2 Inhalations Twice Daily In COPD Patients.

2014 - A Randomized, Double-Blind, Double Dummy, Chronic Dosing (56 Week) Placebo-Controlled, Parallel Group, Multicentre, Phase III Study To Evaluate The Efficacy And Safety Of 3 Doses Of Benralizumab XXXXX In Patients With Moderate To Very Severe Chronic Obstructive Pulmonary Disease (COPD) With A History Of COPD Exacerbations.

2014 - A 12-Week, Double-Blind, Placebo-Controlled, Efficacy And Safety Study Of Fluticasone Propionate Multidose Dry Powder Inhaler Compared With Fluticasone/Salmeterol Multidose Dry Powder Inhaler In Adolescent And Adult Patients With Persistent Asthma Symptomatic Despite Inhaled Corticosteroid Therapy.

2014 - A 26-Week Open-Label Study To Assess The Long-Term Safety Of Fluticasone Propionate Multidose Dry Powder Inhaler And Fluticasone Propionate/Salmeterol Multidose Dry Powder Inhaler In Patients 12 Years Of Age And Older With Persistent Asthma.

2014 - Medically Ill Patient Assessment of Rivaroxaban versus Placebo IN Reducing Post-Discharge Venous Thrombo-Embolism Risk.

2014 - A 12-Week Phase II Study to Evaluate the Efficacy and Safety of XXXX Following Exacerbations in Patients with Chronic Obstructive Pulmonary Disease (COPD) By Targeting the XXXXX Pathway.

2014 - A Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study To Assess The Efficacy, Safety, And Tolerability Of XXXX Administered Twice Daily By Inhalation For 12 Weeks In Subjects With Persistent Moderate To Severe Asthma Who Remain Uncontrolled Despite Treatment With Inhaled Corticosteroids (Ics) And Long-Acting Beta2 Agonists (Laba).

2014 - A Randomized, Open Label, Active-Controlled, Parallel-Group, Multicenter, Long Term Safety Trial of Treatment with Nebulized XXXXX in Patients with COPD: GOLDEN-5 (Glycopyrrolate with Obstructive Lung Disease via Electronic Nebulizer).

2013- A 12-Week Treatment, Multi-Center, Randomized, Double-Blind, Double Dummy, Parallel Group Study To Assess The Efficacy, Safety And Tolerability Of XXXX Compared To Fluticasone/Salmeterol In COPD Patients With Moderate To Severe Airflow Limitation.

2013- A 12-Week Multi-Center, Randomized, Double-Blind, Placebo Controlled Study To Assess The Efficacy And Safety Of XXXX In Stable COPD Patients.

2013- A 12-Week Treatment, Multi-Center, Randomized, Double-Blind, Parallel-Group, Placebo And Active Controlled Study To Assess The Efficacy, Safety, And Tolerability Of XXXX (Indacaterol Maleate/Glycopyrronium Bromide) In COPD Patients With Moderate To Severe Airflow Limitation.

2013- A Randomized, Double-Blind (Test Products And Placebo), Chronic Dosing (24 Weeks), Placebo-Controlled, Parallel Group, Multi-Center Study To Assess The Efficacy And Safety Of XXXX, XXXX, And XXXX In Subjects With Moderate To Very Severe COPD, Compared With Placebo.

2012- A Phase IV, Randomized, Double-Blind, Placebo-Controlled, Multicenter, Exploratory, Single-Dose Crossover Study With XXXXX 75µg Compared To Placebo, Assessing Time To Patient's Perception Of Onset Of Effect In Patients With Moderate To Severe Chronic Obstructive Pulmonary Disease (COPD).

2012- A 52-Week, Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study To Evaluate The Effect Of XXXXX 500µg On Exacerbation Rate In Subjects With Chronic Obstructive Pulmonary Disease (COPD) Treated With A Fixed-Dose Combination Of Long-Acting Beta Agonist And Inhaled Corticosteroid (LABA/ICS).

2012- A Randomized, Double-Blind (Test Products And Placebo), Chronic Dosing (14 Days), Four-Period, Eight-Treatment, Placebo-Controlled, Incomplete Block, Cross-Over, Multi-Center Study To Assess Efficacy And Safety Of Six Doses Of XXXXX In Patients With Moderate To Severe COPD, Compared With Spiriva® Handihaler® (Tiotropium 18 µg, Open-Label) As An Active Control.

2012- A Phase III Randomized, Double-Blind, Placebo-Controlled Study To Assess The Efficacy And Safety Of XXXXX In Patients With Uncontrolled Asthma Who Are On Inhaled Corticosteroids And A Second Controller Medication.

2012- A Randomized, Double-Blind, Placebo-Controlled Study To Evaluate The Safety Of Long-Term Use Of XXXXX (Formoterol Fumarate) Inhalation Solution In Subjects With Chronic Obstructive Pulmonary Disease (COPD).

2012- A 12-Week Randomized, Multiple-Dose, Double-Blind, Placebo-Controlled, Parallel-Group Study to Evaluate Nebulized Fluticasone Propionate (FP) Dose Response in Adult Subjects with Partly Controlled and Uncontrolled Asthma.

2012- A Phase 2, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study Of Two Doses Of Inhaled XXXXX In Patients With Mild To Moderate Allergic Asthma.

2012- A 16-Week, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Reslizumab (3.0 Mg/Kg) Treatment in Patients with Moderate to Severe Asthma.

2012- A Double-Blind, Randomized, Placebo-Controlled, Multicenter, Parallel-Group, Adaptive-Design, Dose-Ranging Study of XXXXX in Adult Subjects with Persistent Asthma.

2012- A Phase 2, Double-Blind, Placebo-Controlled, Randomized Study to Evaluate the Safety, Tolerability, and Efficacy of XXXX in Subjects with Asthma Inadequately Controlled By Corticosteroids.

2012- A Randomized, Double Blind, Parallel Group Study To Assess The Efficacy and Safety Of 12 Weeks Of Once Daily, Orally Inhaled, Co-Administration Of Olodaterol 5µg (Delivered By Respimat® Inhaler) And Tiotropium 18µg (Delivered By The Handihaler®) Compared To Once Daily, Orally Inhaled, Co-Administration of Placebo (Delivered By The Respimat® Inhaler) And Tiotropium 18µg (Delivered By The Handihaler®) In Patients With Chronic Obstructive Pulmonary Disease.

2012- A Randomized, Double-Blind, Placebo-Controlled, Dose-Ranging Study Of The Efficacy And Safety Of EP-101 In Subjects With Moderate To Severe Chronic Obstructive Pulmonary Disease: Golden-2 (Glycopyrrolate For Obstructive Lung Disease Via Electronic Nebulizer).

2012- A 12-Week Multi-Center, Randomized, Double-Blind, Placebo Controlled Study To Assess The Efficacy And Safety Of XXXX In Stable COPD Patients.

2012- A 12-Week Treatment, Multi-Center, Randomized, Double-Blind, Parallel-Group, Placebo And Active Controlled Study To Assess The Efficacy And Safety And Tolerability Of XXXX (Indacaterol Maleate/Glycopyrronium Bromide) In COPD Patients With Moderate To Severe Airflow Limitation.

2011- A Double-Blind, Placebo-Controlled, Randomised, Parallel-Group, Phase-II, Multi-Centre Study To Assess The Efficacy, Safety And Tolerability Of 4 Twice Daily Doses and 2 Once Daily Doses Of XXXX Given As Tablets During 12 Weeks In Asthmatic Patients Treated With Inhaled XXXXX and long-Acting-B2-Agonists.

2011- A Randomized, Double-Blind, Parallel Group, 14-Day, Multi-Center Study To Evaluate The Safety Of XXXX, XXXX, XXXX And XXXX XXXX (12 µg, Open Label) As Evaluated By Holter Monitoring, In Patients With Moderate To Severe Chronic Obstructive Pulmonary Disease (COPD).

2011- A Randomized, Double-Blind, Chronic Dosing (7 Days), Two-Period, Six-Treatment, Incomplete Block, Cross-Over, Multi-Center Study To Assess Efficacy And Safety Of Four Doses Of XXX XXX In Patients With Moderate To Severe COPD, Compared With Its Individual Components (XXF XXX And XX XXX) As Active Controls.

2011- A Phase III International, Randomized, Double-Blind, Double-Dummy Study To Evaluate The Efficacy And Safety Of 300mg Or 600mg Of Intravenous XXXX Twice Daily Compared To 75mg Of Oral XXXX Twice Daily In The Treatment Of Hospitalized Adults And Adolescents With Influenza.

2010- A Long-Term, Randomized, Double-Blind, Extension Study Of The Safety, Tolerability And Efficacy Of XXXX XXXX At Two Dosage Levels When Administered To Patients With Moderate To Severe Chronic Obstructive Pulmonary Disease.

2010- A Randomized, Double-Blind, Double-Dummy, Placebo-Controlled, Parallel- Group Study To Assess The Efficacy And Safety Of Different Doses Of XXXX In Patients With Moderate To Severe Chronic Obstructive Pulmonary Disease, Using XXXX As An Active Control.

2010- A 12-Week Treatment, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study to Assess the Efficacy and Safety of Once Daily XXXX in Patients with Chronic Obstructive Pulmonary Disease.

2010- A Randomized, Double-Blind, Placebo-Controlled, 2-Period, Cross-Over Study To Assess The Efficacy And Safety Of Differing Doses Of XXXX Administered Either Once Daily Or Twice Daily, In Patients With Moderate To Severe Chronic Obstructive Pulmonary Disease (COPD).

2010- A Randomized, Active-Controlled, Double-Blind, Double-Dummy, Parallel Group Design, Multi-Center Trial To Compare The Efficacy And Safety Of 2.5 Ug And 5 Ug XXXXX Inhalation Solution Delivered By The XXXXX Inhaler With XXXX Inhalation Capsules 18 Ug Delivered By The XXXX.

2010- A 12-Week Randomized, Multiple-Dose, Double-Blind, Placebo-Controlled, Parallel-Group Trial to Assess the Pharmacodynamic Response of XXXXX XXXX in Fixed-Dose Combination With XXXX XXXX In Subjects With COPD.

2010- A Randomized, Double-Blind, Placebo-Controlled Study Evaluating The Efficacy, Safety, And Tolerability Of 2 Doses Of XXXX XXXX Compared With Placebo For 12 Weeks In Patients With Moderate To Severe, Stable Chronic Obstructive Pulmonary Disease Followed By A 40-Week Evaluation Of The Higher XXXX XXXX Dose.

2010- An 8 Week Randomized, Double-Blind, Parallel Group, Multi-Center, Active Controlled Study To Evaluate The Antihypertensive Efficacy And Safety Of XXXX Administered In Combination With XXXX Versus XXXX Alone In Hypertensive Patients With Type 2 Diabetes Mellitus.

2010- A 52-Week Treatment, Multi-Center, Randomized, Double-Blind, Parallel Group, Active Controlled Study To Evaluate The Effect Of XXXX (110/50 Ug O.D.) Vs. XXXX (50 Ug O.D.) And Open-Label XXXX (18 Ug O.D.), On COPD Exacerbations in Patients with Severe To Very Severe Chronic Obstructive Pulmonary Disease (COPD).

2010- A 26-Week Treatment Multi-Center, Randomized, Double-Blind, Parallel Group, Placebo And Active Controlled (Open Label) Study To Assess The Efficacy, Safety And Tolerability Of XXXX (110/50 Ug Q.D.) In Patients with Moderate to Severe Chronic Obstructive Pulmonary Disease (COPD).

2009- A Large Simple Safety Study of XXXX XXXX Inhalation Solution in Subjects with Chronic Obstructive Pulmonary Disease.

2009- A 52-Week Treatment, Randomized, Double-Blind, Placebo-Controlled, With Open Label XXXXX, Parallel-Group Study to Assess the Efficacy, Safety and Tolerability of XXXX Patients with Chronic Obstructive Pulmonary Disease.

2009- A Randomized, Multi-Center, Parallel Group, Double Blind, Study To Assess The Safety Of XXXX ® (500/400ug) And XXXXX XXXX XXXX® (400ug) In Adolescent And Adult Patients With Persistent Asthma.

