

RADIOLOGY OF  
SMALL ANIMAL EMERGENCIES



PANAGIOTIS MANTIS  
DVM, DIPECVDI, FHEA, MRCVS

# RULE

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***Nothing dies on the table.***



Diagnostic Imaging is performed only  
when the animal **is stabilised adequately.**

## DIAGNOSTIC IMAGING

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- Be ready to:
  - Supplement oxygen
  - Hold patient
- Have the technique dialled in

## DIAGNOSTIC IMAGING: AIMS

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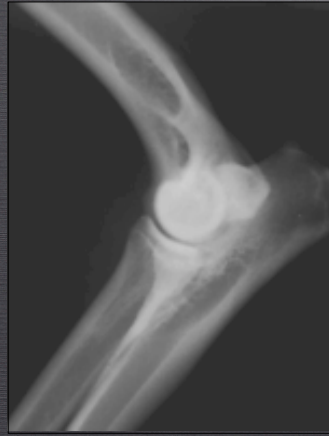
- Screening
- Definitive study
  
- Contrast radiography is usually used as a definite study

## THE RULE OF 2S

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- 2 views
- 2 sides
- 2 joints
- 2 episodes
- 2 radiographs

## 2 VIEWS



2 SIDES

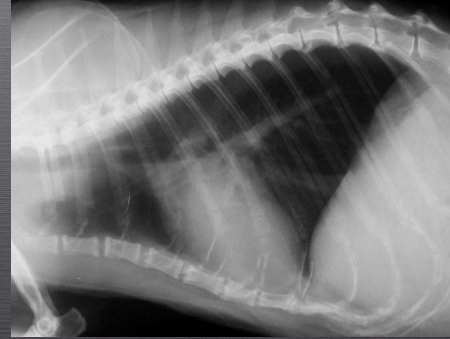
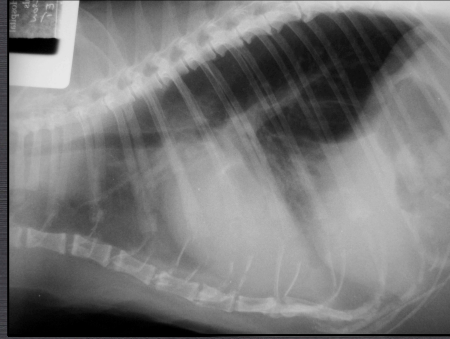


## 2 JOINTS

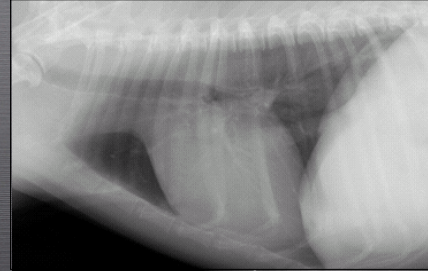
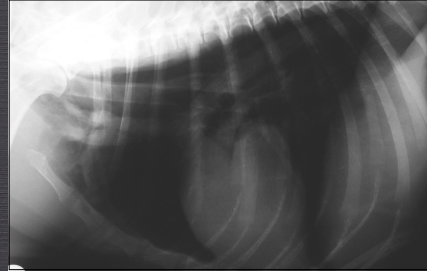




## 2 EPISODES



## 2 RADIOGRAPHS



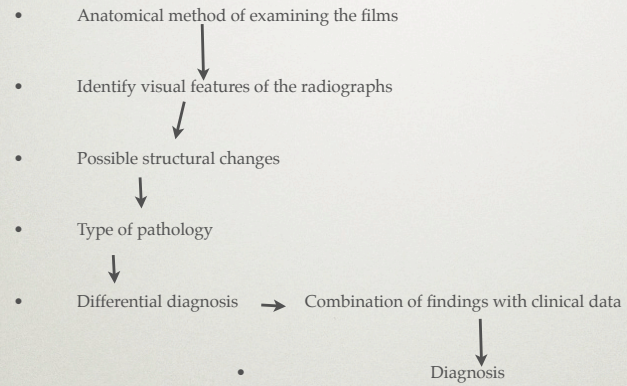
## systematic method

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- All parts of the films are actively examined
- Each abnormality is localised to a specific anatomic structure
- An appropriately specific diagnosis is made

