Medical Issues for Domestic & International Operators

Wednesday, March 19, 2014 | 8:15 a.m. - 9:45 a.m.

PRESENTED BY:
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Bedroom Breathlessness – Daytime Danger
*Sleep Apnea in Aviation*

Quay Snyder, MD, MSPH
Aviation Medicine Advisory Service
IOC - March 19, 2014
What is It?

Why Should You Care?

What to Do About It?

FAA Policy

Q & A
• Obstructive – Mechanical
  – Excessive tissue in back of throat, nose
  – Recessed Jaw
  – Thick Neck
• Central – Neurological
  – Impaired signal to breath
  – Medications, alcohol
• Mixed - Combined
- Restless Legs Syndrome - PLMD
- Work Shift Sleep Disorder
- Circadian Rhythm Sleep Disorder
- Insomnia
- Narcolepsy
- Parasomnias
- Hypersomnia
- Many more
Airway Mechanics

Snoring

Apnea
• Apnea
  – Cessation of airflow > 10 seconds

• Hypopnea
  – Reduction of oxygen saturation 4% or more

• Apnea – Hypopnea Index (AHI)
  – Sum of total apneas & hypopneas / hours of sleep

• Respiratory Distress Index (RDI)
  – AHI + RERA (respiratory-effort related arousals)
• Polysomnogram (PSG) – “Sleep Study”
  – Gold standard
  – Split study – off and on CPAP
• Home Studies
  – Level 2 – seven parameters – FAA acceptable
  – Levels 3 - 4 – Used for screening, not diagnosis
• Maintenance of Wakefulness Test – No
• Multiple Sleep Latency Test - No
• Normal - AHI < 5

• Mild – AHI → 5 – 15 if symptoms associated

• Moderate - AHI → 15 – 30

• Severe – AHI → > 30
• Weight  (35.7% of US obese – 40% have OSA)
  – BMI = 30 – 40  →  26% AHI > 15,  60% AHI > 5
  – BMI > 40  →  33% AHI > 15,  98% AHI > 5
  – ↑ BMI of 6 or waist* by 6”  →  400% ↑ of OSA
  – ↑ weight by 10 pounds doubles risk
  – 70% with OSA are obese

• Recessed jaw, large tonsils, nasal blocks,

• Diabetes, alcohol, smoking, menopause
How Not to Treat Fatigue

Quay Snyder, MD - AMAS
• Fatigue / Cognition / Well-Being
• Medical Conditions
• Accidents
• Sleeping Arrangements
Why Should You Care?

• NIH – 18+ million Americans w/ OSA
  – 90% unaware
  – Symptomatic OSA – 4% men – 2% women
• Shortens Career & Life
• NTSB recommendations – GO! Flight 1002
• FAA High Interest Item
Go! Flight 1002     February 13, 2008

Quay Snyder, MD - AMAS
• 61 – Modify FAA medical application to ask about obstructive sleep apnea & risk factors
• 62 – Identify pilots at risk for OSA, evaluate & verify effective treatment before certification
• 63 – Develop guidance for pilots, employers and physicians about OSA and emphasize certification for those effectively treated.

• CPAP reduces risk in 2-7 Days [Sleep.](https://www.sleepjournal.org/article/S0037-0717(10)00387-0/abstract) 2010 Oct;33(10):1373-80

• Loss of Stage 3 & 4 & REM sleep
• Hypoxia at night
• Excessive Daytime Sleepiness  
  – Micro-sleep
• Memory Impairment
• Judgment Impaired similar to alcohol, meds
• General lack of well-being, irritability
• Heart Attack
• Stroke, TIA
• Atrial Fibrillation
• Refractory Hypertension
• Congestive Heart Failure
• Diabetes, Cholesterol, Depression, Obesity

• Reversal seen after 2+ days of treatment
• Loud Snoring
• Awakening and Turning
• Leg Kicking
• Increased night-time urination
• Reduced Libido
• CPAP – Continuous Positive Airway Pressure
  – Mask – many options
  – Nasal Pillows
  – Humidification
  – BiPAP – varying pressures
  – ASV – Assisted Servo Ventilation
  – Many machine options - now smaller
• Surgery - Success ~ 50%