2009- A Long-Term, Randomized, Double-Blind Study of The Safety, Tolerability And Efficacy Of XXXX XXXX At Two Dosage Levels When Administered To Patients With Moderate To Severe, Stable Chronic Obstructive Pulmonary Disease.

2009- A 12-Week, Randomized, Double-Blind, Placebo-Controlled, Parallel Group, Multinational, Phase Iib Dose Range Finding Study To Evaluate The Efficacy And Safety Of XXXXXX Administered Orally At 3 Dose Levels To Patients With Chronic Obstructive Pulmonary Disease (COPD) On Treatment With XXXX.

2009- A Phase I Randomized, Double-Blind, Placebo-Controlled Dose Escalation Study to Evaluate the Safety and Efficacy of XXXX When Administered Intravenously To Subjects With Stable Moderate To Severe Chronic Obstructive Pulmonary Disease (COPD).

2008- Study XXXX, A Dose-Finding Study of XXXX versus Placebo in Patients with COPD.

2008- A Randomized, Double-Blind, Active-Controlled, Parallel-Group, Multicenter, 4- Week Pilot Study To Assess Symptoms In Stable, Moderate To Severe COPD Patients Taking XXXX 200mcg Daily In Combination With XXXX 12mcg Once Or Twice Daily Versus XXXX 12mcg Twice Daily.

2008- A 12 Week Treatment, Multicenter, Randomized, Double-Blind, Placebo Controlled, Parallel Group Study To Assess The Efficacy Of XXXX (150mcg O.D.) In Patients with COPD Disease.

2008- A 26 Week Extension To A 26 Week Treatment, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Adaptive Seamless, Parallel-Group Study Assess, Tolerability And Efficacy Of Two Doses Of XXXX (150mcg And 300mcg O.D.) In Patients with COPD Disease.

2008- An Open-Label, Multi-Center, Patients Handling Study XXXX with an Integrated Dose Counter in Adolescent and Adult Subjects with Asthma or COPD.

2008- Dose-Ranging Study of the Efficacy and Safety of Oglemilast in Patients with COPD Disease.

2008- A Study of XXXX in Adults with Chronic Asthma.

2008- Qualitative Assessment Of Patients Reported Concepts Among Patients Who Have COPD.

2008- A Multinational, Multicenter, Randomized, Double-Blind Study Comparing the Efficacy and Safety of XXXX with XXXX for the Primary Prevention of Venous Thromboembolism in Acutely III Medical Patients with Restricted Mobility.

2008-Dose Ranging Study For XXXX Delivered Once Daily In Subjects With COPD.

2008-A Study of XXXX in Adults with Chronic Asthma.

2008-Qualitive Assessment of Patients Reported Concept among Patients Who Have COPD.

2008-Amultinational, Multicenter, Randomized Double-Blind Study Comparing the Efficacy and Safety of XXXX with XXXX for the Primary Prevention of Venous Thromboembolism in Acutely III Medical Patients with Restricted Mobility.

2008- Dose Ranging Study for XXXX Delivered Once Daily In Subjects with COPD.

2007- A 52-Week Randomized, Double-Blind, Parallel Group, Placebo Controlled, Multicentre Clinical Trail, To Assess The Efficacy And Safety Of 200mg Of The Anticholinergic XXXX Compared To Placebo Both Administered Once- Daily By Inhalation, In The Maintenance Treatment Of Patients With Moderate To Severe, Stable Chronic Obstructive Pulmonary Disease.

2007- A 52- Week Randomized, Double-Blind Parallel- Group Study of XXXX 250/50mcg BID XXXX 250mcg BID in Treatment of Subjects with Asthma

2007- A 12-Week, Randomized, Double-Blind, Active-Controlled, Multi-Centre, Phases IIIB Study Comparing The Efficacy And Evaluating The Safety Of XXXX XXXX 160/4.5 Mcg X 2 Actuations Twice Daily, In Adults And Adolescent ($\geq$ 12years) Hispanic Subject With Asthma.

2007- A Phase IIIB, 12- Month, Double-Blind, Double-Dummy, Randomized, Parallel-Group, Multicentre Exacerbation Study Of XXXX 160/4.5 Mcg X 2 Actuations Twice- Daily And 80/4.5 Mcg X 2 Actuations Twice-Daily Compared To XXXX TBH 4.5 Mcg X 2 Inhalations Twice-Daily In COPD Subjects.

2007- A 26 Week Treatment, Multicenter, Randomized, Double-Blind, Double Dummy, Placebo- Controlled, Adaptive, Seamless, Parallel-Group Study To Assess The Efficacy, Safety And Tolerability Of Two Doses Of XXXX (Selected From 75, 150,300, And Mg O.D.) In Patients With Chronic Obstructive Pulmonary Disease Using Blinded XXXX (12 Mg B.I.D) And Open-Labeled XXXX (18 Mg O.D.) As Active Control.

2007- A 26 Week Placebo-Controlled Efficacy And Safety Of XXXX Combination XXXX With XXXX And XXXX In Subjects With Persistent Asthma Previously Treated With Low-Dose Inhaled Glucocorticosteroids.

2007- A-26-Week Placebo-Controlled-Efficacy and Safety Study of XXXX Combination XXXX with XXXX and XXXX on Subjects with Previously Treated Medium-Dose Inhaled Glucocorticosteroids.

2007- A Randomized , 26-Week, Placebo-Controlled Efficacy And Safety Study With A 26 Week Long-Term Safety Extension Of High-And Medium-Dose Inhaled XXX Fixed-Dose Combination Formulation Compared With XXXX And High-Dose Inhaled XXXX In Subjects With Moderate To Severe COPD.

2006- A Phase IIIB Multicenter, Randomized, Double-Blind, Placebo- Controlled Study Of XXXX In Subjects With Moderate To Severe Persistent Asthma Who Are Inadequately Controlled With High-Dose Inhaled Corticosteroids And Long-Acting Beta- Agonists.

2006- A Methodological Study To Validate A Patient Reported Outcome Measure For Dyspnea In Patients With COPD.

2006- Effect of XXXX on Exacerbation Rate in Patients with COPD. A 52-Week, Double-Blind Study With 500mcg XXX Once Daily Versus Placebo.

2006- A 52- Week Randomized, Double-Blind, Parallel Group, Placebo-Controlled, Multicenter Clinical Trial, To Assess The Efficacy And Safety Of 200mcg Of The Anticolonergics XXXX Compared To Placebo, Both Administered Once-Daily By Inhalation, In The Maintenance Of Patients With Moderate To Severe, Stable Chronic Obstructive Pulmonary Disease.

2006- A Randomized, Parallel-Group, Double-Blind, Comparative Trial Assessing Lung Function And Other Measures Of Asthma Control In Adults And Adolescents, At Least 12 Years Of Age, With Persistent Asthma, Who Have Either B16-Gly/Gly Or A B-16 Arg/Gly Genotype And Treated With XXXX 100/50 Mcg Or XXXX 50 Mcg BID.

2005- A Randomized, 24-Week, Double-Blind, Placebo-Controlled, Parallel-Group Study To Evaluate The Efficacy, Safety And Tolerability Of XXXX (15mg BID) In Patients With Chronic Obstructive Pulmonary Disease (COPD).

2005- A 6-Month Double-Blind, Double-Dummy, Randomized, Parallel Group, Multicenter Efficacy & Safety Study Of XXXX Pmdi 2x 160/4.5mg & 80/4.5mg Bid Compared To XXXX & Placebo In COPD Patients.

2005- A Double-Blind, Parallel-Group, Multicenter Clinical Study To Compare The Efficacy And Tolerability Of XXXX Alone Versus The Co-Administration Of XXXX XXXX And XXXX XXXX In Subjects With COPD.

2005- A Randomized, Double-Blind, Parallel-Group, Multicenter Study To Compare Clinical Health Outcomes Of XXXX Versus XXXX In Outpatients With Community-Acquired Lower Respiratory Tract Infections.

2005- A Double-Blind, Double-Dummy, Randomized, Active-Controlled, Parallel Group Long Term Safety Study Of XX And XX XXXX Inhalation Solution BID In The Treatment Of Subjects With Chronic Obstructive Pulmonary Disease.

2005- A Double-Blind, Randomized, Parallel-Group, Multicenter Clinical Study To Compare The Efficacy And Tolerability Of XXXX Versus XXXX In Subjects With COPD.

2004-Effect of XXXX Exacerbation Rate in Patients with Chronic Obstructive Pulmonary Disease. A 52-Week Double-Blind Multi-Center Study with 500mcg XXXX Once Daily Versus Placebo.

2004-A Randomized, Double-Blind, Parallel-Group Clinical Trial Evaluating The Effect Of XXXX Versus XXXX On Bone Mineral Density In Subjects With Chronic Obstructive Pulmonary Disease- (COPD).

2004-“Follow-Up Serial Infusions of XXXX for the Management of Patients with Heart Failure.”

2004- A Double-Blind, Randomized Study to Compare the Efficacy and Safety of XXXX Once Daily versus XXXX Twice Daily in the Treatment of Complicated Urinary Tract Infection Or Acute Pyelonephritis.

2004- A Double-Blind, Randomized Study To Investigate The Effect Of XXXX Once Daily Versus Placebo On Parameters Indicative Of Hyperinflation In Patients With Chronic Obstructive Pulmonary Disease.

2004- A Double-Blind, Randomized Study To Compare The Safety And Efficacy Of XXXX XXXX With That Of XXXX In Complicated Intra-Abdominal Infections.

2004- A Randomized, Double-Blind, Placebo Controlled, Dose Ranging, Study Of The Safety And Efficacy Of Three Days Continuous Intravenous Infusion Of XXXX In The Treatment Of Suspected Or Confirmed Gram-Negative Severe Sepsis In Adults.

2004- A Randomized, Open-Label, Phase 3 Study To Compare The Safety And Efficacy Of XXXX XXXX With That Of XXXX XXXX In Hospital-Acquired Pneumonia.

2004- A Randomized, Double-Blind, Parallel Group, 52-Week Study To Compare The Effect Of The XXXX DISKUS Combination Product 250/50mcg BID With XXXX DISKUS 50mcg BID On The Annual Rate Of Moderate/Severe Exacerbations In Subjects With Chronic Obstructive Pulmonary Disease (COPD).

2003-A Randomized, Multi-Center, Placebo- And Active-Controlled, Single-Dose, 4-Period, Crossover Study To Evaluate The Bronchodilating Effect Of XXXX Pmdi Versus XXXX XXXX And XXXX XXX.

2003-A Double-Blind, Double-Dummy, Randomized, Placebo-And Active-Controlled, Multi-Center, Parallel-Group Study Of XX-XXXX In The Treatment Of Subjects With Chronic Obstructive Pulmonary Disease.

2003-A Randomized, Multi-Center, Placebo- And Active-Controlled, Single-Dose, 4-Period, Crossover Study To Evaluate The Bronchodilating Effect Of XXXX Pmdi Versus XXXX XXXX And XXXX XXX.

2003-A Twelve-Week, Randomized, Double-Blind, Double-Dummy, Placebo- And Active-Controlled Study Of XXXX Pmdi Administered Once Daily In Adults And Adolescents With Asthma.

2003-A Multi-Center, Open-Label, Randomized Study To Compare The Safety And Efficacy Of Once Daily XXXX Along With Once Daily XXXX Versus XXXX In The Treatment Of Complicated Appendicitis.

2002-Aphase Llb Comparative Study of the Safety and Efficacy of Three Oral Doses of XXXX for the Treatment of Subjects with Community Acquired Pneumonia.

2002-A Multi-Dose Comparison of XXXX Inhalation Capsules and XXXX Inhalation Aerosol in a 12 Week Randomized, Double-Blind, Double-Dummy Parallel Group Study In Patients With COPD.

2002-A Randomized, Multicenter Open-Label, Parallel Group Study Comparing The Efficacy And Safety Of XXXX 12ug BID To XXXX 50ug BID In Patients With COPD.

2002-Open-Lable Extension Study Ll Of XXXX In Moderate To Severe, Persistent Asthma Subjects Who Completed Study XXXX.

