Federal Air Surgeon
Neurology Panel
• 12/17/1903 first successful powered flight (Wilbur stall, crash but no burn 3 days prior)
• 20 mph wind- it was a kite
• 12 seconds, 120 feet
• 4 flights (120, 175, 200, 852) (59 seconds)
• Wilbur another crash, Flyer I never flown again
Flying Public’s Primary Concerns

- Where can I stow my carry on?
Flying Public’s Primary Concerns

• Where can I stow my carry on?
• Did they service the restrooms?
Flying Public’s Primary Concerns

- Where can I stow my carry on?
- Did they service the restrooms?
- On time arrival
Flying Public’s Primary Concerns

- Where can I stow my carry on?
- Did they service the restrooms?
- On time arrival
- Who/what are my seatmates?
Flying Public’s Primary Concerns

- Where can I stow my carry on?
- Did they service the restrooms?
- On time arrival
- Who/what are my seatmates?
- How is that an emotional support animal?!
Our continuing mission is to provide the safest, most efficient aerospace system in the world.
Medical Certification Primary Concerns

• Sudden or subtle incapacitation of a pilot/controller
• Safe pilot. Safe controller. Safe airspace.
• Flight is dynamic, kinetic
• Have to be in motion to be in flight
• Gravity and granite (terra firma) win
Medical Certification Stats (CY 2017)

375,000 Applications Per Year

- 98% Issued
- 9% Special Issuance
- 1% Denied
Medical Certification Stats (CY 2017)

32,000 Special Issuances

- 36% Cardiovascular
- 25% Sleep
- 20% Diabetes Mellitus
- 1% Contain Neuro Path Codes
Medical Certification Stats (CY 2017)

Denials

- 4,000 1% Of All Applications
- 3,600 Did Not Pursue/Provide
- 383 When Information Provided
Certification Classes

1st Class, 60%
2nd Class, 18%
3rd Class, 22%
How Big Is The Pile?

22 Million applications for 4 million unique airmen
1.5 Million pages submitted and scanned annually
Where Do We Store It?

Can’t tell ya 😊
For Those Of Us That Are Geeks

• Trivia question
  – Coding Language?
  – .net
Summation

- 400,000
- 30,000
- 380
- Use block 60
- Be a harbor pilot
Delegated Authority

• **14 CFR Part 67**
  – FAA Administrator delegates authority to
    • FAS, RFS, AMCD Manager

• **AME is an FAA Designee**
  – What does that mean?
  – YOU are the eyes and ears on the applicant
  – Call your Region (500 calls/per x4821)
Why Do We Have Panels?

• Panel collectively makes better decisions
Why Do We Have Panels?

- **Consultants expertise**
  - Current clinical medicine

- **FAA staff physician expertise**
  - Aerospace and regulatory medicine

- **Panel consists of FAA physicians and 3-6 Consultants**
Panel Product

- A consensus evidence based risk assessment
- Reasonable degree of medical certainty
  - >50% is the legal standard
  - “More likely than not”
Panel Product

- Low Risk - Certify
- High Risk, Mitigated - Special Issuance
- High Risk, Presently not mitigated - Denial
  - Panel consensus dictation with reconsideration guidance
  - Most commonly, they need more time
    - Most common follow up is Neurology evaluation
    - Occasionally imaging (GRE/SWI, comparison reporting)
    - Occasionally EEG (awake, drowsy, asleep) (video)
    - Rarely follow on NeuroPsych
    - Rarely treatment

- Indeterminate Risk - Denial or Unable letter
  - Panel consensus dictation with reconsideration guidance
Trivia Question

• Who was the FAS who was sued for the age 60 Class 1 limit?

Dr. H.L. Reighard
A Bit Of Hx- Neuro Panel

• In 1977: FAA went to AMA
Neurology Panel History
Neurology Panel History

• November 1979
  – Published Neurologic and Neurosurgical Conditions Associated with Aviation Safety
  – Special edition of Archives in Neurology

• FAA subsequently developed neurology guidance and policy

• 2010 began forming panel of Consultants

• 2013 first Panel case review meeting
Bit Of Hx- Cardiac Panel

- Started meeting in 1983
- ~18 FAS Cardiology Consultants
  - 3 EP
  - 2 CT Surg
  - 1 Nuc
  - Interventional or Invasive
  - Currently practicing
- 4-5 Consultants every other month
Who Gets Reviewed At Cardiac Panel?

