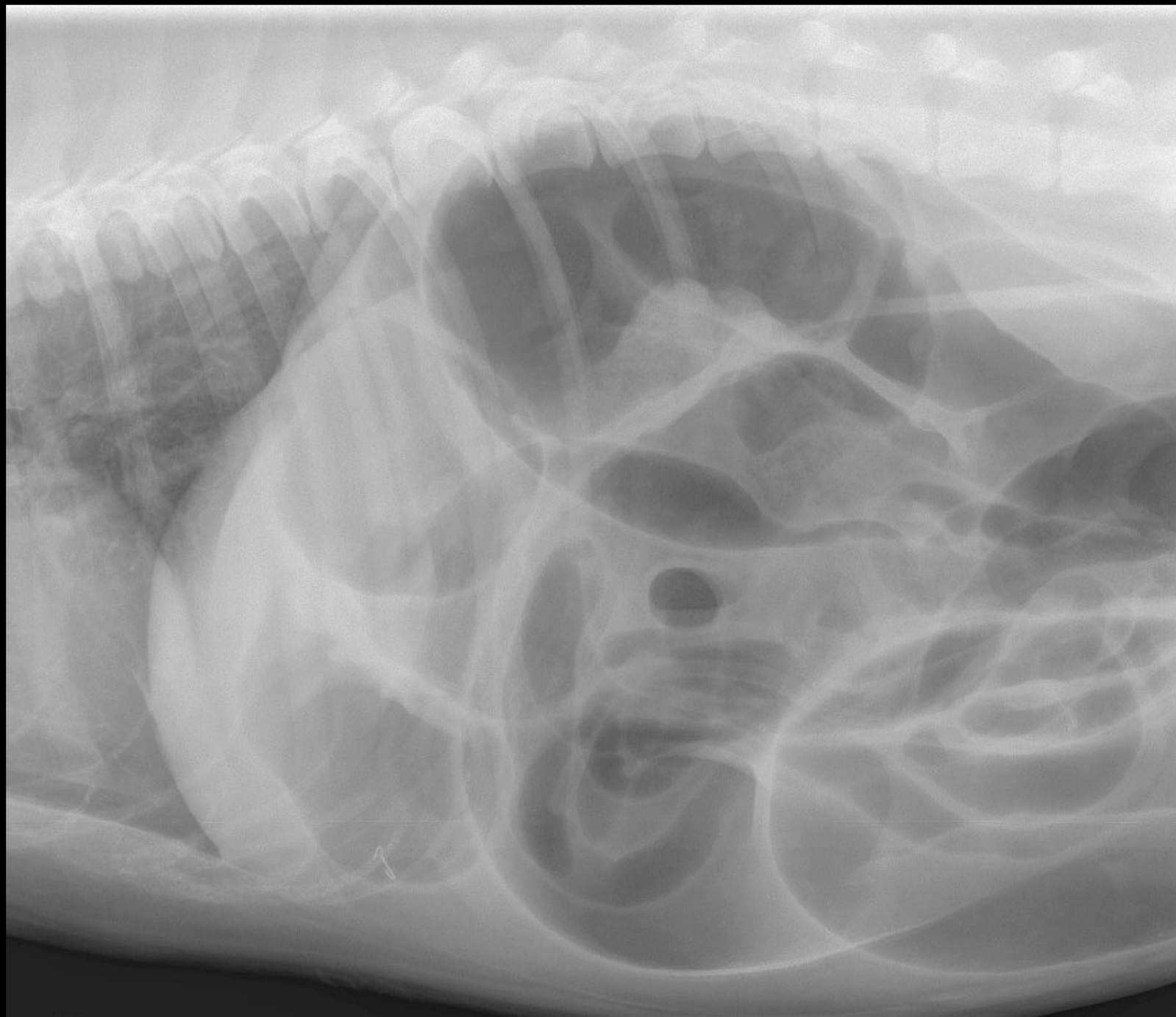


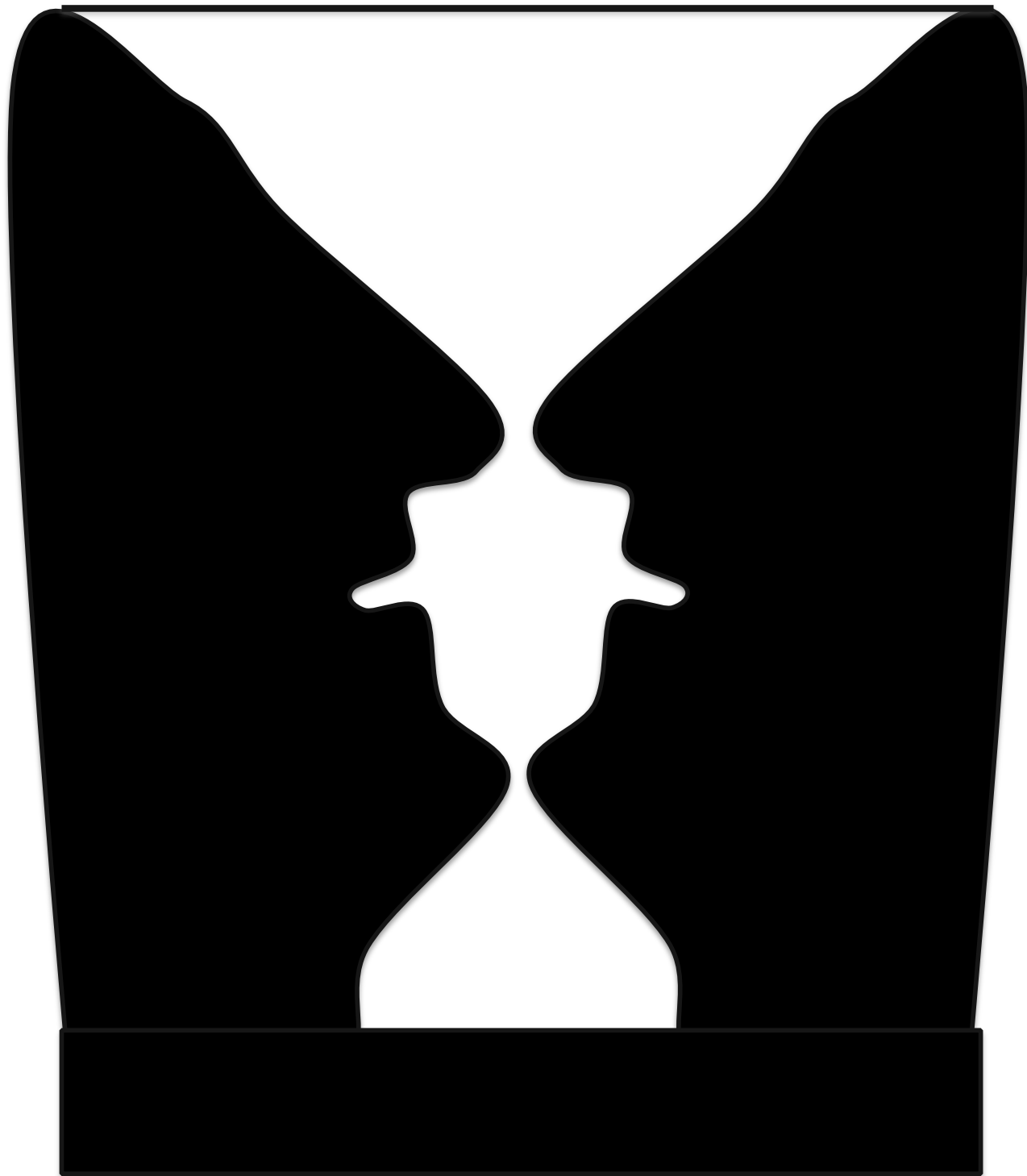