2002-A Multi-Center, Randomized, Double-Blind, Double-Dummy, Placebo Controlled, Parallel Group, Four Week Study Assessing The Efficacy Of XXXX 200mcg QD Vs. XXXX 10mg QD In Adolescent And Adult Subjects With Asthma And Seasonal Allergic

2002-A Study of XXXX for Treatment of Elderly Patients with Community Acquired Pneumonia Phase Lv.

2002-Efficacy and Safety of XXXX in Adult Patients with Early Stage Severe Sepsis.

2001-An Observational Study of the Epidemiology and Natural History of Asthma: Outcomes and Treatment Regimens.

2001-Multicenter, Double-Blind, Randomized Study To Compare The Safety And Efficacy Of XXXX 750mg Once Daily For 5 Days Vs. XXXX 500mg Once Daily For 10 Days In The Treatment Of Mild To Severe Community-Acquired Pneumonia In Adults-Phase 3B.

2001-Multicenter, Open-Label, Non-Comparative Study To Evaluate The Safety And Efficacy Of XXXX 750mg Once Daily For 5 Days In The Treatment Of Mild To Severe Community-Acquired Pneumonia In Adults.

2001-A Randomized, Multicenter, Blinded Study Of The Efficacy And Safety Of High-Dose (750mg), Short-Course (3-5 Days) XXXX Therapy In Uncomplicated And Complicated Acute Bacterial Exacerbation Of Chronic Bronchitis-Phase 3B.

2001-A Multicenter, Randomized, Double-Blind, Parallel Group, Placebo-Controlled Study To Investigate The Long-Term Effects Of XXXX 50/500mcg BD, XXXX 50mcg BD And XXXX 500mcg BD, All Delivered Via The Diskus/Accuhaler, On The Survival Of Subjects With COPD Over 3 Years Of Treatment.

2001-A Randomized, 12-Week, Double-Blind, Placebo-Controlled, Parallel-Group Study To Evaluate The Safety And Tolerability Of XXXX 15mg Twice Daily In Patients With COPD.

CALIFORNIA RESEARCH MEDICAL GROUP
301 W. BASTANCHURY ROAD, SUITE 220
FULLERTON, CALIFORNIA 92835
(714) 992-2555

JAMES LAWRENCE PEARLE, MD
CURRICULUM VITAE
Page 18 of 19
April 2019

2001-A Phase Ila Comparative Study Of The Safety And Efficacy Of XXXX 100mg QD, 200mg QD, 400mg QD And XXXX 500mg QD For The Treatment Of Subjects With Acute Bacterial Exacerbation Of Chronic Bronchitis.

2001-Prospective, Uncontrolled, Open-Label, Multicenter Clinical Trial Evaluating The Efficacy And Safety Of XXXX 300 Mg PO BID For 10 Days In The Treatment Of Patients With Community Acquired Pneumonia.

2001-A Multicenter, Randomized, Controlled, Open-Label Study To Evaluate The Safety Of XXXX In Moderate To Severe, Persistent Asthma Subjects Already Treated With Other Therapies.

2001-Clinical Protocol For A Multicenter, Double-Blind, Placebo-Controlled, Randomized, Parallel Group Study In The US To Compare The Efficacy And Tolerability Of XXXX Vs. XXXX In Treatment Of Acute Ankle Sprains.

1999-Double-Blind Randomized, Placebo-Controlled Surveillance Study Of Asthma Event Outcomes In Subjects Receiving Either Usual Pharmacotherapy Of Asthma Or Usual Pharmacotherapy Plus XXXX 42 MCG (2puffs) Twice Daily.

Schering Plough Research Investigator Training Program.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

EXPERT REPORT OF TED W. SIMON, PH.D., DABT

Prepared for: Mr. Thomas S. Phillips
Smith Jordan, P.A.
P.O. Box 1207
Easley, SC 29641

Kenneth Christian v. Sew-Eurodrive, Inc.
SCWCC No. 1614297

Ted Simon, Ph.D., DABT



Ted Simon, LLC
4184 Johnston Road
Winston, GA 30187
Ph: 770-359-9807
ted@tedsimon-toxicology.com

March 26, 2019

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

EXECUTIVE SUMMARY

My opinions, as presented in this report, were made to a reasonable degree of scientific certainty. I reserve the right to alter or amend these opinions based on new information.

Scope of work

For use in this report, I have considered: 1) my knowledge of the exposure to and adverse health effects of various substances in humans, this knowledge gained from reading the scientific literature both recently and during my twenty plus years of experience as a toxicologist; 2) medical records of Mr. Kenneth Christian and other materials provided me by Mr. Thomas Phillips.

Based on these materials, this report consists of my independent expert opinion as a toxicologist regarding the causal association of exposure to fumes from heated solder with Mr. Christian's pulmonary hypersensitivity manifested as interstitial lung disease.

Summary of opinions

It is my professional opinion that

- exposure to rosin/colophony in the solder used at Sew Eurodrive over a multi-decade duration is more likely than not the cause of Mr. Christian's respiratory symptoms and disease; this opinion based on the observations of these effects in electronics workers documented repeatedly in the scientific literature and in government regulatory documents.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

1. BACKGROUND

I was first contacted by Mr. Thomas Phillips by telephone early in March 2019. Subsequently, he provided me scanned copies of Mr. Christian's medical records, medical causation opinions by Dr. Richard Kemmerlin, and photographs of products, including solder, that Mr. Christian used in his work at Sew Eurodrive.

1.1. Qualifications

I am currently self-employed as a consulting toxicologist. I have provided expert consultations and testimony regarding the effects of legal pharmaceutical products, illegal drugs, and alcohol since 2001. Between 1994 and 2006, I was employed by the US Environmental Protection Agency as a regional toxicologist. I worked in the Region 4 office in Atlanta, GA that serves the southeastern US – North Carolina, South Carolina, Tennessee, Kentucky, Alabama, Mississippi, Georgia, and Florida. After leaving EPA in 2006, I continued working as a consulting toxicologist.

I have been a Diplomate of the American Board of Toxicology since 1994. In 2001, I developed testimony about the calibration of the Intoxilyzer 5000, the "breathalyzer" used in Georgia for onsite alcohol testing and in several instances, my appearance in court resulted in dismissal of charges. In 2003 as an EPA employee, I was admitted as an expert and testified before federal administrative law judge Barbara A. Gunning about environmental conditions around a leaking underground storage tank. In 2008, I testified in Fulton County Family Court regarding poisoning with inorganic mercury. In 2014, I provided a deposition to the U.S. Department of Justice regarding chemicals at a Superfund site. In 2015, I provided advice to the Fairfax County Police Department in Virginia about synthetic cannabinoids, toxic chemicals that mimic the effects of cannabis. In 2016, I provided an opinion about the effect of weight loss on marijuana urine test results. In 2017, I provided testimony in a Workman's Compensation case about the significance of THC in cannabis as a causal factor in a traffic accident. In 2018, I testified in Jersey City, NJ about the recognition of alcohol intoxication. In 2018, I provided a written expert opinion on the interpretation of blood levels of cannabis metabolite and cannabis use as a factor in a traffic accident with two fatalities. In 2018, I testified in Family Court in Gwinnett County, GA, on whether hair analysis results indicated a woman used methamphetamine during her pregnancy. Recently, I was invited to serve on the Chemical Assessment Advisory Committee that is part of EPA's Science Advisory Board and the editorial board of the journal *Regulatory Toxicology and Pharmacology*.

My Curriculum vitae and other professional information as of February 2019 are provided in Appendix C.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

1.2. Materials Reviewed and Examined

Materials provided by Mr. Thomas Phillips

Photographs of Products used by Mr. Christian

Medical Records from Various Providers as four pdf files

Medical Causation Statements from Dr. Richard Kemmerlin

Peer-Reviewed Journal Articles from the Scientific Literature and Government

Documents

- Burge, P. S., Perks, W., O'Brien, I. M., Hawkins, R., & Green, M. (1979). Occupational asthma in an electronics factory. *Thorax*, 34(1), 13-18.
- Burge, P. S., Harries, M. G., O'Brien, I., & Pepys, J. (1980). Bronchial provocation studies in workers exposed to the fumes of electronic soldering fluxes. *Clin Allergy*, 10(2), 137-149.
- Burge, P. S., Edge, G., Hawkins, R., White, V., & Taylor, A. J. (1981). Occupational asthma in a factory making flux-cored solder containing colophony. *Thorax*, 36(11), 828-834. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7330804>
- Chandra, D., & Cherian, S. V. (2019). Hypersensitivity Pneumonitis. In *StatPearls*. Treasure Island (FL): StatPearls Publishing. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/29763093>
- Cook, C. K., & Page, E. H. (2000). Health Hazard Evaluation Report 99-0137-2810. *NIOSH*, 20. Retrieved from <https://www.cdc.gov/niosh/hhe/reports/pdfs/1999-0137-2810.pdf>
- Connecticut Dept. of Public Health, Occupational Airways. *CDPT*, 1, 2. Retrieved from https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/environmental_health/eoha/pdf/OADec1995pdf.pdf?la=en
- Fawcett, I. W., Taylor, A. J., & Pepys, J. (1976). Asthma due to inhaled chemical agents--fumes from 'Multicore' soldering flux and colophony resin. *Clin Allergy*, 6, 577-585. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/1016290>
- Gupta, B. N., Rastogi, S. K., Husain, T., Mathur, N., & Pangtey, B. S. (1991). A study of respiratory morbidity and pulmonary function among solderers in the electronics industry. *Am Ind Hyg Assoc J*, 52(2), 45-51. doi:10.1080/15298669191364316
- Keira, T., Aizawa, Y., Karube, H., Niituya, M., Shinohara, S., Kuwashima, A., . . . Takata, T. (1997). Adverse effects of colophony. *Ind Health*, 35(1), 1-7. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9009495>
- Lee, H. S., Koh, D., Chia, H. P., & Phoon, W. H. (1994). Symptoms, lung function, and diurnal variation in peak expiratory flow rate among female solderers in the electronics industry. *Am J Ind Med*, 26(5), 613-619. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7832209>
- Palmer, K., & Crane, G. (1997). Respiratory disease in workers exposed to colophony solder flux fumes: continuing health concerns. *Occup Med (Lond)*, 47(8), 491-496. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9604483>
- Sadhra, S., Foulds, I. S., Gray, C. N., Koh, D., & Gardiner, K. (1994). Colophony--uses, health effects, airborne measurement and analysis. *Ann Occup Hyg*, 38(4), 385-396. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/7978961>
- Smith, P. A., Gardner, D. R., Drown, D. B., Downs, G., Jederberg, W. W., & Still, K. (1997). Detection of resin acid compounds in airborne particulate generated from rosin used as a soldering flux. *Am Ind Hyg Assoc J*, 58(12), 868-875. doi:10.1080/15428119791012207
- Smith, P. A., Gardner, D. R., Drown, D. B., Jederberg, W. W., & Still, K. (1998). Oxidized resin acids in aerosol derived from rosin core solder. *Am Ind Hyg Assoc J*, 59(12), 889-894. doi:10.1080/15428119891011063
- Smith, P. A., Son, P. S., Callaghan, P. M., Jederberg, W. W., Kuhlmann, K., & Still, K. R. (1996). Sampling and analysis of airborne resin acids and solvent-soluble material derived from heated colophony (rosin) flux: a method to quantify exposure to sensitizing compounds liberated during electronics soldering. *Toxicology*, 111(1-3), 225-238. doi:10.1016/0300-483X(96)03379-3

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

2. DIAGNOSIS OF MR. CHRISTIAN'S LUNG DISEASE BASED OF SPECIFIC OBSERVED PATHOLOGY

This section shows a timeline of Mr. Christian's diagnosis and symptoms of hypersensitivity pneumonitis, a form of interstitial lung disease. This timeline is supported by the narrative material in Appendix A.

