Reviewer’s report

Title: The Six Minute Walk Test Accurately Estimates Mean Peak Oxygen Uptake

Version: 3 Date: 25 January 2010

Reviewer: Lee Ingle

Reviewer’s report:

Major Compulsory Revisions:

The authors of this study have assessed the ability of the 6-min walk test to predict peak oxygen uptake across a range of disease populations. They have ultimately produced a one-size-fits-all regression equation which they conclude can be used to predict mean peak VO2 from mean 6-MWT distance. Unfortunately the study suffers from a series of flaws which impact on its appeal.

There seems to be a misunderstanding regarding the utility of the 6-MWT. The test is designed to be a self-paced walking test, often used in chronic disease populations e.g. chronic heart failure, and as such it is difficult to argue that it is a test of "functional exercise capacity". The CPET is a test of aerobic capacity and as such both tests are distinct with differing roles from a patient management perspective. The specific issues have been highlighted in the following Letter to the Editor: Ingle L & Carroll S. The 6-min walk test: A useful test in elderly patients with heart failure? Medicine and Science in Sports and Exercise 2007;39(2):391.

I am also concerned as to the purpose of a generalised predictive regression equation which includes patients with pulmonary hypertension, COPD, and ILD, plus presumably CVD? To whom is this equation going to be of value? Because it includes lots of different disease conditions it may well be of interest to no one! The authors argue themselves in the Intro that "Type of disease may also affect the relationship". This is rather counterproductive when developing a rationale to undertake the study.

I published a study which looked at this same issue in 2006 and my narrow focus was male patients with LVSD. The intention was that the study would be of interest to cardiologists working with these specific patients. Incidentally, my study was not included in the article reference list which was surprising since EJHFi is certainly cited within PubMed. Please see: Ingle L, Goode K, Rigby ASR, Cleland JGF, Clark AL. Predicting peak oxygen uptake from six-minute walk test performance in male patients with left ventricular systolic dysfunction. European Journal of Heart Failure 2006; 8: 198-202.

There was little explanation or rationale for the "systematic" approach taken in ensuring that the review of literature undertaken was comprehensive. Why use just PubMed?; other databases?; what were the search terms used?; between
which dates? There needs to be a systematic rationale developed here.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests