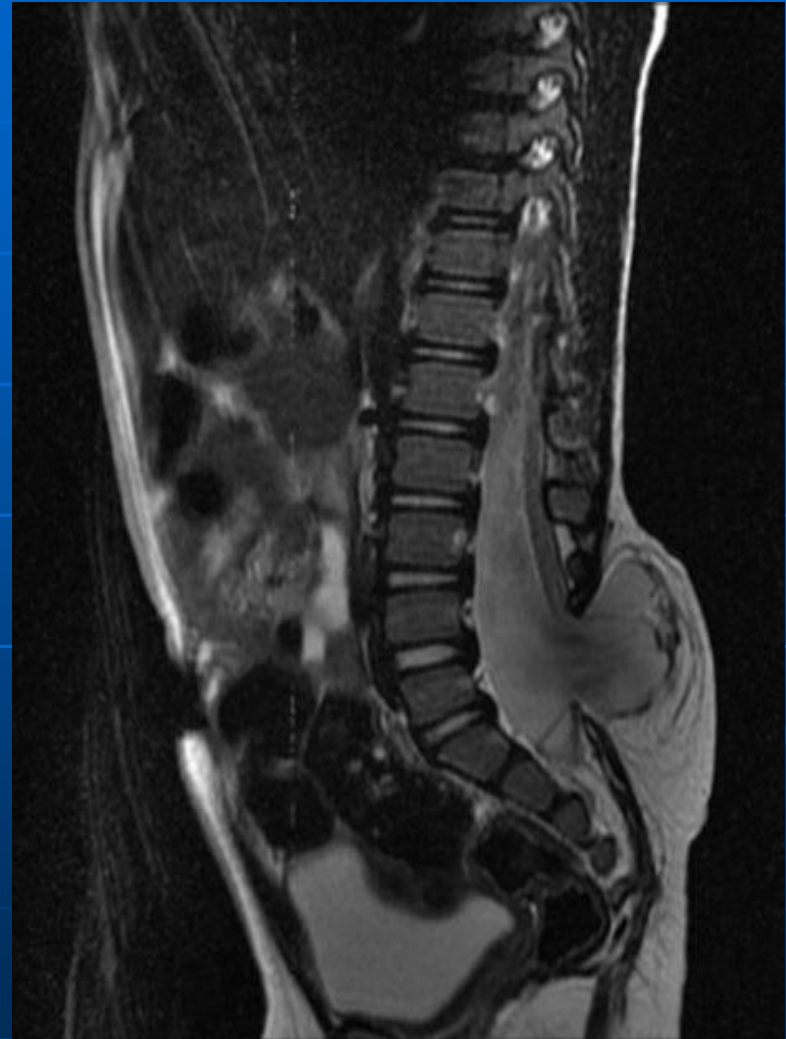
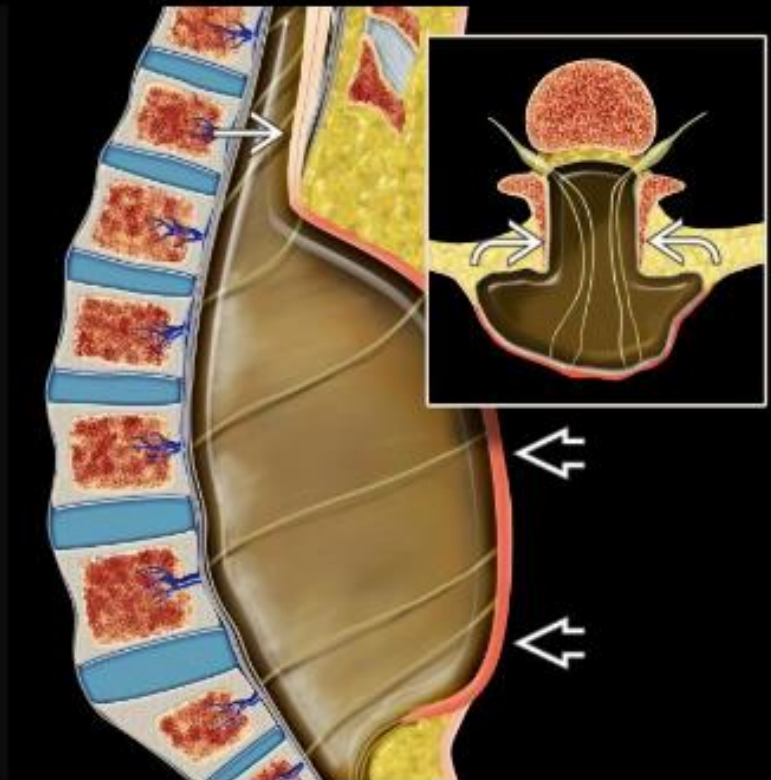


