

Assessing the Efficacy of Utilizing the 6-Minute Walk Test as a Method to Standardize Ambulatory Pulse Oximetry Measurement

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Background/Triggers

• Background

- The 6-minute-walk-test(MWT) is a standardized method used to determine a patient's ambulatory pulse oximetry value while the patient safely ambulates for a full 6 minutes
- It is used on patients to determine if they need to be sent home on supplemental oxygen or if they can safely complete ADL's on room air.
- It can increase the accuracy of a patients true ambulatory pulse oximetry value

Triggers

- There is no current policy in place for inpatient ambulatory pulse oximetry at LVHN
- Variation in length of ambulation was noted to obtain ambulatory pulse oximetry values.
- Standardizing inpatient practice can help improve the safety of patients both in the hospital setting and after discharge

Evidence

- Researchers found that patients desaturated more during the 6MWT (84%) than performing ADLs (89%). Overall, 6MWT is an effective method for detecting desaturation during ADLs and for establishing the oxygen flow needed to correct exercise-induced desaturation (Guell, Mayos, & Murante, 2005).
- A prospective observational study involving 88 COPD patients found that 58% of patients desaturated to an SPO2 less than 88% while performing standard 6MWT. Overall, the 6MWT is simple and widely used as a consistent measure of functional capacity in patients with COPD (Adair et al., 2008).



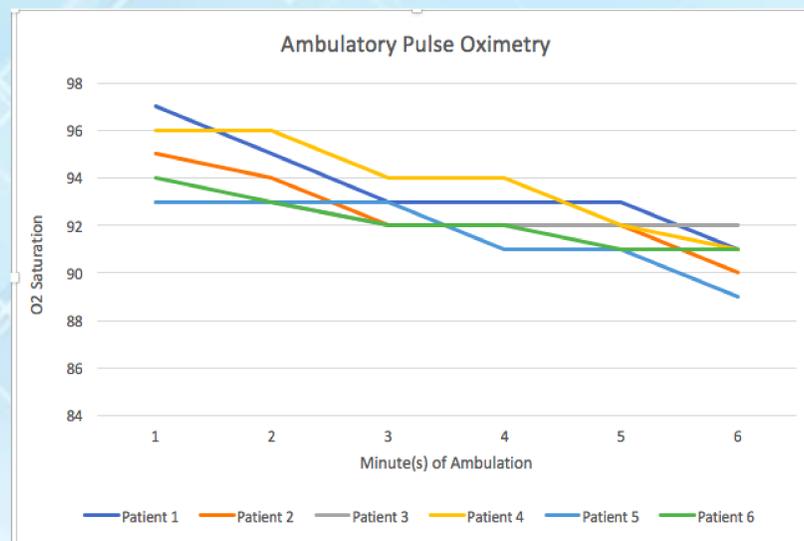
Purpose/PICO

Purpose: To determine if the 6-minute-walk-test is an accurate way of measuring ambulatory pulse oximetry values.

PICO Question –In patients ordered ambulatory pulse oximetry, does utilizing the process of the 6 minute walk test compared to ambulating for a shorter period of time affect the patient's ambulatory pulse oximetry value?

- P-** patients ordered ambulatory pulse oximetry
- I-** utilizing the 6 minute walk test
- C-** ambulating for a shorter period of time
- O-** pulse oximetry value

Implementation/Results



The sample size consisted of 6 patients and was limited to those that had an order for ambulatory pulse oximetry. In all participants, there was a downward trend in SPO2 level from 1 minute to 6 minutes of ambulation. The largest difference in beginning and end SPO2 readings in a single participant was 6% while the lowest was 1%. All participants were able to safely complete the exercise without the use of supplemental O2.

REFERENCES

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2. Enright, P., MD. (2003). The Six-Minute Walk Test. *Respiratory Care*, 48(8).
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Methods

- Collaborated with Respiratory Therapy to determine adequate ambulation time for appropriate SPO2 measurement.
- All RNs and TPs on 5T received a TLC module regarding the ambulatory pulse oximetry process as stated below:
 - Patients' continuous SpO2 to be monitored while ambulating for a full 6 minutes
 - Record the value of the O2 saturation each minute for the duration of the test
 - "If persistent SpO2 is below 88%, testing is stopped, patient is assisted to chair, and supplemental oxygen is provided per provider order. Testing may continue after SpO2 of 88% or greater is obtained after 5 minutes" (LVPG Pulmonary and Critical Medicine Policy)
 - Compare the relationship between peripheral capillary oxygen saturation (SpO2) and the 6 minute walk test (6MWT)

Conclusions/Next Steps

- Overall the 6 minute-walk test is an effective way of assessing ambulatory pulse oximetry.
- A larger sample size would have been beneficial to evaluate the effectiveness of the 6MWT.
- Next steps are to:
 - Share the results of the 6MWT at the unit staff meetings.
 - Encourage utilization of this process when patients are ordered ambulatory pulse oximetry.
 - Disseminate findings and implement an inpatient policy on ambulatory pulse oximetry standard of care.

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