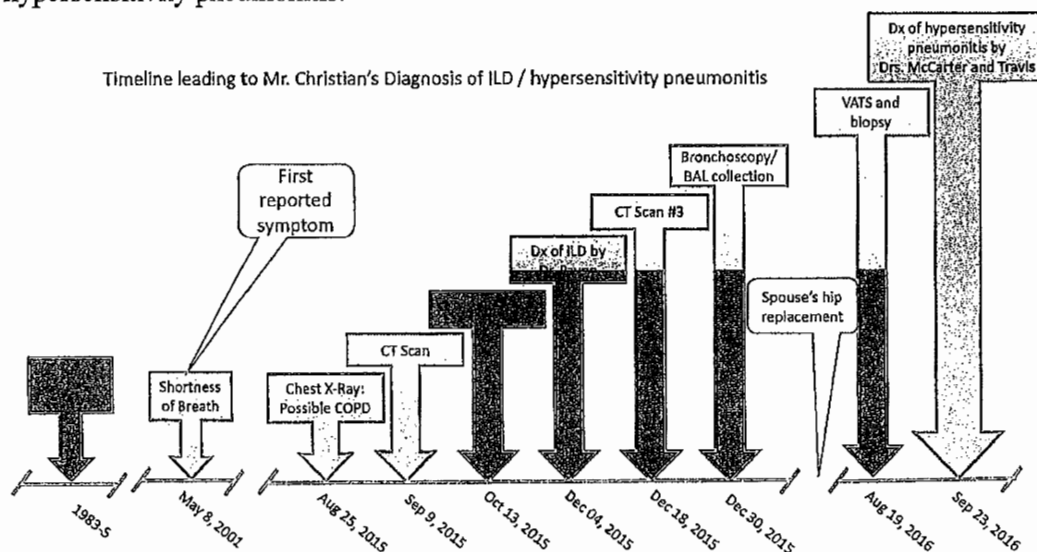
2.1. Definition of Interstitial Lung Disease and Medical Timeline of Diagnosis

Although Dr. Kemmerlin, Mr. Christian's primary care physician (PCP) provided a diagnosis of interstitial lung disease (ILD) in his written responses to Mr. Phillips on Nov. 19, 2018, according to the American Lung Association, ILD is really an umbrella term for many disorders that cause scarring or fibrosis of the lungs (<https://www.lung.org/lung-health-and-diseases/lung-disease-lookup/interstitial-lung-disease/>).

Hypersensitivity pneumonitis, the diagnosis given by Drs. McCarter and Travis, the pathologists who examined the biopsy tissue from Mr. Christian's lungs, is a form of ILD.

2.2. Graphic Timeline of Diagnostic Efforts for Mr. Christian

The figure below shows a time of the diagnostic tests and eventual diagnosis of hypersensitivity pneumonitis.



Mr. Christian's first reported symptom was shortness of breath, noted by Dr. Kemmerlin, after more than fifteen years of working at Sew Eurodrive. The time from Mr. Christian's first chest x-ray to the eventual diagnosis of hypersensitivity pneumonitis took over a

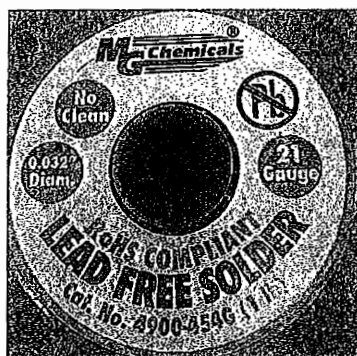
Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

year. A 2019 review article on this disease notes the difficulty in this diagnosis and that surgical biopsy, as in Mr. Christian's case, is required for a definitive diagnosis (Chandra & Cherian, 2019). As mentioned above, a narrative of the timeline events is provided as Appendix A to this report.

3. SOLDER USED BY MR. CHRISTIAN IN HIS WORK AT SEW EURODRIVE

Mr. Phillips provided me a photograph of the solder used by Mr. Christian (shown below).



From the catalog number on the label, I obtained the material safety data sheet (MSDS) and it is attached as appendix B. The catalog number of the solder 4900-454G is also shown on the MSDS. Notably, this solder contains hydrogenated rosin.

Although Mr. Christian was likely exposed to other chemicals and potentially hazardous substances in his work at Sew Eurodrive. His symptoms, as detailed in the medical records are consistent with those documented to be associated with exposure to solder, with colophony/rosin as an ingredient.

4. EXPOSURE TO SOLDER HAS LONG BEEN ASSOCIATED WITH OCCUPATIONAL ASTHMA AND LUNG DISEASES

The solder contains hydrogenated rosin. On PubChem, a federal database of chemicals, the CAS # 65997-13-9 is identified as "Resin acids and Rosin acids, hydrogenated, esters with glycerol." This type of rosin is derived from pine pitch and is also known as pine resin or colophony (Keira et al., 1997)

The National Centers for Disease Control provides the NOISH Health Hazard Evaluation Report No. 99-0137 at <https://www.cdc.gov/niosh/hhe/reports/pdfs/1999-0137-2810.pdf> (Cook & Page, 2000). The report from the National Institute of Occupational Safety and Health (NIOSH) is based on peer-reviewed articles in the scientific literature and

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

identifies colophony and resin acid compounds as a skin and respiratory sensitizer that causes allergic contact dermatitis and occupational asthma (Cook & Page, 2000). This government report also lists three references that measured airborne respiratory sensitizers derived from colophony in solder flux (Smith et al., 1996, 1997, 1998).

The association with asthma symptoms, decreased lung function and other respiratory symptoms in electronics workers performing soldering is well documented in the scientific literature (Burge et al., 1979, 1980, 1981; Lee et al., 1994; Palmer & Crane, 1997; Sadhra et al. 1994). In those studies that examined smoking as well as electronics work, smoking contributed to the occurrence of respiratory symptoms (Gupta et al., 1991). Mr. Christian, according to his medical records, never smoked tobacco and his symptoms are more likely than not due to his exposure to solder fumes during his work.

The NIOSH document cited earlier was published in 2000 before Mr. Christian's first documented symptom. In December 1995, the Connecticut Department of Public Health published a document on occupational health and a case study therein noted colophony as a cause of respiratory symptoms in a solderer (CT Dept of Public Health, 1995).

5. SUMMARY AND CONCLUSIONS

I advance a single opinion regarding the cause of hypersensitivity pneumonitis in Mr. Kenneth Christian:

- exposure to rosin/colophony in the solder used at Sew Eurodrive is more likely than not the cause of his respiratory symptoms and disease based on the observations of these effects in electronics workers documented repeatedly in the scientific literature and in government documents.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

PROFESSIONAL INFORMATION FOR TED W. SIMON

Previous Testimony

Details of any testimony is provided in his Curriculum Vitae.

Compensation

Ted W. Simon is self-employed and a principal of TedSimon LCC. For this report, he received \$2500.

Exhibits for use in Deposition and Testimony

Ted W. Simon may use as exhibits any document contained in or referred to in this report, summaries of the contents of or supplements to this report, any document listed as a trial exhibit or provided in discovery by the parties, any documents considered by the parties' experts, or any document needed to respond to or rebut testimony given on behalf of any party. Ted W. Simon reserves the right to provide lists of exhibits as permitted by the Federal Rules of Civil Procedure and the Scheduling Order in this case.

Reservation of Rights

As noted in the Background section of the main report, Ted W. Simon reserves the right to modify, change or supplement his opinions based on additional information that may be produced following submittal of this report, as well as for use as exhibits for use in deposition and/or court testimony. Also, he reserves the right to obtain and review additional information and incorporate such information into additional analyses or reports. Additional analyses may be conducted as necessary for any of the following reasons: 1) to respond to new or newly acquired information; 2) to respond to expert reports, including but not limited to rebuttal reports; 3) to respond to deposition testimony as it is provided; and 4) as permitted by the Federal Rules of Civil Procedure.

Curriculum Vitae

The most recent CV of Ted W. Simon is attached as Appendix C.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

APPENDIX A: KEY TIMELINE EVENTS IN THE PROGRESSION OF MR. CHRISTIAN'S DISEASE AND DIAGNOSIS

The first symptom available in the medical records was on 18 May 2001, noted by Dr. Kemmerlin was chest pain and shortness of breath (Medical Records, Part 1, p 2; scan shown below).

date 5/18/01 age 50
 I P BP 104/60 (R)
 WT 157 HT HC
 MP ALG NKA MEDS
 chest pain on Sat. - radiated to R arm and still hurts
 SOB
 chest stress - not sure if it is

S: Here complaining that he had chestpain on Saturday while working out in the yard, radiated to his R arm. Had some slight SOB. The pain went away. He went back out in the yard to work, doing some lifting, but not really doing anything strenuous & the pain came back. Has had no further chestpain, but still having some pain in the R arm & the R shoulder. Also having some PKD.

From the medical records, a physical examination of Mr. Christian by his primary care physician (PCP), Dr. W. Richard Kemmerlin, on 18 Sep 2012 notes that he worked at Sew Eurodrive for 30 years (Medical Records, Part 1, p. 20; scan shown below).

5-18-12 cont:

Social history: has been married for 39 yrs.
 Education: Assoc. Degree in electronic eng. from Greenville Tech. He has worked at Sew Eurodrive for 30 years.
 Hobbies: computer games & landscaping.
 Habit history: neg. except for occasional beer.
 Meds: Pt. has been taking Lisin 20 --

This company has a plant in Lyman, SC that has been in operation since 1983, and thus, Mr. Christian likely worked there the entire time the plant was open. The company manufactures electromechanical parts such as servo motors, gear motors and inverters (<http://www.seweurodrive.com/produkt/index.php>).

On 17 Mar 2011, Dr. Kemmerlin prescribed Singulair and Advair, two medicines with long use in mitigating asthma symptoms (Medical Records, Part 1, p. 16; scan shown below).

R: Amoxicillin 875 b.i.d. x 20 days.
 Singulair 10 mg 1 po qd.
 Advair 100/50 inhalation b.i.d., Cheratus AC
 h.s. prn cough. Follow up.

On 25 Aug 2015, Dr. Kemmerlin noted a chronic cough with a possible cause as allergies and ordered lung screening for Mr. Christian (Medical Records, Part 1, p. 30; scan shown below).

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

- A: (1) Chronic cough, possibly due to allergies.
 (2) Loss of hearing. He has high frequency hearing loss.

A chest x-ray on 25 Aug 2015 read by Dr. Jennifer Cranny of Anderson Radiology indicated possible chronic obstructive pulmonary disease (COPD) (Medical Records, Part 4, p. 1; scan shown below).

1. No evidence of focal consolidation or effusion.
2. Hyperinflation suggests COPD. There is diffuse fibrosis.

On 9 Sep 2015, Dr. Kemmerlin referred Mr. Christian to Deborah Martin-Sexton, NP, for further lung screening (Medical Records, Part 1, p. 29; scan shown below).

CT scan to be scheduled
 by Deborah Martin-Sexton.
 Mr. Christian to her @ 1864-66197
 Wk-Aton. CT @ J. W. Watson
 (CT scan)
 Piedmont Imaging
 Spartanburg
 Pine St

The lung screening was performed by CT Chest scan. The findings were reported by Dr. Jeffrey K. Shramek of South Carolina Diagnostic Imaging and indicated observed lung changes indicative of possible lung disease (Medical Records, Part 4, p. 2; scan shown below).

CONCLUSION: Chronic bilateral interstitial lung changes. Ground glass opacities within the inferior and posterior aspects of the lungs raise the question of acute alveolitis or pneumonitis and bring consideration acute phase of an interstitial pneumonitis. Chronic biapical pleuroparenchymal changes.

On 9 Sep 2015, Dr. Kemmerlin prescribed a course of oral prednisone, a steroid often used to treat lung diseases (Medical Records, Part 1, p. 29; scan shown below).

9/9/15 Prednisone 20mg 31260948 E. Dr. Kemmerlin
 April 7-104. Ch. Ch. B. B.
 CMS 859-71642

Another CT scan on 13 Oct 2015 also performed at South Carolina Diagnostic Imaging showed no improvement (Medical Records, Part 4, p. 3; scan shown below).

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

FINDINGS: There has been no interval improvement in bilateral lung opacities and ground-glass changes compared to the prior study. Stable heart, mediastinum, and pulmonary hila. Similar splaying of the carina when compared to the prior study.

IMPRESSION: No change in bilateral ground-glass opacities compared to the prior study. No new lung findings.

On 4 Dec 2015, Mr. Christian was examined by Dr. Julia G. Payne, a pulmonologist at Palmetto Pulmonary. In the history taken by Dr. Payne, she notes that Mr. Christian uses solder at his work (Medical Records, Part 2, p. 8; scan shown below).