# RADIOGRAPHIC INTERPRETATION

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# THORAX

## INDICATIONS

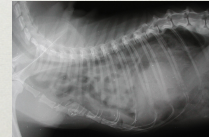
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- Traumatic
- Non-traumatic

# TRAUMA

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- Fractured ribs
- Pleural effusion
- Diaphragmatic rupture
- Subcutaneous swelling



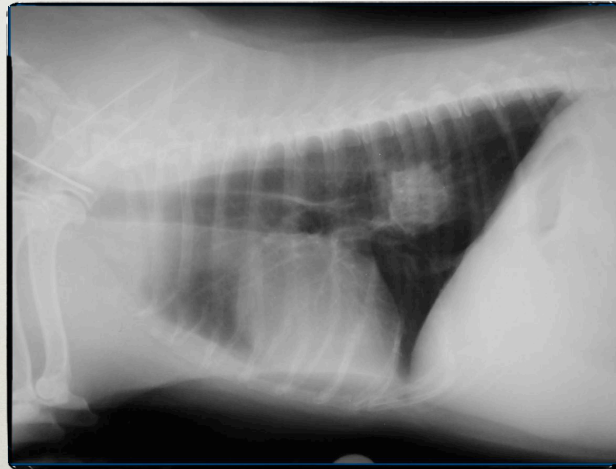
## NON TRAUMATIC

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- Foreign bodies
- Mediastinal masses
- Suspected pulmonary pathology
- Pneumothorax
- Pleural effusion
- Cardiac Pathology

## FOREIGN BODIES

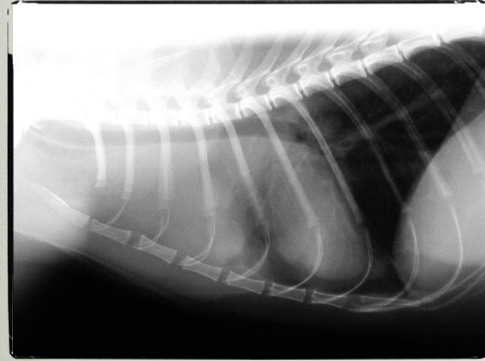
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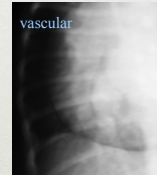
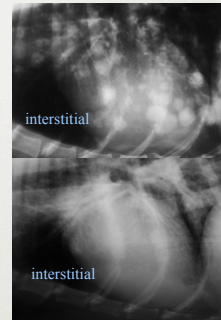
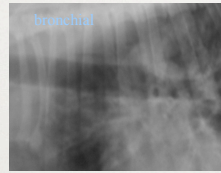
## MEDIASTINAL MASSES

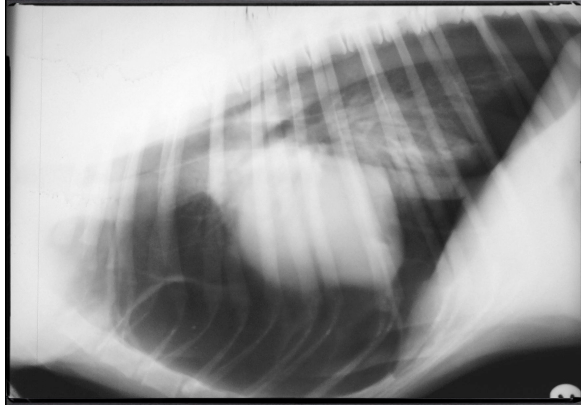
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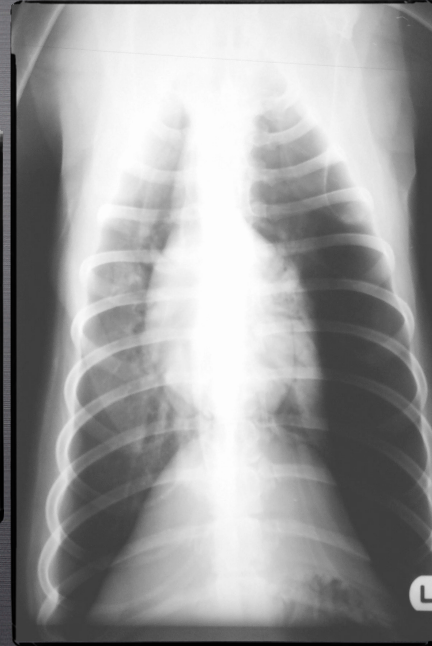
# PULMONARY PATHOLOGY

