

Congenital Diaphragmatic Hernia in the Neonate

Objectives

- Describe the pathophysiology and clinical findings at birth related to the fetal development of a congenital diaphragmatic hernia (CDH) in all its potential forms
- Discuss the priority decisions and criteria used to appropriately manage the neonate with a CDH from delivery room stabilization through pre-repair monitoring and care including therapy for pulmonary hypertension, options for ventilatory support, and indications for the use of ECMO/ECLS and select medications
- Outline the key factors related to determination of readiness for surgical repair and the criteria used for selection of the surgical approach as well as the appropriate operative and postoperative monitoring, clinical care, and long-term surveillance required for this complex congenital defect

Content Outline

1. Individualized Management of Congenital Diaphragmatic Hernias in Neonates
 - 1.1 Description of congenital diaphragmatic hernia (CDH) development
 - 1.1.1 Anatomic regions and locations
 - 1.2 Prenatal detection, evaluation, and risk prediction
 - 1.3 Delivery room management
 - 1.4 Postnatal preoperative care
 - 1.5 Ventilatory approaches
 - 1.5.1 “Gentle” ventilation
 - 1.5.2 Selection of appropriate mode of ventilation
 - 1.6 Approaches to pulmonary hypertension (PH)
 - 1.6.1 Medications to treat PH aspect in CDH
 - 1.7 Discussion of indications, patient selection, and modes of delivering ECMO/ECLS
 - 1.7.1 Considerations for CDH repair on ECMO/ECLS
 - 1.8 Timing of repair based on targets and criteria indicating readiness
 - 1.9 Operative repair of the CDH
 - 1.9.1 Patch options and considerations
 - 1.9.2 Use of the minimally invasive thoracoscopic (MIS) approach
 - 1.10 Postoperative management including issues of incisional closure
 - 1.11 Long-term CDH outcomes and recommendations for follow-up

Reading Material Resources

Module WB2574: Congenital Diaphragmatic Hernia in the Neonate is based on the resources listed below. A copy of each resource is included with the module.

One Size Does Not Fit All: Congenital Diaphragmatic Hernia Management in Neonates, Pala C and Blake SM, *Neonatal Network* 42 (2023), 45-51

Surgical Management of Congenital Diaphragmatic Hernia, Harting MT and Jancelewicz T, *Clinics in Perinatology* 49 (2022), 893-906