Introduction

Gastroschisis is a congenital abdominal wall defect that allows herniation of abdominal content, most often including the intestines and stomach, outside of the body without a protective sac or layer. Worldwide, the incidence of gastroschisis has risen to approximately 2 to 5 infants per 10,000 live births. In most cases of simple, uncomplicated gastroschisis the outcomes are favorable, with high survival and low morbidity rates. However, standardized management of these infants in the postnatal period is key for several reasons, including: improving management of fluids and electrolytes, ensuring safe reduction of the defect, achieving earlier return of bowel function, and reducing infection risks. Importantly, each of these factors greatly influence the length of hospital stay in the Neonatal Intensive Care Unit (NICU).

This document was developed by an interdisciplinary group of clinician from SickKids to help guide the management of infants with gastroschisis in the NICU. The goal is to allow patients and families to: experience a smoother hospitalization; achieve the best outcomes; and support a timelier transition out of intensive care, an environment that is not conductive to optimal developmental care and parent-child bonding.

The clinical pathway was created, revised and finalized using research knowledge, clinical experience, and consensus agreement of a group of neonatal and surgical clinicians. The pathway is a general guideline and does not represent a professional care standard governing providers’ obligations to parents. Care must always be revised to meet individual patient needs.

Target Population

- Neonates admitted to the Hospital for Sick Children Neonatal Intensive Care Unit (NICU) with a diagnosis of uncomplicated Gastroschisis and a completed Gestation of >35 weeks.
- Neonates born prior to 35+0 weeks Gestational Age or found to have anatomical findings that may influence the care trajectory (i.e. several inflammation/matting or intestinal atresia) should not have their NICU hospitalization guided by this pathway.

Target Users

- Registered Nurses, NP's, Physicians, Surgeons and Dieticians involved in the care of identified neonates.

Recommendations
Gastrostomies (uncomplicated neonates ≥ 35 weeks at birth)

**Targeted Length of Stay in NICU: 14 Days in NICU**

<table>
<thead>
<tr>
<th>DAY 0-4 POST BIRTH</th>
<th>DAY 5-7 POST BIRTH</th>
<th>DAY 8-14 POST BIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GOALS**

- Appropriate airway management
- Prevention of exposed bowel
- Appropriate fluid management
- Application of stoma
- Establishment of vital signs and late work

- Ensure appropriate respiratory support (if required)
- Reduction of bowel leak to stomal site
- Maintain adequate fluid balance and nutritional support
- Suture stable IV access
- Engage parents in neonatal care

- Appropriate respiratory support
- Closure of abdominal wall
- Aim to emulate within 48 hours of procedure
- Maintain adequate fluid balance and nutritional support

- Await return of bowel function
- Initiate feeds when ready. Score for oral feeding readiness
- Engage parents in care provision
- Transition to EEN

**IMPLEMENTATION**

- Mount Stat Ini hite card
- Mount Stat team to follow postnatal management
- Neonatal transferred to SickKids as soon as possible after birth
- NICU medical teams NICU Admit Abdominal Wall Incision order set in Epic
- IV fluid management as per order set Total Fluid Intake (TFI): 100-120 milliliters
- Maintain NICU, NICU, NICU as soon as possible
- Complete admission labs as per order set
- Anesthesia assessment completed by NICU team
- Obtain accurate weight before site placed
- SickKids General Surgery team to complete surgical assessment and operative plan
- Application of stoma by General Surgery Team and dissemination in chart
- Monitor bowel color and peristalsis while stoma sutured
- If primary closure possible on admission, follow orders as suggested by surgical team

- 1-2 Site reductions daily as per surgical protocol
- Initiate TPN orders if not documented
- Ensure PICC line is in place by day 4
- Limit TPN to 100-120 milliliters/day
- Continuous antibiotics until abdominal wall closure
- Monitor and replace drainage from dressing and NG tube
- Bilb not permitted to be held with stoma in place
- Follow-up on blood cultures
- Monitor bowel color and peristalsis continuously while stoma in

- Surgical team to determine method of closure
- (Bilb site; no, operator)
- If possible, delayed closure: ensure parents of time
- Surgical team to complete hospital procedures when appropriate
- If definitive closure: ensure consent is obtained, intraluminal awareness of OR time, neonate is ID banded, change TPN to clear fluids, ensure parent is aware of OR time, complete pre-op skin, give appropriate handover to OR team

- Post-op management:
  - Ventilation: support as required and assessed
  - Ostomy output as per intravenous
  - Ensure PICC line is in place
  - Analogue assessment and maintained as required
  - Continue antibiotics as per surgeon recommended based on condition of bowel
  - Monitor NG suction
  - Assess fluid and electrolyte balance
  - Monitor TPN

- General Surgery team to consult SBS Resource team to prepare patient for transition to ward and identify projected transfer day

- OT consult if feeding difficulties
- Consult Around Care Specialist/EET (if required)

**FAMILY SUPPORT**

- Introduce team and review plan of care
- Address Site placement, closure planning, need for PICC line and TPN
- Encourage pumping and storage of breast milk

- Update parents regarding neonate clinical status and expectations for the next 48 hours
- Discuss with parents anticipated method of abdominal wall closure
- Encourage pumping and storage of breast milk
- Review transition planning to SBS
- Cite consent if surgery anticipated
- Review rationale for not holding baby and encourage alternate forms of interaction

- Encourage nursing and storage of breast milk
- Discuss intent holding to parent depending on closure type, follow-up with MNTCP. Infant should not be held for holding/breastfeeding in the first 48 hours post anastomosis due to risk of retraction
- Ensure 3B tour is offered to families by NICU Parent Liaison

- Provide intestinal stoma Tip Sheet
- Complete bowel care teaching
- Encourage transition planning complete
- Ensure 37 tour is offered to families by NICU Parent Liaison
- Ensure follow-up appointment arranged

**Facilitators to implementation**

- Targeted LOS to be posted at each neonate’s bedside to remind staff of pathway utilization
- Surgical Nurses Interest Group will act as resources to implement pathway
- Neonatal NP Group will advocate for pathway utilization and remind team to review daily

©The Hospital for Sick Children (“SickKids”). All Rights Reserved. This document was developed solely for use at SickKids. SickKids accepts no responsibility for use of this material by any person or organization not associated with SickKids. A printed copy of this document may not reflect the current, electronic version on the SickKids Intranet. Use of this document in any setting must be subject to the professional judgment of the user. No part of the document should be used for publication without prior written consent of SickKids.

Gastrostomies Care Pathway
Organizational barriers to implementation

- Adoption by staff in early stages

Potential economic impact

- Decreased LOS and non-value add days in NICU

Key review criteria/indicators for monitoring and audit purposes

- LOS, non-value add days, patient experience

Related Documents

- Pain Management Guidelines for Post-op Patients in the NICU

References


Guideline Group and Reviewers

Guideline Group Membership:

1. Hazel Pleasants-Terashita, RN(EC), NP NICU/General Surgery
2. Stephanie Bernardo, RN(EC), NP NICU
3. Nicole de Silva, RN(EC), NP NICU/General Surgery
4. Neonatal Surgical Interest Group (NSIG)
5. Fatma A. Rajwani, PT, Quality Management

Internal Reviewers:
1. Christopher Tomlinson, MD, ChB, PhD

Attachments:

updated_July 18 2019.pdf