• UPPP – uvulopalatopharyngoplasty
• Hyoid bone repositioning
• Jaw repositioning

• Painful, long recovery
• Requires repeat sleep study
• Oral Repositioning Devices

• Positional Therapy – Sleep Shirt

• Avoid depressant substances
  – Sleep meds
  – Pain meds – narcotics
  – Alcohol
• Sleep Apnea Disqualifying since 1996
• Special Issuance Authorizations routine
• Current Protocol
  – DQ on Diagnosis
  – Sleep Study With and Without Treatment
  – Compliance Data
  – Physician Statement
  – Certification review @ AMCD or RFS office
Screening for BMI > 40

- AME’s document BMI
- Neck circumference not measured routinely, but known risk
- Evaluation by Board Certified Sleep Specialist
- Sleep Study Required
- Documentation of Effective Treatment/Compliance
- SIA’s at FAA level
- Move BMI screening threshold lower
• Education Campaign – Pilots & AME
• Issue Medical Certificate *regardless* of BMI
  – Defer only untreated symptomatic OSA
• Refer High Risk to Any MD for Screen – 90 day
  – Screen Negative – notify AME / FAA
  – Screen Positive  – get treatment – continue to fly
• Documentation to AME – cleared
• Annual compliance data/statement to AME
• OSA is nasty, dangerous disease
  – Impairs health, cognition, well-being
  – Adversely impacts safety
• Treatment effective
• Certification process must be improved

• If at Risk /Suspicious, Get Evaluated ➔ Healthy
• The Role of Sleep Loss in Transportation Accidents: NTSB Investigations and Recommendations

• FAA Pilot safety Brochure Obstructive Sleep Apnea
  www.faa.gov/pilots/safety/pilotsafetybrochures/media/Sleep_Apnea.pdf

• NTSB Safety Recommendations – August 7, 2009

• A Primer on Obstructive Sleep Apnea - ALPA
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Medical Evacuations: Are you prepared for the unexpected?

Michael Braida, M.D.
MedAire
Key Developments over past 10-15 Years

• Going Global = Remote!
• Client expectations
• Security hot spots are always health care hot spots
• Corporate Duty of Care
• Global liability concerns
• Cost management
Unpredictable Events

2010 & 2011 – Ash cloud affecting all of Europe due to Icelandic volcano

Jan 2011 – Protests in Tunisia

2013 – Rise in kidnappings, Mexico

Jan 2011 – Unrest in Ivory Coast

2013 - Middle East Respiratory Syndrome Coronavirus

Sept 2013 – Sexual assault of tourist

Jan 2013 – Algeria hostage situation

Feb 2011 – Civil War in Libya

Feb & Mar 2011 – Protests in Bahrain


Feb & Mar 2011 – Regime change and unrest in Egypt

Mar 2011 – Civil unrest / conflict in Syria

Jan & Nov 2011 – Riots in Mozambique

2008 – Terrorists attack Mumbai, India

2009 – Terrorists attack Jakarta, Indonesia

2008 – Terrorists attack Munich, Germany

2011 – Earthquake Christchurch, NZ

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Risk

Typical Crisis Activity

- Japan Crisis
- Terrorist Event
Challenges of Risk / Medical and Security

- Recognition of Risk
- Grading of Risk
- Unavoidable Risk
- Unexpected Risk
Managing Risk at Destination

1. Traffic accident
2. Homicide
3. Drowning
4. STD / HIV / Hepatitis B
5. Food poisoning/ Hepatitis A
6. Dengue fever
7. Medical care
Typical Questions

- Knowing where to go?
- Whom to call?
- Who will pay?
- Is the care “really” right?
- How long will I have to stay?
- How will I get home?
Varying Capabilities

- Limited **capabilities** in some cases
- Varying **quality** of vehicles and staff capabilities
- No **paramedics**
- Long **response** times
- Requirement to take to **nearest** hospital
- **Languages** and culture
- **Payment** at time of service
Typical Medical Problems

