

HWY09MH015
MEDICAL RECORDS INFORMATION

The following information was extracted by Dr. Mitchell A. Garber, NTSB Medical Officer, from the most recent records of Medical Examination Report for Commercial Driver Fitness Determination on the tractor-trailer driver, all of which are signed by different physicians:

1/2/2007 – The report notes “Yes” to “High Blood Pressure,” and indicates “No” to all other items under “Health History,” including “Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring.” Under “Medical Examiner’s Comments” is included “Meds: Lipitor [atorvastatin], HCTZ [hydrochlorothiazide].” Blood pressure is noted as 140/90. Under “Comments” is noted “Bilateral cataract surgery 2001, some irregular heart beat, grade I systolic murmur asymptomatic.” For certification status is noted, “Meets standards, but periodic evaluation required. Due to hypertension, driver qualified only for 1 year.”

1/2/2008 – The report notes “No” to all items under “Health History,” including “Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring.” Under “Medical Examiner’s Comments” is noted, in part: “Surgery: cataracts both eyes, Blood pressure medication? HCTZ [hydrochlorothiazide], Lipitor [atorvastatin]. ...” Distant visual acuity is noted as 20/20 corrected in each eye separately and both eyes together. Under Physical Examination, height is noted as 71 inches and weight as 240 pounds. Blood pressure is noted as 140/78. Under “Comments” is noted “Quadrigeminy, Grade II systolic murmur – loudest in aortic area. Needs echocardiogram before next exam.” For certification status is noted, “Meets standards, but periodic evaluation required. Due to blood pressure; driver qualified only for 1 year.”

12/31/2008 – The report notes “Yes” to “High Blood Pressure,” and indicates “No” to all other items under “Health History,” including “Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring.” Under “Medical Examiner’s Comments” is noted “Meds: Lipitor [atorvastatin], BP med. No surgery, denies OSA (obstructive sleep apnea).” Blood pressure is noted as 136/82. Distant visual acuity is noted as 20/15 corrected in each eye separately and both eyes together. Under Physical Examination, height is noted as 70 inches and weight as 240 pounds. Under “Comments” is noted “systolic murmur, extrasystole.” For certification status is noted, “Meets standards, but periodic evaluation required. Due to Hypertension/Heart; driver qualified only for 1 year.” Examination expiration date is noted as 12/31/2009.

The following information was extracted by Dr. Mitchell A. Garber, NTSB Medical Officer, from the records of the occupational health clinic that performed the most recent Medical Examination Reports for Commercial Driver Fitness Determination on the tractor-trailer driver:

12/31/2008 – A form signed by the examiner who also signed the 12/31/2008 Medical Examination Report for Commercial Driver Fitness Determination indicates, in part, that the driver "...has presented ... for a Commercial Driver Fitness Determination During the examination the following concerns regarding driver fitness were noted: ... systolic murmur, extrasystole" A handwritten notation on the form indicates, "please fax results of stress test" There are no records to indicate that the stress test results were received or reviewed.

The following information was extracted by Dr. Mitchell A. Garber, NTSB Medical Officer, from personal medical records for the tractor-trailer driver:

8/27/2008 – Report of stress echocardiogram notes, in part, "Reason for Exam: shortness of breath ... exercised by continuous graded treadmill testing for 7 minutes 30 seconds to stage III of the Bruce Protocol. ... No cardiac symptoms were reported ... ended because of attainment of heart rate and fatigue ... effort was considered to be excellent. ... Conclusions: 1. Clinically negative exercise-treadmill test as manifest by the absence of angina pectoris. 2. Normal hemodynamic and electrocardiographic exercise-treadmill test. 3. Normal exercise-treadmill stress echocardiographic test."