Myelomeningocele

- Also known as **spina bifida cystica**, complex congenital spinal anomaly that results in spinal cord malformation (myelodysplasia).
- Posterior spinal defect lacking skin covering → neural tissue, CSF, and meninges exposed to air
- DDX:
- **Dorsal Meningocele**
 - Meninges protrude through dorsal dysraphism into subcutaneous fat
 - Skin-covered, usually does not contain neural elements
- **Closed (Occult) Spinal Dysraphism**
 - Dorsal osseous dysraphism; cord may be low-lying
 - Skin or other cutaneous derivative (e.g., lipoma) covers neural elements
- **Postoperative Pseudomeningocele**
 - History, clinical exam permit distinction
 - Look for surgical laminectomy defect, absence of spina bifida osseous changes





Sagittal graphic shows ballooning of meninges through dysraphic spinal defect, with low-lying cord → terminating in the red neural placode ↗. Axial insert shows origin of spinal roots from ventral placode and protrusion of meninges and placode through dysraphic

Dorsal Spinal Meningocele

KEY FACTS

NEXT ▾

Terminology

- Synonyms: Simple meningocele, simple spinal meningocele, posterior meningocele

Imaging

- Skin-covered dorsal dural sac protruding thorough posterior osseous defect
 - Dorsal herniation of dura, arachnoid, and CSF into spinal subcutaneous tissue
 - Occasional herniation of filum or nerve roots into defect
- Conus medullaris low or normal in position

Top Differential Diagnoses

- Lipomyelomeningocele
- Terminal myelocystocele
- Myelomeningocele

Pathology

- ± hydromyelia, tethered cord, diastematomyelia
- Meningocele always skin covered; skin may be dysplastic, ulcerated

Clinical Issues

- Palpable skin-covered mass or incidental discovery during imaging for other indications
 - Patients usually neurologically normal
- Additional presenting signs/symptoms include back pain, meningitis, spinal headache
- Cervical, thoracic meningoceles more likely to be symptomatic than lumbar meningocele

Diagnostic Checklist

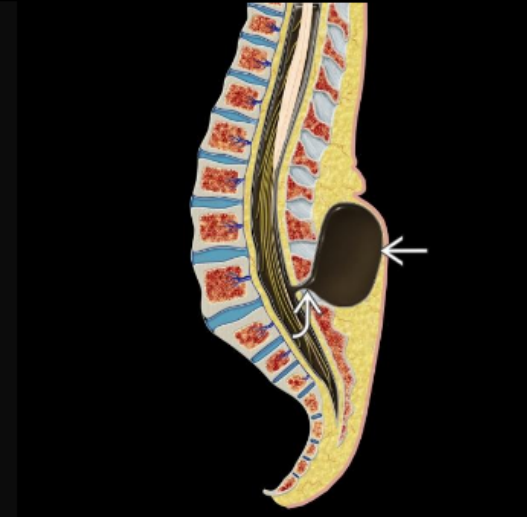
- Imaging goals are lesion detection, determination of simple or complex morphology, and exclusion of other spinal anomalies

