

These patients are at high risk for needing extracorporeal membrane oxygenation (ECMO) support.  
[ECMO indications found here](#)

Neonate with suspected CDH at time of delivery

Clamp cord without delay

Intubate immediately to limit bowel distension

### Initial Respiratory Management

- Use Neopuff via endotracheal tube
- Start at 18/5 with FiO<sub>2</sub> at 40%
- Place on ventilator as soon as possible

Place Replegle tube to limit bowel distension and optimize lung expansion (10 French tube with low intermittent suction)

Obtain vascular access

### Provide Sedation

- Administer fentanyl bolus (1 mcg/kg)
- Initiate morphine or fentanyl drip as soon as IV access obtained
- Initiate dexmedetomidine drip (initial dose of 0.3 mcg/kg/hr) as adjunct

Initiate fluids and nutrition

### Initial Respiratory Management

- Goal preductal saturations:
  - > 65% at 5 minutes of life
  - > 75% at 10 minutes of life
  - > 2 hours following birth, preductal saturation levels should be kept between 85 - 95%
  - For more information, please refer to [Oxygenation and Ventilation Management](#)
- Consider mode of ventilation (*pressure targeted vs. volume for small defects*)
- Start peak inspiratory pressure (PIP) at 18
- Target positive end-expiratory pressure (PEEP) is 3 - 5 cm H<sub>2</sub>O, lower PEEP may be used to augment tidal volume while not increasing PIP
- Recognize higher respiratory rates may be needed with shorter inspiratory times
- Do not routinely use surfactant, unless suggested by gestational age

### Sedation

- Minimize handling and stimulation from light and noise to avoid potentiating persistent pulmonary hypertension (PPHN)
- Avoid routine use of deep sedation or neuromuscular blockade
- Attempt to maintain spontaneous breathing and synchronized ventilation
- Helpful for the moderate to severe defects, if infant is doing well, consider weaning off sedation

### Vascular Access

- Attempt UVC for initial resuscitation (*if liver up on fetal imaging, place as low-lying*)
- Obtain UAC or peripheral arterial line (*right radial preferred*)
- Limit attempts to < 1 hour, low threshold to place peripheral IV
- Hold PICC placement for 24 hours

### Fluids and Nutrition

- NPO with starter TPN at ≤ 80 mL/kg/day, including all infusions
- Consider NS bolus of 10-20 mL/kg, if clinically indicated (*the left ventricle is typically small and may not respond to excess fluid*)
- Monitor strict measurements of urinary output (*measure of end organ perfusion*)

<b>Laboratory studies</b>	<ul style="list-style-type: none"> <li>• Type and screen (<i>prior to blood products or extracorporeal membrane oxygenation [ECMO]</i>)</li> <li>• Genetics: Exome sequencing</li> <li>• CBC with differential</li> <li>• ABG every 1 - 2 hours, then space as stabilized</li> <li>• Lactate on admission, and then as needed per cardiorespiratory status and prior results</li> <li>• Glucoses per unit policy</li> </ul>
<b>Imaging</b>	<ul style="list-style-type: none"> <li>• Chest/Abdomen X-ray</li> <li>• Head ultrasound (HUS) screening (<i>obtain once in unit</i>)</li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Preductal oxygen saturation</li> <li>• Near-infrared spectroscopy (NIRS) to monitor end organ oxygenation</li> <li>• Urine output and signs of increasing acidosis (<i>indicators of poor oxygen delivery</i>)</li> </ul>
<b>Consults</b>	<ul style="list-style-type: none"> <li>• Genetics</li> <li>• Surgery</li> </ul>

Transfer to ECMO capable room in NICU within 2 hours of life

[Pre-Operative Management](#)



QR code for mobile view