

# SPINAL CORD

DONE BY  
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هذا العمل لم يتم مراجعته من قبل الدكتور وحسب كلامه انه سيراجعه يوم الاثنين لكن ان شاء الله انه كامل ووافي ولو حصل أي نقص بالملف سيتم تعديله وتبليغكم

**دعاة قبل المذاكرة:**

- اللهم اني اسألك فهم النبيين وحفظ المرسلين والملائكة المقربين.
- اللهم اجعل السنننا عامرة بذكرك، وقلوبنا بخشيتك، انك على كل شيء قدير وحسبنا الله ونعم الوكيل.

**دعاة بعد المذاكرة:**

- اللهم اني استودعك ما قرأت وما حفظت وما تعلمت، فرده لي عند حاجتي إليه.
- انك على كل شيء قدير، وحسبنا الله ونعم الوكيل



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5-ischemia

1-congenital

2- trauma

3- demyelination

4-tumors

Abnormalities  
of spinal cord

MIND MAP

Imaging Methods to Evaluate Spine

Ultrasound

X-Ray

DEXA

CT scan

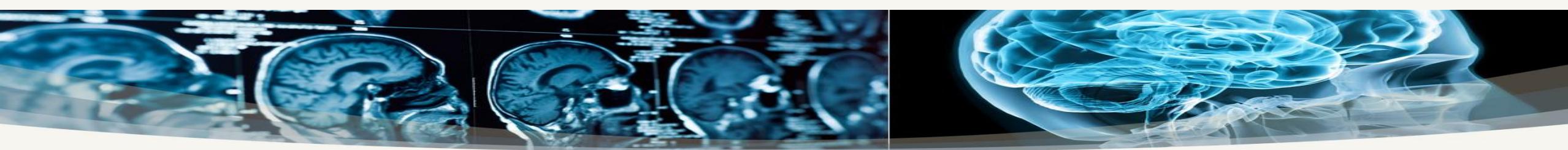
Radionuclide  
Bone Scan

Spinal  
angiography

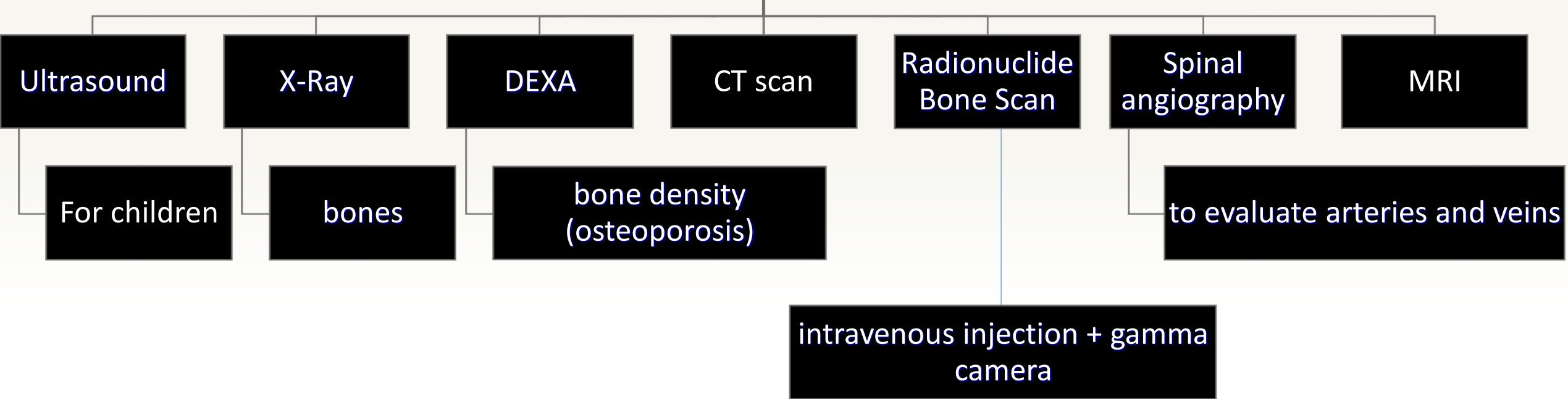
MRI



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## Imaging Methods to Evaluate Spine



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Uses radiation  
Much detailed information to bony structures