**GI – Disorders**
- V&D
- Gastritis/Ulcers
- Hemorrhage

**ENT**
- Otitis
- URTI

**Cardiovascular Disorders**
- Angina
- Myocardial Infarctions
- Arrhythmias
- Hypertension
- Syncope

**Respiratory Disorders**
- Asthma
- COPD
- Acute Bronchitis
- Pneumonia

**Neurology**
- Seizures
- TIA / Stroke
- Hemorrhagic Events

**MVA**
Assistance Centers

- **Global** presence
- Open **24 / 7 / 365**
- **Doctors, nurses & security specialists**
- **Languages**
- On-site **travel agent(s)**
- **Global network** of providers
- **Aviation** desk
- **Accreditations**
**Typical Workflow**

**Initial Medical Case Management**
- First call into assistance center
- Medical doctor reviews

**Repatriation Required?**
- Recommendations

**Repatriation Modality**
- Referral
- Urgent Movement
- In Patient
- Advice

**Repatriation and Post Repatriation Management**
- Authorization
- Medical Monitoring
- Air Ambulance
- Commercial Air
- Medical Escort
- Monitor Movement
Medical Evacuations
The Definitions

US Military

• The *movement* of patients under medical *supervision* to and *between* medical treatment facilities by air transportation.

• Aeromedical evacuation (AE) is the *long-distance*, usually greater than 300 miles, *air transportation of patients after medical treatment* that is adequate to assure a successful movement. It is most commonly performed using specially *configured fixed-wing aircraft* with highly *trained* aeromedical personnel in attendance. *Aeromedical Evacuation Management of Acute and Stabilized Patients* William W. Hurd MD, MS, FACOG, John G. Jernigan, MD, Springer
Medical Evacuations
The Definitions

Civilian Enterprise

• Couldn’t really find a definition without some reference to the military!
Medical Evacuations

Unexpected Situations

“Minor issues can be major problems away from home”
Medical Evacuations

Factors

- Security issues
- Local facilities
- Psychosocial factors
- Patient expectations
- Diagnosis
- Financial issues
Medical Evacuations

Severity – Quality of Care – Repatriation Threshold Relationship

[Diagram showing the relationship between medical risk/severity and quality of care, with examples of Appendicitis in Uganda and Heart Attack in Austria.]
Medical Evacuations

- Commercial escorted flights
- Stretcher Flights
- LH PTC
- Air Ambulance
- Military

Modalities
There are other solutions ...

Dr. Juma can treat, solve many problems such as:

- Bewitched piles
- Swollen body
- Lost lover
- Insanity
- Diarrhoea
- Madness
- To make men's penis strong
- Woman with pregnancy problems
- Vomiting all the time
- Misfortunes
- Demand debts
- Remove misunderstanding with anybody
- Court cases
- Casino specialist
- Bad luck
- Customer attraction
- Etc...
Air Ambulances

Selection Criteria

• Reputation?
• Dedicated aircraft?
• Safety record
• Aircraft size and range
• Activation times etc.
• Crew structure and training
• Medical equipment
  – Stretcher system, oxygen, ventilator technology…
• Accreditations
  – CAMTS, EURAMI…
Air Ambulances

What to avoid

• Unknown aircraft, no tail number
• Unknown aircraft nationality
• Unknown medical team composition
• Unknown insurance status
• Indirect communication to air ambulance provider
• Lack of a time line
• Imaginary flight plans
Actionable advice for safe travels

- Have up-to-date health evaluations
- Get necessary prescriptions
- If International Travel, visit your doctor 4-6 weeks in advance of trip (Time for vaccinations, malaria prophylaxis, etc.)
- Can known health issues be managed where you are going
  - CDC, ECDC, Travel Clinics, Travel health services
- Carry a personal medical kit
- Check international coverage with your insurer
  - Repatriation is expensive
## Protecting Crew and Passengers

