

BresoTec Inc.

IDT



Countering Fatigue,  
enhancing life and reducing risk  
in aviation professionals

## Circle of Safety



## A Life-Improving Opportunity for Aviation Professionals



Aviation professionals are exposed to conditions that cause fatigue and can be detrimental to health:

- sitting for prolonged periods
- operating across time zones (i.e. jet lag)
- working through their regular sleep schedules
- irregular sleep locations

Fatigue impairs alertness, particularly during high-workload periods, or unexpected situations.



## Prominent Fatigue-Related Accidents:

### San Francisco 2013 Asiana 214



### Mangalore 2010 Air India Express IX-812



### Buffalo 2009 Colgan Air 3407



## Safety Concerns: Fatigue is the Sleeping Threat

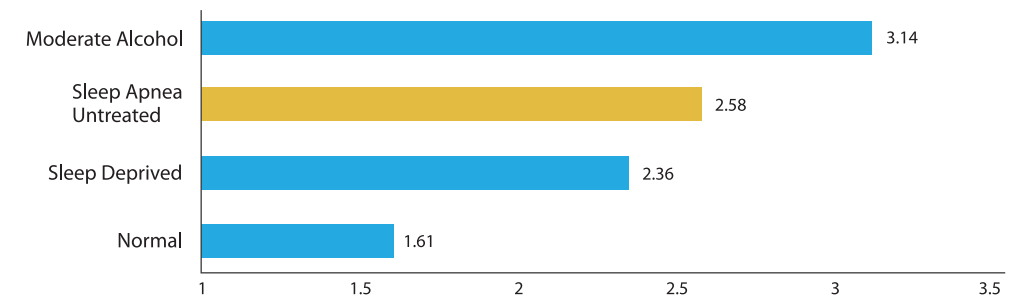
NTSB data show that fatigue contributes to 15-20% of aviation accidents:

- in 294 incidents a sleep disorder was involved
- in 32 fatal accidents, sleep apnea (a cause of fatigue) had been diagnosed in members of the flight crews

## Sleep Apnea

- Sleep apnea is a disorder characterized by recurrent pauses in breathing (apneas) due to collapse of the throat during sleep
- Apneas causes a brief awakenings that disrupt sleep and lead to drowsiness and fatigue during normal waking hours
- Most people with sleep apnea are unaware they have it, but since it is associated with snoring, it may be an annoyance to others
- In aviation, sleep apnea can lead to impaired alertness on the job
- Medical authorities will permit pilots with sleep apnea to continue to fly, as long as it is managed
- However, *untreated* sleep apnea increases risks for high blood pressure, heart failure, strokes and deep vein thrombosis (DVT), any one of which may end an aviation career

## Sleep Apnea Impairs Reaction Time (sec)



M. A. Hack et al.(2001) Comparison of the effects of sleep deprivation, alcohol and obstructive sleep apnoea (OSA) on simulated steering performance.

- *Respiratory Medicine, 95, 594-601.*

## You Are How Well You Sleep: Improving the Lives of Aviation Personnel

- Pilots, cabin crew and air traffic controllers can improve quality of life by improving sleep
- If you have sleep apnea, you should know about it before you develop the health conditions associated with it
- Fatigue and drowsiness can be avoided by treatment of sleep apnea



## Diagnosis - a Chronic Problem Now Solved

**Problem:** Until now, diagnosis of sleep apnea required spending a night in a sleep laboratory attached to many electrodes:

- Inconvenient, uncomfortable and expensive.

**Solution:** BresoDx is a new paradigm for sleep apnea diagnosis

- Portable, battery-operated device with no electrodes
- Can be used at home or any other location
- Diagnoses sleep apnea reliably by recording breath sounds via a microphone during one night's sleep

## Resolving Sleep Apnea

Once sleep apnea is diagnosed, several effective therapies are available that:

- Improve sleep quality and abolish snoring
- Reduce fatigue and drowsiness, and increase alertness during working hours
- May also reduce the risk of developing cardiovascular disorders

## An Opportunity for You

For aviation personnel, early detection of possible sleep apnea and its treatment can:

- Reduce fatigue, and improve alertness and safety on the job
- Maintain and enhance one's career
- Improve health and quality of life both on and off the job



BresoTec in co-operation with IDT offer aviation professionals a reliable, comfortable and affordable solution to proper sleep diagnosis

Find out more at:



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