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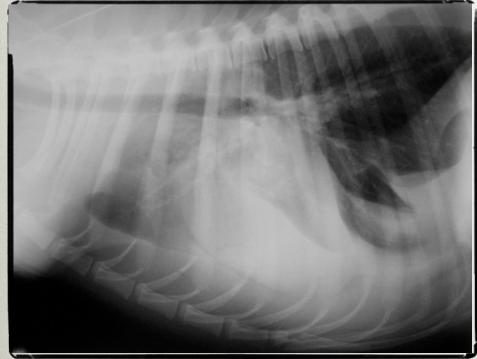


PNEUMOTHORAX



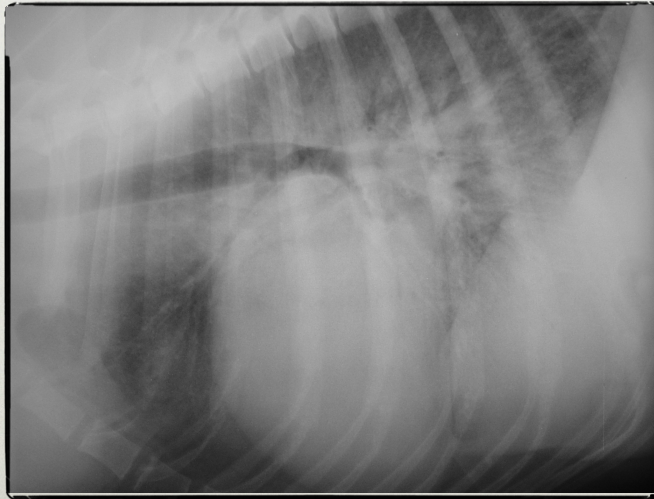
# PLEURAL EFFUSION

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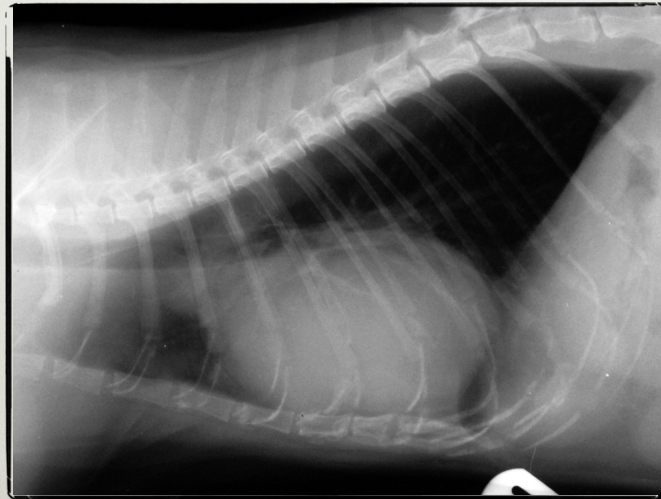
## CARDIAC PATHOLOGY

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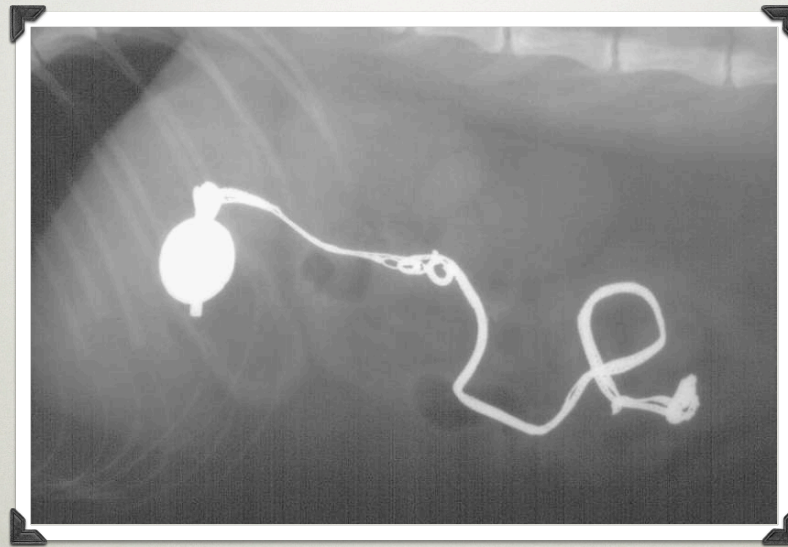