<table>
<thead>
<tr>
<th>Crew and Passengers</th>
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<tbody>
<tr>
<td><strong>Prepare</strong></td>
<td>• Mission request, pre-flight planning, mission departure, enroute, arrival, and termination.</td>
</tr>
<tr>
<td><strong>Inform</strong></td>
<td>• Comprehensive destination specific information and analysis</td>
</tr>
<tr>
<td><strong>Advise</strong></td>
<td>• AOR regional expertise – in-depth cultural and political knowledge</td>
</tr>
<tr>
<td><strong>Respond</strong></td>
<td>• Capability to assist clients anywhere, anytime</td>
</tr>
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International Catering: Procedures to Keep Flight Crews & Passengers Healthy

Paula Kraft
Aviation Catering Consultants

International Operators Conference | Tampa, FL | March 17 – 20, 2014
Things to remember when ordering catering abroad

Communication &
Do your Due Diligence
Communication

- Your International Trip Planner, Handlers
- FBO at Destination
- Catering Networks
- Scheduling Software
- Home-based caterer
- Flight crews
- Hotel Concierge
- Other Caterers
Communication

Food Allergies
Communication

Most Common Food Allergens
Common Symptoms of Food Allergies

- Acne
- Canker sores
- Eczema
- Itching
- Sinusitis
- Runny nose

- Headache
- Hyperactivity
- Insomnia
- Depression/Anxiety
- Fatigue

- Asthma
- Recurrent infections

- Diarrhea
- Gas
- Pressure
- Colic
- Constipation
- Weight gain
- Hypoglycemia

- Joint pain
- Bursitis
- Rheumatoid arthritis
- Auto-Immune Diseases
Communication

Hidden Allergens
Communication

Allergens can be spread in different ways…
Communication

Ask questions! What’s in this??
Do your Due Diligence

You or your selected handler need to do the following:
Do your Due Diligence

Verify Cleanliness and Hygiene Standards of Facility
Do your Due Diligence

Verify Cleanliness and Hygiene Standards of Facility
Do your Due Diligence

Kitchen Staff
• Training
• Appearance
• Security Screened
Do your Due Diligence

Verify Food Handling Practices

• Food Security
• Temperature Control
• Packaging
• Dish Cleaning
• Water and Ice
Do your Due Diligence

Verify Food Handling Practices

A Clean Hand is Better
Than a Dirty Glove
Do your Due Diligence

Quality Standards
• Food
• Presentation
• Packaging
Do your Due Diligence

Verify Current Food Safety Certification

- Check to confirm your food source’s process is a safe food environment
- Meets government regulations
- Confirm all certifications are current
Do your Due Diligence

Verify Delivery Processes and Vehicles
• Airport driver training
• Proper vehicles for aviation needs
Do your Due Diligence

Verify Insurance and Licenses

- Insurance: Building, auto, and liability
- Current operating permits, licenses
Do your Due Diligence

Maintain Safe Food Handling during Storage
Do your Due Diligence

Maintain Safe Food Handling during Storage
Do your Due Diligence

Maintain Safe Food Handling during Reheating
Do your Due Diligence

Maintain Safe Food Handling during Reheating
Due Diligence

Water Quality
Do your Due Diligence

Ice Quality

IS YOUR ICE CLEANER THAN TOILET WATER?
Do your Due Diligence

Improper Ice Handling
Do your Due Diligence

Proper Ice Handling
Do your Due Diligence

ADDITIONAL THINGS TO REMEMBER WHEN HANDLING YOUR ICE
Do your Due Diligence

Proper Ice Handling

- Keep the door or lid of the storage bin closed when ice is not being collected.
- Always use an ice scoop and keep the scoop and receptacle clean.
- Store the scoop outside the bin, facing downward with an opening to drain/dry.
- Use only dedicated ice buckets for transport or Ice bags.
- Routinely fully drain, wash, and sanitize the ice storage bin.

- Do not reuse ice bags.
- Do not nest ice transport buckets.
- Do not store food, containers or other foreign objects inside the ice bin.
- Do not return unused ice to the storage bin.
- Do not remove ice from the storage bin with your bare hands.
- Do not place ice bags on the tarmac.
Medical Issues

Speaker Contacts

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