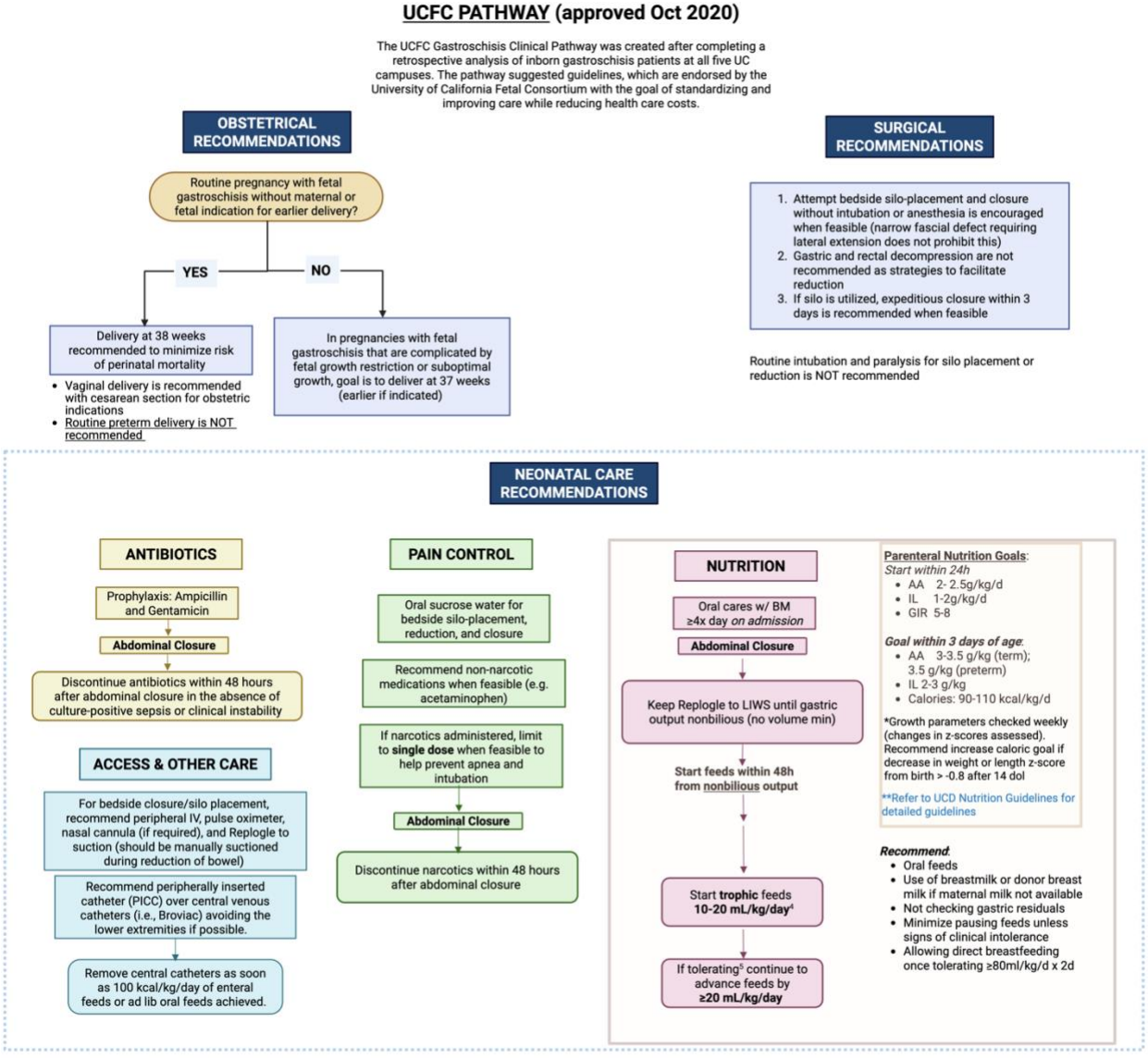
UC DAVIS HEALTH | CHILDREN'S HOSPITAL

Gastroschisis Clinical Pathway (UCFC)

INTRODUCTION:

The UC Gastroschisis Clinical Pathway was created after completing a retrospective analysis of inborn gastroschisis patients at all five UC medical campuses. The pathway has been updated based on ongoing monitoring and evaluation. The pathway provides suggested guidelines, which are endorsed by the **University of California Fetal Care Consortium** with the goal of standardizing and improving care by reducing the percentage of Cesarean deliveries, ventilator days, antibiotic days, opioid doses, parenteral nutrition days, silo days, exposure to general anesthesia, length of stay, and cost.



