

Myelomeningocele: Postnatal Closure Guidelines

Myelomeningocele (Spina Bifida) is a congenital central nervous system anomaly in which a portion of the spinal cord and spinal nerves are exposed through an opening in the back. Prenatal management includes serial US to follow fetal growth, head size, and ventricular size. Term delivery is optimal but increasing ventriculomegaly is an influencing factor. Repair may occur prenatally (Fetal Surgery) or shortly after birth.

Delivery: NRP guidelines should be followed. Notify Neurosurgery. Additional supplies as listed below

- Latex-Free products
- Yellow foam rings to support head and protect defect in case intubation is required
- Normal saline, warmed to room temperature
- Sterile Telfa pad
- Kerlex
- Sterile gloves
- Saran wrap

Infant should remain prone or side-lying to protect the defect, unless condition dictates otherwise. Assess lesion, noting location and size of lesion and whether the membrane is intact or there is leakage. Cover defect with saline-soaked telfa pad (may have to fold in half), wrap with kerlex and wrap in plastic wrap to keep dressing in place and retain moisture/warmth. Place hat to prevent further heat loss.

On Admission:

- Position: Prone (preferred) or side-lying
- Skin care: May place Mepilex Border Lite on knees to protect against pressure points and friction

- Latex-Free Sign: Place sign at bedside, use latex free products
- Line Placement: Avoid lines in scalp and lower extremities
- Antibiotics: Ampicillin and Gentamicin until 48 hours after repair per Neurosurgery
- Imaging: Head US prior to surgery
- Lab: Routine blood work as indicated
- Consultation: PM & R
- Further assessment: evaluate for other possible associated anomalies: Hydrocephalus, GI Defects, Club Feet, Chiari II Malformation, CHD, Vertebral Anomalies, Flexion/extension of hips, knees, & ankles, Nephrosis or kidney anomaly

Repair: Will take place once infant is medically stable, frequently in first 72 hours. Intermittent Catheterization may begin prior to surgical repair as directed by medical team.

Post Operative:

Pain management: per NICU and Neurosurgical team

Nursing considerations:

- LATEX-FREE sign placed visibly at bedside
- Monitor OFC each shift
- Assess advancing hydrocephalus by palpating anterior fontanel and sutures
- See MMC Dressing Guide on NICU webpage for specific directions
- Assess surgical wound & change Mepilex Border Lite dressing/plastic barrier QOD or if wet/soiled
- Reposition Q3 hours, prone & side-lying. May need to remain prone to protect incision.
- Position restrictions lifted on POD 7 and may be placed supine, as tolerated. New neurological deficit is possible following surgical repair.
- Ensure PT/OT order.

Imaging:

- Head US on POD 2 and Q3D thereafter to assess progressive hydrocephalus

- Renal/abd/bladder US on post-op day 2
- MRI brain (FIESTA Sequence): As directed by Neurosurgery for potential ETV/CPC to treat hydrocephalus

Urology:

- Remove Foley catheter as early as possible but no later than POD 2 unless otherwise directed by team
- Begin Urinary Clean Intermittent Catheterization (CIC) Q6-8H when foley removed. CIC is standard of care, focusing on preserving kidney and bladder function long-term. There may be minimal urine noted via CIC for several weeks following surgery. This is normal and the CIC schedule should remain Q6-8H.
- Staff perform sterile technique, parents are taught and perform clean technique.

Discharge Planning:

- Provide Complex Care Binder to family with Spina Bifida Foundation information sheets
- Complete CIC teaching

Discharge Supplies- All LATEX-FREE

- 6 fr clean intermittent catheters (hydrophilic if possible)
- Water-based lubricating jelly

Discharge Appointments:

- PMD
- Shriners Spina Bifida Clinic (SSBC)- 3 months after discharge and every 3 months for the first year
- Neurosurgery– 2 weeks after discharge with preclinical US and Q3 months for first year of life
- Urology– @ SSBC, first urodynamics between 6-12 months, or at 3 months of age if hydronephrosis noted
- Orthopedics– @ SSBC, orthopedic concerns addressed at about 6 months of age

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