Disadvantages

## COMPUTERIZED TOMOGRAPHY (CT SCAN)

Advantages

Obtain 2-D images  
→ can be processed to 3-D images

Takes few minutes

Limited information about spinal cord & soft tissues



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Takes about 15 - 25 minutes

Contraindications include implanted devices

Claustrophobic patients and children may need anesthesia

### Disadvantages

## Magnetic Resonance Imaging (MRI)

Multi-planar

### Advantages

Very high resolution

No radiation

Best for spinal cord

Best for soft tissue

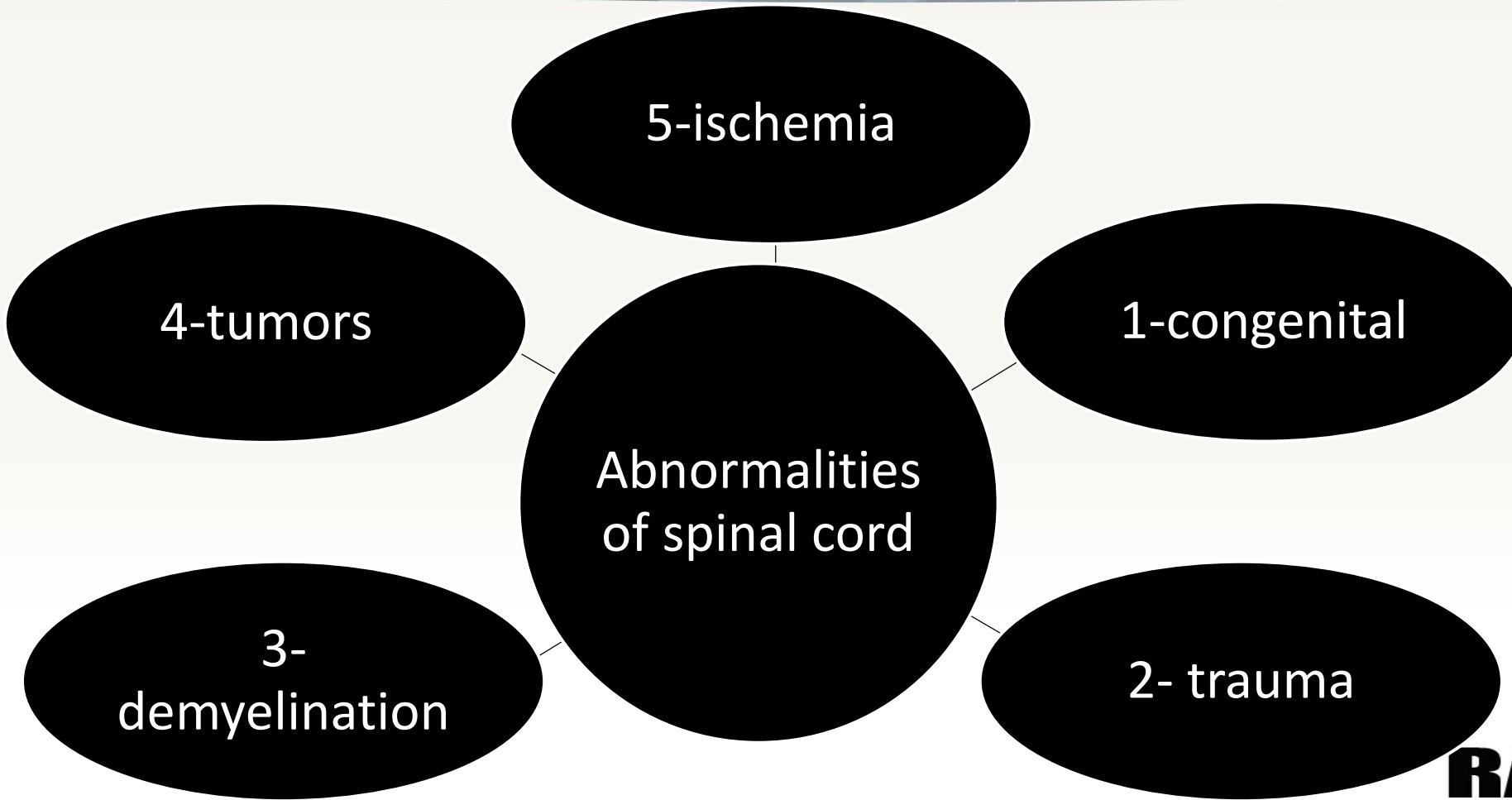
Artificial joints and other fixed metals → no problem



