Blood Oxygen Levels of a Very High Altitude Worker

Steven Magee spent a decade working in high altitude astronomy. Five years of that was spent at the very high altitude summit of Mauna Kea, Hawaii, USA at approximately 13,796 feet. Medical Rx-Only oxygen was typically used about three times daily for about fifteen minutes each time without a doctors prescription for the treatment of headaches and very high altitude sickness. Continuous oxygen was never used, which is against the regulations developed for pilots by the Federal Aviation Administration (FAA) for flying above 10,000 feet in un-pressurized planes. Most of the work day would be spent breathing very high altitude low oxygen air (about 40% less oxygen than at sea level) infused with industrial carbon dioxide, nitrogen and helium gas.

He spent his thirties at high altitude and now in his forties he has erratic oxygen levels that cause forgetfulness, confusion, fatigue, sleepiness, irritability, shortness of breath and disability. He is medically diagnosed with numerous health conditions including Sleep Apnea, Ideopathic Hypersomnia, and Amnesiac Disorder (short term memory issues). He uses nasal, lung, heart, brain and high cholesterol Rx-Only prescription medications and a continuous positive airway pressure (CPAP) life support machine.

The following pages show what his blood oxygen levels and heart rate look like at age forty-seven:
Sleeping Without CPAP

Sleeping at 2,389 feet:
Blood oxygen (SpO2) averaged 89.1% and the low was 81%.

Low (<88%) oxygen periods can be clearly seen that last about half an hour each time.
Sleeping Using CPAP

Sleeping at 2,389 feet using a CPAP Rx-Only prescription life support machine:
Blood oxygen (SpO2) averaged 91.5% and the low was 82%.

The CPAP machine significantly reduces the periods of below 88% SpO2 from occurring and raises the blood oxygen levels by about 2%.
Awake during daytime at 2,389 feet and spent the first few hours standing followed by sitting: Blood oxygen (SpO2) averaged 91.8% and the low was 81%.

Standing keeps the oxygen levels about 5% higher than sitting. During sitting the low oxygen levels brought on sleepiness and an involuntary daytime nap.
Interesting Quotes & Internet links

- “Environmental Radiation LLC” http://www.environmentalradiation.com/
- “Steven Magee CEng MIET on Top of the W. M. Keck Observatory Dome – World's Largest Telescopes” http://www.environmentalradiation.com/We%20are%20mauna%20kea%20Steven%20Magee%20on%20Keck%20Dome.jpg

“Research suggests that sea level adapted humans that work at the very high altitude 13,796' summit of Mauna Kea may eventually develop sleep apnea and fatigue from the low oxygen environment.”

Steven Magee CEng MIET - Author of Toxic Health