6/8/2009 – Hospital Discharge Summary notes, in part:

... The patient was admitted to hospital after returning to the emergency room for a second time in 2 days. He was in the emergency Room 2 days prior to admit because of lightheadedness, weakness, tiredness. Blood work was done and he was sent home nothing really was found at that time. He returned again on 6-8 with chest pressure, weakness and shortness of breath with moderate exertion. These problems have been going on for several months according to the patient's family. They state that he has not been himself and it has been going on for awhile. He is a truck driver and can drive anywhere from 400 to 600 miles a day. The patient underwent a stress test approximately 5 to 7 months ago that according to him was normal and this was done his job. The patient was admitted for evaluation of chest pain, weakness, tiredness. He underwent cardiac stress test which was negative for ischemia. Echocardiogram did not show any significant abnormalities, ECG showed NSR with PAC's. ... We will apply Holter monitor at DC for 48 hrs to evaluate for dysrhythmia that may account for his symptoms. Patient also describes excessive daytime tiredness and loud snoring at night, raising the possibility of OSA. At discharge, patient prefers to not have evaluation for OSA. ... may return to work on 6-14-09"

6/24/2009 – Primary care physician's note indicates, in part, "... doing okay per patient, blood pressure at home 130/80-90's ... off lisinopril/HCTZ for 1 week ...energy good, no chest pain, no shortness of breath"

6/26/2009 – “History and Physical” notes, in part, that the driver “...remembers the accident. He states that he had no loss of consciousness. ... facial abrasions. CT of the brain demonstrates a 5 mm left frontal hemorrhagic contusion ... nondisplaced fracture of the right mandible. ... mild closed head injury with superficial abrasions and soft tissue edema of the right face and ear ...”

6/29/2009 – Neurology Consult Notes indicate, in part:

... On June 26 he felt well. He was driving a truck and was involved in a serious motor vehicle accident ... He was amnesic for the event. The last thing he remembers was that he saw the traffic was slowing down and he thought he was slowing down in the traffic. But according to the witness he was not slowing down. The next thing he remembers was that he was out of his truck and a lady was holding his left side of the face. He did not know the exact time that he was out but it was approximately about 15-20 minutes. There was no tongue biting or incontinence. There was no tonic/clonic movement reported on the scene. He was able to remember everything functionally well after he regained his memory. ... An EEG of the brain showed no epileptical discharges. MRI of the brain showed no acute pathology. There was some mild atrophy and chronic deep white matter changes. Lab tests was [sic] largely unremarkable except for very mild anemia. ASSESSMENT/PLAN: Episodes of amnesia during the scene. Unsure about etiology. There was no other evidence to suggest seizures although seizure cannot be totally excluded. Other possibilities could include syncope or head concussion. His EEG and MRI are unremarkable. I would not start him on AED (anti-epileptic drugs) at this point ...

7/2/2009 – Discharge Summary notes, in part:

... was seen back in the Emergency Room on June 5th with symptoms of weakness, diarrhea, abdominal pain, treated and evaluated and he returned back to the Emergency Room as he was complaining of weakness, anterior chest pressure for which he was admitted. He underwent a nuclear stress test, which showed a resting LV ejection fraction of 64% with no evidence of Lexiscan [regadenoson] induced cardiac ischemia. An echocardiogram obtained showed an estimated LV ejection fraction in the range of 50-55% with no regional wall abnormalities. He was discharged recommending a sleep study, which the patient deferred and a 48-hour Holter monitor was placed. During the monitoring period noticed to have a minimum heart rate of 46 beats per minute and a maximum heart rate of 132 with average heart rate at 67 beats per minute. There were frequent premature atrial complexes and atrial couplets with a total of 36,000 PACs regarded, as well as 287 runs of nonsustained paroxysmal supraventricular tachycardia the longest of which lasted for 8 beats at a rate of 108 beats per minute and the fastest for 4 beats at a rate of 147 per minute. There were a total of 44 premature ventricular complexes, occasional ventricular trigeminy, but no