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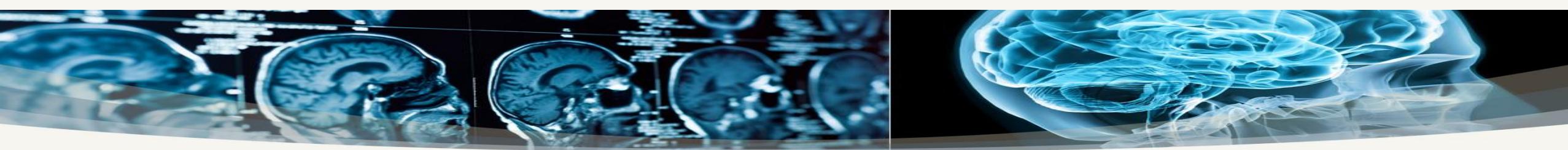




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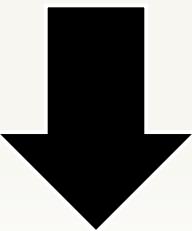
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Antenatal MRI

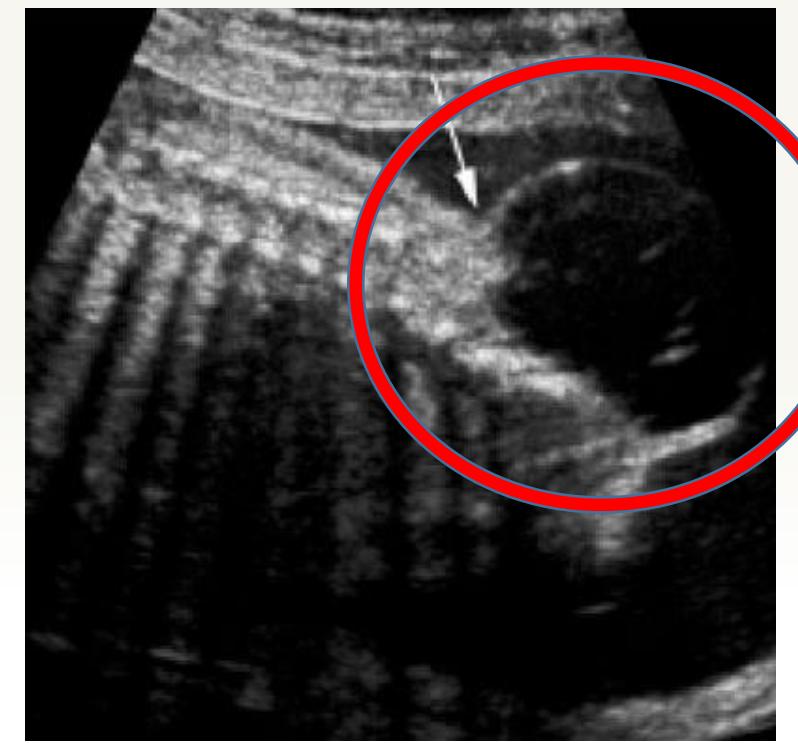
Congenital



Spina  
bifida



Antenatal US

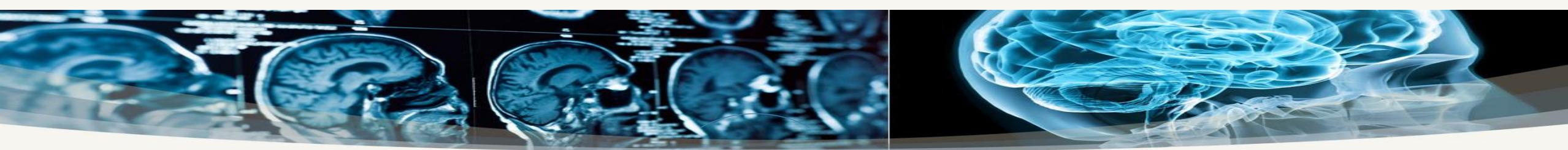


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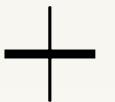


