

**Acclimatization for travelers with repeated high-altitude exposure: A case series of Thai engineers traveling to work at 4,000 meters salt pan in Argentina**

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Effects of repeated high-altitude exposure on acclimatization remain uncertain. We presented 4 cases of Thai engineers (male ages between 29-52 years) who came back from working trip in Argentina. The trip involved a cyclical period of 7-14 work days at 4000meters and 4 rest days at 1200meters. Each trip consisted of 3-6 cycles. One case had a second trip after 6 weeks break in Thailand. The self-reported data included milligram of acetazolamide use to prevent acute mountain sickness (AMS) and Lake Louise Score (LLS) on the first 24-48 hours of each cycle. The cases were asked for oxygen saturation (SpO<sub>2</sub>) records and other health problems (if available). Dosage of acetazolamide for AMS prevention could be reduced after 1-2 cycles of altitude exposure and could be stopped after 3 cycles in all cases. Mean milligram of acetazolamide use in cycle number 1-3 were: 850, 425, 150 respectively. LLS also declined in consecutive cycles; mean LLS on the first 24 hours in cycle number 1-3 were: 2.4, 1.8, 1 respectively. However, the LLS of 3 cases did not subside to 0 even on later days of later cycles. All reported fatigue which possibly related to insomnia and extreme weather, rather than acclimatization problem. One case had SpO<sub>2</sub> records showed less variability and higher minimum SpO<sub>2</sub> level in following cycles.

Acclimatization seemed to be retained greater for consecutive high-altitude trips after 4 days break at a lower level. Future studies about the physiology and lasting effects of altitude acclimatization are needed.