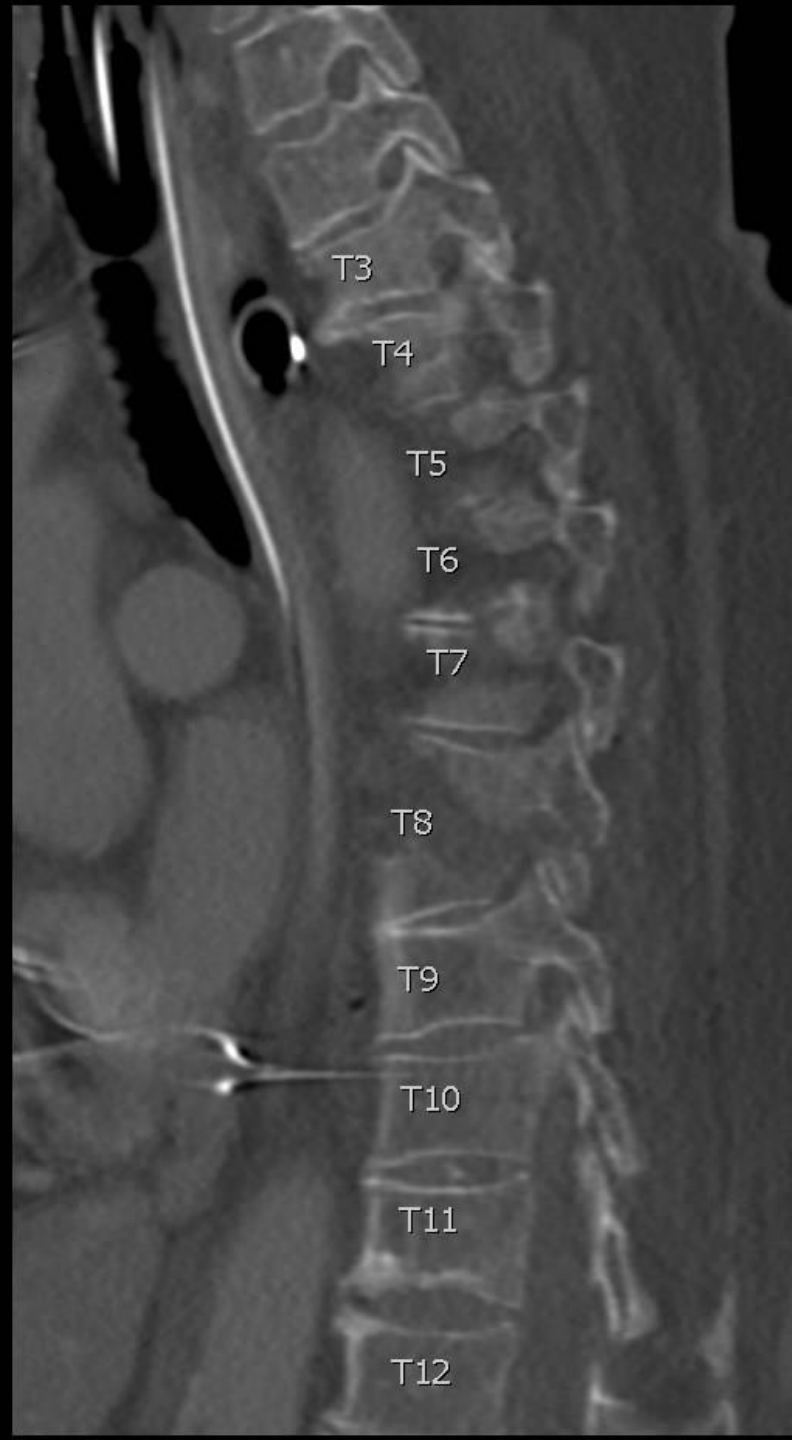


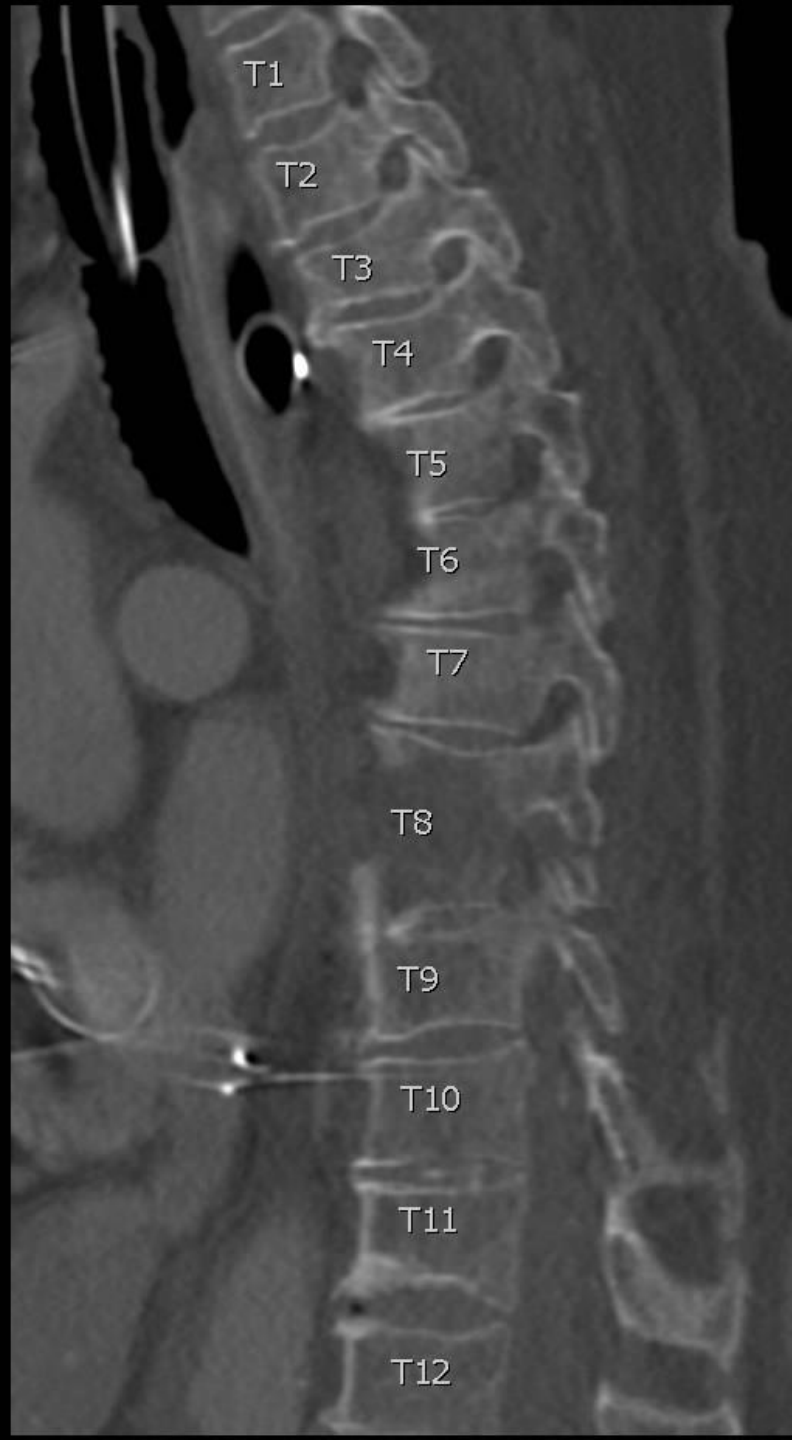


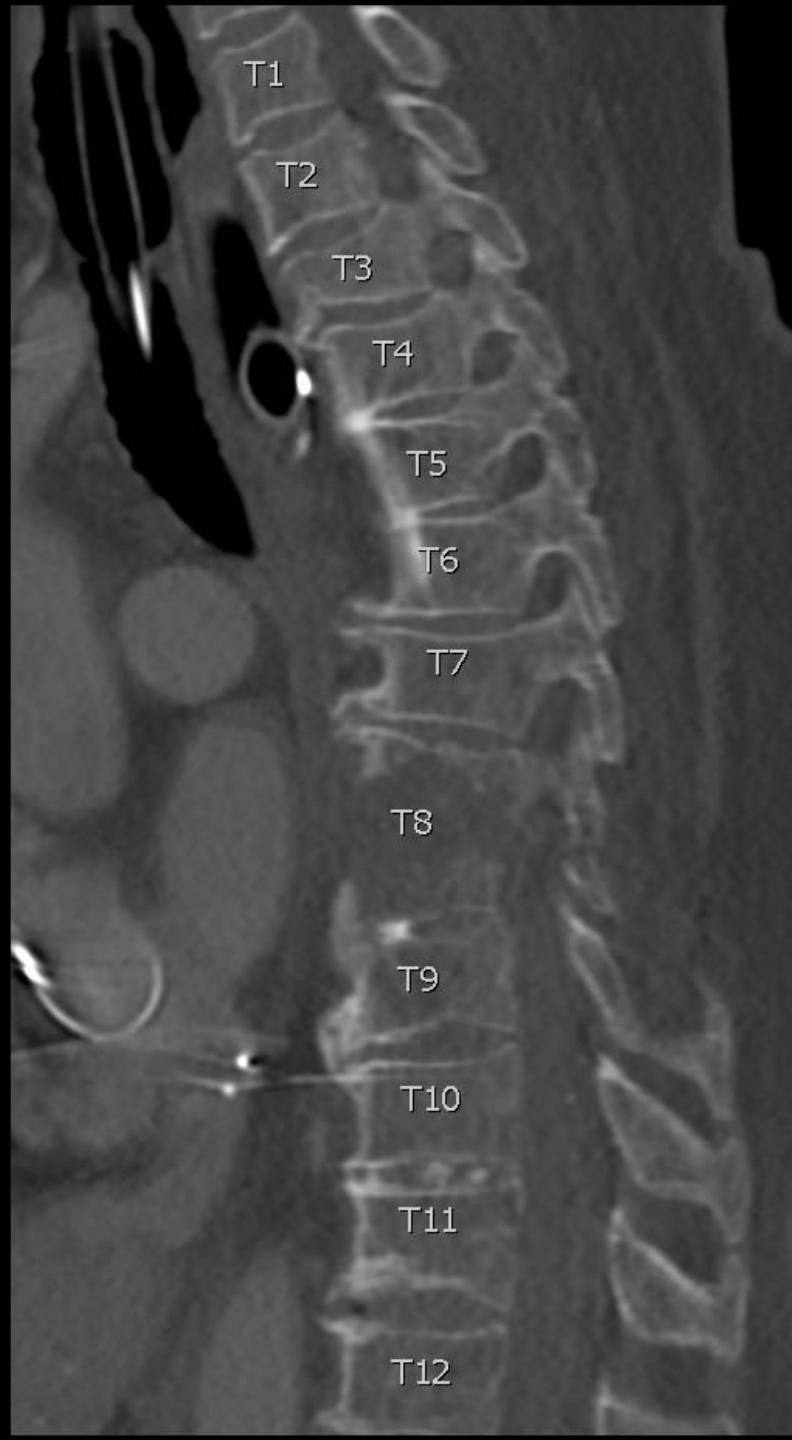
89 yo involved in a MVA as a
passenger

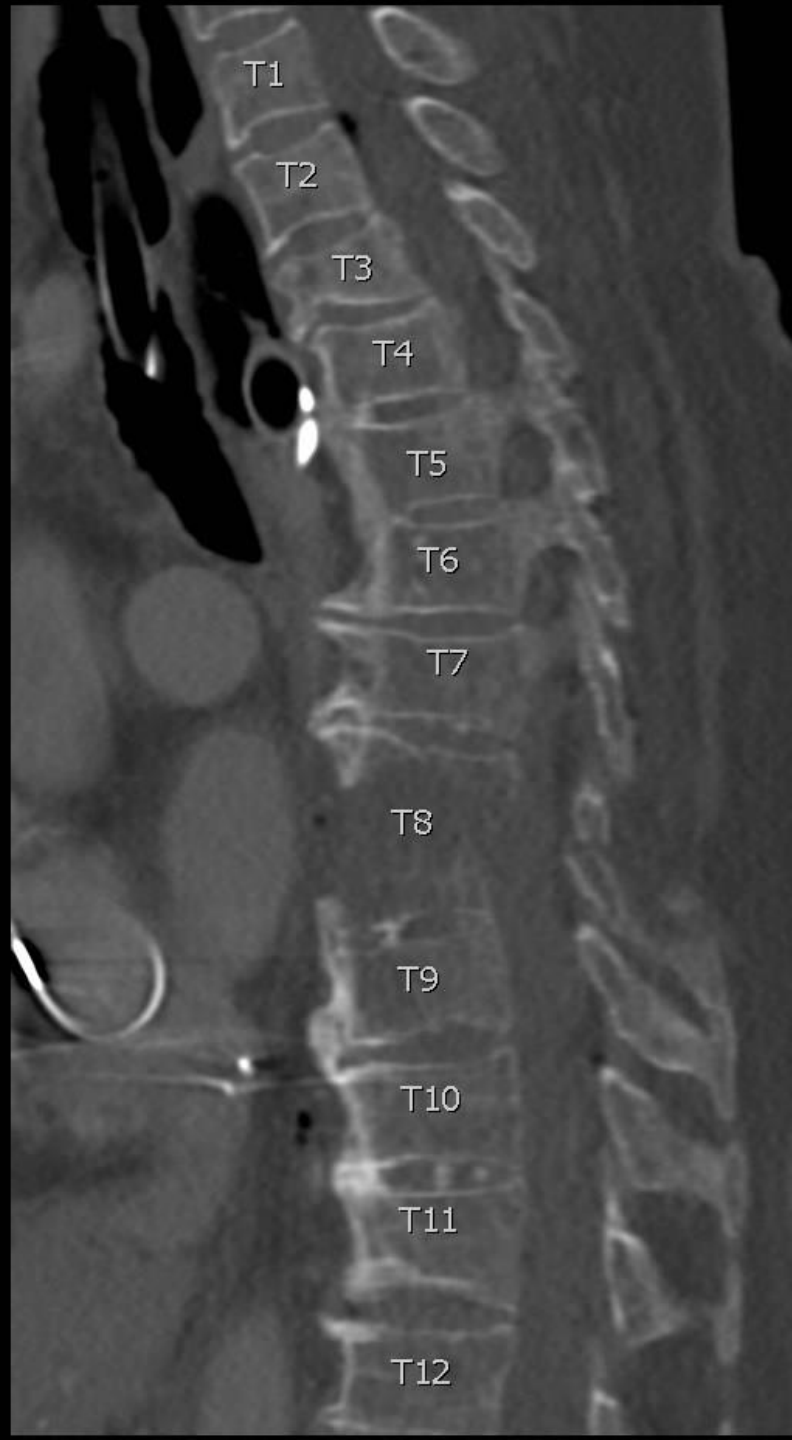


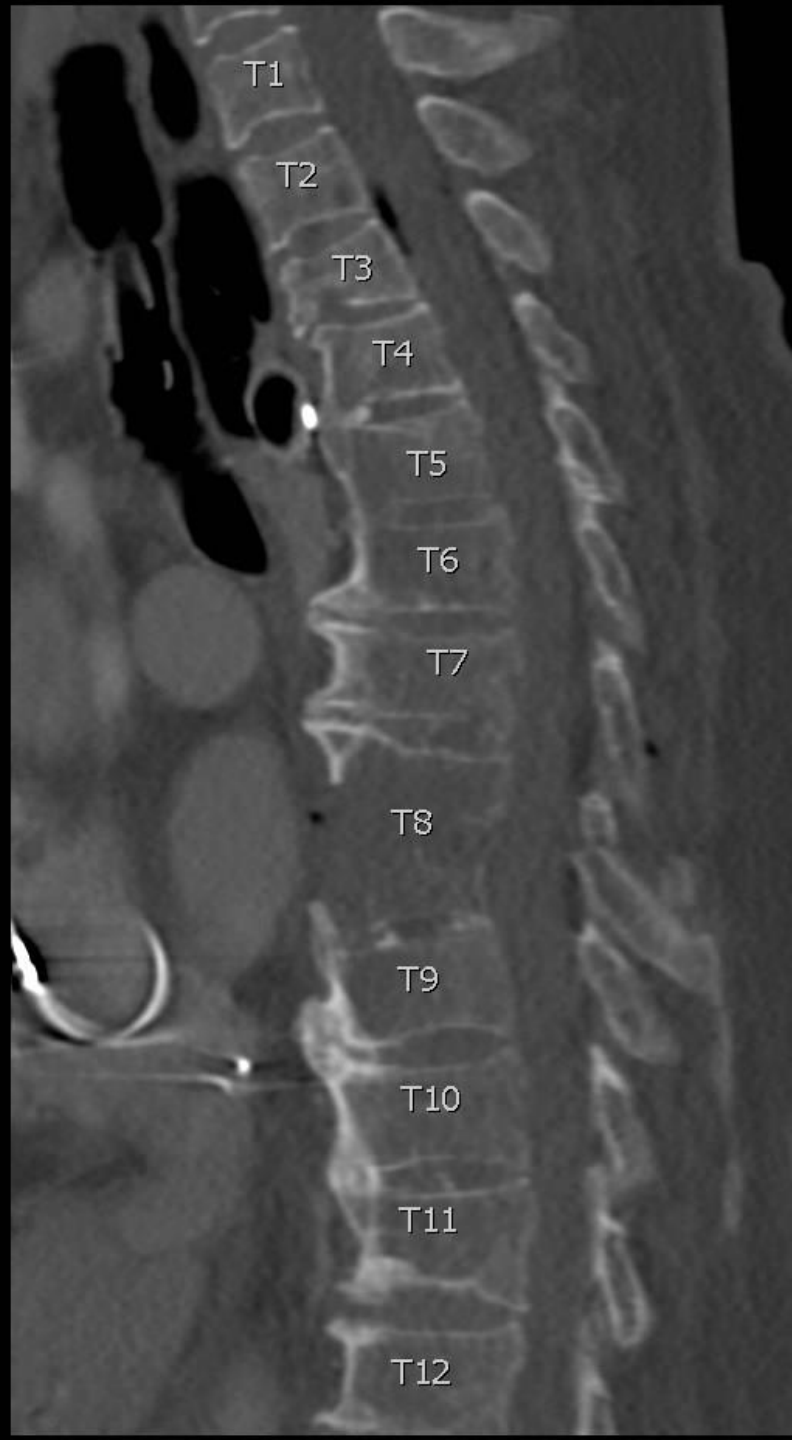


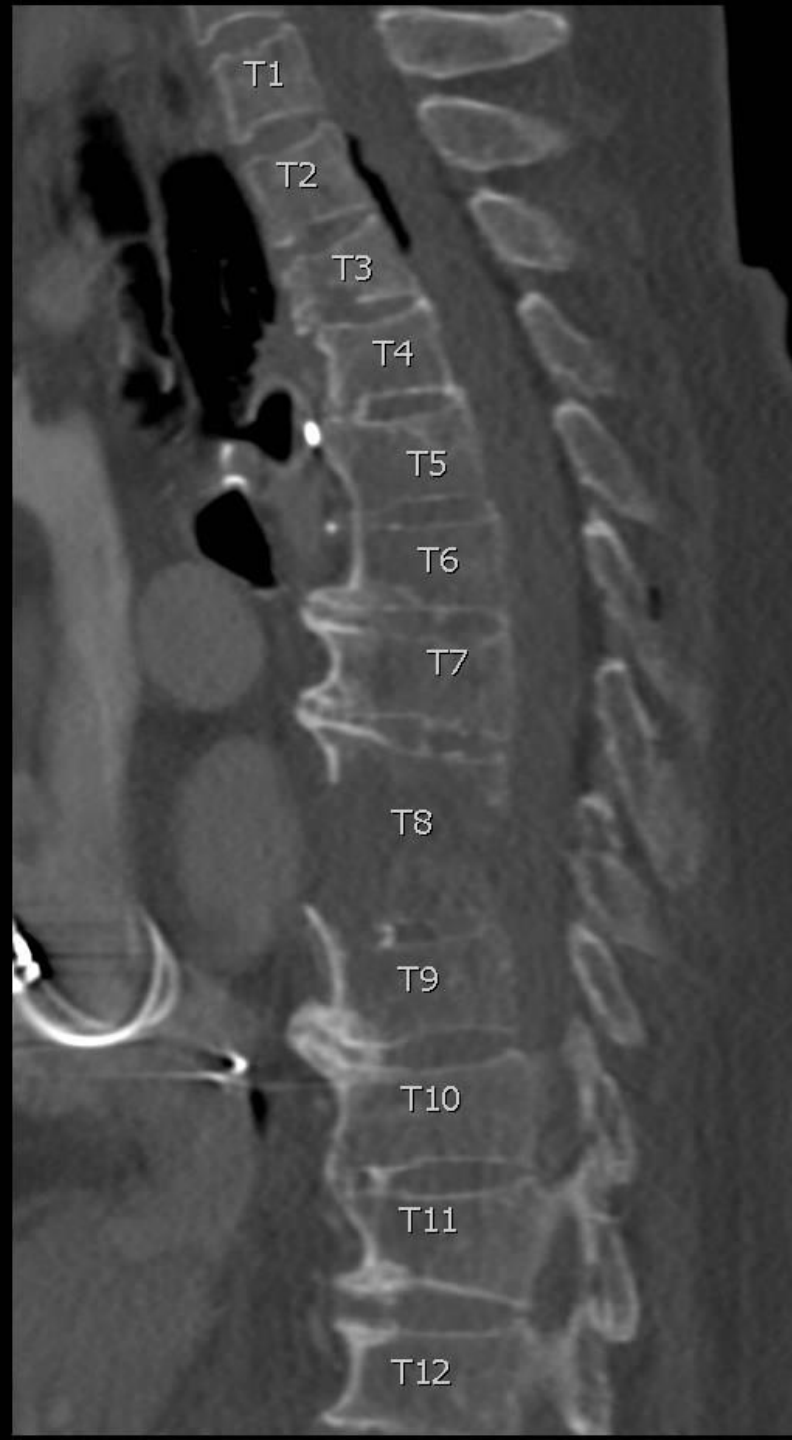