# PPDH

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## EMERGENCY ABDOMEN



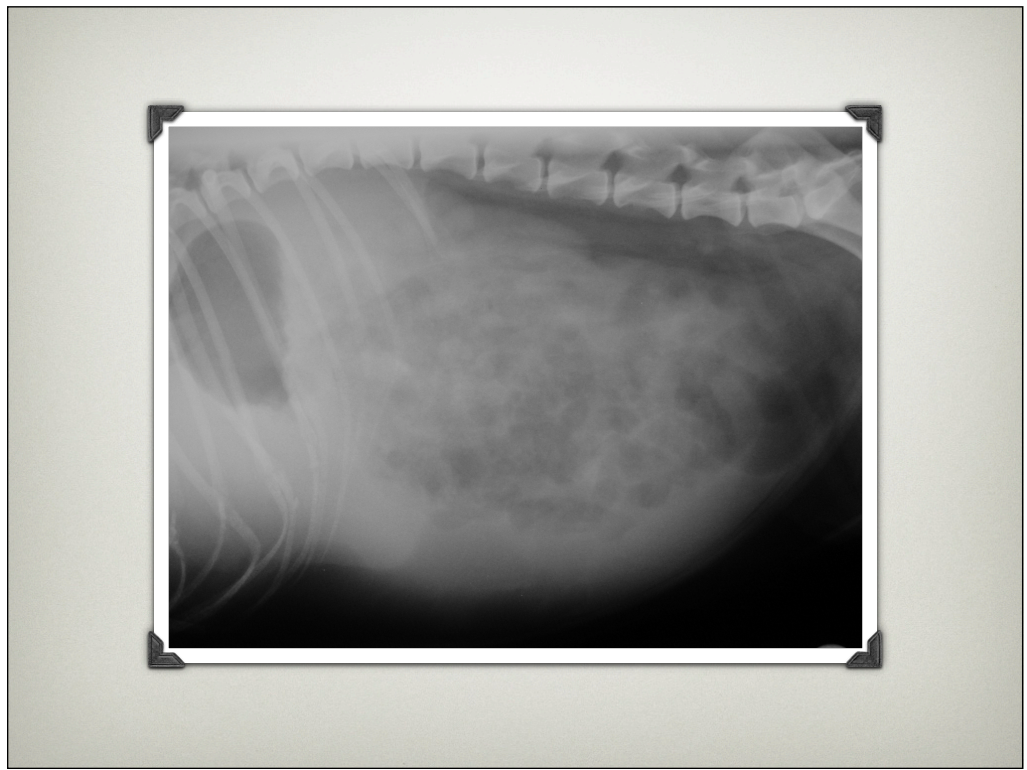
# ABDOMEN

## INDICATIONS

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- Indication for radiology of the acute abdomen include:
  - GI signs
  - Dysuria/ anuria/ oliguria and other urinary tract signs
  - Suspected trauma
  - Suspected abdominal mass
  - Evaluation of free peritoneal/ retroperitoneal fluid
  - Evaluation for possible metastasis