• All 1\textsuperscript{st} and 2\textsuperscript{nd} class applicants with an initial specifically DQ cardiac event per the CFRs
  – Angina
  – MI
  – Stents
  – Bypasses
  – Valve replacements
  – Pacemakers
  – Significant CAD

• Some 3\textsuperscript{rd} class with the same conditions
Who Gets Reviewed At Cardiac Panel? (cont’d)

- All classes with Asymmetric Hypertrophic Cardiomyopathy
- Significant Cardiomyopathy
- Unusual cardiac conditions referred by FAA docs
  - Coronary aneurysms
  - Unusual syncope
  - New procedures
  - MI’s of unclear etiology
Direct Send Out To Consultant

- Significant Arrhythmias go to EP
- Deactivated or removed implanted defibrillators go to EP
- Significant corrective congenital repairs to a pediatric CT surgeon
- Significant aortic dissection repairs go to a CT surgeon
Cardiology Panel History

- 25 years
- 6 times a year
- 4 or 5 consultants
- A lot of history
- Typically pretty straightforward decision making
Cardiology Panel History

• Very common disease in our population

• Common issues
  – All day, every day in most clinical practices

• Basically looking at four things
  – Muscle function
  – Valve function
  – Rhythm
  – Vascularity/Perfusion. Coronary and +/- great vessels
Neuro vs. Cardiac

• Neuro not as straightforward as cardiac conditions
• No, not because cardiologists treat disease and neurologists study disease
• Clinical practice of neurology- 90% exam and history over time and 10% test results
• Over 50 conditions are considered in Neurology workflow
Neurology Panel Handicaps

• Don’t get to do neuro clinical exam and take the history

• Quality of the clinic documentation provided is highly variable and voluminous
  – e.g. Request Board Certified Neurologist (Epileptologist) report and get the midlevel 3 liner...
  – e.g. Request EEG, awake, asleep, provocation and get a 20 or 30 minute evaluation, no sleep, no description of waveforms, no tracings...
  – e.g. Request complete records- many cases cover years of time
Neurology Panel Handicaps

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  – e.g. Request complete records- many cases cover years of time

• Result= Indeterminate risk, DENY
What Goes to Neuro Panel?

- Few specific Final Denial events/conditions have to go to Panel

1. Disturbance of consciousness without satisfactory medical explanation of cause (FD)
2. Transient loss of control of nervous system function(s) without SMEC (FD)
3. Epilepsy (FD)
4. Transient Global Amnesia (TGA)
5. SEVERE Traumatic Brain Injury
6. *Unexplained Loss of Consciousness - 2 years (how does this differ from #1?)
7. Syncope and Seizure - simple is not so simple in aviation (pilot and ATC)
8. Early consideration requests
What Goes to Neuro Panel?

- Severe TBI
  - LOC/AOC/Amnesia of 24 hours or more
  - Intracranial bleed
  - Depressed skull fracture
What Goes to Neuro Panel?

• Timed Conditions
  – CVA/TIA: 2 years unless identified, treated cause then < 2 year via Panel
  – Epilepsy: seizure free 10 years, most recent 4 years off meds (normal EEG)
  – Provoked seizure: typically > year after corrected cause
    • Febrile <5 yrs age no evaluation required
    • Post vasovagal syncope or Gloc tonic-clonic no eval required
  – Unprovoked seizure: 4 years seizure free, most recent 2 years off meds (normal EEG)
  – Spontaneous Intracranial Hemorrhage (SDH-EDH-SAH)
    • Typically 2 years post recovery unless treatable cause corrected, then 1 year
What Goes to Neuro Panel? (cont’d)

• Timed Conditions- Syncope
  – “Simple?”
What Goes to Neuro Panel? (cont’d)

