almitrine caused increased periodic breathing. This might be expected if it augments peripheral chemoreceptor response. Acetazolamide decreases periodic breathing which is consistent with its action at the central chemoreceptors. Acetazolamide is a superior drug for elimination of periodic breathing and severe hypoxaemia during sleep at high altitude.

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Changes in body weight, fat and muscle mass at high altitude and the effect of acetazolamide (Abstract)

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Body weight changes were studied during walking ascent and descent to 4846 m in 19 subjects, ten of whom were taking acetazolamide. Body fat was assessed using fat fold calipers at three skin locations. Muscle thickness was measured in both arms and legs using a portable linear array ultrasound unit. At high altitude weight was maintained in subjects on acetazolamide but tended to fall in subjects on placebo. During descent there was marked weight loss in both groups; mean loss 3.2 kg in subjects on acetazolamide and 4.1 kg in those on placebo. Body fat tended to fall but only by 0.12 kg and 0.4 kg in the two groups respectively. Muscle thickness in the thigh

was significantly reduced at high altitude by 3.4 mm (8.5%) in the acetazolamide group and 4.9 mm (12.9%) in the placebo group. Loss of muscle in the upper arm was less, but the difference between the groups was greater. This muscle wasting could account for the greater part of the overall weight loss. At high altitude calorie intake was surprisingly low, approximately 2000 K cal daily but with adequate protein (73 g/day). It remains to be shown whether muscle loss can be prevented by dietary manipulation but a significant beneficial effect of acetazolamide has been demonstrated.

Reference

Bradwell, A.R., Dykes, P.W., Coote, J.H. *et al.* Effect of acetazolamide on exercise performance and muscle mass at high altitude. *Lancet* 1986, *ii*, 1001–1005.