Name of Policy:	**Oxygen administration**
Policy Number:	3364-171-07-07
Department:	Sleep Disorders
Approving Officer:	Senior Hospital Administrator
Responsible Agent:	Director, Sleep Disorders
Scope:	The University of Toledo Medical Center Pulmonary Services Department

THE UNIVERSITY OF TOLEDO MEDICAL CENTER

Effective Date: 3/17/2023

Initial Effective Date: 3/17/2023

X New policy proposal	_____ Minor/technical revision of existing policy
_____ Major revision of existing policy	_____ Reaffirmation of existing policy

(A) Policy Statement

All qualified and trained Polysomnographic Technologists are responsible for assessing a patient's needs for oxygen administration.

(B) Purpose of Policy

To address situations when it may be necessary to add supplemental oxygen to a patient during a diagnostic or titration sleep study. To further give guidelines for patients that may wear oxygen on a regular basis.

(C) Overview

Supplemental oxygen may "mask" or prolong respiratory events, reduce arousals, and generally interfere with assessing the severity level of sleep disordered breathing events. Consequently, the staff physician may specify that the sleep evaluation be conducted without supplemental oxygen. Patients with a current prescription for supplemental oxygen may be asked to discontinue its use at bedtime, but they are not to be placed at risk. Patients shall be maintained at their prescribed oxygen delivery level at all other times while they are at the center, including the MSLT and MWT.

(D) Procedure

The procedure for initiating supplemental oxygen may be separated into three categories, based on whether the patient has a current prescription, and whether a diagnostic or treatment evaluation is being performed. During a diagnostic evaluation, one goal is to determine the severity of oxy-hemoglobin desaturations associated with sleep disordered breathing. Therefore, supplemental oxygen may be withheld for all or part of a diagnostic evaluation, but may be re-instated for a patient with a current prescription if:

1. The technician feels that it is necessary for the patient's safety.
2. The patient requests it due to discomfort, anxiety, or difficulty sleeping.
3. If the patient is exhibiting severe desaturations (below 75%), and a sufficient amount of sleep has been obtained (i.e., 1-3 hours of "general sleep" including REM sleep with the patient in the supine position), to establish accurate baseline oxy-hemoglobin levels for the diagnostic evaluation.

When adding or titrating oxygen, the guidelines below should be implemented.

For Diagnostic Polysomnogram (PSG):

1. Begin the study without supplemental oxygen, as adding oxygen can mask the severity of the sleep disordered breathing.
2. Record and document the severity of the hypoxemia.
3. For a patient without a current prescription, if the room air baseline oxygen saturation (SpO2) is ≤88% for a minimum duration of at least 10 consecutive minutes **in the absence of sleep**

disordered breathing events (including snoring), initiate oxygen at 1 liter per minute (L/M) via nasal cannula.

4. Titrate by 1 L/M every 5 minutes to achieve an SpO2 of ≥ 90% (90%-94%).
5. Do not exceed 6 L/M.
6. **Special scenario:** If the patient begins to have life threatening cardiac events related to hypoxemia, place the patient on a nasal cannula at 1 L/M, titrate liter flow by 1 L/M every 5 minutes to achieve an SpO2 greater than 90% (90%-94%). Do not exceed 6 L/M. Notify the Interpreting Sleep Specialist and the Primary Care Provider (PCP) in the morning. Refer to the policy titled Guidelines for Emergency Situations When Recording Polysomnograms.

For Titration PSG:

1. Begin the study without supplemental oxygen. Treatment of OSA alone may improve the patient's condition without the need for supplemental oxygen.
2. If the room air baseline SpO2 is ≤88% for a cumulative 10 minutes **in the absence of sleep disordered breathing events (including snoring)**, increase PAP pressure (e.g., CPAP, EPAP and/or IPAP, or Min PS) by 1 cm H_2O every ≥ 5 minutes until SpO2 ≥ 90% is achieved. Pressure increases to improve baseline SpO2 levels may be performed twice during the titration process and should be guided by the technician's assessment of the patient's ability to tolerate the increased pressure.
3. If PAP pressure increase of 1 or 2 cm H_2O does not sufficiently improve the baseline SpO2 level, add supplemental oxygen to the PAP device. Begin at 1 L/M.
    a. If the patient is on CPAP, switch to bilevel positive airway pressure (BPAP) before adding oxygen. Refer to the policy titled Clinical Guidelines for Manual Titration of Positive Airway Pressure using Bilevel.
4. Titrate by 1 L/M every 5 minutes to achieve an SpO2 ≥ 90% (90%-94%).
5. Do not exceed 6 L/M.

NOTE: If at any time during the study the patient has difficulty breathing, appears cyanotic, and/or experiences significant desaturations (for adults, the SpO2 continues to fall below 80%, for children 13-17 years of age the SpO2 continuous to fall below 85%) utilize the department and hospital emergency policies and procedures.

Approved by:		**Review/Revision Date:** 03/23
/s/ Michael Taylor Director, Pulmonary Services	03/20/2023 Date	
/s/ Andre Aguillon, M.D. Medical Director	03/19/2023 Date	
/s/ Russell Smith Senior Hospital Administrator	03/20/2023 Date	
Review/Revision Completed By: *Director, Sleep Disorders Center*		**Next Review Date: 03/26**
Policies Superseded by This Policy:		

It is the responsibility of the reader to verify with the responsible agent that this is the most current version of the policy.