## TRAUMA

paraplegia



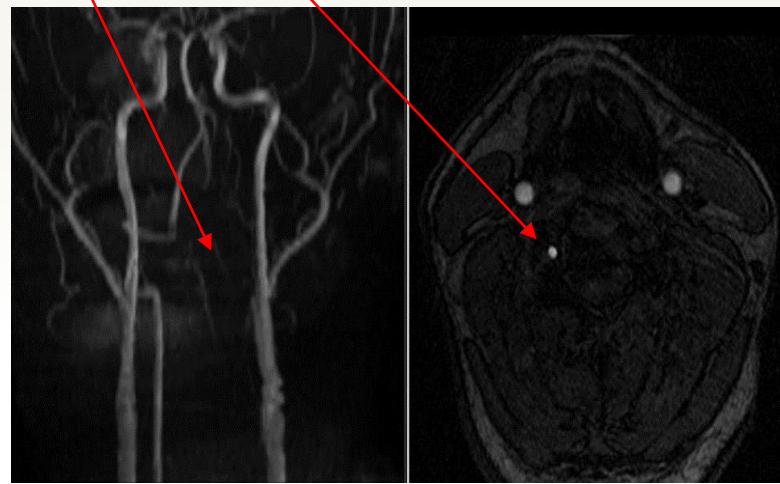
hyperflexion



ligamentous  
disruption  
and cord  
contusion



Vertebral Artery  
