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Exposure(E): 0  
H:1836

3236 x 1836 px  
WC: 8191 WW: 13265 | 2, 0, 4, 8

# RADIOGRAPHIC EVALUATION OF CENTRAL NERVOUR SYSTEM

The CNS is examined in two parts;

- Medulla spinalis

- Brain

-Radiographic methods are used to evaluate cranium which is composed of only bone structures

-On the other hand, direct radiographic methods other than angiography do not have a diagnostic value in the examination of the intracranial brain. Brain; is best evaluated by cross-sectional imaging methods such as CT and MR

Central nervous system is surrounded by dense bones and low radiopacity of nerve tissue cannot be seen on direct radiography.

- The lesions formed in this system may therefore be indicated by taking into account the disturbances of the adjacent skeletal system or by marking a portion of the nerve tissue using contrast agent.

Each of these methods can be used for radiological examination of two basic parts of the central nervous system

## **BRAIN**

- The general shape of the cranial cavity is evaluated by cranial graphy. However, it should be kept in mind that there are race variations in dogs and cats.
- Diagnosis of diseases such as cranial fractures and hydrocephalus can be diagnosed radiographically
- In recent years, important findings have been obtained for the diagnosis of many other brain diseases by MR, CT and other diagnostic methods.

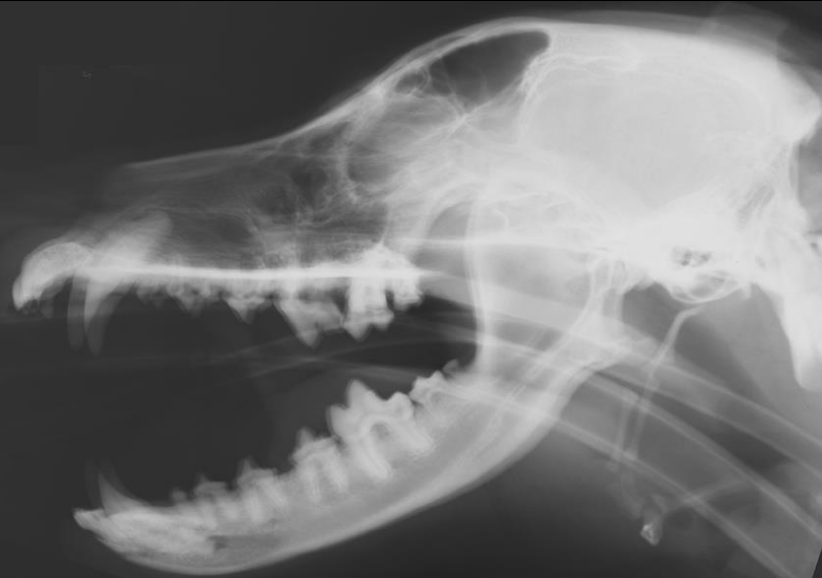
# Radiography

- Cranium has a complex structure consisting of a large number of bones (more than 20)

-This requires a good radiographic technique. Radiographic examination of cranium is based on 4 positions. These are D / V, V / D, lateral and oblique (30o) positions

-At least 2 positions should be taken in practice, other positions should be considered when necessary

Normal wiew



## Brain angiography

With brain angiography;

- \* thrombosis

- \* embolism

- \*vascular lesions such as aneurysm and

- \* mass lesions such as abscesses and tumors can be identified







# MEDULLA SPINALIS and SPINAL CANAL

Myelography is the main diagnostic method used in the evaluation of spinal canal diseases and medulla spinalis lesions.

