Gastroschisis Clinical Pathway
University of California Fetal Care Consortium

Start of Care

Obstetrician Recommendations

Is it a routine pregnancy with fetal gastroschisis without other maternal or fetal indications for earlier delivery?

YES

Delivery at 38 weeks is recommended to minimize the risk of perinatal mortality

- **Vaginal delivery is recommended with Cesarean section reserved for obstetrical indications**
- **Routine preterm delivery is not recommended**

NO

In pregnancies with fetal gastroschisis that are complicated by fetal growth restriction or suboptimal interval fetal growth, the goal gestational age for delivery is 37 weeks (although earlier delivery may become indicated)

The UC Gastroschisis Clinical Pathway was created after completing a retrospective analysis of inborn gastroschisis patients at all five UC medical campuses. The pathway provides suggested guidelines, which are endorsed by the University of California Fetal Care Consortium with the goal of standardizing and improving care, reducing length of stay, and reducing health care costs.

Pediatric Surgeon Recommendations

1. Attempt at bedside silo-placement and closure without intubation or anesthesia is encouraged when feasible (note: a narrow fascial defect requiring lateral extension does not prohibit this approach)

2. Gastric and rectal decompression are recommended as strategies to facilitate reduction

3. If silo is utilized, expeditious closure within 3 days is recommended when clinically feasible

Routine intubation and paralysis are NOT recommended for silo placement or reduction.

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Neonatologist Recommendations

Access and Other Care

1. For bedside silo placement / closure, recommend placing peripheral IV, pulse oximeter, nasal cannula (for respiratory distress if required), and orogastric tube (which should be suctioned manually during reduction of bowel)

2. Recommend peripherally inserted catheter (PICC) over central venous catheters (i.e., Broviac)

3. Recommend removal of central catheters as soon as 100kcal/kg/day of enteral feeds (or ad lib oral feeds) are achieved

Pain Control

1. Recommend oral sucrose water for bedside silo-placement, reduction, and closure

2. If narcotics are administered, limit to a single dose when feasible to help prevent apnea and intubation

3. Recommend the use of non-narcotic medications (e.g. acetaminophen)

4. Recommend discontinuation of narcotics ≤ 48 hours after abdominal closure

Antibiotics

1. The recommended prophylactic antibiotics for reduction and closure are ampicillin and gentamicin

2. Recommend discontinuation of antibiotics ≤ 48 hours after abdominal closure in the absence of culture-positive sepsis or clinical instability

Routine intubation and paralysis are NOT recommended for bedside silo placement or reduction.

Nutrition

1. Encourage oral care protocol with maternal breast milk at least 4x daily beginning first day of life
2. Recommend parenteral nutrition and IV lipids as soon as possible and no later than 24 hours of age.
-Protein 2-2.5 g/kg/d
-Lipids 1-2 g/kg/d
-GIR 5-8
3. Recommend reaching goal parenteral nutrition by day of life 3 as tolerated
-Protein: 3-3.5 g/kg term or 3.5-4 g/kg for late-preterm or younger
-Lipid: 2-3 g/kg
-Calories: 90-110 kcal/kg/d
4. Recommend early initiation of feeds (10-20 cc/kg/day) ≤48 hours after gastric output is non-bilious
5. Recommend oral feeds
6. Recommend use of breast milk or donor breast milk as a transition if maternal breast milk not available
-Stop donor breast milk after reaching 60-100 cc/kg/d of feed
7. Recommend advancing feeds by ≥20 cc/kg/d as tolerated
8. Recommend not checking gastric residuals
9. Recommend minimizing pausing feeds unless clinical signs of intolerance
10. Growth parameters should be checked weekly. Changes in z-scores should be assessed
-If a patient is demonstrating a decrease in weight or length z-score from birth that is greater than or equal to -0.8 after 14 days of life, recommend discussing increasing caloric goal

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References:

1. Multi-institutional practice patterns and outcomes in uncomplicated gastroschisis: a report from the University of California Fetal Consortium (UCfC). Lusk LA, Brown EG, Overcash RT, Grogan TR, Keller
RL, Kim JH, Poulain FR, Shew SB, Uy C, DeUgarte DA; University of California Fetal Consortium. J Pediatr Surg. 2014 Dec;49(12):1782-6. doi: 10.1016/j.jpedsurg.2014.09.018. Epub 2014 Nov 14.

2. Factors associated with gastroschisis outcomes. Overcash RT, DeUgarte DA, Stephenson ML, Gutkin RM, Norton ME, Parmar S, Porto M, Poulain FR, Schrimmer DB; University of California Fetal Consortium. Obstet Gynecol. 2014 Sep;124(3):551-7. doi: 10.1097/AOG.0000000000000425.

Specific Goals:

The recommendations for care in this pathway will be implemented with the following goals:

1. Standardization of care across University of California Medical Centers
2. Reduction in percentage of patients undergoing cesarean section delivery
3. Reduction in median length of stay (days)
4. Reduction in median ventilator days
5. Reduction in median antibiotic days
6. Reduction in narcotic usage
7. Reduction in days of parenteral nutrition
8. Reduction in days spent in silo
9. Reduction in overall cost
10. Increase in utilization of human milk

Gastroschisis Clinical Pathway Team:

Owner University of California Fetal Care Consortium