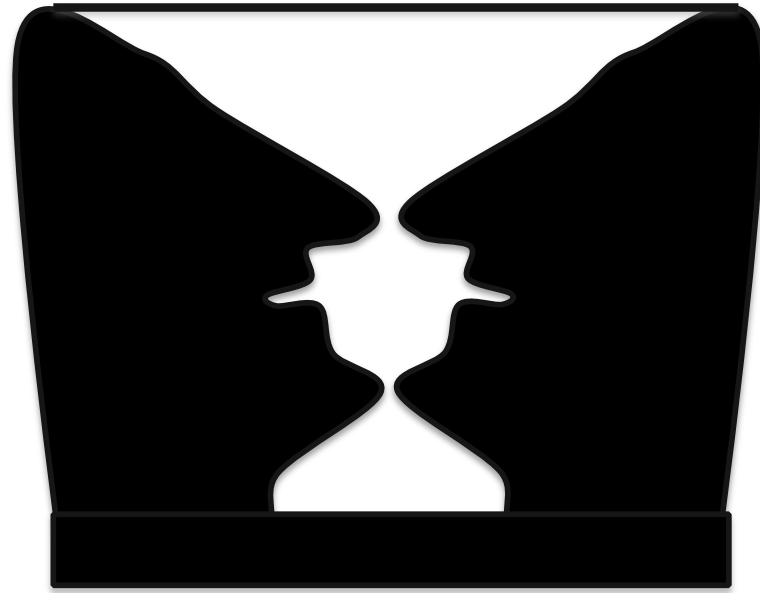
Key points of abdominal radiographic interpretation of clinical cases

