

Medication: Oxygen	PDN: 6966.06	Last Updated: August 21 2025	PMD: Andrew Travers*	PDC: 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 SpO₂ of 100% can be detrimental in situations such as ischemic chest pain or ROSC.
- Some patients with COPD are at risk of being CO₂ 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 SpO₂ 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 ₂ Flow (lpm)	CPAP/PEEP (cm H ₂ O)	O ₂ Flow (lpm)	CPAP/PEEP (cm H ₂ 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/ACP/CCP

10.0 Adverse Effects

- Light-headedness
- Respiratory failure in a small number of patients who are CO₂ 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