example, it is feasible to measure pulmonary artery pressure responses to hypoxia in premenopausal women before and after elective oophorectomy. One could also assess pulmonary artery pressure responses to hypoxia in postmenopausal women both before and after a short course of estrogen or progesterone, or both. Finally, it may be possible to do a retrospective cross-sectional analysis of a registry of HAPE patients to see if there is a relationship between postmenopausal status and risk for HAPE.

This case should also not be viewed as reason to administer estrogen or progesterone to postmenopausal women or to those who have undergone oophorectomy for HAPE prevention. Instead, women with and women without a prior history of HAPE should continue to follow current guidelines for HAPE prophylaxis with future ascents.

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References


Is Drinking to Thirst a Prudent Guideline to Avoid Hyponatremia?

To the Editor:
I would like to address a statement made in the recent article on treatment of exercise-associated hyponatremia by Bennett et al.1 The statement “… prudent guidelines include drinking to thirst.” is a questionable and perhaps dangerous suggestion.

In exertional activities, thirst is the signal that your body is in the first stages of dehydration,2 and after 40 years of managing extensive outdoor programs I have found it is a major issue to get participants to drink sufficient quantities of liquid to stay adequately hydrated and healthy. If all outdoor sojourners continually waited to drink until they were thirsty, I suspect there would be a significant increase in heat and dehydration injuries and altitude problems, which would far outpace the hyponatremia spectrum.

As a former international mountain/travel guide, Outward Bound program manager, senior SOLO Wilderness Medicine staff member (30 years), and Wilderness Medical Society member and presenter (22 years), I have some comments for our membership.

For those of us who have taken participants to the far corners of the Earth, keeping them safe and healthy is our first priority. On such journeys, preventing
References


Reply to: Is drinking to thirst a prudent guideline to avoid hyponatremia?

To the Editor:

We appreciate the opportunity to respond to the Letter to the Editor by Aughton, 1 which highlights continued misconceptions regarding hydration and the role of thirst sensation. Efforts to dispel myths about proper hydration are especially timely given the recent deaths of 2 American high school football players from overhydration resulting in hyponatremic encephalopathy. 2

Hew-Butler et al 3 provides an excellent overview describing how sensation of thirst is regulated, and why drinking to thirst is used as a risk mitigation strategy to avoid the consequences of both under drinking and over drinking. Even though it is well documented that prevention of symptomatic dehydration and exercise-associated hyponatremia (EAH) occurs when drinking to thirst, 4–7 Mr Aughton states that this recommendation is questionable, and suggests that it might even be a dangerous practice. We regard his clinical experience, but note that he did not provide supporting evidence for his assertions.

Our recommendation of drinking to thirst in the EAH practice guideline was specifically intended for the prevention of overhydration, which is clearly the key risk factor for EAH morbidity and mortality. 7 But drinking to thirst is also an appropriate strategy for avoiding dehydration. Common misconceptions are that drinking to thirst will result in decreased exercise performance owing to significant dehydration at the time of initial thirst sensation, and an increased core body temperature, which may increase the risk of heat-related illness. None of these ideas is correct. Noakes et al 6 outline how these misperceptions came into existence. Furthermore, there is no published scientific evidence to show that drinking to stay ahead of thirst, as a popular mantra, during competitive or noncompetitive exercise produces a more beneficial outcome than using thirst to drive fluid intake. Importantly, excessive fluid ingestion does not prevent serious heat illness. In fact, exertional heatstroke is most likely to occur in short duration, high intensity activities, and can occur without dehydration. Additionally, a sustained high rate (1200 to 1800 mL/h) of fluid ingestion, either at rest or during exercise, is neither sustainable nor safe as it can produce initial symptoms of intestinal distress, nausea, and vomiting, and can progress to death from exercise-associated hyponatremic encephalopathy. Of critical importance is that there are no published reports of an exercise-related death or serious illness in marathons, long-distance triathlons, or ultramarathons due solely to dehydration. 6

Adolph et al 8 conducted classic research by examining thirst mechanisms and fluid homeostasis in a fluid-restricted group and a group with free access to water (ad libitum) during daylong marching (walking) in summer desert heat. The fluid-restricted group had moderate (7% to 10%) dehydration with symptoms of fatigue, weariness, sleepiness, anorexia, dizziness,