

Gastroschisis Care Pathway

Version: 2

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1.0 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}. Standardized management 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}. Each of these factors influence the length of hospital stay in the Neonatal Intensive Care Unit (NICU).

This document was developed by an interdisciplinary group of clinicians 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 timely transition from the NICU to a unit optimizes 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

- This care pathway is indicated for neonates admitted to the Hospital for Sick Children Neonatal Intensive Care Unit (NICU) with a diagnosis of uncomplicated gastroschisis and a gestational age of 35 weeks or greater.
- This pathway **should not be used** to guide management for neonates born less than a gestational age of 35 weeks or neonates identified to have anatomical findings that may influence care trajectory (e.g., intestinal atresia, significant intestinal inflammation or matting).

Target Users

- Physicians, surgeons, registered nurses, nurse practitioners, dietitians, social workers, respiratory therapists, and parent liaisons involved in the care of identified neonates.

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2.0 Recommendations [Printable version](#)

Gastroschisis (uncomplicated neonates with gestational age \geq 35 weeks at birth)

Targeted Length of Stay in NICU: 14 days

	DAY OF ADMISSION (0 - 24 HOURS POST BIRTH)	DAY 2 - 5 POST BIRTH	DAY 5 - 7 POST BIRTH	DAY 8 - 14 POST-BIRTH
GOALS	<ul style="list-style-type: none"> Appropriate airway management Protect exposed bowel Appropriate fluid management Application of silo Establish baseline vital signs and labs 	<ul style="list-style-type: none"> Ensure appropriate respiratory support (if required) Reduction of bowel into abdomen via silo Maintain fluid balance and nutritional support Secure central IV access Engage parents in neonate's care 	<ul style="list-style-type: none"> Appropriate respiratory support Closure of abdominal wall Extubation within 48 hours of procedure of abdominal wall closure Maintain fluid balance and nutritional support 	<ul style="list-style-type: none"> Await return of bowel function Initiate feeds when ready Score oral feeding readiness Engage parents in care provision Transition to SB
ROUTINE MANAGEMENT	<ul style="list-style-type: none"> Mount Sinai initiates bridge call Mount Sinai team follows post-natal management protocol Neonate transferred to SickKids as soon as possible after birth NICU medical team uses Epic order set <i>Admit Abdominal Wall Defect</i> Total Fluid Intake (TFI) per order set: 100 - 120 ml/kg/day Maintain NPO Nasogastric tube (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 including photographs in media of silo bar code used Monitor bowel color visible in silo ~ hourly (e.g., color change, dusky bowel) and notify medical team if concerns Monitor lower limb perfusion (e.g., capillary refill, color, and warmth) and notify medical team if concerns 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 direction with fentanyl bolus prior to each reduction Initiate parenteral nutrition (if not indicated on day of admission) Ensure PIVC insertion by day 4 of life Limit TFI to 100 - 120 ml/kg/day Follow-up blood culture result Continue antibiotics until abdominal wall closure Monitor and replace drainage from silo dressing and NGT Baby is not permitted to be held with silo in place Maintain in supine position while silo in place Monitor bowel color visible in silo ~ hourly (e.g., color change, dusky bowel) and notify medical team if concerns Monitor lower limb perfusion (e.g., capillary refill, color, and warmth) and notify medical team if concerns 	<ul style="list-style-type: none"> Surgical team to determine method of closure (bedside vs. operative) If sutureless bedside closure, inform parents of time. Surgical team completes procedure when appropriate. If operative closure, general surgery team garners consent and usual perioperative plans (per IV fluid guidelines) and pre/post op huddle are implemented Post-op management: <ul style="list-style-type: none"> Ventilation support as required Assess for extubation readiness – twice daily RT to assess readiness for spontaneous breathing trial (SBT) Non-invasive respiratory support (e.g., CPAP) contraindicated in immediate post-op period Analgesia needs assessed and maintained as required Continue antibiotics as per surgeon recommendation based on bowel condition Resume NGT to low intermittent suction Assess fluid and electrolyte balance Resume parenteral nutrition (PN) 	<ul style="list-style-type: none"> Monitor NGT output daily (volume and color) while NPO Monitor stool pattern Initiate feeds when ileus resolves in collaboration with the surgical team. Commencement and feed advancement as per surgeon's directive. Monitor for signs and symptoms of NEC when feeds commenced PIVC to remain in situ until tolerance of full feeds and weight gain demonstrated General surgery team to change dressing 5 - 7 days after sutureless bedside closure Include liver function tests and albumin with PN labs When ready for transfer to surgical unit <ul style="list-style-type: none"> NICU surgical NP notifies transfer group per established process Surgical fellow places transfer order Medical team completes SB transfer summary Nursing team completes handover to SB nurse
CONSULTS/ DIAGNOSTICS	<ul style="list-style-type: none"> Social Worker referral if indicated IGT PIVC insertion requisition completed Complete lateral view abdominal radiograph (X-ray) when silo placement is complete 	<ul style="list-style-type: none"> Anesthesia consult if operative procedure planned Consult Parent Liaison for parent support and transition planning Identify preliminary projected transfer date 	<ul style="list-style-type: none"> General surgery team to consult SB clinical support nurse (CSN) team to prepare patient for transition to ward and identify projected transfer timing. 	<ul style="list-style-type: none"> Occupational therapy (OT) consult if feeding difficulties Consult wound care specialist/enterostomal nurse (if required)
FAMILY/CAREGIVER EDUCATION	<ul style="list-style-type: none"> Introduce team and review plan of care Discuss silo placement, defect closure plan and projected timing, and need for PIVC and parenteral nutrition (PN) 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 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) Post sutureless closure, infant should not be "bent" for holding or diapering in the first 48 hours post closure due to the risk of bowel evisceration Ensure SB tour is offered to family 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 completed including meeting with NICU parent liaison prior to transfer Convalescent care by SB Team

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Facilitators to implementation

- Targeted length of stay posted at bedside as a reminder of pathway utilization
- Surgical Nurses Interest Group will be available 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 initial stages

Potential economic impact

- Decreased length of stay and non-value add days in NICU

3.0 Related Documents

[Neonatal Post Operative Pain Guidelines](#)

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Attachments: [Gastroschisis care pathway](#)