












## Summary of oxygen delivery apparatus and applicability to MSF

Oxygen delivery apparatus	Pressure	The in-between apparatus from pressure source and patient	Duration of use	Usage in MSF field sites
<b>Oxygen concentrator</b> 	<ul style="list-style-type: none"> <li>Low pressure</li> </ul>	-	<ul style="list-style-type: none"> <li>Depends on power supply</li> </ul>	<ul style="list-style-type: none"> <li>Routinely used</li> </ul>
<b>Oxygen bottles/tanks/cylinders</b> 	<ul style="list-style-type: none"> <li>High pressure</li> </ul>	<ul style="list-style-type: none"> <li>Manometer + oxygen flow meter (also known as regulator) +/- humidifier</li> </ul> 	<ul style="list-style-type: none"> <li>Depends on the size of bottle, the flow of oxygen delivered to patient, and the patient's inspiratory flow</li> </ul>	<ul style="list-style-type: none"> <li>Some projects have access to oxygen bottles, but this is currently not a routine and dependent on the field site (e.g. MSF-MOH hospital).</li> </ul>
<b>Oxygen from the wall</b> 	<ul style="list-style-type: none"> <li>High pressure</li> </ul>	<ul style="list-style-type: none"> <li>Oxygen flow meter (also known as regulator) +/- humidifier</li> </ul>	<ul style="list-style-type: none"> <li>Depends on the size of reservoir, the flow of oxygen delivered to patient, and the patient's inspiratory flow</li> <li>(NB: for many wall oxygen systems, the reservoir is actually a very large bottle/tank)</li> </ul>	<ul style="list-style-type: none"> <li>Some projects have access to wall oxygen, but this is currently not a routine and dependent on the field site (e.g. MSF-MOH hospital).</li> </ul>

Typical Patient condition (not an all-inclusive list)	Patient care item	MSF catalogue code	Inlet pressure source of oxygen required	Usual Flow setting	Estimated FiO <sub>2</sub> (if no increased work of breathing)	Workability with MSF 10L/min Oxygen concentrator (Yes / No )	Alternative oxygen source (not in MSF catalogue)
<ul style="list-style-type: none"> <li>• Disease requiring minimal oxygen</li> <li>• Peri/Post-anesthesia</li> </ul>	<b>Nasal cannula</b> 	SCTDCANN2PL SCTDCANN2N SCTDCANN2P SCTDCANN2A	<ul style="list-style-type: none"> <li>• Low or high pressure</li> </ul>	<ul style="list-style-type: none"> <li>• 0.5 to 6 L/min</li> </ul>	<ul style="list-style-type: none"> <li>• 0.24 to 0.4</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> </ul>	-
<ul style="list-style-type: none"> <li>• Disease requiring minimal oxygen</li> <li>• Peri/Post-anesthesia</li> </ul>	<b>Simple face mask</b> 	SCTDMASO1A SCTDMASO1P	<ul style="list-style-type: none"> <li>• Low or high pressure</li> </ul>	<ul style="list-style-type: none"> <li>• 5 to 10 L/min</li> </ul>	<ul style="list-style-type: none"> <li>• 0.35-0.55</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> </ul>	-
<ul style="list-style-type: none"> <li>• Resuscitation of unwell patient</li> </ul>	<b>Non-rebreather face mask</b> 	SCTDMASOH1A SCTDMASOH1P	<ul style="list-style-type: none"> <li>• Low or high pressure</li> </ul>	<ul style="list-style-type: none"> <li>• 8 to 15 L/min</li> </ul>	<ul style="list-style-type: none"> <li>• 0.6 to 0.95</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> <li>• Unless you Y-connect two 10L/min oxygen concentrators (however Y-connection method may not be reliable)</li> </ul> 	<ul style="list-style-type: none"> <li>• 20 L/min oxygen concentrator</li> <li>• Oxygen bottles (but many bottles will be needed, so not always practical)</li> <li>• Oxygen by wall</li> </ul>

