



# Entrustable Professional Activities

## EPA 3 for Neonatal-Perinatal Medicine

### EPA 3: Provide Care to Patients in the NICU with Surgical Problems in Collaboration with Pediatric and Subspecialty Surgeons

#### Supervision Scale for This EPA

1. Trusted to observe only
2. Trusted to execute with direct supervision and coaching
3. Trusted to execute with indirect supervision for most simple and some complex cases
4. Trusted to execute with indirect supervision but may require discussion of information conveyed for a few complex cases
5. Trusted to execute without supervision

#### Description of the Activity

Neonatologists need to work collaboratively with pediatric general surgeons and surgical subspecialists in the care of neonates and infants with conditions where surgery is or may be indicated.

The specific functions which define this EPA include:

1. Recognizing conditions where surgery is indicated primarily or in conjunction with medical management, including knowledge of the limitations of one’s ability to manage problems medically
2. Providing management and/or stabilization pre- and post-operatively of neonates and infants with problems requiring surgical intervention to include appropriate nutritional, cardiopulmonary, and pain management
3. Communicating directly with the pediatric general or subspecialty surgeon to facilitate the timely and coordinated care of neonates and infants with surgical needs
4. Providing continuity of care that ensures that patients and families understand the diagnosis, management, and follow-up needed

#### Judicious Mapping to Domains of Competence

- Patient Care
- Medical Knowledge
- Practice-Based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-Based Practice
- Personal and Professional Development

#### Competencies Within Each Domain Critical to Entrustment Decisions

ICS 3:	Communicating with health professionals
ICS 5:	Consultative role
P 2:	Demonstrating professional conduct
SBP 2:	Coordinating care
PPD 1:	Engaging in help-seeking behaviors



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### Context for the EPA

**Rationale:** Many neonates and infants are born with or develop conditions after birth for which surgery is curative or palliative. Neonatologists must be able to anticipate delivery room needs of infants with known congenital anomalies, as well as identify patients who develop conditions that may benefit from surgery. Optimal pre- and post-operative stabilization, management, and communication help ensure optimal outcomes.

**Scope of Practice:** Neonatologists must be able to provide care to neonates and infants with surgical problems, including delivery room management, pre- and post-operative stabilization and management and communicating with relevant pediatric general and surgical subspecialists. This includes, but is not limited to: airway management, ventilator management, cardiac support, establishing IV access, providing prolonged parenteral and complete enteral nutrition, providing adequate pain management, providing continuity of care that ensures a seamless transition to home, and ensuring optimal communication among the medical team and the family throughout the infant's care in the NICU. It is beyond the scope of this document to consider all surgical management skills the neonatologist may be called upon to practice. This document is intended to address the scope of knowledge and skills of a neonatologist practicing in a hospital setting, with a specific focus on pre- and post-operative medical management of surgical patients.

### Curricular Components That Support the Functions of the EPA

1. Recognizing conditions where surgery is indicated primarily or in conjunction with medical management, including knowledge of the limitations of one's ability to manage problems medically
  - Determines when a new or progressive condition warrants surgical consultation and/or intervention, and whether this is needed emergently (e.g., airway compromise, vascular compromise), urgently (e.g., risk of organ compromise if surgery is delayed), or routinely. Communicates the need for consultation with the appropriate surgical service in a timely manner
  - Recognizes common anomalies that benefit from surgical consultation prenatally and helps coordinate a team approach to such care (e.g., diaphragmatic hernia, gastroschisis)
  - Provides educational and supportive prenatal counseling with expectant parents of infants with known congenital anomalies whose infant is anticipated to require surgery
  - Gathers appropriate information and documents parental wishes in the medical record regarding an advanced directive when an infant has a congenital anomaly or surgical condition that is life-limiting
  - Reviews maternal medical records and communicates with the obstetrician/maternal-fetal medicine specialist regarding fetal diagnoses. When appropriate, collaborates with obstetric and pediatric surgical teams to develop a plan for delivery and resuscitation
  - Communicates medical information to the infant's family in a timely and empathic manner, answers their questions and provides or arranges for additional support
2. Providing management and/or stabilization pre- and post-operatively of neonates and infants with problems requiring surgical intervention to include appropriate nutritional, cardiopulmonary, and pain management
  - Preoperative care
    - Identifies the anticipated level of care and necessary surgical support and ensures delivery at a hospital equipped to provide optimal care or the ability to stabilize and transfer to such a hospital if problems arise



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- Recognizes the unique stabilization needs of certain congenital anomalies in the delivery room (e.g., gastroschisis, omphalocele, neural tube defect, diaphragmatic hernia, airway anomaly) and ensures appropriately trained providers are available for the delivery
- Understands and arranges appropriate preoperative evaluation of associated anomalies (e.g., determines need for and obtains relevant laboratory studies, imaging, and other diagnostic studies)
- Collaborates with pediatric and subspecialty surgeons to ensure provision of necessary medical care (including antibiotics, vasoactive medication, intravenous fluids, etc.) in the preoperative period
- Postoperative care
  - Ensures adequate pain management, including an ongoing assessment that pain is controlled while the infant is not overmedicated
  - Anticipates and manages fluid and electrolyte shifts
  - Provides appropriate respiratory monitoring and support, including potential need for increased support in immediate postoperative period
  - Recognizes the importance of adequate intravascular volume in addressing postoperative hypotension and ensures adequate cardiac function with additional appropriate inotropic support if indicated
  - Collaborates with pediatric surgeons to:
    - Optimize intravenous nutritional support, including daily review of hyperalimentation
    - Oversees transition to enteral feeds
    - Provides nutritional supplementation when needed to ensure optimal growth
- Recognizes and appropriately treats withdrawal symptoms when infants are being weaned from long term pain medication

In collaboration with pediatric general and subspecialty surgeons, neonatologists should be expected to participate in the care of newborns with a number of specific surgical conditions, including (but not limited to):

- Inguinal hernia
  - Intestinal atresia
  - Gastroschisis
  - Omphalocele
  - Malrotation and volvulus
  - Necrotizing enterocolitis
  - Congenital diaphragmatic hernia
  - Tumor resection
  - Tracheoesophageal fistula
  - Hirschsprung's disease
  - Laser surgery for retinopathy of prematurity
  - Myelomeningocele
  - Ventriculoperitoneal shunt
  - Recognition of need for ECMO support, initiation, or timely transfer
3. Communicating directly with the pediatric general or subspecialty surgeon to facilitate the timely and coordinated care of neonates and infants with surgical needs



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- Understands optimal timing of communication preoperatively (emergent, urgent, routine)
  - Gathers relevant history, physical examination findings, laboratory, and diagnostic studies preoperatively and communicates appropriately with the surgeon
  - Collaborates with surgeon to keep the family up to date with short term and long-term issues and goals of care
  - Ensures daily communication with the surgical team
  - Arranges and oversees larger team meetings for complex patients, including the family, as needed
4. Providing continuity of care that ensures that patients and families understand the diagnosis, management, and follow-up needed
- Communicates with families regarding diagnosis and recommended approach, including arranging a second opinion if requested by the family
  - In collaboration with the pediatric surgeons, reviews management options (including the risks and benefits of each option if more than one approach is viable), prognosis and anticipated long-term sequelae with the family
  - Anticipates discharge, ensuring the family receives instructions for home care for their infant, and has sufficient time to demonstrate their ability to provide such care
  - Orchestrates the team that will be involved in the infant's home care
  - Ensures adequate communication with all providers involved in the infant's home care, including the family and the primary care provider, prior to discharge

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### Curricular Components Author

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