	Document Scope: Departmental	
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	Gastroschisis Care Pathway	Version: 1

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 layer¹. Worldwide, the incidence of gastroschisis has risen to approximately 2 to 5 infants per 10,000 live births^{1,2}. In most cases of simple, uncomplicated gastroschisis the outcomes are favorable, with high survival and low morbidity rates^{1,2,4}. 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^{1,2,7}. 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 conducive 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.

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Recommendations

Gastroschisis (uncomplicated neonates ≥ 35 weeks at birth)

Targeted Length of Stay in NICU: 14 Days in NICU

	DAY OF ADMISSION (0-24 HOURS POST BIRTH)	DAY 2-4 POST BIRTH	DAY 5-7 POST BIRTH	DAY 8-14 POST-BIRTH
GOALS	<ul style="list-style-type: none"> Appropriate airway management Protection of exposed bowel Appropriate fluid management Application of silo Establish baseline vital signs and labs work 	<ul style="list-style-type: none"> Ensure appropriate respiratory support (if required) Reduction of bowel back into abdomen via Silo Maintain adequate fluid balance and nutritional support Secure stable IV access Engage parents in neonate's care 	<ul style="list-style-type: none"> Appropriate respiratory support (bedside vs. operative) Closure of abdominal wall Aim to extubate within 48 hours of procedure Maintain adequate fluid balance and nutritional support 	<ul style="list-style-type: none"> Await return of bowel function Initiate feeds when ready. Score for oral feeding readiness Engage parents in care provision Transition to 5B
ROUTINE MANAGEMENT	<ul style="list-style-type: none"> Mount Sinai initiates bridge call Mount Sinai team to follow post-natal management Protocol Neonate transferred to SickKids as soon as possible after birth NICU medical team NICU Admit Abdominal Wall Defect order set in Epic IV fluid management as per order set Total Fluid Intake (TFI): 100-120 mL/kg/day Maintain NPO status; NGT to low intermittent suction Complete admission labs as per order set Analgesia assessment completed by NICU team Obtain accurate weight before silo placed SickKids General Surgery team to complete surgical assessment and determine plan Application of Silo by General Surgery Team and documentation in chart Monitor bowel color and perfusion while silo is on If primary closure possible on admission, follow orders as suggested by surgical team 	<ul style="list-style-type: none"> 1-2 Silo reductions daily as per surgeon protocol Initiate TPN orders (if not indicated on day of admission) Ensure PICC line is inserted by day 4 Limit TFI to 100-120 mL/kg/day Continue antibiotics until abdominal wall closure Monitor and replace drainage from dressing and NG tube Baby not permitted to be held with Silo in place Follow-up on blood cultures Monitor bowel color and perfusion continuously while silo is in 	<ul style="list-style-type: none"> Surgical team to determine method of closure (bedside vs. operative) If plastic/bedside closure: inform parents of time. Surgical team completes procedure when appropriate If operative closure: ensure consent is obtained, intramural team aware of OR time, neonate has ID band on, change TPN to clear fluids, ensure parent is aware of OR time, complete pre-op labs, and give appropriate handover to OR team Post-op management: <ol style="list-style-type: none"> Ventilation support as required and assess for extubation (CPAP contraindicated in immediate post-op period); RT to assess for SBT twice daily Analgesia assessed and maintained as required Continue antibiotics as per surgeon recommendation based on condition of bowel Resume NG to low intermittent suction Assess fluid and electrolyte balance Resume TPN 	<ul style="list-style-type: none"> Monitor NG output daily (volume and color) while NPO Monitor stooling pattern Initiate feeds when ileus resolves. Liaise with surgical team regarding start and advancement of feeds; and advance with surgeon's directive Maintain PICC line until neonate able to tolerate full feeds and demonstrate weight gain General Surgery team to change dressing 5-7 days after plastic/bedside closure Monitor for signs & symptoms of NEC when feeds commenced Include baseline LFTs including albumin with TPN labs Medical team completes <i>Neonatal Transfer Summary</i> Nursing team completes <i>Transfer Navigator</i>
CONSULTS / DIAGNOSTICS	<ul style="list-style-type: none"> Social Worker referral if indicated IGT consulted for PICC line insertion and requisition completed Complete lateral view abdominal X-ray when Silo placement is complete 	<ul style="list-style-type: none"> Anesthesia consult if operative procedure planned Consult Parent Liaison for transition planning Identify preliminary projected transfer date 	<ul style="list-style-type: none"> General Surgery team to consult 5B Resource team to prepare patient for transition to ward and identify projected transfer day 	<ul style="list-style-type: none"> OT consult if feeding difficulties Consult Wound Care Specialist/ET RN (if required)
FAMILY /CAREGIVER	<ul style="list-style-type: none"> Introduce team and review plan of care Address Silo placement, closure plan/timing, need for PICC line and TPN Encourage pumping and storage of breast milk 	<ul style="list-style-type: none"> 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 5B Obtain consent if surgery anticipated Review rationale for not holding baby and encourage alternate forms of interaction 	<ul style="list-style-type: none"> Encourage pumping and storage of breast milk Discuss infant holding by parent (depending on closure type; confirm with MD/NP). Infant should not be "bent" for holding/diapering in the first 48 hours post plastic closure due to risk of evisceration Ensure 5B tour is offered to families by NICU Parent Liaison 	<ul style="list-style-type: none"> Provide <i>Intestinal Injury Tip Sheet</i> Complete well baby care teaching Ensure transition planning complete Ensure 5B tour is offered to families by NICU Parent Liaison Ensure follow-up appointment arranged

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Implementation of CPG

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

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](#)

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Guideline Group and Reviewers

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- Neonatal Surgical Interest Group (NSIG)
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Attachments:

[updated July 18 2019.pdf](#)