

Oxygen Delivery Systems

Delivery Systems	O2 Delivered	Advantages	Disadvantages
Nasal Cannula	1-6L/M 24-44%	Safe & Simple Easily Tolerated Effective for low concentrations Does not impede eating or talking Inexpensive & disposable	Less effective in patients who mouth breathe. Dries nasal mucosa at higher flows. can dislodge easily May irritate skin behind ears & at cheeks. OK for COPD
Simple Mask	5-8L/M 40-60%	Provides higher concentrations than possible with N/C. Effective for mouth breathers or patients with nasal disorders. Fits loosely on face	Requires humidification Interferes with eating and talking. Creates risk of rebreathing CO2 within mask & CO2 retention. May irritate skin. Anxiety in claustrophobic Patient Not for COPD
Venturi Mask	2L/M 24 % 3L/M 28 % 4L/M 30 % 6L/M 35% 8L/M 40% 10L/M 50% 14L/M 55%	Delivers exact preset O2 despite client's breathing pattern. Does not dry mucus membranes Can be used to deliver humidity	Permits condensation to form in tubing which diminishes the flow of O2. COPD use permitted with appropriate low flow regulator.
Partial Rebreather Mask	6 - 10L/M 60 – 95 %	Delivers increased O2 Easily humidified Does not dry mucus membranes.	Creates a risk for suffocation. Requires monitoring to verify that reservoir remains inflated at all times Not for COPD
Non-Rebreather Mask	6 -15 L/M 60 – 100%	Delivers highest possible O2 without Intubation Does not dry mucus Membranes	Risk of O2 toxicity Requires tight seal May be uncomfortable Bag should not deflate Not for COPD

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Face Tent	8 -12 L/M 28 – 100%	Provides a comfortable fit Used for facial trauma, burns or surgery. Facilitates humidification of warmed or cool O2.	Interferes with eating May result in inconsistent O2 due to environmental loss.
Tracheostomy collar	10 L/M with nebulizer is recommended	Facilitates humidification & warming of O2	Allows accumulation of water vapor in tubing which may drain into airway.
T – piece	10 L/M with nebulizer is recommended	Delivers desired amount of O2 with high humidity to tracheostomy.	May pull on trach tube Allows accumulation of water vapor to collect and moisten gauze dressings.

Nasal Cannula Flow Rates

Room Air	= 21% O2
1L N/C	= 24%
2L N/C	= 28%
3L N/C	= 32%
4L N/C	= 36%
5L N/C	= 40%
6L N/C	= 44 %