OBSTETRICAL GUIDELINES

- Routine preterm delivery is not recommended. In otherwise routine pregnancies with fetal gastroschisis and no other maternal or fetal indications for earlier delivery, delivery at 38 weeks is recommended to minimize the risk of perinatal mortality. 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).
- Vaginal delivery is recommended with Cesarean section reserved for obstetrical indications.

SURGICAL GUIDELINES

- 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).
- For bedside silo-placement / closure, recommend placing peripheral IV, pulse oximeter, nasal cannula (in case supplemental oxygen is required), and an orogastric tube (which should be suctioned manually during reduction of bowel).
- If silo is utilized, closure within 3 days is recommended when feasible.
- Recommend gastric and rectal decompression as strategies to facilitate reduction.

Ventilator Guidelines

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

NEONATAL CARE GUIDELINES

Antibiotic Guidelines

- Ampicillin and gentamicin are recommended as primary choice for prophylaxis.
- Discontinue antibiotics ≤ 48 hours after abdominal closure in the absence of culture-positive sepsis or clinical instability.

Pain Management Guidelines

- Recommend oral sucrose water for bedside silo-placement, reduction, and closure.
- Recommend use of non-opioid medications to control pain.
- If opioids are administered during bedside silo placement or skin closure, limit to a single dose when feasible to help prevent apnea and intubation.
- If opioids are utilized, discontinue ≤ 48 hours after abdominal closure.

Central Venous Access Guidelines [1, 2]

- Peripherally inserted (PICC) venous access is preferred over central-insertion of tunneled central venous catheters. Avoid lower extremity if possible especially in babies requiring silo placement and prolonged closure.
- Discontinue central venous catheters as soon as 100kcal/kg/day of enteral feeds (or ad lib oral feeds) are achieved.

Nutrition Guidelines

- Encourage oral care protocol with colostrum/maternal breastmilk at least 4x daily beginning first day of life.
- Parenteral Nutrition:
    - Recommend parenteral nutrition (Dextrose + amino acids) be given to the patient within the first 24 hours of age, or as soon as possible. Recommend IV lipids no later than 24 hours of age.
        - Protein 2-2.5 g/kg/d
        - Lipids 1-2 g/kg/d
        - GIR 5-8
    - Recommend reaching goal parenteral protein and lipid and calories by day of life 3 (as tolerated).
        - Goal protein:
            - 3-3.5 g/kg for term

        - 3.5-4 g/kg for late pre-term or earlier
    - Goal lipid: 3 g/kg for preterm and 2-3 g/kg term
    - Goal calories: 90-110 kcal/kg/day
- Recommend initiation of feeds ≤48 hours after gastric output is nonbilious. Recommend initiating feeds at 10-20 cc/kg and increase as tolerated (***Babies enrolled in GAIN study – please refer to UCD clinical study guidelines; clinicaltrials.gov/NCT06878950*)
- Recommend oral feeds.
- Recommend use of breast milk or consider donor breastmilk as a transition if maternal breastmilk not available. Donor breast milk to be preferred as a transition if maternal milk not available. Once at 60-100 cc/kg/d of donor milk, ok to transition to formula.
- Recommend advancing feeds by ≥ 20 cc/kg/d as tolerated.
- **Recommend allowing direct breastfeeding once baby tolerates >80ml/kg/day feeds for at least 2 days (added April 2025 UCFC consensus)**
- Recommend not checking gastric residuals unless clinically indicated.
- Recommend minimizing pauses in feeding unless patient is demonstrating bilious/bloody emesis, abnormal abdominal exam, grossly bloody stools, changes in vital signs or other signs of obstruction or ischemic bowel.
- Growth parameters (weight, length, HC z-scores) should be measured and assessed weekly. Changes in growth parameter z-scores should be assessed.
    - Birth measurements should be used to determine change in z-scores
    - If 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, patient's caloric goal should be increased (i.e. consider fortification and/or increase volume of feeds)

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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

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