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The incidence of heat casualties in sprint triathlon: The tale of two Melbourne race events.

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Triathlon is a popular participation sport combining swimming, cycling and running into a single event. The Triathlon Australia medical policy advocates the use of wet bulb globe temperature as the criterion for altering race distance and an ambient temperature of 35 degrees C as a criterion for consideration of cancellation of an event, but there is little empirical evidence detailing the effectiveness of this policy. Nor has the impact of environmental thermal stress on triathletes in shorter duration events been determined. During an injury surveillance investigation of a triathlon race series over the 2006/2007 seasons, two events with similar environmental conditions were completed. One thousand eight hundred and eighty-four participants competed in event 1 (December 2006) and 2000 competed in event 2 (February 2007). Maximum dry bulb (DBT), minimum vapour pressure (VP) and minimum relative humidity (RH) for event 1 were 37 degrees C DBT, 0.56kPa VP and 9% RH measured by the Bureau of Meteorology. Fifty-three participants presented for medical aid, 15 due to heat-related collapse. The conditions measured for event 2 were 33 degrees C DBT, 1.16kPa VP and 24% RH and there were no heat illness presentations despite 38 individuals presenting for medical aid. These observations suggest that the risk of heat-related collapse is greatest when high-environmental temperatures occur early in the competitive season when participants may be inadequately prepared and have not yet acquired natural acclimatisation to heat. Any Triathlon Australia policy revision could place stronger emphasis on the use of ambient temperature as a limiting criterion for race organisers.