

The logo for Bresotec Inc. features the company name in a dark blue, sans-serif font, with a stylized swoosh element above the text.The logo for IDT features the letters 'IDT' in a bold, dark blue, sans-serif font, with a stylized swoosh element above the text.

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

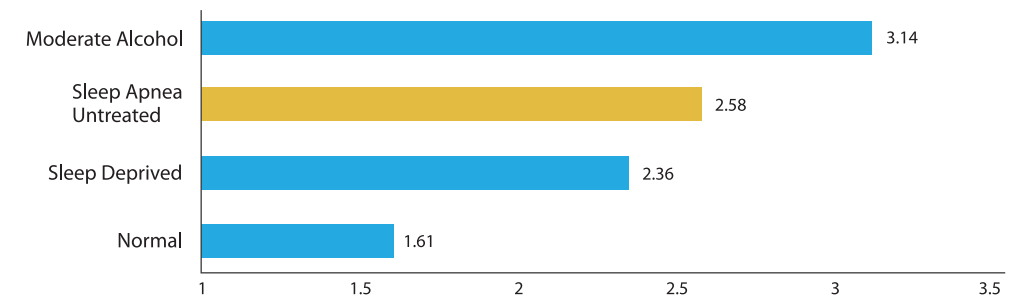
NTSB data show that fatigue contributes to 15-20% of aviation accidents:

- 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:



BresoTec Inc.



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IDT



@idt_simulation

idt-engineering.com