## ORGANOMEGALY/ ORGAN MASS

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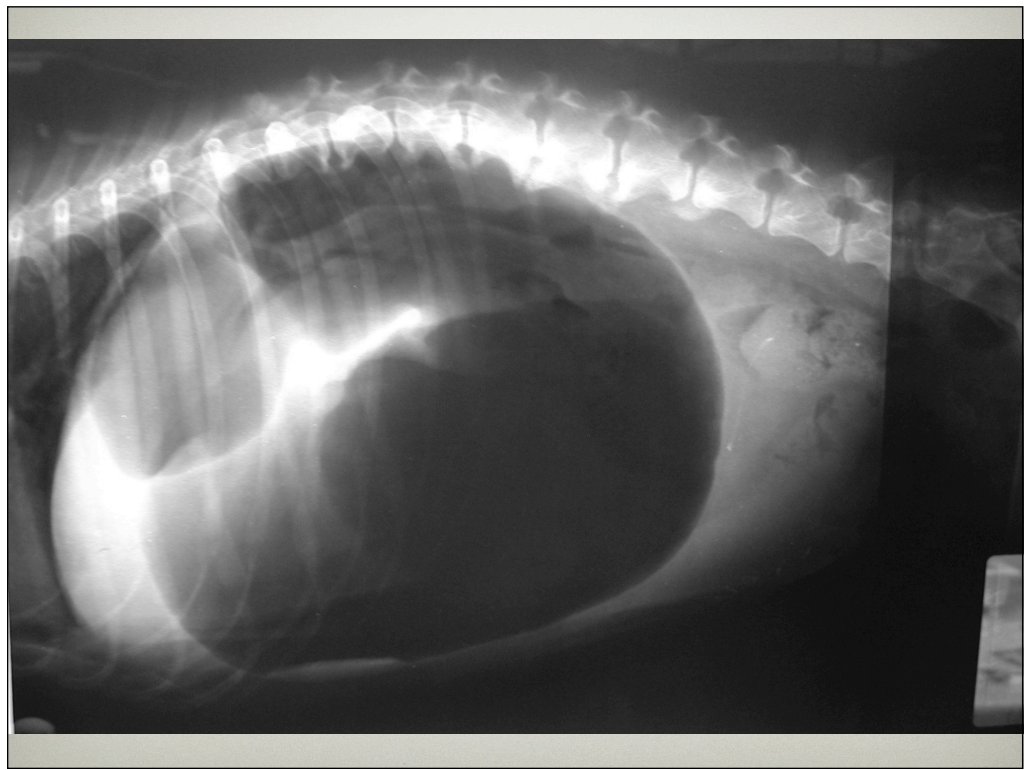
- Variable displacement of the adjacent organs depending on organ and location of the mass.
- Ultrasonography allows more detail evaluation of the exact location of a suspected mass



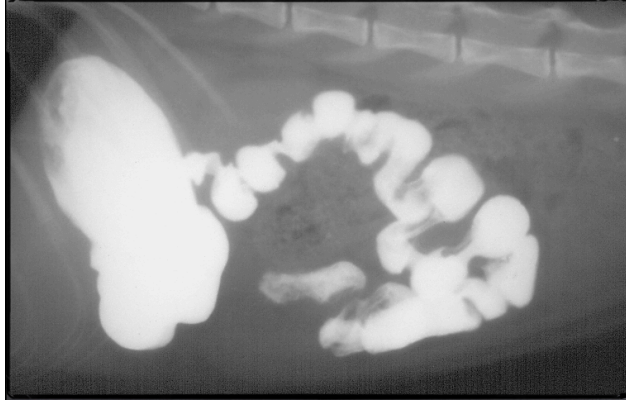
## GASTROINTESTINAL

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- To rule out intestinal obstruction or other intestinal abnormality e.g. rupture, GDV, hernias etc.
- For moderate to severe pancreatitis and gastritis ultrasonography is more useful.

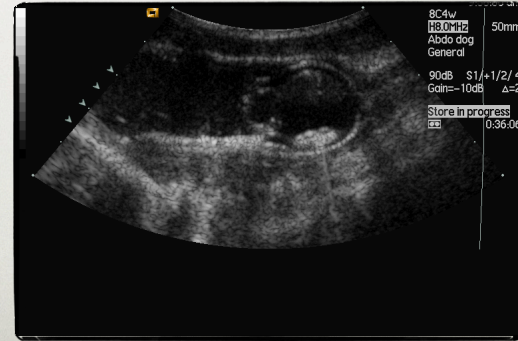
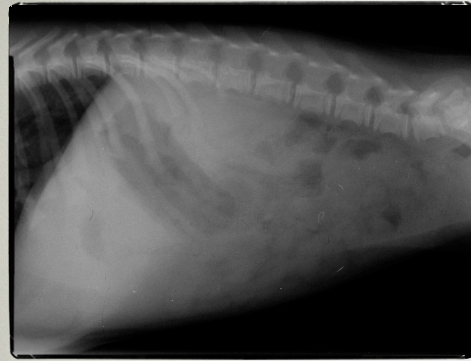