Edoardo Auriemma

edoardo.auriemma@gmail.com



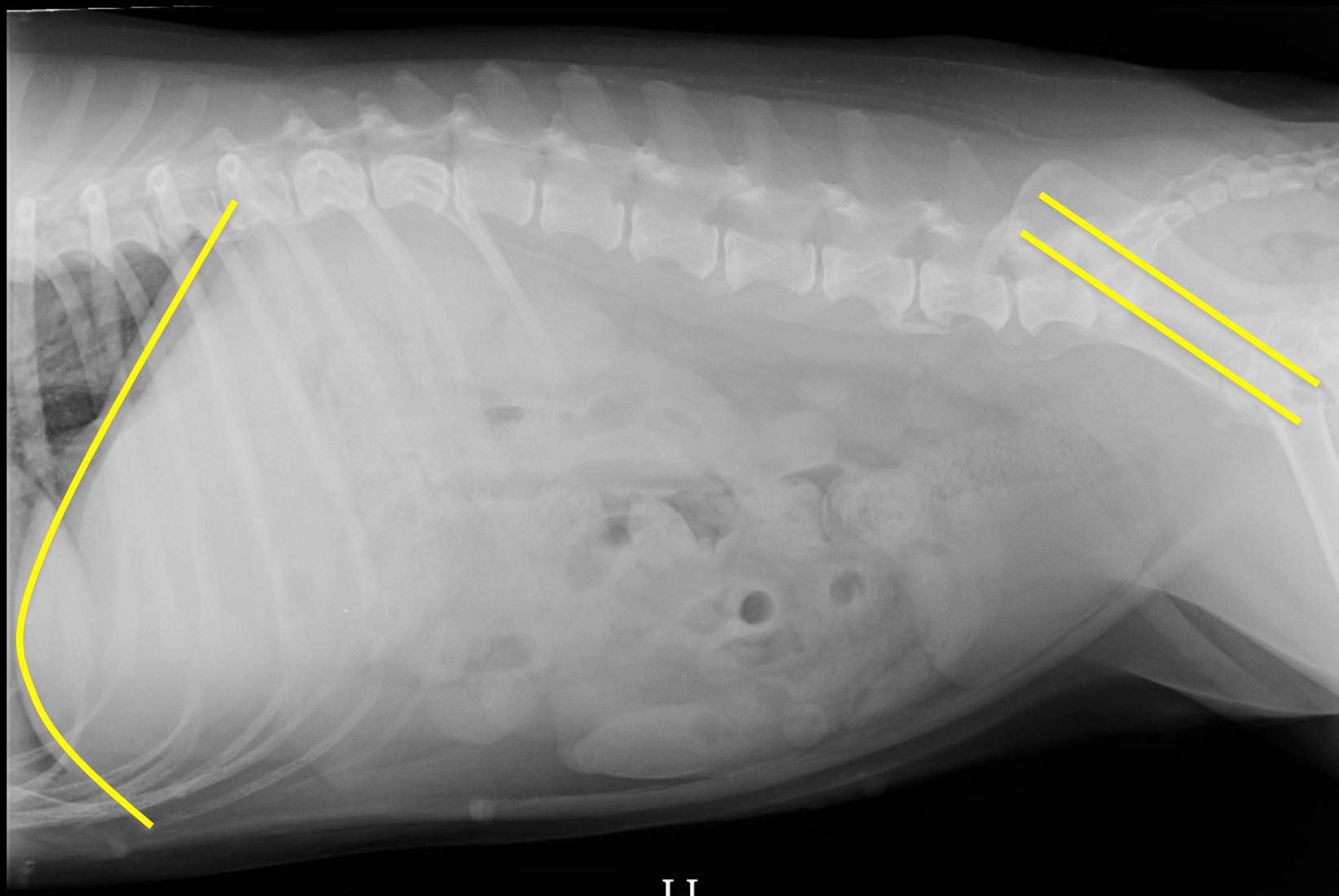




