Respiratory Care Clinical Practice Guideline

TITLE: **Oxygen Clinical Practice Guideline**

PURPOSE: To use common assessment criteria based on best practice to align and adjust oxygen therapy in an effort to provide safe, effective and individualized care for the patient's clinical condition.

DESCRIPTION: High-flow or oxygen therapy greater than 6LPM will be appropriately administered and managed by a licensed respiratory therapist upon prescriber's order. Management includes ongoing clinical assessment and corresponding treatment adjustment based upon the prescriber's orders and the patient's clinical status and individualized need. At any time if the patient condition deteriorates, the prescriber will be notified. All patients requiring high-flow oxygen greater than 6LPM will be minimally monitored by pulse-oximetry. Higher level of care should be considered patient condition. A monitored bed (step-down or higher) is indicated for all patients receiving high flow oxygen through a device other than a Salter (not to be excluded).

PROCEDURE / WORK INSTRUCTION:

1. Verify prescriber's orders.

2. Review chart for pertinent information, including indications.
    - Hypoxemia, SpO2 <92% or as indicated by provider order.
    - Home oxygen prescription.

3. Use appropriate process for assuring patient identification (wrist band and/or double identifier).

4. Identify potential complications from therapy.
    - CO2 retention.
    - Dry nose (humidification recommended >4L and PRN).
    - Intolerance to high flow.

5. Identify care plan and goals of therapy. Perform ongoing clinical assessment to determine appropriateness, benefit, improvement, and progress during the course of therapy. Re-evaluate every 24 hours. Document initial assessment and/or reassessment in the electronic medical record (EMR). Refer to Table 3. (Piraino et. Al., 2022).

    - Decrease oxygen as tolerated to maintain ordered SpO2.
    - SpO2 92-98% non-COPD.
    - SpO2 88-92% COPD.

Respiratory Oxygen Therapy Assessment Grid

Level	RR	Dyspnea	Resp History	Oxygen to keep SpO2 >/= 92%	Intervention
Patient on Home Therapy	□Patient Baseline	□ Patient Baseline	□Requires home therapy	□Patient Baseline/home O2 prescription	□ As at home- reconcile orders with home O2 level if pulmonary status is stable
Level 1	□ Less than 20	□ No SOB	□ None	□ Room air w/SpO2 >/= 92%	□ Room air
Level 2	□ Less than 20	□ Periodic SOB	□ Positive risk factors*	□ 1-4 LPM	□ Notify prescriber of increase in LPM by more than 2L to keep SpO2 at ordered level or >92%. Humidify as needed. □ **COPD:** Notify prescriber of increase in LPM by more than 2L to keep SpO2 at ordered level or >88-92%. Humidify as needed.
Level 3	□ 20 – 25	□ Dyspnea on exertion or periodic stated SOB	□ Suspected pulmonary disease** and/or positive risk factors	□ 4-6 LPM	□ Notify prescriber of increase in LPM by more than 2L to keep SpO2 at ordered level or >92%. Humidify as needed. Consider Salter HFNC device for patients requiring 6LPM with periodic desaturations or dyspnea. □ □ **COPD:** Notify prescriber of increase in LPM by more than 2L to keep SpO2 at ordered level or >88-

					92%. Humidify as needed. Humidify as needed. Consider Salter HFNC device for patients requiring 6LPM with periodic desaturations or dyspnea. □ Consider Venturi mask at 6LPM and 50%
Level 4	□ 25 - 35	□ Accessory muscle use/ prolonged expiration	□ Diagnosis pulmonary disease**	□ >50% - <100%	□ Consider HFNC starting at 20 LPM and FiO2 to maintain saturation goals. Increase liter flow by 10LPM to optimize WOB and decrease accessory muscle use. □ Consider venturi mask at 6L and 50%. **CONTACT PROVIDER**
Level 5	□ Greater than 35 Less than 8	□ Severe dyspnea	□ Diagnosis pulmonary disease** Severe Exacerbation	□ 100%	□Non-rebreather mask >8LPM. □ Consider HFNC starting at 20 LPM and FiO2 to maintain saturation goals. Increase liter flow by 10LPM to optimize WOB and decrease accessory muscle use. □ Consider non-invasive or invasive ventilation for refractory hypoxemia. **CONTACT PROVIDER**

Note - *The frequency level of therapy will not be lower than the frequency of home therapy* as listed on the medication reconciliation record unless specifically ordered by the prescriber.

*Positive Risk factors include but not limited to:

- History of smoking
- History of pulmonary complications
- Smoke inhalation, physical/chemical trauma to the lung or upper airway.

**Suspected Pulmonary Disease:

- Asthma/reactive airway disease
- Bronchitis/Emphysema (COPD)

- Cystic Fibrosis
- Severe Laryngitis/Tracheitis/Bronchiectasis
- Microbial infection

Table 3. Recommended S_{pO_2} Range by Population

	S_{pO_2} Range	P_{aO_2} Range
Patients requiring oxygen	94–98%	70–100 mm Hg
Patients with COPD requiring oxygen	88–92%	55–75 mm Hg
Patients requiring $F_{IO_2} \geq 0.70$*	88–93%*	55–80 mm Hg

*A higher PEEP strategy may reduce the negative effects of high F_{IO_2} on functional residual capacity during mechanical ventilation if tolerated and safe.

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