LINER FOREIGN BODY

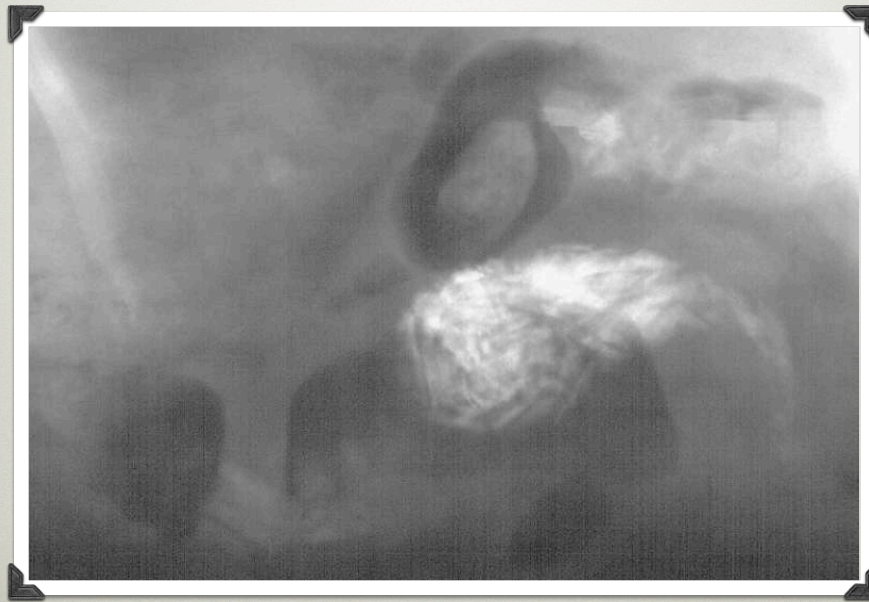






# GRAVEL SIGN

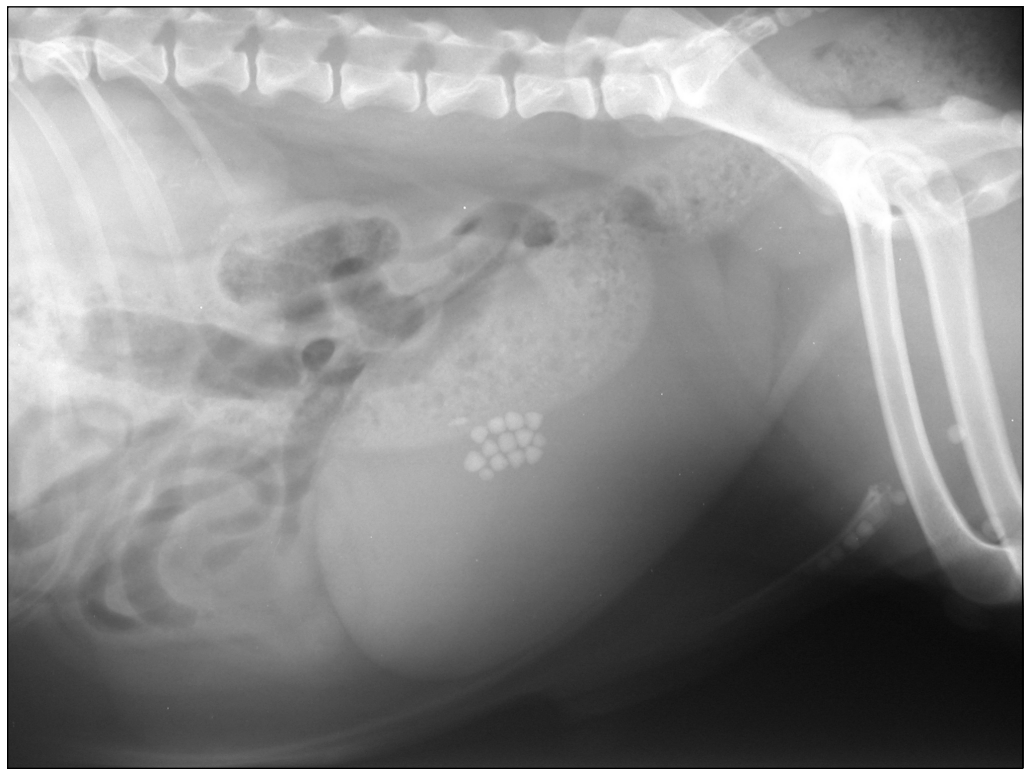
CHRONIC PARTIAL OBSTRUCTION

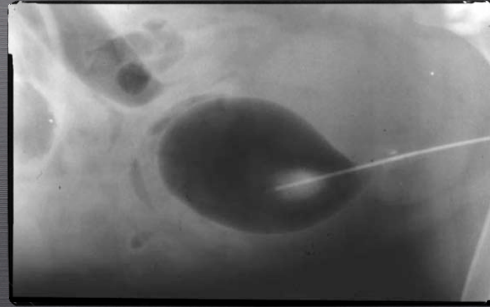
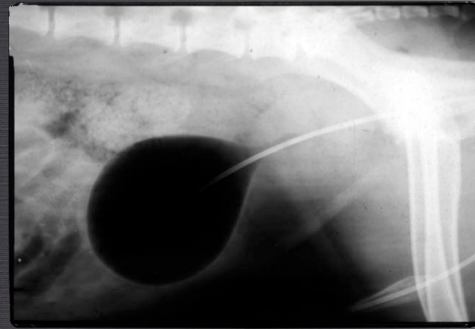


## **URETHRAL OBSTRUCTION/ DYSURIA**

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- Contrast urography is required when the diagnosis is not straightforward.
- Radiographic examination of the upper and lower urinary tract may be required in some patients.
- Ultrasonography can help in the evaluation of kidneys, ureters, bladder and prostate.





**PROSTATOMEGALY**

## OLIGURIA/ ANURIA

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- Findings on clinical examination will determine the necessity for abdominal radiographs i.e. palpation of mid-abdominal mass)