- Timed Conditions - Syncope
  - “Simple?”
  - Bit of a morass
What Goes to Neuro Panel? (cont’d)

• Timed Conditions- Syncope
  – “Simple?” No wait vs. 2 years vs. DQ
  – Vasovagal (issue, no wait) vs.
  – No satisfactory explanations of syncopal episode (DQ) vs
  – Vasodepressor syncopal episodes (DQ) vs
  – Recurrent syncope of any case (+/- DQ)
  – Typically 2 years
What Goes to Neuro Panel? (cont’d)

- **Timed Conditions**
  - Transient Global Amnesia (TGA)
    - 6 months if all favorable
  - TBI
    - Severe: 5 years
  - Tumor
    - Typically 2-4 years
    - (Considered an open mechanical insult to the brain)
  - Unexplained loss of consciousness
    - 2 years vs. denial
Aviation Survival

- Careful
- Precise
- Compliant
- Safe Pilot
- Safe Airspace
Airman Advice

• Don’t beg, get healthy
• Prove it
• Have a nice flight
  – (don’t be one of the 380)
• Want you flying. Need you to be safe.
AME Note for Smoothing the Way

- Use Block 60
- Correspondence from AME
  - (“Airman well known to me”)
  - Collect, review, and submit legible documentation
  - Write a thorough clinical narrative
AME Note for Smoothing the Way

- Provide “overwhelming” evidence the present condition is low risk for sudden or subtle incapacitation.
- Panel is safety wired to “CAREFUL”
AME Note for Smoothing the Way

• Stay in AME business
  – Charge for your expertise, hassle, and time
AME Note for Smoothing the Way

• If you use Consultant for clinical evaluations
  – Mandatory recusal from Panel presentations, deliberation, decision
AME Note for Smoothing the Way

- Military: crewed low G, another fully rated pilot
- FAA: we don’t have that option
  - Class 1 is a Class 1 (no ARMS office)
AME Note for Smoothing the Way

• Provoked seizure
  – Won’t buy sleep deprived, hadn’t eaten, stress
AME Note for Smoothing the Way

• NAEC/Academic Center
  – Seizure +/- syncope workup
AME Note for Smoothing the Way

- Movement Disorder Academic Center
  - Initial Parkinson evaluation
AME Note for Smoothing the Way

- MRI with contrast if they have a hx of tumor
AME Note for Smoothing the Way

• MRI with history or tumor, trauma, or surgery
  – Susceptibility Weighted Images (SWI)
  – Gradient Recalled Echo (GRE)

• Hemosiderin
  – Cortical, sub-cortical, or parenchymal
AME Note for Smoothing the Way

• EEG
  – Awake, drowsy, asleep (video, ambulatory)
  – Preferably an Epileptologist

• Submit Tracings
  – If 2 or 3 line normal report without waveform descriptions
  – If history of an abnormal EEG
Not a Perfect World...
But We’re Working On It

• Building a better consultant
  – Educating them in the FAA/cockpit
AME Take Home

- Charge for your time
- Sort through it
- Tab/extract relevant
- Correspondence from AME
- Be a harbor pilot
  - Guide your pilot through
14 CFR § 61.53

- shall not act as PIC or any capacity as a required pilot flight crewmember
- knows or has reason to know of medical condition that would make unable to meet requirements for med cert
- is taking medication or receiving tx that results .. unable to meet requirements for med cert
Factoids

- 50,000 FAA Employees
- 7,000 Aviation Safety (AVS) Employees
AVS Factoids

- 1.25M Active N Registered Aircraft
- >900,000 Unmanned Aircraft Systems
  - 65,000 Active Pilot Certificates
- 300,000 General Aviation
  - 700,000 Active Pilot Certificates
- 7700 Part 121 Aircraft
- 50,000 Managed Flights/Day
## 2017 Special Issuance

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Total</th>
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<tbody>
<tr>
<td>Cardiovascular</td>
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<tr>
<td>Sleep Disorders</td>
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<tr>
<td>Diabetes</td>
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<tr>
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<tr>
<td>Transplants</td>
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