Typical Patient condition (not an all-inclusive list)	Patient care item	MSF catalogue code	Inlet pressure source of oxygen required	Usual Flow setting	Estimated FiO2 (if no increased work of breathing)	Workability with MSF 10L/min Oxygen concentrator (Yes / No )	Alternative oxygen source (not in MSF catalogue)
<ul style="list-style-type: none"> <li>Hypoxic respiratory failure (e.g. due to viral pneumonia and other types of pneumonia)</li> </ul>	<b>High flow humidified nasal cannula oxygen (HFNO or HFNC)</b> 	- (no code, but has been used in DRC and Yemen)	<ul style="list-style-type: none"> <li>High pressure products <ul style="list-style-type: none"> <li>Opti-Flow</li> <li>Vapotherm</li> <li>Airvo</li> </ul> </li> <li>Low pressure products <ul style="list-style-type: none"> <li>Airvo</li> </ul> </li> </ul>	<b>Airvo</b> (adolescent/adults) <ul style="list-style-type: none"> <li>20 to 60 L/min</li> </ul> <b>Airvo Jr mode</b> <ul style="list-style-type: none"> <li>2 to 25 L/min</li> </ul>	<ul style="list-style-type: none"> <li>0.25 to 1.0</li> </ul>	<ul style="list-style-type: none"> <li>No</li> <li>Unless you Y-connect two 10L/min oxygen concentrators to <b>(however this method has not yet been tested)</b></li> </ul>	<ul style="list-style-type: none"> <li>20 L/min oxygen concentrator</li> <li>Oxygen bottles (but many bottles will be needed, so not always practical)</li> </ul> Oxygen by wall
<ul style="list-style-type: none"> <li>Cardiogenic pulmonary edema</li> <li>Post-anesthesia</li> <li>Temporizing measure for hypoxic respiratory failure (e.g. due to viral pneumonia and other types of pneumonia)</li> </ul>	<b>CPAP O-Two</b> 	SCTDCPAP101 SCTDCPAP102 SCTDCPAP103 SCTDCPAP104	<ul style="list-style-type: none"> <li>Low or high pressure</li> </ul>	<ul style="list-style-type: none"> <li>8L/min = 5 cmH2O</li> <li>10 L/min = 8 cmH2O</li> <li>12 L/min = 10 cmH2O</li> <li>15 L/min = 15 cmH2O</li> <li>20 L/min = 20 cmH2O</li> </ul>	<ul style="list-style-type: none"> <li>0.54 to 0.73</li> </ul>	<ul style="list-style-type: none"> <li>No</li> <li>You will need to Y-connect two 10L/min oxygen concentrators to <b>(however this method has not yet been tested)</b></li> </ul>	<ul style="list-style-type: none"> <li>20 L/min oxygen concentrator</li> <li>Oxygen bottles (but many bottles will be needed, so not always practical)</li> <li>Oxygen by wall</li> </ul>

Typical Patient condition (not an all-inclusive list)	Patient care item	MSF catalogue code	Inlet pressure source of oxygen required	Usual Flow setting	Estimated FiO <sub>2</sub> (if no increased work of breathing)	Workability with MSF 10L/min Oxygen concentrator (Yes / No )	Alternative oxygen source (not in MSF catalogue)
<ul style="list-style-type: none"> <li>• Intubated patient in ICU level 3</li> <li>• Non-invasive ventilation (NIV) with BiPAP and/or CPAP in level 2 or 3 ICU</li> <li>• Transport of an intubated patient</li> </ul>	<b>Monnal T60 Ventilator</b> 	EEMDVICE4	<ul style="list-style-type: none"> <li>• Low or high pressure</li> </ul>	<ul style="list-style-type: none"> <li>• 10 to 20 L/min</li> </ul>	<ul style="list-style-type: none"> <li>• 0.6 to 1.0</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> <li>• You will need to Y-connect two 10L/min oxygen concentrators to get consistent FiO<sub>2</sub> &gt; 0.5 (however Y-connection method is not always reliable due to lack of specific materials and leak)</li> </ul>	<ul style="list-style-type: none"> <li>• 20 L/min oxygen concentrator</li> <li>• Oxygen bottles (but many bottles will be needed, so not always practical)</li> <li>• Oxygen by wall</li> </ul>