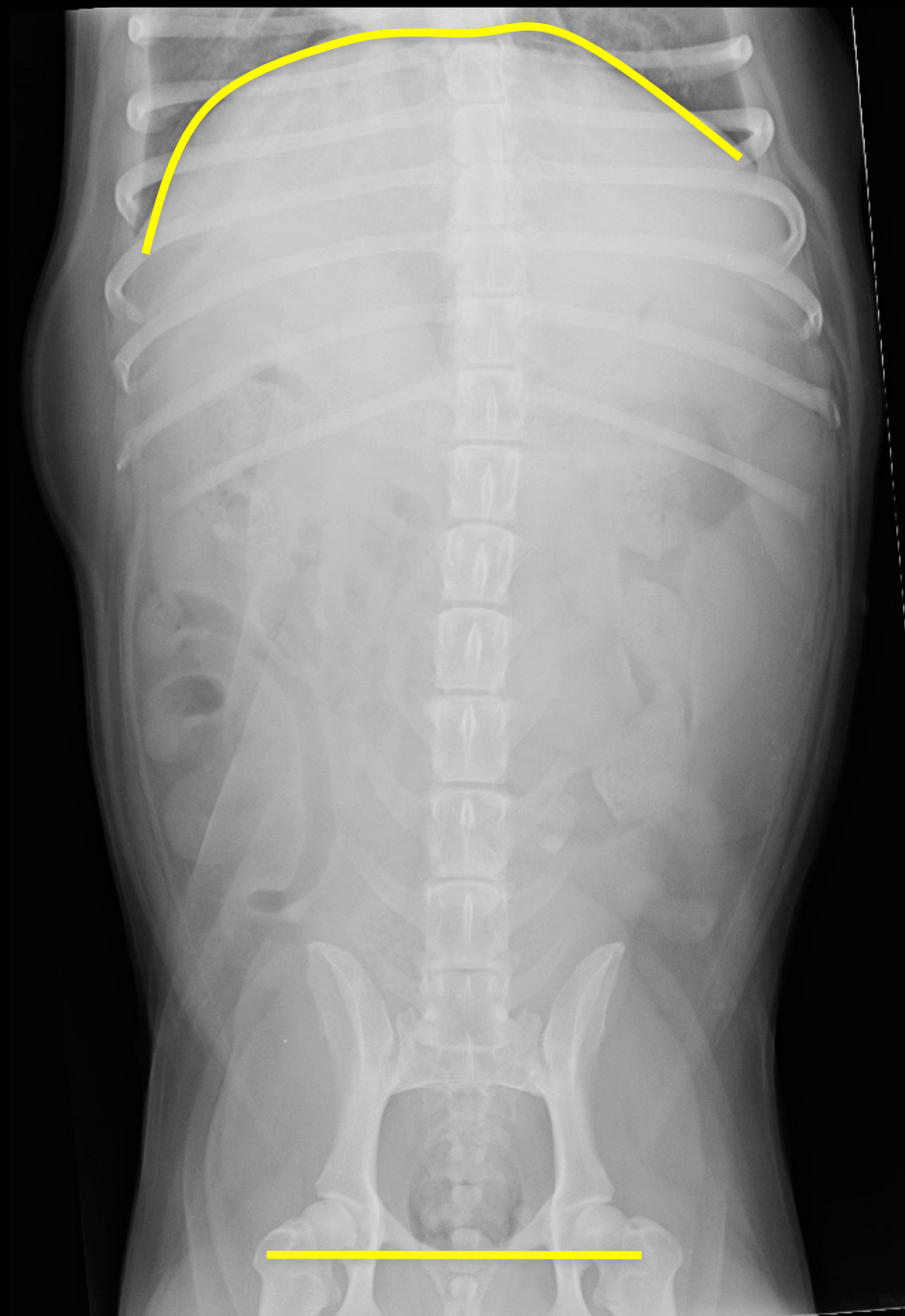
CONCLUSIONS

Acquisition technique

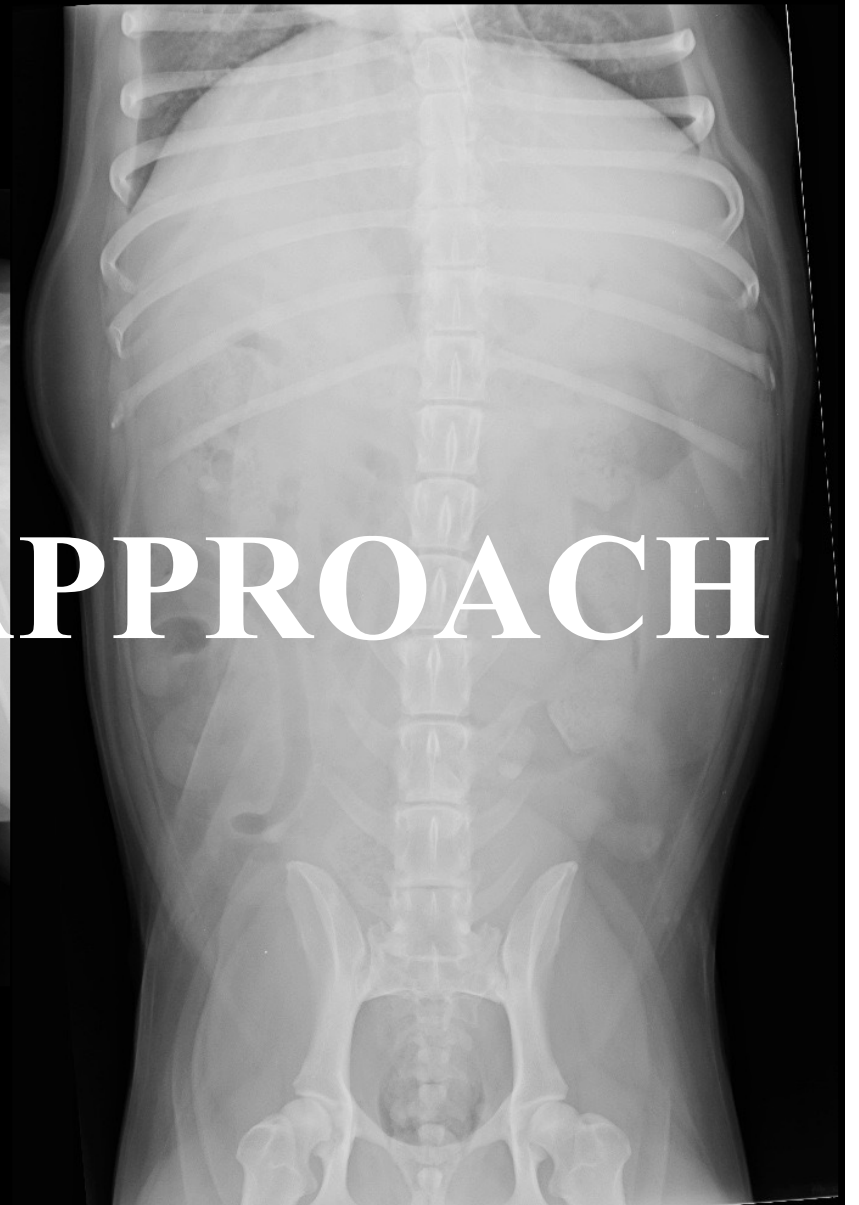
- ALWAYS 2 Projections !!!
- Exposition parameters: low Kvp; high mAs
- Expiration



