	Document Scope: Departmental	
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	Neural tube defect (Spina Bifida) Repair Care Pathway	Version: 2

1.0 Introduction

Neural tube defects (NTD) are the most common congenital central nervous system anomaly. Spina Bifida is one of the most common NTDs and is often a general term used to describe NTD involving the spine.

About one in every 2,500 babies are born in Canada with some form of Spina Bifida. Worldwide the numbers vary. There are three major types of Spina Bifida: meningocele, myelomeningocele (both open defects) and Spina Bifida Occulta. Spina Bifida can happen anywhere along the baby's back between the head and the hips. Infants born with Spina Bifida may have many coexisting health problems related to the condition. Severity depends on the size and location of the defect as well as if parts of the spinal cord and nerves are affected.

Target Population:

- This pathway is for use for:
 - prenatal consultation for fetuses diagnosed with NTD/Spina Bifida
 - providing care for newborn infants that have been born with Spina Bifida, particularly those with meningoceles and myelomeningoceles.


Target users:

- Surgeons, Staff Physicians, medical trainees (residents and fellows), Nurse Practitioners, Bedside Nurses, and other members of the interdisciplinary health care team.

2.0 Definitions

- **Neural Tube Defect (NTD):** Incomplete or failure of the neural tube to close during early weeks of intrauterine development. The development of the neural tube is usually complete by 28 days gestational age.
- **Spina Bifida:** a type of Neural Tube Defect (NTD) often general term used to describe a spinal NTDs
- **Meningocele:** occurs when the outer part of the vertebrae have not completely closed, leaving an opening. The spinal cord itself may not be affected, but its covering (the meninges) are damaged and pushed through the opening.
- **Myelomeningocele (MMC):** most severe form of spina bifida in which a portion of the spinal cord outer part of the vertebrae have no completely closed leaving an abnormal opening. The

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covering of the spinal cord (the meninges) and the spinal cord itself are pushed out the opening. Usually they protrude in a covered, fluid-filled sac that has a very thin membrane and can easily rupture exposing its delicate contents.

3.0 Clinical Practice Recommendations

- This pathway is a general guideline and does not represent a profession care standard governing provider's obligations to patients. Care is revised to meet individual patient care needs.

[Refer to: NTD Care Pathway](#)

4.0 References

1. CDC: Centers for Disease Control and Prevention – Spina Bifida
2. Guidelines for the Care of People with Spina bifida - An initiative of the Spina Bifida Association
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4. McLone D. and Bowman, R 2017, Overview of management of myelomeningocele
5. Management of Myelomeningocele (MOMS) study
6. Nursing Care of the Pediatric Neurosurgery Patient: Neural Tube Defects Chapter, 3rd Ed, Cartwright, C and Wallace, D (Eds) Springer 2017
7. Public Health Agency of Canada, Congenital Anomalies in Canada 2013


5.0 Guideline Group and Reviewers

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Implementation Plan

- Education and awareness building at 5C Nursing education days and new Nursing orientation.
- Education to neurosurgery residents/fellows on orientation to program
- Dissemination to colleagues in other programs to provide
- Education and awareness to their own teams/programs (for example NICU NP to provide to NICU Nursing and MD team)

Evaluation Plan

- Start collecting MRN numbers of Neural tube defect patients as of April 13, 2017
- Monitor Length of stay/LOS (in patient days)
- Monitor activities related to pathway (are they met within delegated time frame?)
 - Areas of interest:
 - Pre-Closure Within 48 hours of birth
 - NICU MD triages for NICU admission
 - Complete SickKids Bridge call
 - Consult Pediatric Medicine
 - Complete surgery within 24-38 hours
 - Post-op day 1-3

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- Follow-up head ultra-sound
- Ensure infant is meeting feeding goals
- Post-op day 4-10
 - Supine position readiness
 - Education for parent skills

If not met within time frame:

- Reasons for delay
- Barriers/challenges

Attachments:

[Bridge Call.pdf](#)

[Carseat tesing.pdf](#)

[Catheterization Protocol.pdf](#)


[DOL 1_3 Special Nursing Pearls.pdf](#)

[Dressing Change Instructions_DOL 1_3.pdf](#)

[Feeding Guidelines.pdf](#)

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[Gen Peds Consult.pdf](#)

[How to Measure Head Circumference.pdf](#)

[Indications for OT.pdf](#)

[Indications for SW.pdf](#)

[Isolette Tip Sheet2017.pdf](#)

[Latex Precautions.pdf](#)

[MMC Discharge Checklist.pdf](#)

[Neural Tube august 2019.pdf](#)

[Neurosurgery Consult.pdf](#)

[NICU Triage Admission Criteria.pdf](#)

[Post birth dressing protocol.pdf](#)

[Pre closure PEARLS.pdf](#)

[SickKids team Prenatal.pdf](#)

[wound care teaching discharge checklist.pdf](#)

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