TERMINOLOGY

PREVIOUS ▾ NEXT ▾

Synonyms

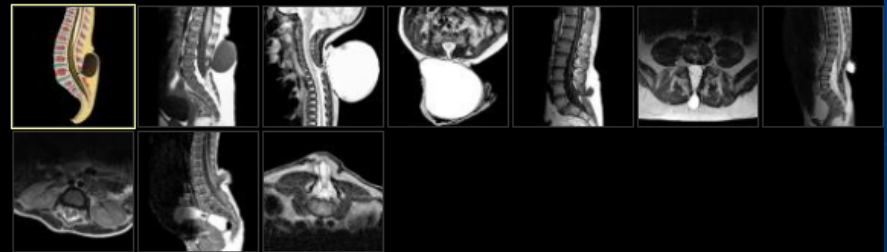
- Simple meningocele, simple spinal meningocele, posterior meningocele



Sagittal graphic of the lumbosacral spine shows a typical dorsal spinal meningocele sac → protruding through the dysraphic posterior elements, with a thin isthmus → connecting to the thecal sac.

[Download to Presentation](#)

Selected Images



Lipomyelomeningocele In Utero to Adult Life

KEY FACTS

NEXT ▾

Terminology

- Lipomyelomeningocele (LMMC), lipomyelocele (LMC), spinal lipomatous malformation

Imaging

- Subcutaneous fatty mass contiguous with neural placode/lipoma through posterior dysraphism
 - Size varies from nearly imperceptible to large
- Posterior spinal dysraphism, enlarged canal at placode level
- Tethered, low-lying spinal cord ± meningocele inserts into lipoma through dysraphic defect

Top Differential Diagnoses

- Terminal lipoma
- Intradural (juxtamedullary) lipoma
- Dorsal meningocele
- Myelocele/myelomeningocele

Pathology

- Premature disjunction of neural ectoderm from cutaneous ectoderm → induction of mesenchyme to form fat (lipoma)
- Spinal cord always tethered
- Association with vertebral segmentation anomalies, sacral dysgenesis, anorectal and genitourinary abnormalities

Clinical Issues

- Soft midline or paramedian skin-covered mass above buttocks
- Back/leg pain, scoliosis, lower extremity paraparesis, bladder/bowel dysfunction

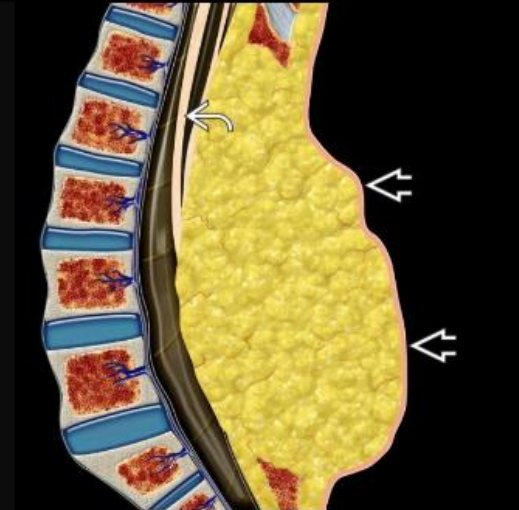
Diagnostic Checklist

- Diagnosis of postoperative retethering primarily clinical; use imaging to search for complications

TERMINOLOGY

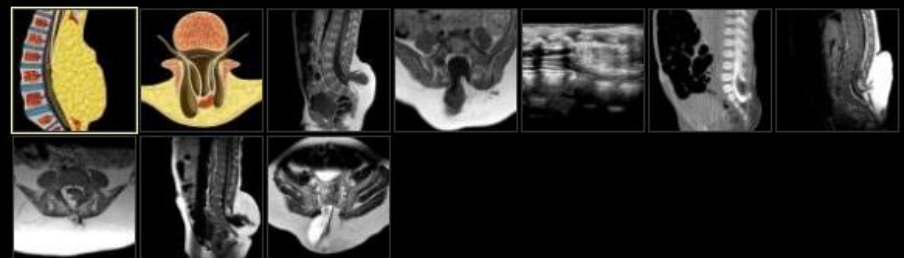
PREVIOUS ▴ NEXT ▾

Abbreviations



Sagittal graphic of the lumbosacral spine demonstrates classic lipomyelocele anatomy. The low-lying spinal cord → and cauda equina nerve roots adhere to a large fatty mass ⇨ that extends through dysraphic posterior elements. The lipoma is covered by skin

Selected Images



Sacral lipomyelocoele