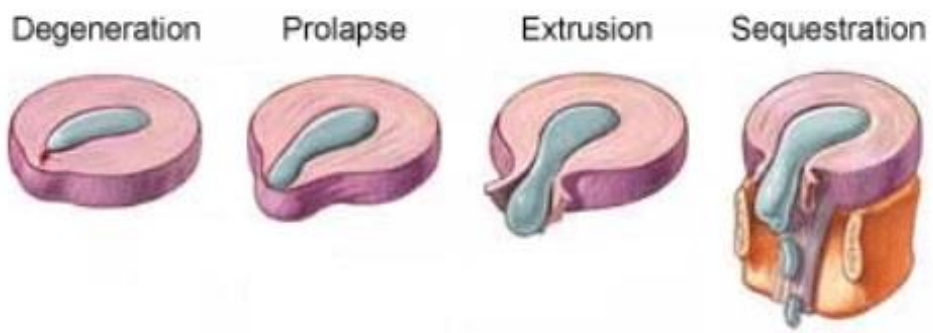
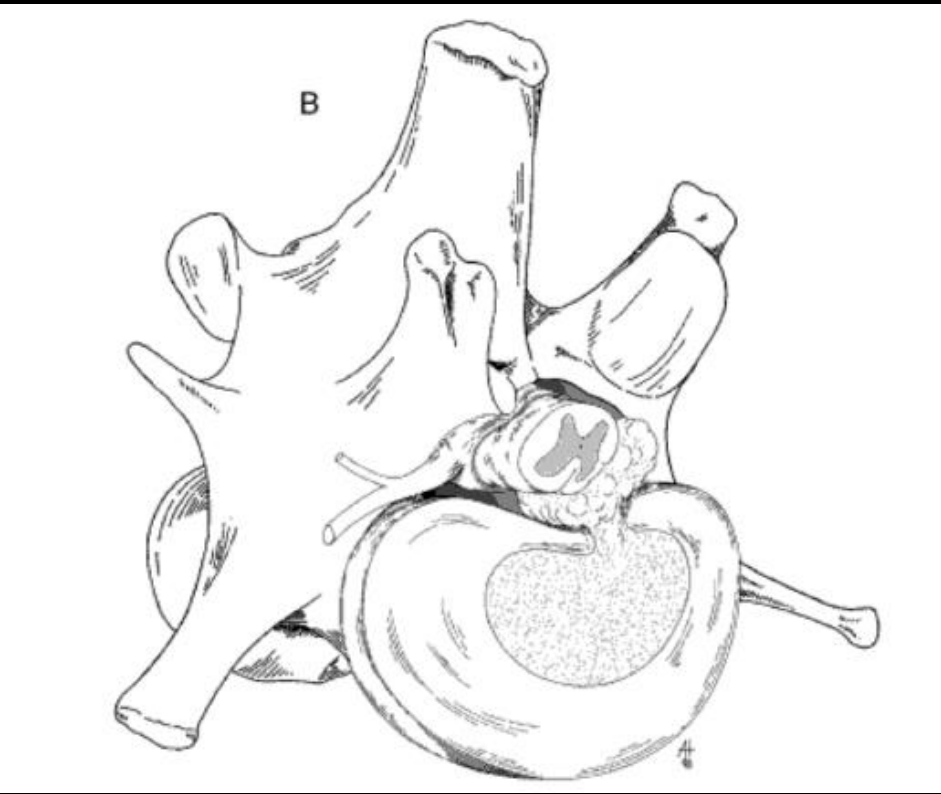
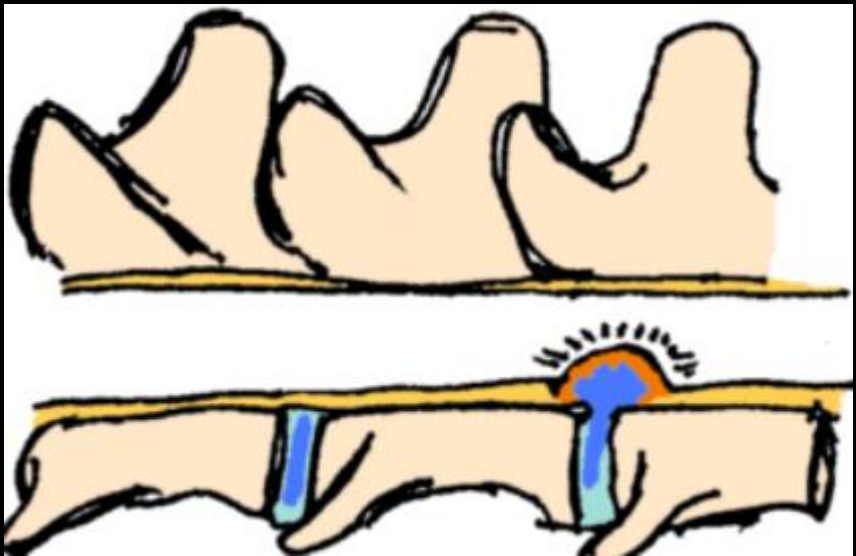
- Only contour anomalies of the medulla spinalis can be defined by myelography and computed tomography.
- By magnetic resonance imaging contour anomalies and intramural lesions can be diagnosed. Each plane can be sectioned.

Radiographs performed after injection of contrast medium into the subarachnoidal space are called myelography.

The radiographic technique in myelography is the same as the direct radiography technique of the vertebral column just the contrast agent chosen for use should be given to the subarachnoidal space before radiography in myelography.

## INDICATIONS

- Determination of medulla spinalis lesions
- Diagnosis of disc hernias and ruptures between vertebrae
- Determination of the degree of damage to the medulla spinalis of a fracture in the vertebrae
- Diagnosis of vertebrae, nerve root and medulla spinalis tumors





## CONTRAINDICATIONS

- \* Advanced old age,
- \* Cachexia,
- \* Latergia,
- \* Shock after trauma,
- \* Infection in the spinal entrance region and subarachnoidal space and contrast agent reaction.

## CONTRAST MATERIALS

In myelography, non-ionic contrast agents with low osmolarity are used

Ionic and fat-soluble iodine compounds used in the past,

It is now abandoned because of complications such as arachnoiditis

Ionic contrast agents; should not be given to the subarachnoidal cavity even if they have low osmolarity