episodes of ventricular tachycardia. During that hospitalization he was noted to have low blood pressure and he was instructed not to take any anti-hypertensive medications, which he was taking lisinopril and hydrochlorothiazide. He checked his blood pressures at home, which was normal. He rested until Friday June 26th when he went back to work where he works as a truck driver. He was involved in a serious motor vehicle accident where he was the driver of a truck, which struck multiple cars including several fatalities. The patient does not remember and is essentially amnesic of the events of the accident. He remembers that he had slowed down to traffic approaching the scene of an accident and thereafter remembered sitting on the curbside with a nurse helping him. He was taken to a hospital in Joplin where he was observed for 24-hours overnight and released. His blood pressure remained stable during that visit. However, after he returned home he had markedly elevated blood pressure. In view of this he was brought in and insistent of the family to have a detailed work up for his syncope. He was admitted to cardiology telemetry for further evaluation and in the Emergency Room his initial blood pressure was elevated to 203/102. He was started on lisinopril. Cardiology consultation and a neurology consultation was called to evaluate for possible syncope. EEG was done, which was negative. It was recommended to do a CT angiogram to rule out a PE [pulmonary embolism] as PE could cause syncope. CT angiogram was negative. Due to the Holter findings and a history of syncope a cardiac catheterization was done to evaluate for significant coronary lesion, which had been negative. Electrophysiology specialist has been consulted to give his opinion about the Holter monitor. ...

CLINICAL IMPRESSION:

1. Hypertension
2. Premature supraventricular complex. No evidence of sustained supraventricular tachycardia. No hemodynamic significant bradycardia. No evidence of prolonged sinus pause or evidence of advanced AV block.
3. No evidence of structural heart disease based upon the results of the stress test, echocardiogram, as well as recent cardiac catheterization.
4. History of motor vehicle accident. The patient has no recollection for the events preceding the motor vehicle accident ...

RECOMMENDATION:

1. No clear history of syncope in the patient's remote history nor surrounding his recent event that we can discern. In addition there is no clear indication for invasive electrophysiological study at this time.
2. The patient is scheduled to be discharged home with a 30-day event monitor, which I have asked him to complete.

Orthostatic blood pressure was done, which was negative. An overnight pulse oximetry was done showed 60 desaturations with average 97% oxygen saturation with low as being 76% in 9 hours 10 minutes 50 seconds. The patient probably has an underlying sleep apnea and he is

counseled yet again with his family members that he needs an outpatient sleep study. ...

7/27/2009 – Sleep Disorders consult report notes, in part, "... When he does work, he generally was trying to get to bed around 8:00 in the evening. He is now going to bed around 10:00-ish. He falls asleep within a few minutes. He has usually one episode of nocturia and then he goes back to sleep okay. He is usually out of bed typically around 12:30 or 1:00 in the morning when he was working, 6:00 to 7:00 now. He is feeling not bad. He is still rested with no headache, dry mouth, or sore throat. He rarely was taking naps. He does get sleepy in sedentary situations, typically in a recliner at home reading with an Epworth of 13. He generally said he did not have any trouble driving and would pull over and rest for a few to 10 minutes or so if he felt drowsy. He drinks two or three cups of coffee in the morning, occasional pop. No tea. No other caffeine or stimulants and no sedatives or sleepers. ... He has been told he snores. He does not know of any stopped breathing, gasping, or choking. He thinks he sleeps still and predominantly prone and on his side. ..."

8/2/2009 – Patient questionnaire notes "6-7 hours" in response to "Approximately how many hours of sleep did you get last night?" The questionnaire notes "12 am" in response to "What time did you go to bed" and 6:30 am for "What time did you get up?"

Polysomnography Report notes, in part:

Parameters Monitored: 16 channel: 2 ECG, 4 EEG, 3 EMG (submental, L+R Ant. Tib.), ECG, 2 respiratory excursion (thoracic and abdominal), 2 airflow (L+R nares & oral), snore sensor and O2 saturation.

History/Indications: The patient is a 76 year old who stands 5' 11", weighs 230 pounds, and has a 16" neck size. ... Because of snoring and daytime sleepiness, a polysomnography was scheduled to evaluate and performed on August 2.

Sleep: Lights out was at 11:28 pm. The patient had a short sleep latency of 4 minutes and slept for 5.8 hours with a mildly decreased sleep efficiency of 88%. Progression and continuity of sleep were fragmented, predominantly due to respiratory and spontaneous arousals. Increased N1 sleep was seen, with no N3 and decreased REM sleep.

Respirations: 15 apneas were noted; 8 obstructive type, 7 central type. 67 hypopneas with a 4% or more desaturation were seen, as well as 245 other hypopneas. Sleep disordered breathing was increased during supine sleep, but less than 5% of the time was spent during the supine sleep position.

Combined apnea/4% or more desaturation hypopneas index was 14 events per hour. Total respiratory disturbance index was 57 events per hour.

