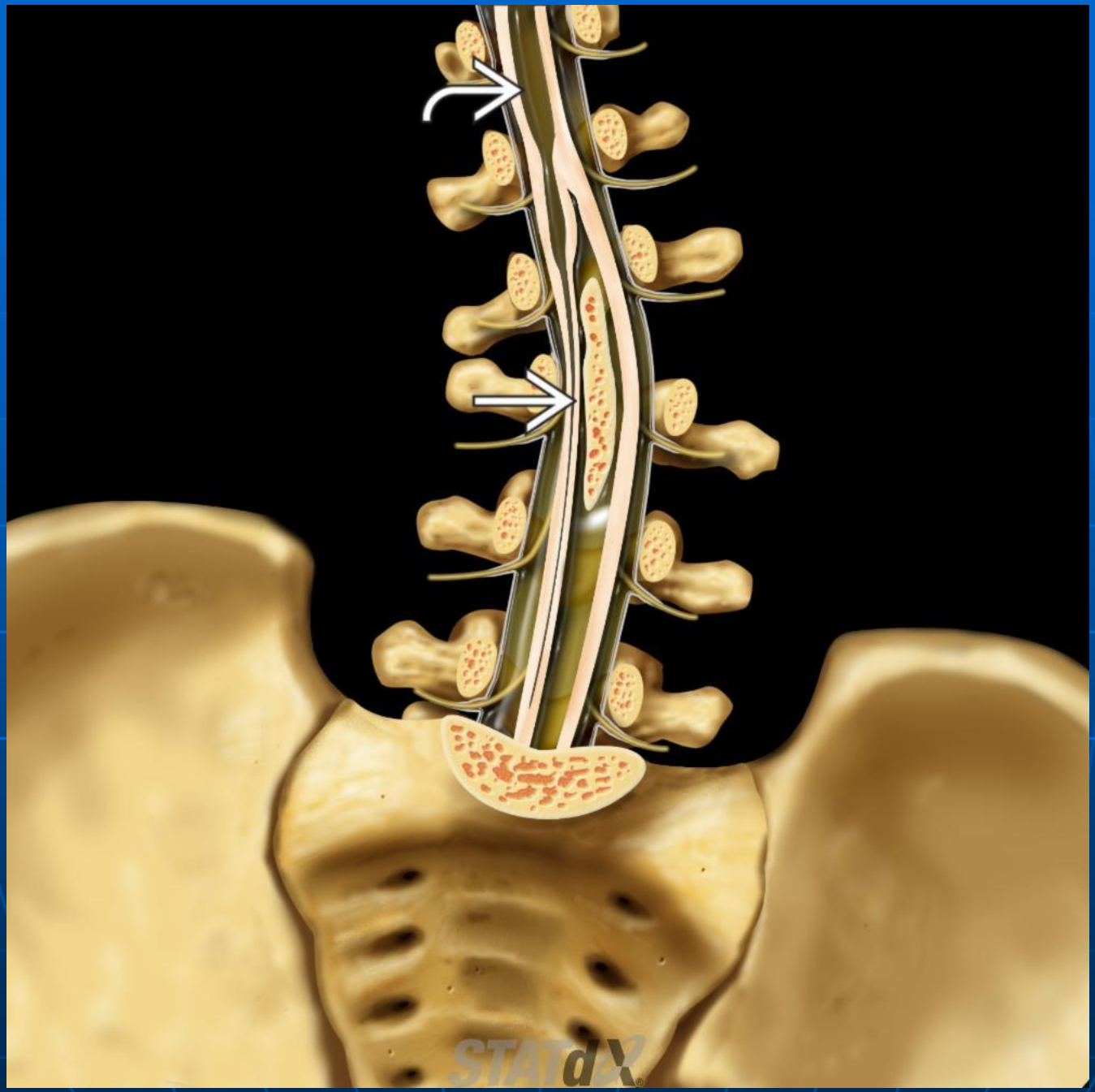
Diastematomyelia

- Synonyms: Split cord malformation (SCM), "diastem"
- May be clinically indistinguishable from other causes of tethered spinal cord in absence of cutaneous stigmata
- Cutaneous stigmata indicate diastematomyelia level (> 50%); "fawn's tail" hair patch most common.
- **Age**
  - Diagnosis in childhood; adult presentation uncommon
- **Gender**
  - Pediatric: F > > M
  - Adult: M < F (1:3.4)
- **Epidemiology**
  - 5% of congenital scoliosis

Imaging

- Sagittal division of spinal cord into 2 hemicords, each with 1 central canal, dorsal horn, and ventral horn
  - Hemicords usually reunite above and below cleft
  - ± fibrous or osseous spur
- Frequently associated vertebral segmentation anomalies
- Imaging evaluation
  - Consider ultrasound to screen infants with skin dimple or cutaneous marker
  - MR imaging most definitive for characterization
  - Supplement with bone CT ± myelography to optimally define spur anatomy for surgical planning



Coronal graphic of the lumbar spine demonstrates a type II SCM, with osseous spur (white solid arrow) splitting the low-lying syringomyelic (white curved arrow) spinal cord. Both hemicords continue into the sacrum.

Diastematomyelia

Type I *(50%): split cord, surrounded by a normal undivided arachnoid-dural sleeve; no septum (diastem)*

Type II *(50%): split cord; however, each hemicord is invested by a separate dural sleeve, divided by a fibrous, cartilaginous or bony septum (diastem).*
Anomalies of the vertebral bodies are common

Sagittal T1WI MR (type I SCM) shows a large osseous spur (white solid arrow) extending from the L2 vertebral body to the dysplastic posterior elements. The spinal cord is low-lying and tethered by a lipoma (black curved arrow) and extradural arachnoid cyst (white open arrow). Note solitary pelvic kidney (white curved arrow) anterior to the sacrum.