Mr. Christian does not report any use of pulmonary toxic drugs like methotrexate, amiodarone, nitrofurantoin or others. Mr. Christian brings in a list of the chemicals he works with including "Flux-Off Roast" which contains acetone, isopropyl alcohol, n hexane, methypentane, difluorocetane and metrylpentane. He also uses electronic silver solder (2% silver 98% tin, 36% lead). Occasionally he uses a "green" cleaner as well. His only pet is a small dog and he has no asthma. He denies fevers, weight loss, fatigue.

Further on her records of the visit on 4 Dec 2015, Dr. Payne provides the results of lung function tests performed by Dr. Ezzat El Bayoumi who notes the results are consistent with interstitial lung disease (Medical Records, Part 2, p. 14; scan shown below).

Spirometry is normal however lung volume analysis is consistent with mild restrictive defect.. The diffusion capacity was corrected for hemoglobin is significantly decreased. This is consistent with interstitial lung disease as the residual volume is significantly decreased. Please correlate clinically.

A third CT scan was performed on 18 Dec 2015 at St. Francis Downtown in Greenville, SC and read by Dr. Barry M. Lazenby with similar impressions (Medical Records, Part 2, p. 3; scan shown below).

1. Peripheral reticular changes, mild central bronchiectasis, and patchy groundglass changes. These findings are most suggestive of a process such as an NSIP, or hypersensitivity pneumonitis. No prior studies are currently available to compare.

The attending physician noted in these records was Dr. Julia G. Payne, a pulmonologist and Mr. Christian's PCP was noted as Thomas W. Kendall, Sr.

On 30 Dec 2015, Mr. Christian underwent a bronchoscopy procedure to inspect his airway and accompanying bronchoalveolar lavage (BAL) to collect lung fluid performed at Saint Francis Downtown by Dr. Travis J. Greer. Neither Dr. Greer nor any other medical professional provided an interpretation of the BAL findings. The laboratory results for the BAL are provided in Medical Records, Part 2, pp. 18-21.

Mr. Christian visited Saint Francis Downtown on 6 Jan 2016 and blood was taken. The laboratory report on the blood is provided in Medical Records, Part 2, pp. 28-30.

Mr. Christian was referred to Allergy Partners of the Upstate by Dr. Payne and he was seen there by Dr. Andrea Lantz on 14 Jan 2016. This was his only visit to Dr. Lantz.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

On 26 June 2016, Mr. Christian was seen by Dr. Edward Bert Knight III at the Pulmonary Lung Center in Greenville, SC. He returned to the Pulmonary Lung Center on 23 Aug 2016 preparatory to video-assisted thoracoscopic surgery (VATS) on 26 Aug 2016. The VATS procedure was performed to obtain biopsy specimen of Mr. Christian's lungs. The biopsy samples were examined by both Dr. Jackson H. McCarter of the Greenville Health System Laboratories and also sent for additional review to Dr. William Travis of Memorial Sloan Kettering Cancer Center in New York City.

Dr. McCarter indicated that the examination of the tissue was "highly suggestive" of chronic hypersensitivity pneumonitis and that solder fumes were a possible cause (Medical Records, Part 3, p.28; scan shown below).

The multiple wedge biopsy samples show an advanced interstitial fibrotic process, with UIP pattern features of patchy spatially and temporally variable fibrosis, with areas of honeycombing. The association with minute, poorly formed granulomata is highly suggestive of a chronic hypersensitivity pneumonitis, which in advanced stages may have a UIP pattern. Clinical correlation, particularly history of possible exposure to inhaled antigens, is recommended.

Review of the patient's history shows no known exposure to animal dander or other organic antigens, and hypersensitivity precipitins have been negative. The patient is an electronics technician who has had frequent exposure to solder fumes, which has been reported as a rare cause of hypersensitivity pneumonitis.

A letter from Dr. Travis confirms Dr. McCarter's diagnosis (Medical Records, Part 3, p. 31; scan shown below).

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

APPENDIX B: MATERIAL SAFETY DATA SHEET FOR MG CHEMICALS SOLDER 4900-454G

This document begins on the next page and was attached as a pdf file.



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 No CLEAN SOLDER WIRE

4900-4917

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: SAC305 No Clean Solder Wire

SDS Code: 4900-4917

Related Part # 4900-35G, 4900-112G, 4900-227G, 4900-454G, 4912-227G, 4915-112G, 4915-454G, 4916-112G, 4916-454G, 4917-227G

Recommended Use and Restriction on Use

Use: Lead free solder wire

Uses Advised Against: Do not use brazing soldering methods such as high temperature torch soldering/torch welding.

Details of Manufacturer or Importer

Manufacturer

MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

☎ +1-905-331-1396
FAX +1-905-331-2682
E-MAIL info@mgchemicals.com

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents) USA or CANADA—Call CHEMTREC at +1-800-424-9300

For emergencies involving the transport of dangerous goods; 24/7 service CANADA—Call CANUTEC collect at +1-613-996-6666 or *666 on cellular phones



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Based on available data, this product does not meet the HCS 2012 or WHMIS 2015 classification criteria.

Label Elements

Signal Word	<i>No signal word</i>
Pictograms	Hazard Statements
<i>None mandated</i>	None

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Argyria Hazard	Long term exposure to silver powder or compounds can lead to an irreversible blue-grey discoloration of the skin.	Warning	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
7440-31-5	tin	94%
7440-22-4	silver	3%
65997-13-9	rosin, hydrogenated ^{a)}	2.2%
7440-50-8	copper	0.5%

a) Based on available data, not classified as hazardous under GHS



Quality System Certified to ISO 9001:2008

SAI Global File #004008

Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF INHALED	P304 + P340
Immediate Symptoms	<i>low toxicity: cough, irritation of the respiratory track</i>
Response	Remove person to fresh air and keep comfortable for breathing.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>low toxicity: redness, mild irritation</i>
Response	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN	P302 + P352
Immediate Symptoms	<i>low toxicity: mild irritation</i>
Response	Wash with plenty of water.
IF SWALLOWED	P301 + P330
Immediate Symptoms	<i>low toxicity: no symptoms known or expected</i>
Response	Rinse mouth.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use extinguish media suitable for surrounding material. In presence of molten metal, do NOT use water on fires.
Specific Hazards	In a fire, this product can release metal oxide fumes and irritating flux fumes.
Combustion Products	Produces CO and CO ₂ , tin oxides (SnO _x), and silver metal fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Section 6: Accidental Release Measures

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing fumes. Remove or keep away all sources of extreme heat.
Environmental Precautions	Avoid releasing to the environment.
Containment Methods	Not applicable
Cleaning Methods	Collect waste in a waste container. Reuse molten material if it is not contaminated.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	Keep out of reach of children. Avoid breathing fumes. Do not eat, drink, or smoke when using this product.
Handling	Wear protective gloves/clothing/eye protection. Wash hands thoroughly after handling. Avoid release to the environment.
Storage	Not applicable.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
tin	ACGIH	2 mg/m ³	Not established
	U.S.A. OSHA PEL	2 mg/m ³	Not established
	Canada AB	2 mg/m ³	Not established
	Canada BC	2 mg/m ³	Not established
	Canada ON	2 mg/m ³	Not established
	Canada QC	2 mg/m ³	Not established

Section continued on the next page



Quality System Certified to ISO 9001:2008

SAI Global File #004008

Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE**4900-4917***Continued...*

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
silver (metal dust, mist) (metal) (Ag and its compounds) (metal, dust, fumes)	ACGIH	0.1 mg/m ³	Not established
	U.S.A. OSHA PEL	0.01 mg/m ³	Not established
	Canada AB	0.1 mg/m ³	Not established
	Canada BC	0.01 mg/m ³	0.03 mg/m ³
	Canada ON	0.1 mg/m ³	Not established
copper (dust and mist)	Canada QC	0.1 mg/m ³	Not established
	ACGIH	1.0 mg/m ³	Not established
	U.S.A. OSHA PEL	1.0 mg/m ³	Not established
	Canada AB	1.0 mg/m ³	Not established
	Canada BC	1.0 mg/m ³	Not established
	Canada ON	1 mg/m ³	Not established
	Canada QC	1 mg/m ³	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA, and Canadian provinces exposure limits were consulted. Limits from the RTECS database² and from suppliers' SDS were also consulted. Short term exposure limits (STEL) are usually for 15 min and long term permissible exposure limits (PEL) for 8 h.

Engineering Controls**Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

Soft soldering temperatures (<450 °C) are generally too low to generate significant amounts of metal vapors, however, metal oxide fumes/dust or flux decomposition fumes can occur.

Recommendation: For frequent or prolonged soldering processes, use of a local exhaust system to avoid exposure to thermal decomposition products. For example, use fume cabinet, a hood on a flexible arm, or tip-mounted fume extraction system on the soldering iron.

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

Recommendation: Ensure that glasses have side shields for lateral protection.

Section continued on the next page



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Skin Protection

For incidental contacts, use nitrile or other chemically resistant gloves. If contact with molten metal is likely, wear thermally resistant gloves.

Respiratory Protection

If exposed to fumes or dust above the exposure limit, a suitable wear respirator meeting local/regional/national guidelines.

Generally, for emergencies and exposure above 0.01 mg/m³, use a self-contained breathing apparatus with full face piece operated in a pressure positive mode.

RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9 Physical and Chemical Properties

Physical State	Solid	Lower Flammability Limit	Not applicable
Appearance	Silver grey	Upper Flammability Limit	Not applicable
Odor	None	Vapor Pressure @20 °C	Not available
Odor Threshold	Not available	Vapor Density	Not applicable
pH	Not available	Specific Gravity @25 °C	7.39
Freezing/Melting Point	217-221 °C [423-430 °F]	Solubility in Water	Negligible ^{a)}
Boiling Point	Not available	Partition Coefficient	Not available
Flash Point	Not applicable	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not applicable	Viscosity @40°C	Not applicable

a) Metal components are sparingly soluble



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 No CLEAN SOLDER WIRE

4900-4917

Section 10: Stability and Reactivity

Reactivity	Tin may react violently in presence of disulfur dichloride and iodine bromide.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Extreme temperatures above 450 °C, such as those due to welding
Incompatibilities	Oxidizing agents, strong acids
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes	Low toxicity: may cause redness and mild irritation.
Skin	Low toxicity: may cause mild irritation.
Inhalation	Low toxicity: may cause nose, throat and lung irritation; and coughing. Overexposure to dust or metal fumes may lead to pneumoconiosis (or Stannosis), anemia, and central nervous system effects.
Ingestion	Low toxicity: no symptoms known or expected. (See chronic effects)
Chronic	Prolonged or repeated exposure to silver or silver compounds by ingestion or inhalation can cause an irreversible blue-grey skin discoloration.

Section continued on the next page



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
tin	>2 000 mg/kg Rat	>2 000 mg/kg Rabbit	4.75 mg/m ³ Rat 4 h
silver	>2 000 mg/kg Rat	>2 000 mg/kg Rabbit	>5.16 mg/L Rat 4 h
rosin, hydrogenated	>2 000 mg/kg Rat	>2 000 mg/kg Rabbit	Not available
copper	>5 000 mg/kg Mouse	Not available	>5.11 mg/L Rat 4 h

Note: Toxicity data from the RTECS² and ECHA were consulted. The data from supplier (M)SDS were also consulted.

Other Toxicological Effects

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.
Carcinogenicity (risk of cancer)	None of the Ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	Based on available data, the classification criteria are not met.
Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not applicable. This product doesn't contain any Cat 1 ingredients and is a solid.



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

Based on transformation/dissolution data published by ECHA registrants, the classification threshold is not met for massive silver nor massive copper.

Based on available data for tin and hydrogenated rosin, the GHS aqueous toxicity classification criteria are not met.

Acute Ecotoxicity

Non regulated: Based on available data, the classification criteria are not met.

Chronic Ecotoxicity

Non regulated: Based on available data, the classification criteria are not met.

Biodegradability

Not available

Bioaccumulation

Not available

Other Effects

Not available

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.