T T



INTERPRETATION



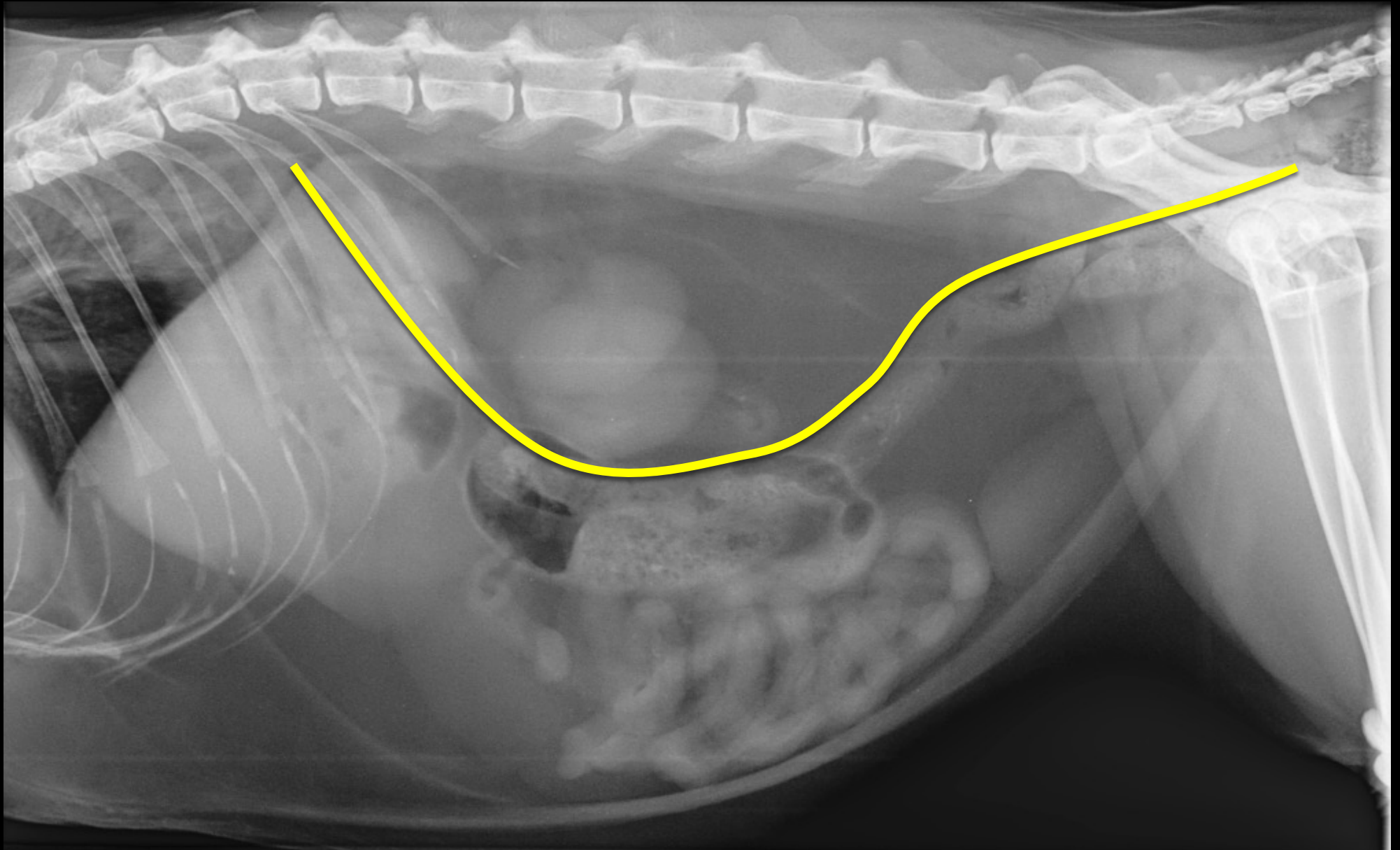
SYSTEMATIC APPROACH

11

STEP I