Oxygenation: Oxygenation was monitored throughout the study by pulse oximetry. Baseline oxygen saturation was 95%. Some minimal desaturations down to 89% were seen following obstructive breathing.

Periodic Leg Movements of Sleep: No significant periodic leg movements of sleep were seen.

Cardiac: The patient was normotensive pre and post procedure. The patient appeared to be in normal sinus rhythm with frequent PAC's versus possible atrial fibrillation and P waves were difficult to pick out.

Impression: Mild sleep disordered breathing (327.23)

Directives: The patient will be scheduled for a repeat titration study with nasal CPAP. CPAP will be evaluated as a possible treatment to alleviate obstructive respirations, improve sleep quality, oxygenation and symptoms.

8/18/2009 – – Patient questionnaire notes “6-7 hours” in response to “Approximately how many hours of sleep did you get last night?” The questionnaire notes “1130 pm” in response to “What time did you go to bed” and 6:30 am for “What time did you get up?”

Polysomnography Report notes, in part:

Parameters Monitored: 16 channel: 2 ECG, 4 EEG, 3 EMG (submental, L+R Ant. Tib.), ECG, 2 respiratory excursion (thoracic and abdominal), 2 airflow (L+R nares & oral), snore sensor and O2 saturation. ...

CPAP/Bilevel: On this study CPAP was applied and titrated. Best respiratory performance was noted at 6cm water pressure in the lateral position. Oxygenation was maintained in the 90's.

Periodic limb movements of sleep were seen with a PLMS index of 84 events per hour but only 18 event arousals per hour.

No significant cardiovascular events were noted.

Impression: Mild sleep disordered breathing (327.23) with improvement with nasal CPAP at 6 cm or water pressure in the lateral position. An optimal pressure in the supine position was not determined.

Directives: A trial of positive airway pressure at above settings is suggested, with close clinical follow up for tolerance, compliance and response, with positional training to avoid supine sleep. ... A trial of therapy for periodic limb movements of sleep could also be considered if clinically indicated. ...

Arousal report notes lights off at 10:34:41 pm and sleep onset at 9 minutes 14 seconds, a sleep time of 7 hours 14 minutes and 36 seconds, and a sleep efficiency of 80.7%. Periodic limb movements of sleep arousal index is noted as 17.8, and apnea/hypopnea index is noted as 4.5.

Sleep Analysis Report notes, in part, "... sleep architecture and progression were improved ...". Average oxygen saturation was noted as 96.3% and low oxygen saturation as 90.0%.

8/5/2009 – Report of 30-day event monitor noted, "7-1-09 Baseline. The patient is in normal sinus rhythm at 74 beats per minute. No prolonged sinus pause or evidence of advanced AV block. Premature supraventricular complex. Occasional atrial couplets. No supraventricular tachycardia. No premature ventricular complexes were recorded." The report noted only one event: "7-24-09 @ 10:55 Activities: Mild activities. Symptoms: Lightheaded, chest discomfort. Tracing has a tremendous amount of baseline artifact. The patient appears to be in normal sinus rhythm average rate of 84 beats per minute. There are premature supraventricular complexes. In addition atrial couplets are noted. No premature ventricular complex. No prolonged sinus pause or evidence of advanced AV block. Tracing 2, normal sinus rhythm at a rate of 90 beats per minute. No prolonged sinus pause or evidence of advanced AV block. A moderate to large amount of baseline artifact was noted. Premature supraventricular complex without clear supraventricular tachycardia. Rare premature ventricular complex without ventricular tachycardia. Tracing 3, normal sinus rhythm at a rate of 80 beats per minute with a large amount of artifact. No prolonged sinus pause or evidence of advanced AV block and what appears to be rare premature supraventricular complex without supraventricular tachycardia. No premature ventricular complexes were recorded."

8/28/2009 – Telephone follow up note indicates, in part, "Patient does not wish to use a CPAP. He says he feels rested when he sleeps at home and that we 'almost killed me' in the lab. He said his chest felt as though it could blow open at any time while he was here. He does not want to use CPAP unless the doctors force him to, and that he 'would rather take a bullet than wear that thing the rest of my life.' ..."