Quality System Certified to ISO 9001:2008

SAI Global File #004008

Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations);
USA DOT 49 CFR (Parts 100 to 185) **Regulations.**

Non Regulated

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Non Regulated

Sea

Refer to IMDG regulations.

Non Regulated

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

Section continued on the next page



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

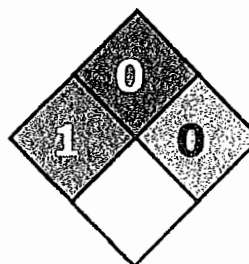
USA

Other Classifications

HMIS® RATING

HEALTH:	1
FLAMMABILITY:	0
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains silver (CAS# 7440-22-4; reportable quantity = 1 000 lb) and copper (CAS# 7440-50-8; reportable quantity = 5 000 lb), which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, June 06, 2014 revision, USA).

This product does not contain any of the listed substances.

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.



Quality System Certified to ISO 9001:2008

SAI Global File #004008
Burlington, Ontario, Canada

SAC305 No CLEAN SOLDER WIRE

4900-4917

Section 16 Other Information

SDS Prepared by Michel Hachey
Date of Review 01 August 2017
Supersedes 04 October 2016
Reason for Changes: Change to the product name.

Reference

- 1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
IARC	International Agency for Research on Cancer
NOELR	No observable effect loading ratio
NTP	National Toxicology Program
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
SDS	Safety Data Sheet
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

Section continued on the next page



Quality System Certified to ISO 9001:2008

SAI Global File #004008

Burlington, Ontario, Canada

SAC305 NO CLEAN SOLDER WIRE

4900-4917

Technical Queries Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

Email: support@mgchemicals.com

Mailing Addresses *Manufacturing & Support*
1210 Corporate Drive
Burlington, Ontario, Canada
L7L 5R6

Head Office
9347-193rd Street
Surrey, British Columbia, Canada
V4N 4E7

Disclaimer This material safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.

Expert Report of Ted W. Simon, Ph.D., DABT Re: Kenneth Christian v. Sew Eurodrive, Inc. SCWCC No. 1614297

ATTORNEY-CLIENT PRIVILEGED/CONFIDENTIAL WORK PRODUCT

APPENDIX C. CURRICULUM VITAE OF DR. TED W. SIMON

Ted W. Simon, Ph.D., DABT

**Contact**

4184 Johnston Road
Winston, GA USA 30187

email: ted@tedsimon-toxicology.com
website: <http://www.tedsimon-toxicology.com>
mobile: +01 (770)359-9807

Summary

Award winning toxicologist and scientist. 10+ years' experience as a toxicologist employed by the Environmental Protection Agency (EPA). 10+ years consulting and expert witness experience. Served as EPA's senior toxicologist in the waste management division working on risk and soil cleanup. Experienced expert witness on issues including alcohol and cannabis, DUI and dram shop issues, environmental risk, illegal drugs, pharmaceuticals, accidental poisoning, and intellectual property. Well published, including author of textbook on toxicology and environmental risk assessment and a reference work on pesticides. Expertise in toxicology, risk assessment, mathematical modeling, statistics, neuroscience, and environmental/ecological health issues. Interest and expertise in the effects and testing of alcohol, cannabis and pharmaceuticals, per- and poly-fluorinated chemicals, arsenic, chromium, benzene and other solvents. Extensive national and international public speaking experience. 15+ years teaching experience.

Professional Certifications

1994 - Diplomate of the American Board of Toxicology (DABT)

Invited Service

2019 - Member, Chemical Assessment Advisory Committee of EPA's Science Advisory Board
2019 - Editorial Board Member, *Regulatory Toxicology and Pharmacology*, Elsevier

Employment History

2004 - present Principal, Ted Simon, LLC, Winston, GA
2006 - present Adjunct Professor, Environmental Health Science, College of Public Health, University of Georgia, Athens, GA
1996 - 2006 Toxicologist, US Environmental Protection Agency, Region 4, Atlanta, GA
2003 Instructor, Department of Biology, Georgia State University, Atlanta, GA
2001 - present Instructor, Department of Environmental Health Science, University of Georgia, Athens, GA
1996 Environmental Health Scientist, Agency for Toxic Substances and Disease Registry/Centers for Disease Control, Atlanta, GA
1994 - 1996 Toxicologist, US Environmental Protection Agency, Region 4, Atlanta, GA
1993 - 1994 Project Scientist, ManTech Environmental Inc., USEPA Region 4, Atlanta, GA
1993 Assistant Professor of Biology, Life College, Marietta, GA
1991 - 1993 Georgia State University, Postdoctoral Research Associate, Atlanta, GA
1989 - 1991 Emory University, Postdoctoral Research Fellow, Atlanta, GA
1982 - 1988 Georgia State University, Research/Teaching Assistant, Atlanta, GA

Editorial Activities

Editor, SciPinion Peer Reviews: SciPinion, Inc. provides a service for managing peer reviews with paid reviewers that collects both their scientific opinions and demographic data. Charge questions require editing so that they are clear and unbiased.

Peer Reviewer, Health Canada: provides this Canadian National Health Agency with peer reviews of documents when requested.

Education

1989 Ph.D. Neurobiology & Behavior, Georgia State University, Atlanta, GA
1971 B.A. Biology, Middlebury College, Middlebury, VT

Books Published

- **Simon TW.** *Environmental Risk Assessment: A Toxicological Approach, 2nd Edition*. Expected 2020. Textbook for Graduate Risk Assessment Courses.

- Anderson SA, **Simon TW**. (2018) *Defending Pesticides in Litigation 2018 Edition*. Thompson Reuters. ISBN: 978-0-314-84654-9
- **Simon TW**. *Environmental Risk Assessment: A Toxicological Approach*. (2014) Textbook for Graduate Risk Assessment Courses, CRC Press ISBN 978-1466598294

Scientific Publications

PEER-REVIEWED JOURNAL ARTICLES

- Kirman CR, **Simon TW**, Hays SM (2019) Science peer review for the 21st century: Assessing scientific consensus for decision-making while managing conflict on interests, reviewer and process bias. *Regul Toxicol Pharmacol* pii: S0273-2300(19)30003-0. doi: 10.1016/j.yrtph.2019.01.003
- Patlewicz G, Wambaugh JF, Felter SP, **Simon TW**, Becker RA (2018) Utilizing Threshold of Toxicological Concern (TTC) with high throughput exposure predictions (HTE) as a risk-based prioritization approach for thousands of chemicals. *Computational Toxicology* 7:58-67.
- **Simon TW** (2018) Providing context for phosphatidylethanol as a biomarker of alcohol consumption with a pharmacokinetic model. *Regul Toxicol Pharmacol* 94:163-171.
- Bell SM, Chang X, Wambaugh JF, Allen DG, Bartels M, Brouwer KLR, Casey WM, Choksi N, Ferguson SS, Fraczkiwicz G, Jarabek AM, Ke A, Lumen A, Lynn SG, Paini A, Price PS, Ring C, **Simon TW**, Sipes NS, Sprankle CS, Strickland J, Troutman J, Wetmore BA, Kleinstreuer NC. (2017) In vitro to in vivo extrapolation for high throughput prioritization and decision making. *Toxicol In Vitro* 47:213-227.
- Becker RA, Dreier DA, Manibusan MK, Cox LA, **Simon TW**, Bus JS. (2017) How Well Can Carcinogenicity Be Predicted by High Throughput "Characteristics of Carcinogens" Mechanistic Data? *Regul Toxicol Pharmacol* 80:185-196
- **Simon TW**, Zhu Y, Dourson ML, Beck N. (2016) Bayesian Methods for Uncertainty Factor Application for Derivation of Reference Values. *Regul Toxicol Pharmacol* 80:9-24.
- Beck NB, Becker RA, Erraguntla N, Farland WH, Grant RL, Gray G, Kirman C, Lakind JS, Lewis RJ, Nance P, Pottenger LH, Santos SL, Shirley S, **Simon T**, Dourson ML. (2016) Approaches for describing and communicating overall uncertainty in toxicity characterizations: U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) as a case study. *Environ Int* 89-90:110-128.
- Becker RT, Patlewicz G, **Simon TW**, Rowlands JC, Budinsky RA (2015) The adverse outcome pathway for rodent liver tumor promotion by sustained activation of the aryl hydrocarbon receptor. *Regul Toxicol Pharmacol* 73:172-90.
- **Simon TW**, Budinsky RA, Rowlands JC. (2015) A Model for Aryl Hydrocarbon Receptor-Activated Gene Expression Shows Potency and Efficacy Changes and Predicts Squelching due to Competition for Transcription Co-activators. *PLOS ONE*, 10(6):e0127952
- Becker RA, Friedman KP, **Simon TW**, Marty MS, Patlewicz G, Rowlands JC. (2014) An exposure:activity profiling method for interpreting high-throughput screening data for estrogenic activity-Proof of concept. *Regul Toxicol Pharmacol* 71:398-408.
- Patlewicz G, **Simon TW**, Rowlands JC, Budinsky RA, Becker RA. (2015) Proposing a scientific confidence framework to help support the application of adverse outcome pathways for regulatory purposes. *Regul Toxicol Pharmacol* 71:463-477.
- **Simon TW**, Simons SS Jr., Preston RJ, Boobis AR, Cohen SM, Doerrer NG, Fenner-Crisp PA, McMullin T, McQueen CA, Rowlands JC (2014) The Use of Mode of Action Information in Risk Assessment: Quantitative Key Events / Dose-Response Framework (Q-KEDRF) for Modeling the Dose-Response for Key Events. *Crit Rev Toxicol* 44 Suppl 3:17-43.
- Budinsky, RA, Schrenk D, **Simon T**, Van den Berg M, Reichard JF, Silkworth JB, Aylward LL, Brix A, Kaminski N, Perdew G, Starr TB, Walker NJ, Rowlands JC (2014) Mode of action and dose-response framework analysis for receptor-mediated toxicity: the aryl hydrocarbon receptor as a case study. *Crit Rev Toxicol* 44(1):83-119