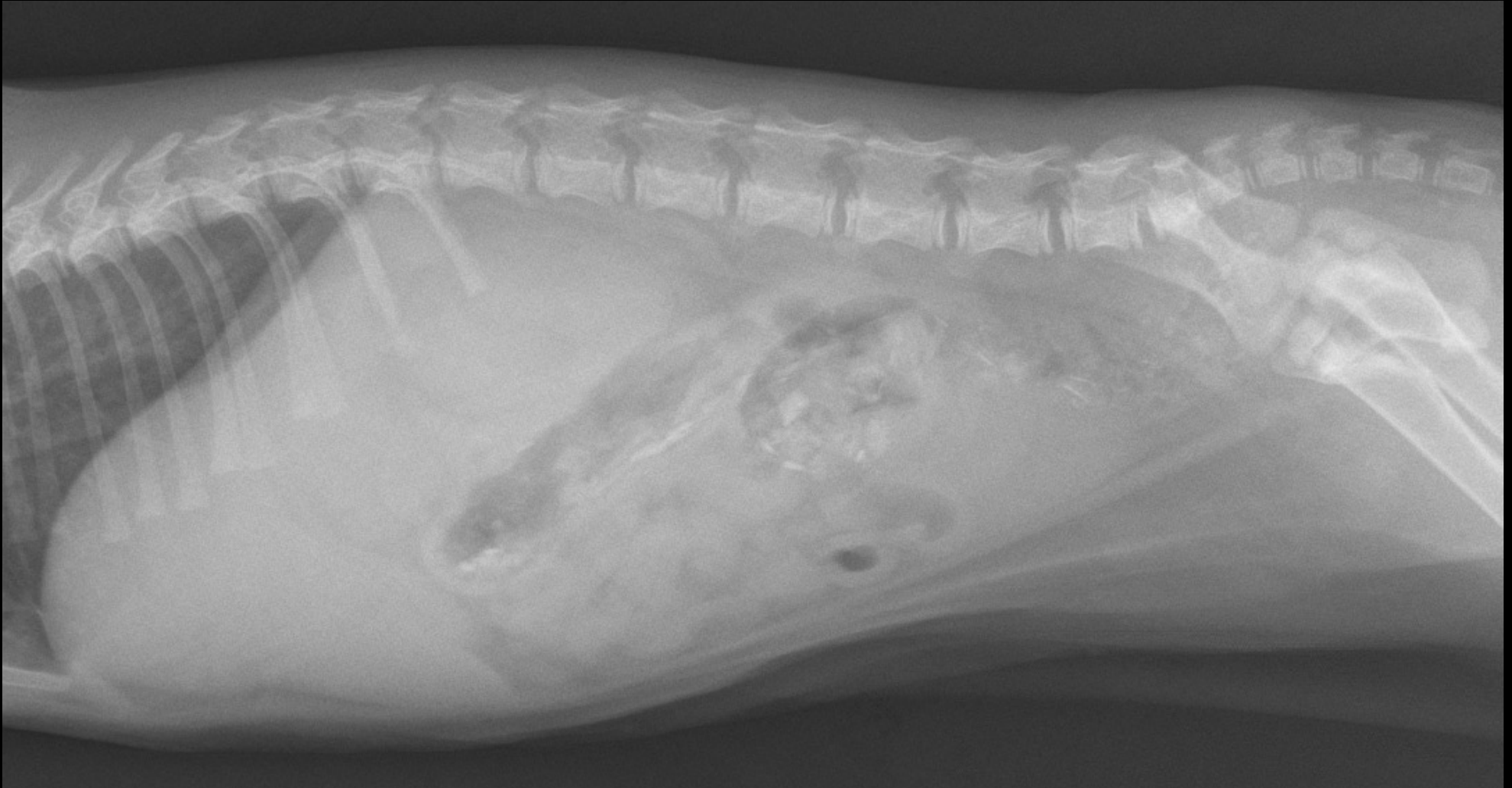
**ABDOMINAL CONTRAST
AND VOLUME**

ABDOMINAL CONTRAST



FATTY IS GOOD!

