

European Respiratory Society Annual Congress 2013

Abstract Number: 3761

Publication Number: P3355

Abstract Group: 1.1. Clinical Problems

Keyword 1: Oxygen therapy **Keyword 2:** COPD - management **Keyword 3:** Hypoxia

Title: Testing for exercise dependent hypoxemia in a population

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Body: Introduction: Since 1999 in the province of Alberta, a standard test has identified patients who benefit from low flow oxygen therapy (LFOT) for hypoxemia occurring only during exercise. The Alberta Walk Test (AWalkT) is a double blind, air versus oxygen protocol of three 6 minute walk tests (practice, then oxygen or air in random order), done in 30 sites. AWalkT is for patients NOT hypoxemic at rest who desaturate <90% SpO₂ by oximetry during any activity. All oxygen in Alberta, population 3.65 million, is from a single public program. Questions: What is the: 1) outcome of widespread exercise testing, 2) incidence of LFOT for exercise dependent hypoxemia, 3) safety of multiple site testing?

Results: In 12 years, 6,913 patients in Alberta have challenged the AWalkT. 54% had a “positive” outcome by: desaturating to <80% SpO₂ at any time OR increasing walk distance with oxygen OR less dyspnea with oxygen. 21% walked further with oxygen and 5% were less dyspneic, without major desaturation. 10% were incomplete/indeterminate but deemed “positive” on review. By 2011, a cumulative total of 985 patients in Alberta are receiving LFOT for exercise hypoxemia, incidence 27 per 100,000. Widespread AWalkT has been extremely safe with no significant complications; only 9 Emergency room visits in 12 years. Summary: The Alberta Walk Test effectively identifies within this population, patients with exercise hypoxemia who improve performance with low flow oxygen.