- Patlewicz G, **Simon T**, Goyak K, Phillips RD, Rowlands JC, Seidel SD, Becker RA. (2013) Use and Validation of HT/HC Assays to support 21st century toxicity evaluations. *Regul Toxicol Pharmacol* 65(2):259-68.
- Stephens ML, Andersen M, Becker RA, Betts K, Boekleheide K, Carney E, Chapin R, Devlin D, Fitzpatrick S, Fowle JR, Harlow P, Hartung T, Hoffmann S, Holsapple M, Jacobs A, Judson R, Naidenko O, Pastoor T, Patlewicz G, Rowan A, Scherer R, Shakh R, **Simon T**, Wolf D, Zurlo J. (2013) Workshop Report: Evidence-based Toxicology for the 21st Century: Opportunities and Challenges. *ALTEX* 30:74-103.
- Patlewicz G, **Simon T**, Goyak K, Phillips RD, Rowlands JC, Seidel S and Becker RA (2013) Use and Validation of HT/HC Assays to Support 21st Century Toxicity Evaluations. *Regul Toxicol Pharmacol* 5:1-7.
- Kirman C, Budinsky RA, Yost L, Baker BF, Zabik JM, Rowlands JC, Long TF, **Simon T** (2011) Derivation of Soil Clean-Up Levels for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Toxicity Equivalence (TEQ_{D/F}) in Soil Through Deterministic and Probabilistic Risk Assessment of Exposure and Toxicity. *Human and Ecological Risk Assessment* 17(1): 125-158.
- Budinsky RA, LeClyuse EL, Ferguson SS, Rowlands JC, **Simon T** (2010) Human and Rat Primary Hepatocyte CYP1A1 and 1A2 Induction with 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), 2,3,7,8-Tetrachlorodibenzofuran (TCDF) and 2,3,4,7,8-Pentachlorodibenzofuran (4-PeCDF). *Toxicol Sci* 118(1):224-235.
- **Simon T** (2010) Just Who is at Risk? The Ethics of Environmental Regulation. *Hum Exp Toxicol* 30(8):795-819.
- **Simon T**, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC (2009) Estimates of Cancer Potency of 2,3,7,8-Tetrachlorodibenzo(p)dioxin using Linear and Non-linear Dose-Response Modeling and Toxicokinetics. *Toxicol Sci* 112(2):490-506.
- **Simon T**, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC, Long T (2008) Estimates of Cancer Potency For 2, 3, 4, 7, 8-Pentachlorodibenzofuran Using Both Nonlinear and Linear Approachs. *Toxicol Sci* 106(2):519-537.
- **Simon T**, Britt JK, James RC (2007) Development of a Neurotoxic Equivalence Scheme of Relative Potency for Assessing the Risk of PCB Mixtures. *Regul Toxicol Pharmacol* 48:148-170.
- **Simon T** and Manning R (2006) Development of a Reference Dose for the Persistent Congeners of Weathered Toxaphene based on *in vivo* and *in vitro* effects Related to Tumor Promotion. *Regul Toxicol Pharmacol* 44:268-281.
- **Simon T** (2000) In Defense of Risk Assessment: a Reply to the Environmental Justice Movement's Critique. *Human and Ecological Risk Assessment* 6(4):556-560.
- Englehardt JD, **Simon T** (1999) Order Amid Uncertainty. *Civil Engineering*, American Society of Civil Engineers, 69(6):8A-13A.
- **Simon T** (1999) Two-Dimensional Monte Carlo Simulation and Beyond: A Comparison of Several Probabilistic Risk Assessment Methods applied to a Superfund Site. *Human and Ecological Risk Assessment* 5(4):823-843.
- **Simon T** (1997) Combining Physiologically Based Pharmacokinetic Modeling with Monte Carlo Simulation to Derive an Acute Inhalation Guidance Value for Trichloroethylene. *Regul Toxicol Pharmacol* 26:257-270.
- **Simon T**, Barnes K (1995) Olfaction and Prey Search in the carnivorous leech, *Haemaphysalis marmorata*. *J Exp Biol* 199:2041-2051.
- **Simon T**, Derby CD (1995) Mixture Suppression with inhibition for binary mixtures from whole cell patch clamp studies of *in situ* olfactory receptor neurons of the spiny lobster. *Brain Res* 678(1-2):213-224.
- **Simon T**, Schmidt, J, Calabrese RL (1994) Modulation of High Threshold Transmission Between Heart Interneurons of the Medicinal Leech by FMRF-NH₂. *J Neurophysiol* 71:454-466.
- **Simon T**, Opdyke CA, Calabrese RL (1992) Modulatory effects of FMRF-NH₂ on the outward currents and oscillatory activity in heart interneurons of the medicinal leech. *J Neurosci* 12(2):525-537. **Simon T**, Edwards DH (1990) Light-evoked walking in crayfish: Behavioral and neuronal responses triggered by the caudal photoreceptor. *J Comp Physiol A* 166:745-755
- Hershey SJ, **Simon T**, Baste C (1975) Histochemical localization of cytochrome oxidase in gastric mucosa. *J Histochem Cytochem* 4:271-282.

ABSTRACTS

- **Simon TW, Janus E (2018)** Driving Impairment from Cannabis Use: Prediction of Δ^9 -Tetrahydrocannabinol (THC) Blood Levels Using Driving Simulator Results and Alcohol Crash Risk Data, Submitted to Society of Risk Analysis Annual Meeting, New Orleans, LA
- **Simon TW, Zhu Y, Dourson ML, Beck NB. (2016)** Bayesian Methods Application: Proof of Concept and Pitfalls. Society of Toxicology Annual Meeting, New Orleans, LA
- **Simon TW, Beck NB (2015)** Bayesian Methods for Uncertainty Factor (UF) Application: Proof of Concept. Society of Risk Analysis Annual Meeting, T2-A.3, Arlington, VA
- **Canady RA, Simon TW. (2015)** Disruptive Arrival of Big Data to Food Intake Assessment. Society of Risk Analysis Annual Meeting, M2-H.1, Arlington, VA
- **Ruiz P, Simon T, Mumtaz M (2014)** Interpreting NHANES Biomonitoring Data: Dioxins. Abstract 96d, The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- **Becker R, Simon T, Patlewicz G, Kennedy S, Farhat A, Budinsky R. (2014)** Improving The Development Of Adverse Outcome Pathways: Lessons Learned From The AHR Rodent Liver Tumor and AHR Avian Teratogenicity/Embryolethality AOPs. Abstract 2253 The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- **Simon T. (2014)** Evidentiary Standards for Neuroactive and Neurotoxic Drug Testing (2014) Abstract 723, The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- **Becker R, Patlewicz G, Simon T, Goyak K, Phillips R, Rowlands JC, Seidel S. (2013)** Validation of High-Throughput and High-Content (HT/HC) Assays to Support 21st Century Toxicity Evaluations. Abstract 2267. The Toxicologist—An official Journal of the Society of Toxicology, Volume 132, Issue 1, March
- **Simon T, Stephens M, Yang Y, Manning R, Rowlands JC, Budinsky RA (2012)** Applying the “Science and Decisions” Conceptual Models” to Dioxin. Abstract 133. The Toxicologist CD—An official Journal of the Society of Toxicology, Volume 126, Issue 1, March
- **Simon, T, Rowlands JC, Budinsky RA (2011)** The Toxic Equivalence Factor for 2,3,7,8-Tetrachlorodibenzofuran (TCDF): Toxicokinetic and Toxicodynamic Considerations. Organohalogen Compounds 73:1003-1006.
- **Simon T (2010)** Using Human In Vivo AHR Activation as a Functional Dose Metric for Risk Assessment based on Chloracne, Effects In Keratinocytes and Background CYP Induction. Organohalogen Compounds 62:582-585.
- **Simon T, Budinsky RA, Rowlands JC, Abel TA (2010)** Linear vs. Nonlinear Extrapolation for Dose-Response Assessment of TCDD. Organohalogen Compounds 72:1418-1421.
- **Haws L, Tachovsky A, Staskal D, Aylward L, Burkhalter B, Urban J, Simon T, Harris M (2010)** An Evaluation of the Influence of Different Soil Cleanup Levels on the Concentration of Dioxin-Like Compounds in Human Serum. Organohalogen Compounds 72:1448-1449.
- **Harris M, Tachovsky A, Staskal D, Aylward L, Burkhalter B, Simon T (2010)** Serum Concentrations of Dioxin-Like Compounds in a Population of Midland Michigan: An Evaluation of the Impact of Soil Exposures. Organohalogen Compounds 72:1442-1443.
- **Simon T, Goodrum PE (2010)** A Comparison of Three Different Methods of Childrens’ Soil Ingestion. The Toxicologist, #1916
- **Haws L, Tachovsky A, Staskal D, Simon T, Burkhalter K, Harris MA (2010)** Evaluation of the Impact of Soil Exposures to Dioxin-Like Compounds on Body Burden in a Population in Midland, Michigan. The Toxicologist, #1871
- **Harris MA, Tachovsky A, Staskal D, Simon T, Burkhalter K, et al. (2010)** Assessment of the Impact of Various Soil Cleanup Levels on Serum Concentrations of Dioxin-Like Compounds in Humans. The Toxicologist, #1872

- **Simon T** (2009) Cancer Potency Estimates for 2,3,7,8-TCDD developed from the National Toxicology Program Bioassay Results, *The Toxicologist*, Program #EA1-2251
- **Simon T** (2009) Why Humans are Less Sensitive to PCBs than Rhesus Monkeys, *The Toxicologist* #EA4-2254
- Kirman C, Budinsky R, Yost L, Rowlands C, Long T, **Simon T** (2008) Development of a Direct Contact Criterion (DCC) for 2,3,7,8-TCDD in Soil Using Deterministic and Probabilistic Methods. *Organohalogen Compounds* 70:1204-1207.
- Kirman C., Crouch E, Aylward L, **Simon T**, Budinsky R, Landenberger B, Long T (2007) Cancer Potency Estimate For 2, 3, 4, 7, 8-Pentachlorodibenzo(P)Dioxin (4-PeCDF) *The Toxicologist*, Program #1561, p323.

BOOK CHAPTERS

- Vinas R and **Simon TW** (2017) Risk Assessment in the 21st Century: New Technologies and Techniques in *History of Risk Assessment in Toxicology*, 1st Edition, Sol Bobst, Ed., Academic Press, ISBN: 9780128095324
- **Simon T**, Edwards DH (1990) The Caudal Photoreceptor: A Multifunctional Sensory Neuron may select its Outputs by Spike Frequency. In *Frontiers in Crustacean Neurobiology*, Wiese K, Krenz W-D, Tautz J, Reichert H, Mulloney B (eds.) Birkhauser-Verlag, Basel, Boston, Berlin ISBN: 978-3-0348-5691-1

Grants, Awards and Honors

- 2012-15** Grant from the Dow Chemical Company. Development of a model of the effects of the availability of coregulator proteins on gene transcription.
- 2009** Honorable Mention, Risk Assessment Specialty Section of the Society of Toxicology, best paper of the year: Simon T, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC (2009) Estimates of Cancer Potency of 2,3,7,8-Tetrachlorodibenzo(p)dioxin using Linear and Non-linear Dose-Response Modeling and Toxicokinetics. *Toxicological Sciences* 112(2), 490-506.
- 2005** Recognition from the SouthWire Company for innovative approaches to Environmental Cleanup
- 2005** EPA Bronze Medal for Testimony in the Norman Mayes case in Knoxville, TN that led to additional UST regulations being passed by the State of Tennessee
- 2005** EPA Bronze Medal for Developing Guidance on Monitoring Land Use Controls
- 2002** EPA Science Achievement Award for Probabilistic Risk Assessment Guidance
- 1995** EPA Bronze Medal for Commendable Service; For leadership in setting the example in self-directed work team management and in setting the example in "fast-track" multimedia environmental investigation and cleanup
- 1992** Environmental Education Enterprises Scholarship in Environmental Science, "Principles of Environmental Drilling and Sampling," Association of Engineering Geologists, Atlanta, GA
- 1992** Special Award from the Vice President for Research, Georgia State University, "Evolution of different prey choice and feeding strategy in two related species," \$1000
- 1989** National Research Service Award F32 NS08394-01A1 from NIH-NINCDS "Modulation of Ionic Channels in an Oscillatory Network, Emory University, \$41,000
- 1989** Honorable Mention, Donald B. Lindsley Prize in Behavioral Neuroscience for Ph.D. Thesis, Honorable Mention for Ph.D. thesis, "The Neural Basis of Light Evoked Walking In Crayfish," Society for Neuroscience

Professional Memberships

- 2006 – Roundtable of Toxicology Consultants
- 1995 - Society of Toxicology
- 1997 – Society for Risk Analysis
- 1984 – 1993 Society for Neuroscience
- 2016 - The Toxicology Forum

Invited Lectures

- 2019** "Hazard Characterization 101," Global Chemical Regulations Conference, March 6, Washington, DC
- 2018** "Driving Impairment from Cannabis Use: Prediction of THC Blood Levels Using Driving Simulation Results and Alcohol Crash Risk Data," Society of Risk Analysis Annual Meeting, New Orleans, LA
- 2017** "Scientific Issues with the "New" TSCA Risk Assessment Process," ACI Toxic Tort and Environmental Litigation Conference, Chicago, IL
- 2016** "Bayesian Methods for Application of Uncertainty Factors," Society of Toxicology Annual Meeting, New Orleans, LA
- 2016** "Quantitative Prediction of Phenotypic Change from High Throughput Assay Results," EPA Workshop on In Vitro to In Vivo Extrapolation, February, Research Triangle Park, NC
- 2015** "Bayesian Methods for Application of Uncertainty Factors," Society for Risk Analysis Annual Meeting, Arlington, VA
- 2015** "A New Look at Toxicity Factors for Toxaphene related to Fish Consumption in the Great Lakes," Presentation to The Great Lakes Consortium for Fish Advisories
- 2014** "Quantitative Key Event Relationships in the Adverse Outcome Pathway (AOP) for AHR-Mediated Rodent Liver Tumor Promotion," Invited Speaker at a meeting sponsored by the National Institute of Environmental Health Sciences held in Bethesda, MD
- 2014** "Evidentiary Standards for Neuroactive and Neurotoxic Drug Testing" Invited Speaker in a workshop at the 2014 meeting of the Society of Toxicology.
- 2013** "Current Outlook for Improving Uncertainty and Risk Communication." Invited Speaker at Understanding and Communicating Uncertainty in Hazard Assessment, a workshop sponsored by the Center for Advancing Risk Assessment Science and Policy (ARASP) of the American Chemistry Council (ACC).
- 2013** Four Lectures in Graduate Level Environmental Risk Assessment and Risk Communication, University of Georgia, Athens, GA, Spring 2013
- 2012** Four Lectures in Graduate Level Environmental Risk Assessment and Risk Communication, University of Georgia, Athens, GA, Spring 2012
- 2011** "The Toxic Equivalence Factor for 2,3,7,8-Tetrachlorodibenzofuran: Chemical-Adjustment Factors for Addressing TEF Uncertainty." Dioxin 2011, Brussels, Belgium, August 23, 2011
- 2010** "Linear vs. Nonlinear Extrapolation for Dose-Response Assessment of TCDD," Dioxin 2010, San Antonio, TX, September 15
- 2010** "Using Human in vivo AHR Activation as a Functional Dose Metric for Risk Assessment Based on Chloracne, Effects in Keratinocytes and Background CYP Induction," Dioxin 2010, San Antonio, TX, September 13
- 2009** "Dose Thresholds in Cancer Risk Assessment: Yes, they do exist." University of Georgia, Department of Environmental Health Science, Athens, GA, October 26
- 2008** "Toxaphene -- How Bad Is this Pesticide?" University of Georgia, Department of Environmental Health Science, Athens, GA, October 9
- 2008** "Nagging Questions about PCBs" University of Georgia, Department of Environmental Health Science, Athens, GA, October 7
- 2008** "Toxicology of Polychlorinated Biphenyls (PCBs)," Georgia Power Toxic Substances Control Act Training, Georgia Power Headquarters, Atlanta, GA, July 24.
- 2008** "Neurotoxic Modes of Action of Polychlorinated Biphenyls and Brominated Flame Retardants: Implications for Environmental Regulation", National Institute of Environmental Health Science 5th PCB Workshop: New Knowledge gained from old pollutants, May 16-22, Iowa City, IA, invited by Dr. P.R.S. Kodavanti
- 2007** "Neurotoxic Equivalence Scheme of Relative Potency for Assessing the Risk of PCB Mixtures," Dioxin 2007, Tokyo, Japan, invited by Dr. P.R.S. Kodavanti of EPA, September.

- 2007** "Probabilistic Risk Assessment and Exposure," University of Georgia, Department of Environmental Health Science, Athens, GA
- 2006** "Toxaphene -- the World's Most Misunderstood Pesticide," University of Georgia Department of Environmental Health Science Seminar Series, Athens, GA
- 2005** "Regulatory Perspectives on Probabilistic Risk Assessment." Society for Risk Analysis and Interstate Regulatory Council Workshop. Michigan State University, East Lansing, Michigan
- 2004** "New Directions in Environmental Issues: an EPA Perspective." Panel Discussion at the Georgia Environmental Law Seminar, Saint Simons Island, GA
- 2003** "Probabilistic Approaches to Dose-Response Assessment." Lecture to EPA's Risk Assessment Forum, Washington, DC
- 2000** "Probabilistic Risk Assessment: Step by Step," Sponsored by NIEHS, EPA and the University of Florida, Safety Harbor, FL
- 1999** "EPA's New Guidance on Citizen Involvement in Superfund Risk Assessment -- What Lawyers and Risk Professionals Need to Know." Panel Discussion at the Society of Risk Analysis Annual Meeting, Atlanta, GA
- 1999** "Calculating Cleanup Levels with Monte Carlo: Regulatory Concerns and Perspective." Within a symposium organized by Scott Ferson, Society for Risk Analysis Annual Meeting, Atlanta, GA
- 1999** "Practical Issues in the Use of Probabilistic Risk Assessment and Its Application to Hazardous Waste Sites," sponsored by NIEHS, EPA and the University of Florida, Sarasota, FL
- 1996** "Evaluating the Risk of Liver Cancer from Occupational Exposure to Trichloroethylene with PBPK Modeling and Monte Carlo Simulation." Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Key Experience

LITIGATION SUPPORT / WORK FOR LEGAL APPLICATION

- 2019** **Expert Consultation and Report. Regarding the Occurrence of False Positive Serum Alcohol Measurements following the use of Lactated Ringer's Solution**
Lactated Ringer's solution is used for volume replacement following trauma. This use can lead to false positive alcohol determinations by many hospital labs and can be wrongfully interpreted as alcohol consumption.
- 2019** **Expert Consultation and Report regarding the Urinary Metabolites resulting from Use of Opiates**
The metabolic products of hydrocodone, used for pain management, may include hydromorphone, also prescribed for pain, and the occurrence of hydromorphone depends on genetic variation. The report provided context for the levels of hydromorphone observed in urine.
- 2018** **Pro Bono Expert Report about Concentration of Phosphatidyl Ethanol (PEth) in the blood of an Emergency Room Physician**
PEth is a biomarker for chronic alcohol consumption. Report demonstrated that the measured concentration was likely due to hand sanitizer use consistent with recommended medical practice rather than alcohol consumption
- 2018** **Expert Report regarding the Assessment of Intoxication from Methamphetamine, Cannabinoids and Benzodiazepines in a Fatal Motor Vehicle Accident**
The state toxicology laboratory provided only screening results, i.e. "positive" or "negative" and the report indicated whether these could be used to infer intoxication as described by the state
- 2018** **Expert Consultation and Report regarding a Death Ascribed to Multiple Drug Intoxication**
Developed an opinion about the effect of multiple prescription drugs as a possible cause of death related to a Workman's Compensation Issue
- 2018** **Expert Reports providing context for the Interpretation of Cannabis metabolites in urine resulting from Hemp Oil Use**
Hemp oil contains cannabidiol, a substance from cannabis without psychoactive effects and is sold over-the-counter throughout the US. Report provided context for employment decisions.

- 2018 Expert Consultation and Report on the Interpretation of blood levels of a Cannabis metabolite in an accident with two fatalities**
Developed a means of estimating other cannabinoid concentration in a postmortem blood sample from a fatally injured person and determined whether cannabis contributed to the fatal accident.
- 2018 Expert Report and Testimony on the Interpretation of THC blood levels and Cannabis Use as a Factor in a Non-fatal Motor Vehicle Accident**
Prepared a report that estimated time of cannabis use from blood sampled after the accident and whether the effects of THC could have been a contributing factor.
- 2018 Pro Bono Opinion on the Occurrence of Cocaine in the hair of a Bartender**
Provided a written opinion that the high variability in hair concentration over four different samples was indicative of external contamination, likely from handling cash, rather than drug use.
- 2018 Expert Consultation on the Exposure and Toxicity of Titanium Dioxide during Sunscreen Production**
Gave suggestions for laboratories to conduct testing and provided initial problem formulation.
- 2018 Expert Consultation/Deposition Alcohol Use as a Contributory Factor in an Accident**
Provided consultation and deposition to opposing counsel regarding the use of alcohol as a contributory factor to an injury crash in an all-terrain vehicle.
- 2018 Pro Bono Expert Consultation regarding the Detection of Amphetamines in Urine in a Military Firefighter**
Developed an opinion and attended military hearing regarding the likely false positive detection of amphetamines in urine due to cross-reactivity from non-amphetamine prescription medications.
- 2018 Expert Testimony about alcohol as a factor in a motor vehicle death**
Provided expert testimony in New Jersey regarding 2017 Expert Report about estimation of blood alcohol from postmortem measurements and the ability of servers to recognize impairment/intoxication.
- 2018 Pro Bono Expert Consultation regarding cocaine and metabolites in the hair of a bartender**
Provided a memorandum indicating that hair in cocaine is likely due to passive exposure, and, in the case of a bartender, the likely source was cocaine contamination of US banknotes.
- 2018 Expert Opinion on Cannabis Use for a Federal Sentencing Hearing**
Examined three urine screens spaced over two months for the defense to determine if cannabis had been used during this time.
- 2018 Pro Bono Expert Consultation regarding hair testing for drugs used in drug-facilitated sexual assault**
For an advocacy group for rape victims, developed a memorandum and list of suggested drugs for possible testing in victim's hair following incidents.
- 2018 Expert Consultation and Deposition about interpretation of postmortem drug levels in blood**
Provided verbal opinions to attorneys; gave deposition testimony to opposing counsel.
- 2017 Expert Opinions and Testimony on Phosphatidylethanol (PEth) in Blood**
PEth concentrations provide a measure of the amount of chronic alcohol consumption; provided an estimate of daily alcohol use corresponding to specific PEth concentrations. Gave testimony (examination and cross-examination) in Bartow County, GA family court to provide context to PEth blood levels as a marker of chronic alcohol consumption.
- 2017 Expert Consultation about Benzene as a Causal Factor in Leukemia due to Residence near a Former Gas Station**
Provided several discussions with counsel regarding the environmental evidence and collection of additional data.
- 2017 Expert Consultation about alcohol as a factor in a motor vehicle death in a dram shop matter**
Provided consultation and wrote an expert report about estimation of blood alcohol from postmortem measurements and the ability of servers to recognize impairment/intoxication.

- 2017 Expert Testimony about the effects and disposition of marijuana in a Workman's Comp case**
Underwent examination and cross-examination about the significance of measurements of THC and its metabolite THCCOOH as a causal factor in a traffic accident.
- 2017 Expert Testimony in a DUI case**
Provided testimony about the validity of a reading from the Alcometer V-XL.
- 2017 Expert Litigation Support about occupational exposure to solvents at a Cement Plant**
Developed model of exposure to solvent vapors occurring in a testing laboratory with multiple fume hoods to assess the effects of mixed solvent exposure on cognitive deficits in a worker.
- 2017 Expert Opinion on Drug Use by a Truck Driver**
Considered deposition and blood test results to determine if the use of Adderall was a contributing factor to an accident.
- 2017 Expert Opinion on Alcohol Blood Testing**
Read medical records and blood test for alcohol to determine if a blood test about 15 hours after an injury was useful in determining impairment at the time of the injury.
- 2017 Expert Report on THC Test Results in Blood and Urine and Cognitive/Psychomotor Effects**
Considered medical records and drug test results from an employee injured at work to conclude whether marijuana use may have contributed to the injury.
- 2016 Expert Consultation on Chemicals found in Floor Coverings and Possible Links to Multiple Chemical Sensitivity**
Examined material safety data sheets, deposition transcripts and the scientific literature to determine the whether a manufactured floor covering could account for effects in humans. Testimony expected in early 2017.
- 2016 Expert Consultation on the Effects of Prescribed Anti-Depressants, Opiates and Epilepsy Medications during Pregnancy**
Wrote an opinion about the effects of these various drugs during pregnancy, including possible effect on the infant after its birth.
- 2016 Expert Consultation on Effects of Anti-Depressant and Opiate Drugs in Humans**
Provided a written opinion regarding the combined effects of a selective serotonin reuptake inhibitor, a benzodiazepine and an opiate on an individual's mental state. Exposure to these drugs likely occurred from a poisoning attempt.
- 2016 Opinion on the Interpretation of Positive Urine Tests for Marijuana following Weight Loss**
Wrote an opinion regarding the increases observed in the levels of THC-COOH (metabolite of THC from marijuana) in urine that are due to release of THC from fat. The THC was likely used several weeks or months prior to testing.
- 2016 Consultation about the Association of Disinfection Byproducts in Drinking Water with Various Health Effects**
Conducted an investigation of the scientific literature regarding a claim that chlorine and trihalomethanes were associated with a range of diseases, including kidney disease and cancer.
- 2015-16 Expert Report on the Toxicity of Dioxin-like Chemicals**
Provided a report and deposition on differences in toxicity of the various dioxin-like chemicals.
- 2015 Consultation with a Water Utility regarding the Health Effects of Radium in Drinking Water**
Worked with a health physicist to develop a joint opinion about the health effects of radium and potential treatment technologies to enable the utility in an acquisition.
- 2015 Deposition to State and Federal Environmental Regulators and Private Sector Attorneys about the Effects of Selenium on Human Health**
Provided deposition regarding the toxicity of selenium discharged into streams near Appalachian coal mines.