Effects of Walking Aid in COPD Patients Receiving Oxygen Therapy


Abstract
The objective of this study was to determine if a simple walking aid may improve physical performance in patients with COPD who normally carry their own heavy oxygen canister. In a randomized crossover trial 60 stable COPD patients were selected to participate.

Background and Purpose
It has been noted that patients with COPD have a reduction in exercise capacity and their dyspnea can become so disabling that they will be very sedentary, symptoms will worsen, and even experience reduced quality of life. The purpose was to compare walking distance, symptoms, and main physiological parameters during walking with the oxygen canister carried over the shoulder or pulled using a small wheeled cart in COPD patients receiving long-term oxygen therapy.

Methods and Materials
- 60 participants
- Receiving long-term oxygen therapy for at least 6 months and in stable condition with no evidence of acute exacerbation or change in medication in the previous four weeks.
- One 6 MWT performed while carrying their oxygen tank on their shoulder and the other while pulling a small wheeled cart holding the oxygen tank.
- Primary outcomes included peak effort dyspnea and leg fatigue.

Results
- Distance walked significantly increased with the walking aid.
- Less fatigue was experienced while using the walking aid.
- Cardiorespiratory parameters were significantly better with walking aid.
- The walking aid shows even greater improvement in symptoms in those patients who walked less than 300 meters.

Discussion
This study shows that walking with a wheeled cart is able improve distance, symptoms, and cardiorespiratory parameters in COPD patients receiving long-term oxygen therapy. These results are especially significant in the subgroup of patients who are more deconditioned. By increasing the mean distance walked it can allow patients to move better and walk with less fatigue.

Clinical Relevance
When patients with COPD use a walking aid to help them carry their oxygen canister it can help them improve their walking distance and decrease their fatigue. For these patients who are deconditioned this increase can help to improve mobility to perform ADLs and hopefully increase quality of life.

Conclusion
The take home message from these three articles is that patients with COPD using long term oxygen therapy can walk longer distances before becoming short of breath and decrease fatigue while using walking aids like a rolling canister or modern draisine. Although, as this is true according to article the original article and number two, it does not mean that patients will become more active if they have a more efficient walking aid like a lighter weight oxygen canister, which is what article number 3 has concluded. It is important for us as PTs to educate our COPD patients using long term oxygen therapy about the best way to transport their oxygen that will give them the best functional results.

Article # 2
- This article compares two different walking aids used by COPD patients. Article two compares a standard rollator vs. a modern draisine.
- Both articles concluded that by decreasing the effort needed to walk or carry an oxygen tank will help preserve energy to increase walking distance and decrease fatigue and shortness of breath in patients with COPD using long term oxygen therapy. Therefore, article number 2 supports article one.

Article # 3
- This article was unable to find a difference between the light weight oxygen canister versus the heavier canister. This study determined that there was no increase in activity levels from those using a light weight oxygen canister therefore, this article does not support the original article.

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