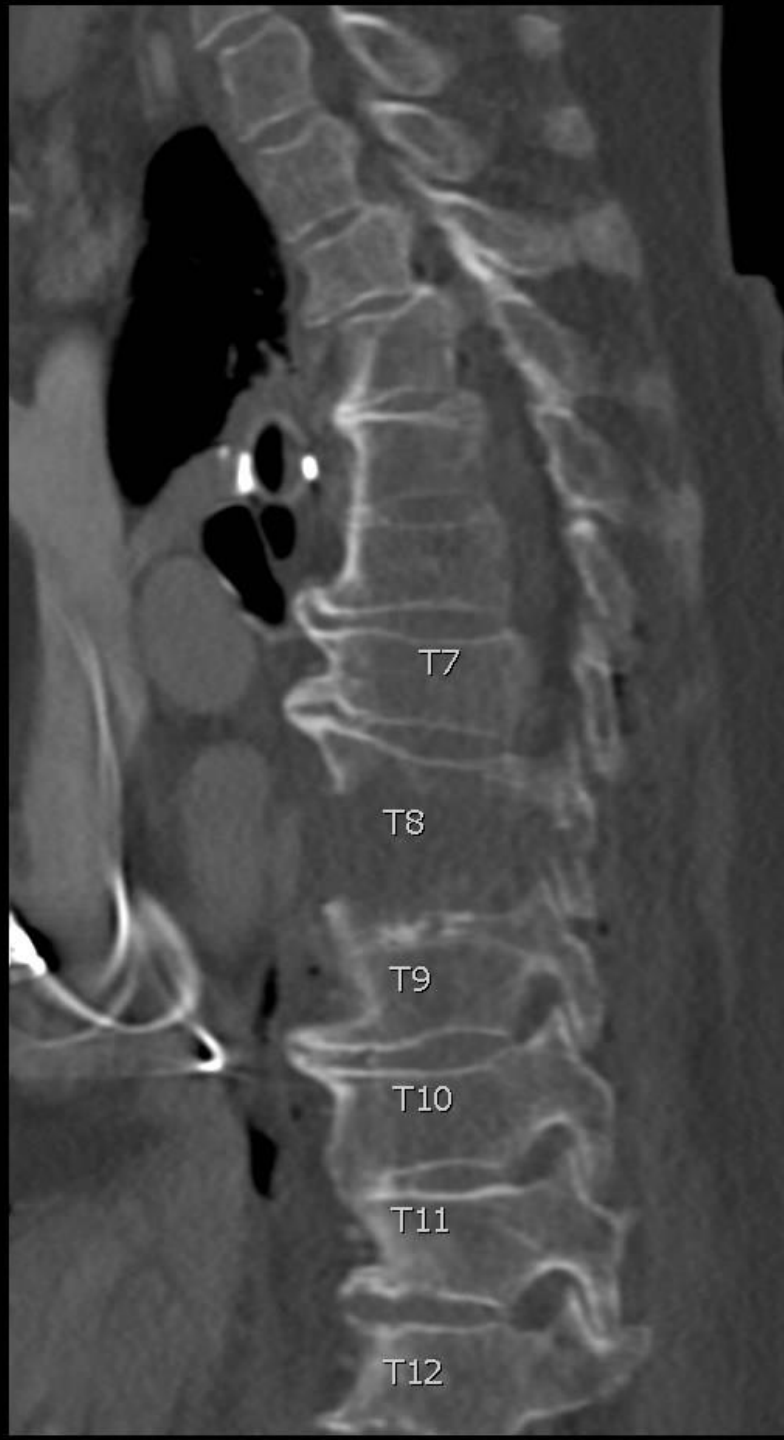




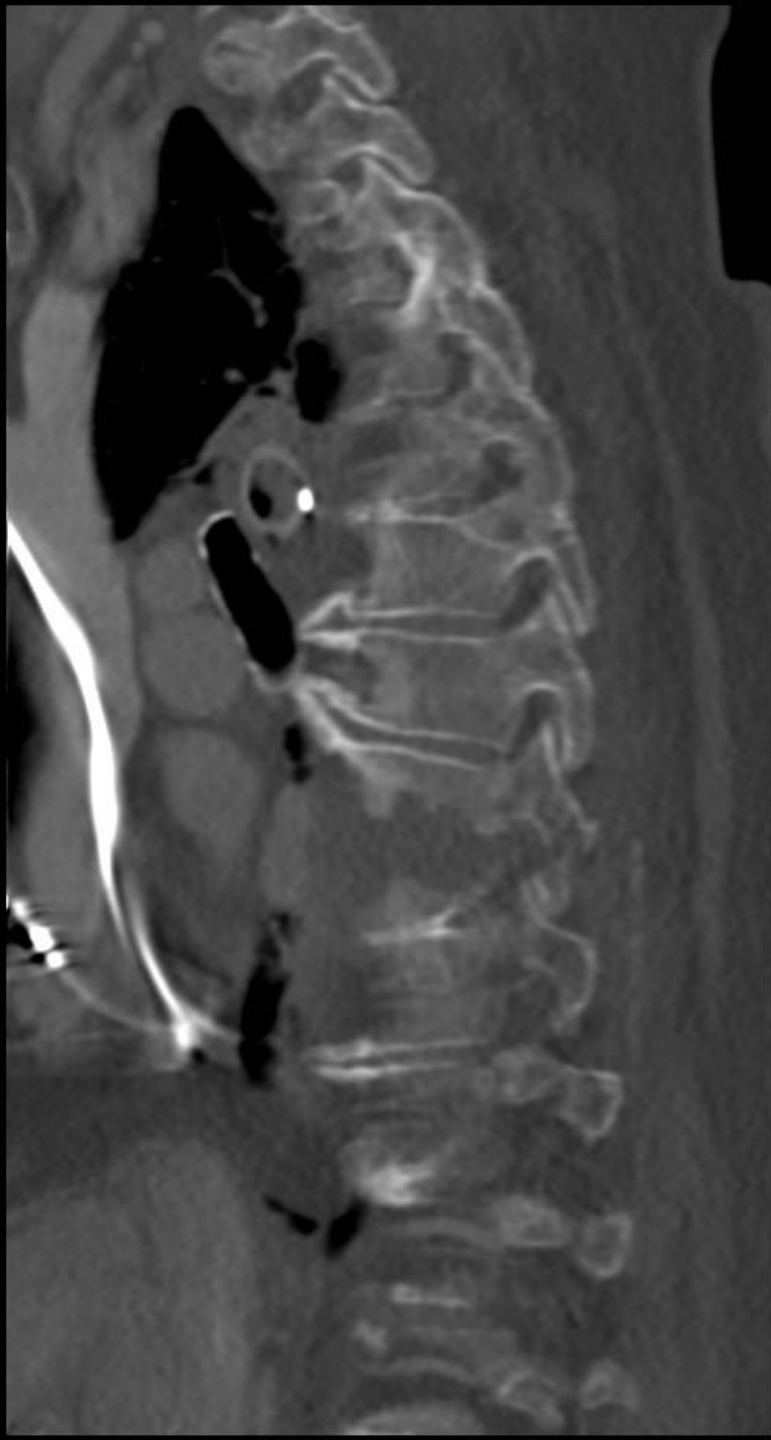


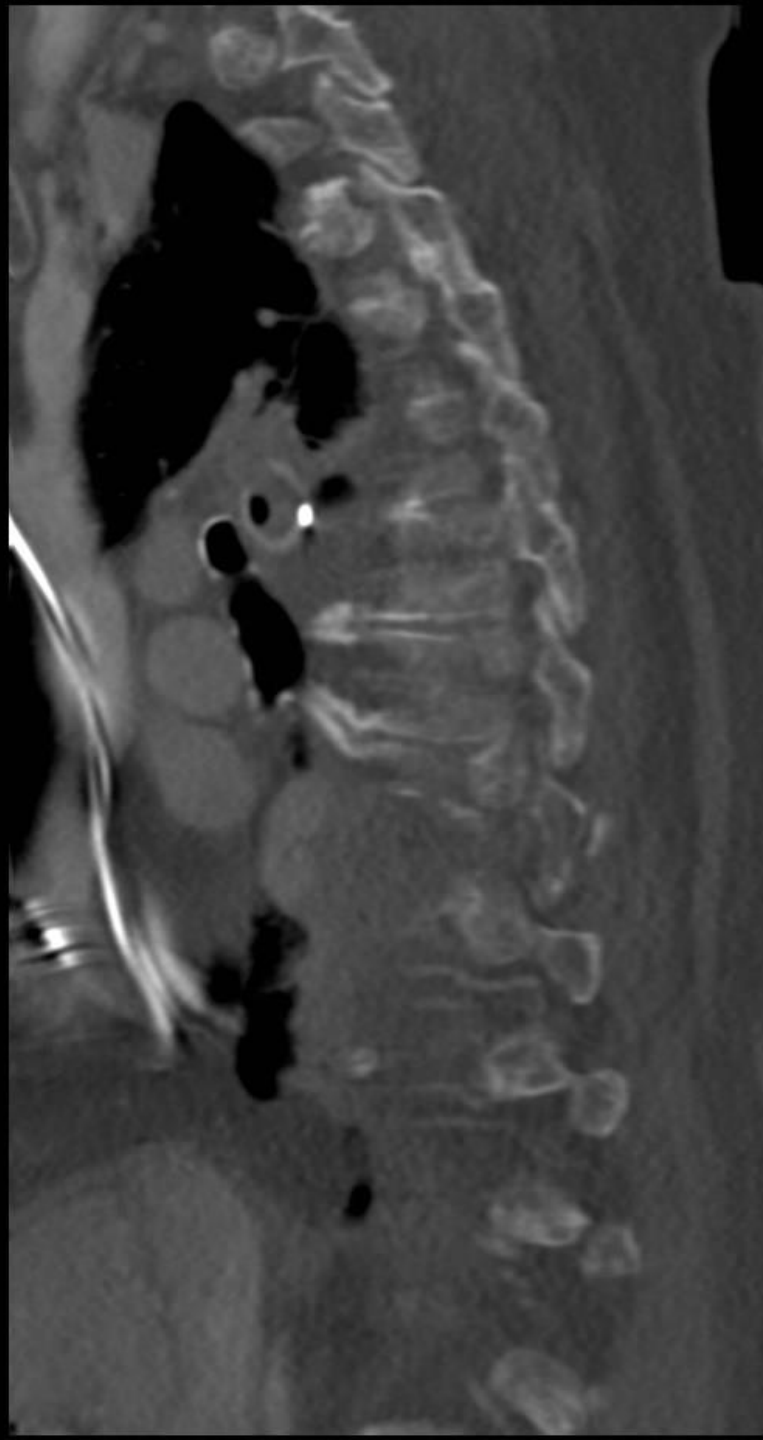














Pneumorrhachis associated with bilateral pneumothoraces

- Gas within the spinal canal
- Either intra- or extradural
- Rare phenomenon

