

PARA MONTE

ADAM SAVORY MEMORIAL FUND ALTITUDE AWARENESS CHARITY

Funded Altitude Research

Research Article Title:

Prediction of physiological responses and performance at altitude using the 6-minute walk test in normoxia and hypoxia

Research Summary:

The 6-minute walk test (6MWT) is a reliable/valid tool for determining an individual's functional capacity, and is used to predict summit success. This study aimed to evaluate whether a 6MWT in normobaric hypoxia could predict physiological responses and exercise performance at altitude, and then determine construct validity for monitoring acclimatization to 3400m (Cuzco, Peru).

Twenty-nine participants performed six 6MWTs in 4 conditions: normoxic outdoor, normoxic treadmill, hypoxic treadmill and hypoxic outdoor in Peru.

Acclimatization to altitude at 3400m was evidenced by reductions in resting HR, respiratory rate, and preservation of oxygen saturation.

The duration to ascend to 4215m on a trek in Peru was moderately correlated to heart rate during the trek and the 6MWT distance.



Take Home Message:

The 6MWT is a simple, time-efficient tool for predicting physiological responses to simulated and actual altitude, which are comparable. The 6MWT is effective at monitoring elements of acclimatization to moderate altitude.

Gibson, O. R., Richardson, A. J., Hayes, M., Duncan, B., & Maxwell, N. S. (2015). Prediction of physiological responses and performance at altitude using the 6-minute walk test in normoxia and hypoxia. *Wilderness & environmental medicine*, 26(2), 205-210.