Occlusion



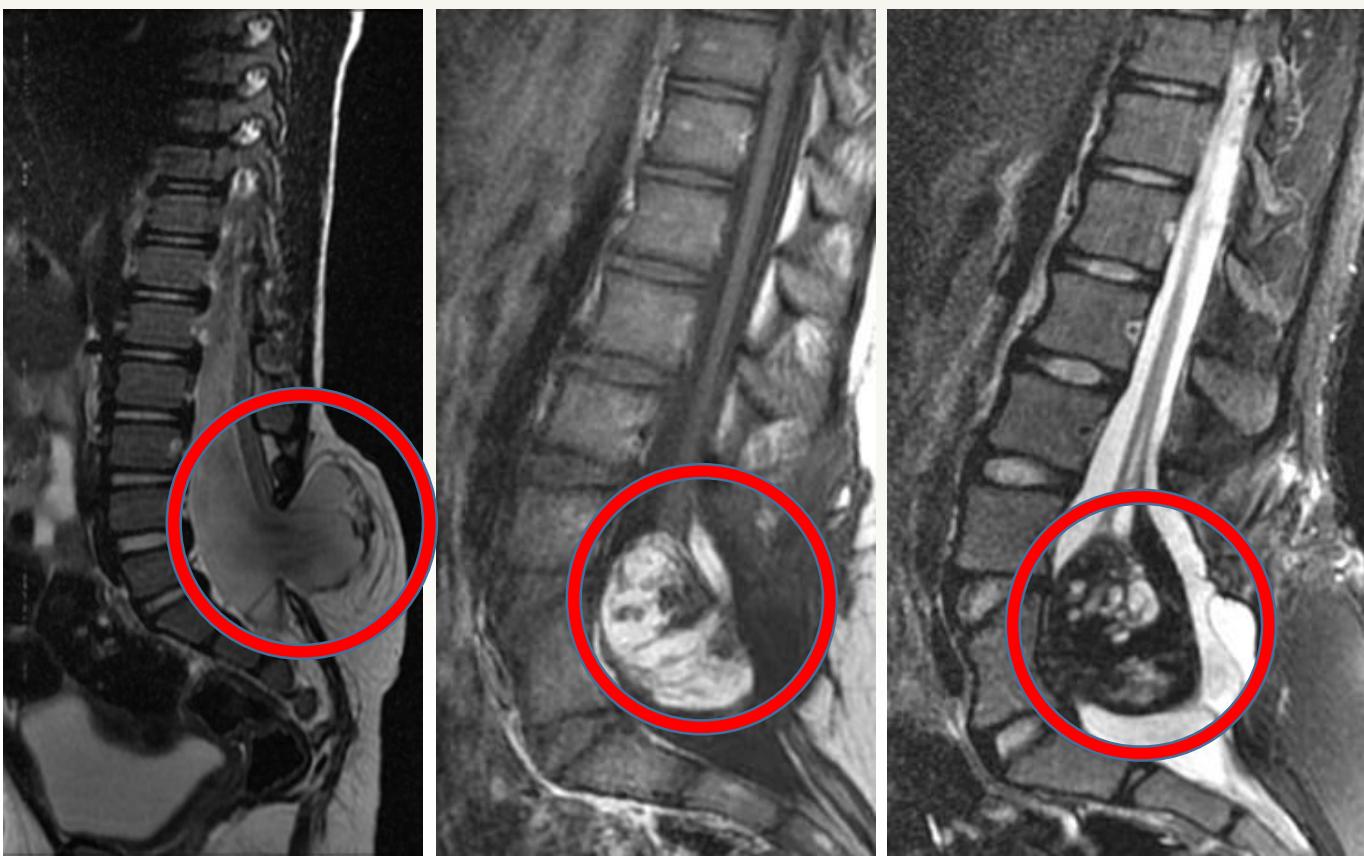
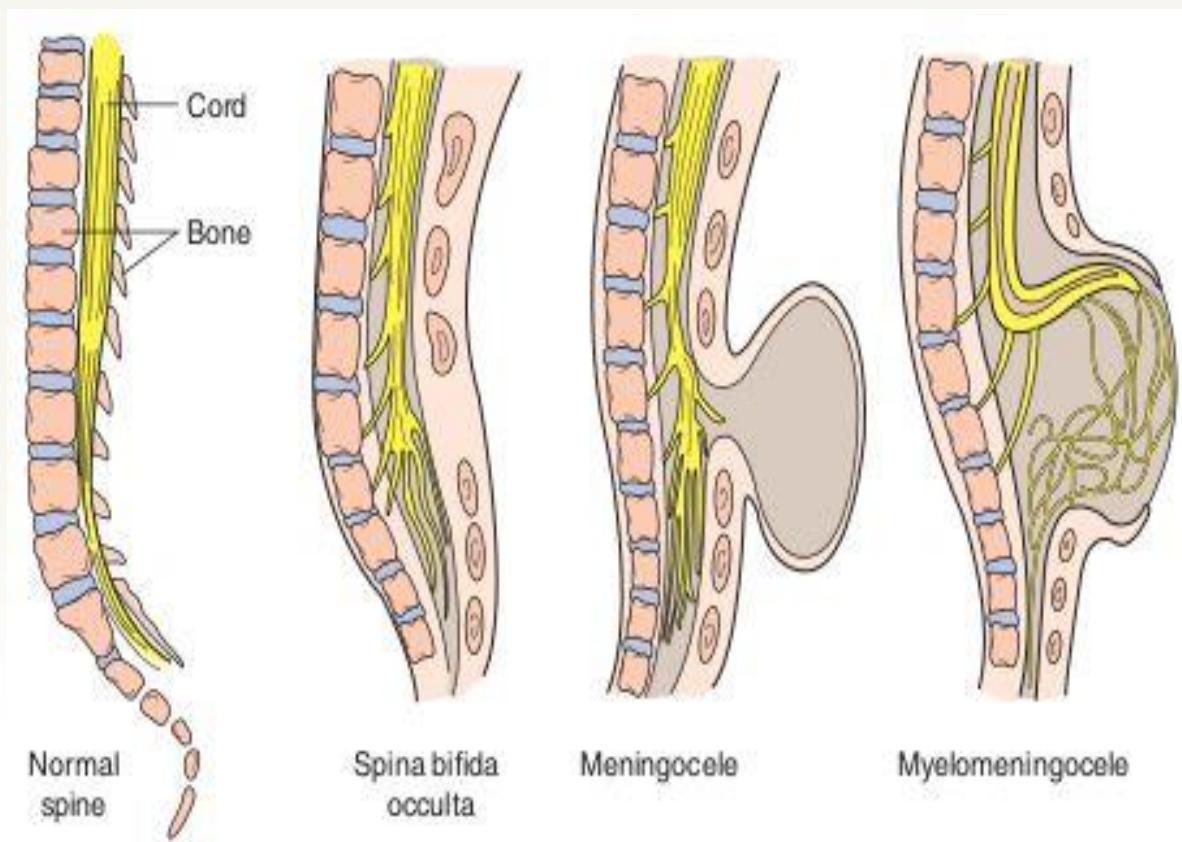
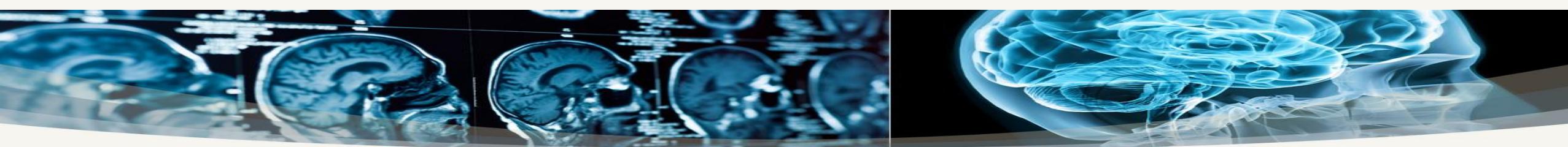
Secondary to  
C6 Fracture