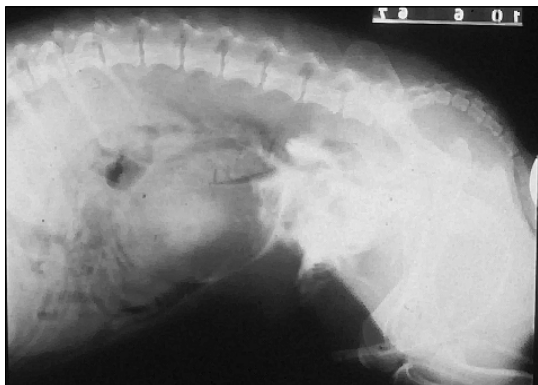
# TRAUMA

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- Thoracic and abdominal radiographs are required for the evaluation of the patient.
- Also radiographs of the affected area(s).
- Remember that oblique / positional radiographs may provide extra information.







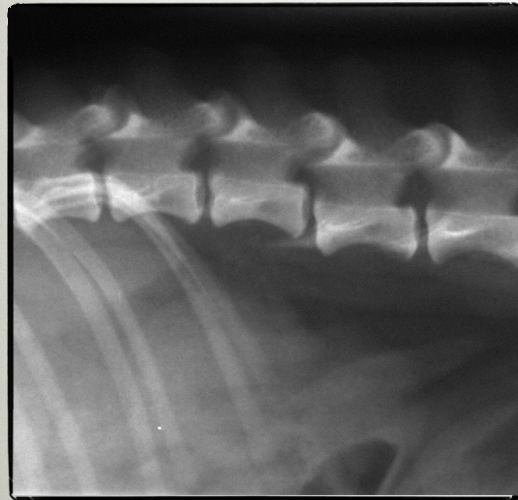
## MUSCULOSKELETAL INDICATIONS

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- Trauma
- Non traumatic

## VERTEBRAL SUBLUXATION

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ELBOW LUXATION

## DISCOSPONDYLITIS

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## FRACTURE COMPLICATIONS

**“THE LESION IS USUALLY IN THE  
CORNER OF THE RADIOGRAPH”**