Pneumorrhachis

- Traumatic
 - Traumatic pneumothorax
 - Blunt chest trauma
 - Skull fracture
 - Iatrogenic
 - Epidural anesthesia
 - Thoracic surgery

Pneumorrhachis

- Non-traumatic
 - Spontaneous pneumomediastinum
 - Regional necrotizing fasciitis
 - Marijuana smoking
 - Cocaine snorting
- Ddx:
 - Consider intraspinal gas from degenerative disease

Pneumorrhachis

- In any event...
- If you see pneumorrhachis but no good etiology, consider looking elsewhere for gas collection
- Pneumorrhachis can be the initial sign of potentially associated, hidden, and severe injuries

Pathophysiology

- May be secondary to dissection through fascial planes, usually through posterior mediastinum
- There are no fascial barriers between posterior mediastinum or retropharyngeal space to epidural space
- Air communicates freely via neural foramina

Symptomatology

- Usually asymptomatic
- Usually does not migrate
- Usually resorbs spontaneously
- Rarely can cause neurologic symptoms if becomes entrapped
 - Discomfort/pain
 - Headaches
 - Sensory deficits (less common)
 - Motor deficits (even less common)



Uemera, K, et al. Symptomatic intraspinal air entrapment.

Treatment

- Conservative
 - Observation
 - Monitor
- If symptomatic
 - ? Dexamethasone
 - ? Hyperbaric oxygen
 - Decompression with percutaneous catheter
 - Surgical decompression

Take home

- Pneumorrhachis is scary looking
- In most cases is not a big deal, and will resolve spontaneously when other pathologic conditions resolve
- BUT report it to ER/trauma because immediate evaluation by trauma/neurosurgery is necessary, and patient will need monitoring
- If you don't see a good source, start looking elsewhere

References

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