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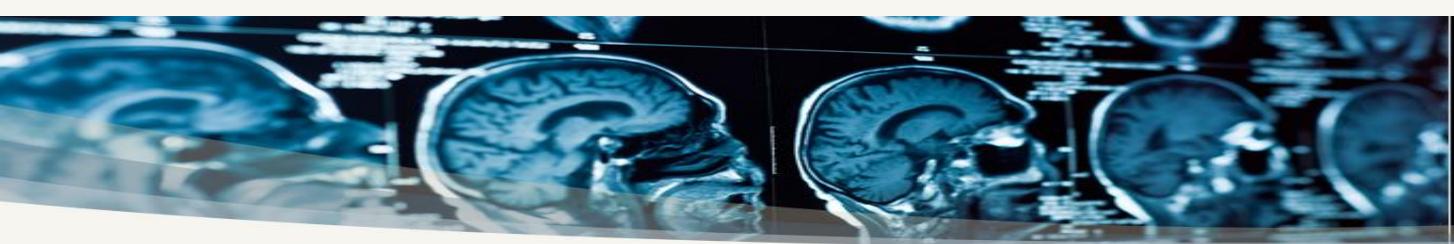
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Astrocytoma



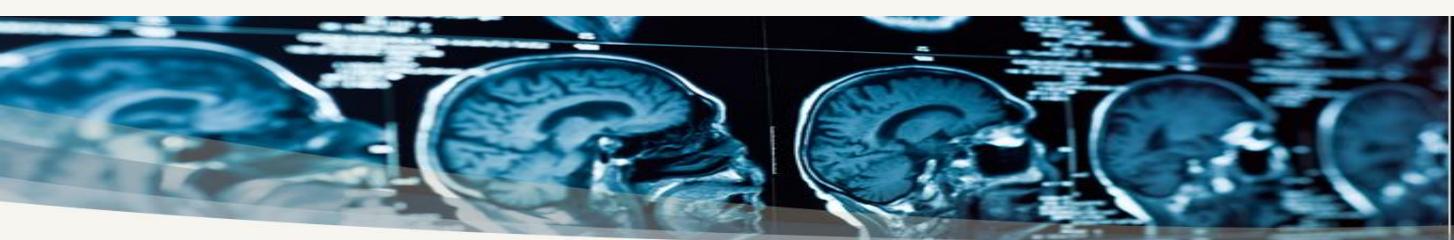
Ependymoma



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Ischemia



E.g. Cord Edema



As in the brain, may be secondary to ischemia  
(e.g. embolus to spinal artery)

or

venous hypertension (e.g. AV fistula)

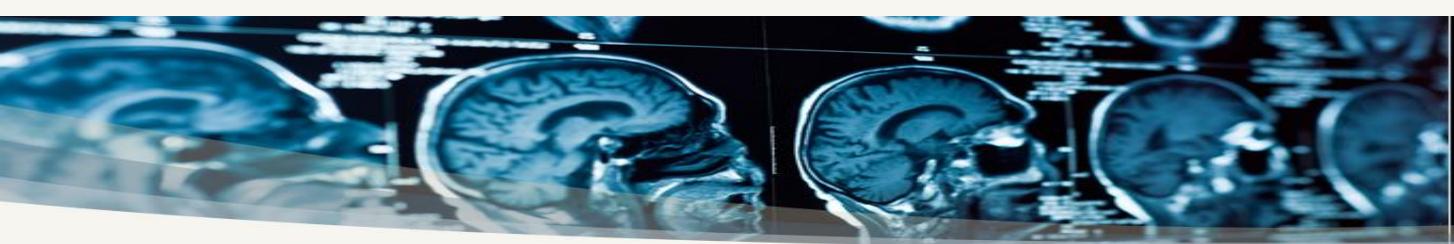
ADEM and NMO lesions in spinal cord –  
similar but presence of  
Brain lesions → ADEM  
Optic nerve lesions → NMO



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## DEMYLENATION



E.g. Transverse  
Myelitis



Inflamed cord of uncertain cause

Viral infections  
Immune reactions

Idiopathic

Myelopathy progressing over hours to  
weeks

The inflammatory demyelination eventually  
leading to gliosis and axonal loss



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MS

## Transverse myelitis

are more likely multiple, focal and peripherally located  
don't cover the entire section on axial images  
often < 2 vertebral body heights on sagittal images  
are disseminated in time and space  
may enhance in acute phase

extend over >3 vertebral body heights on axial images  
often > 4 vertebral body heights on sagittal images  
no brain lesions



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# THANK YOU

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