

<b>Medication:</b> Oxygen	<b>PDN:</b> 6966.05	<b>Last Updated:</b> May 5 2024	<b>PMD:</b> Andrew Travers*	<b>PDC:</b> Teena Robinson*	Page 1 of 2
---------------------------	---------------------	------------------------------------	--------------------------------	--------------------------------	-------------

## OXYGEN

### 1.0 Classification

- Element/gas

### 2.0 Mechanism of Action

- Increases oxygen levels by increasing:
  - Inspired percentage of oxygen
  - Oxygen concentration in the alveoli
  - Arterial oxygen levels
  - Oxygen delivered to tissues

### 3.0 Indications

- Hypoxia

### 4.0 Contraindications

- No absolute contraindications but should only be given with hypoxia and not to obtain a state of hyperoxia.

### 5.0 Precautions

- Oxygen is a vasoconstrictor; aiming to achieve an SpO<sub>2</sub> of 100% can be detrimental in situations such as ischemic chest pain or ROSC.
- Some patients with COPD are at risk of being CO<sub>2</sub> retainers. Monitor closely if providing these patients with supplemental oxygen.

### 6.0 Route

- May be given passively or actively with various devices, including:
  - Nasal cannula
  - Nebulizer
  - Non-rebreather
  - Bag-valve-mask
  - Venturi (patient may have their own)
  - CPAP

### 7.0 Dosage

- Appropriate delivery device and flow rate should be chosen to obtain an SpO<sub>2</sub> based on the patient's condition:
  - Ischemic chest pain: 94-96%
  - ROSC: 92-98%
  - Sepsis: 94-99%
  - Stroke: 92-99%
  - Respiratory distress: > 92%
  - Patient with COPD: 88-92%
  - Allergic reaction: > 92%
  - Burns with airway/respiratory involvement: 100%
  - As directed by [1] Special Patient Program, [2] Clinical Support Paramedic and/or [3] Medical Communications Centre Physician

## 8.0 Supplied

- Oxygen tanks of 3 sizes:
  - M = 3000 L volume (tank factor 1.56)
  - E = 660 L volume (tank factor 0.28)
  - D = 400 L volume (tank factor 0.16)
- **Note:** Calculation for time remaining in tank equals =  $\frac{[\text{Pressure on gauge} - 200 \text{ psi}] \times \text{tank factor}}{\text{Flow rate (lpm)}}$

### CPAP pressures based on oxygen flow

Flowsafe® II disposable CPAP system		Rescuer® II Compact CPAP system	
O <sub>2</sub> Flow (lpm)	CPAP/PEEP (cm H <sub>2</sub> O)	O <sub>2</sub> Flow (lpm)	CPAP/PEEP (cm H <sub>2</sub> O)
6	2-3	4	5
8-9	5	5	7.5
10-12	7.5	6	10
13-14	10	7	12
Flush	13 (Max)	8	15 (Max)

## 9.0 May Be Given By

- EMR/PCP/ICP/ACP/CCP

## 10.0 Adverse Effects

- Light-headedness
- Respiratory failure in a small number of patients who are CO<sub>2</sub> retainers

## 11.0 Special Notes

- If patients are within their targeted oxygen saturation, it is not necessary to administer supplemental oxygen.

## 12.0 References

- All Clinical Practice Guidelines outline the role of supplemental oxygen when managing the various emergencies.

\*Electronically Signed

Copyright © Emergency Health Services