

Respiratory Support for Spontaneously Breathing Patients						
Type	O2 Delivery	CO2 Exit	FiO2	Rate	Pros	Cons
“Blow By” Oxygen	O2 tubing or simple mask held by a child’s face	Mouth	<30% (limited evidence)	At least 10L/ min through a reservoir (such as mask)	Can be used in children who can’t tolerate other methods	Limited and variable O2 delivery
Nasal Cannula						
Low flow	Through nasal prongs attached to tubing	Mouth	25-40% (100% O2 delivers variable FiO2 based on placement of nares, patient’s inspiratory effort and minute ventilation)	1-4L/min (Rates >2L/min can create Positive airway pressure in newborns/ infants)	Mobile, infants can feed w/ low -flow in place, may be better tolerated than a mask	- Cannot reliably deliver high concentrations of FiO2 - Prongs can be difficult to keep in position
High flow				Up to 8L/min in infants, up to 60L/min in children/adults		
Masks						
Simple Mask	O2 enters mask through a tube	Holes in the side of the mask	35-50% (Room air can enter through exit holes, mixing w/ delivered O2)	6-10L/min	Can deliver higher concentrations of FiO2 than NC	Cannot reliably deliver precise concentrations of O2 because of mixing w/ room air
Partial Rebreathers	O2 enters the mask through a tube as well as from an attached reservoir	Holes in the sides of the mask. Room air can still enter, but not as much as w/ the simple mask.	50-60% O2	10-12L/min		
Non-Rebreather Masks	O2 enters the mask through a tube as well as from an attached reservoir w/ a one-way valve	Two exhalation ports; one is fitted w/ a one-way valve and one allows mixing (fail-safe so that if the O2 delivery port blocked, patient doesn’t suffocate)	Up to 95% O2	10-15L/min	Max FiO2 administered to a spontaneously breathing patient	*stored in the code cart at BCH

See ICU Non-Invasive Positive Pressure Ventilation for CPAP/BiPAP on page 233