Decreased serosal detail



Young patient

Decreased serosal detail



Small amount of abdominal fat

Decreased serosal detail

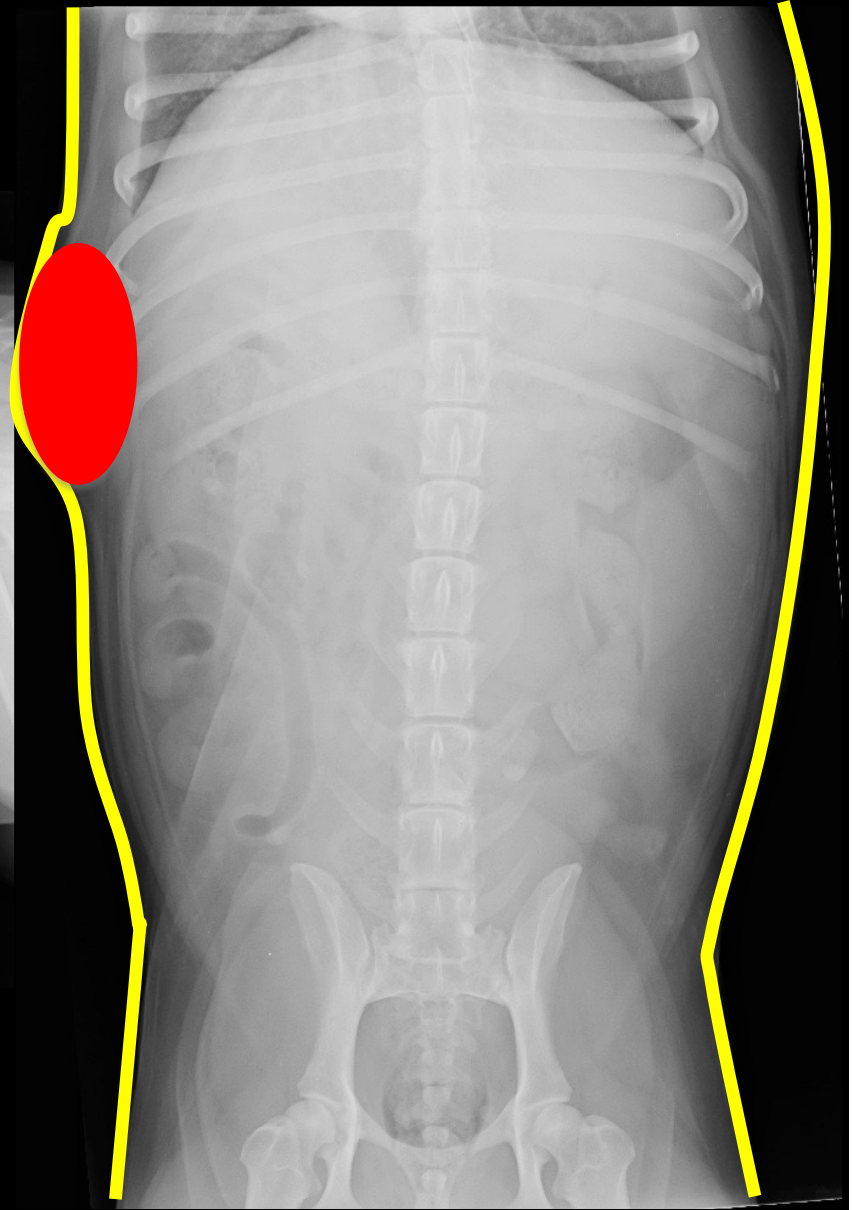


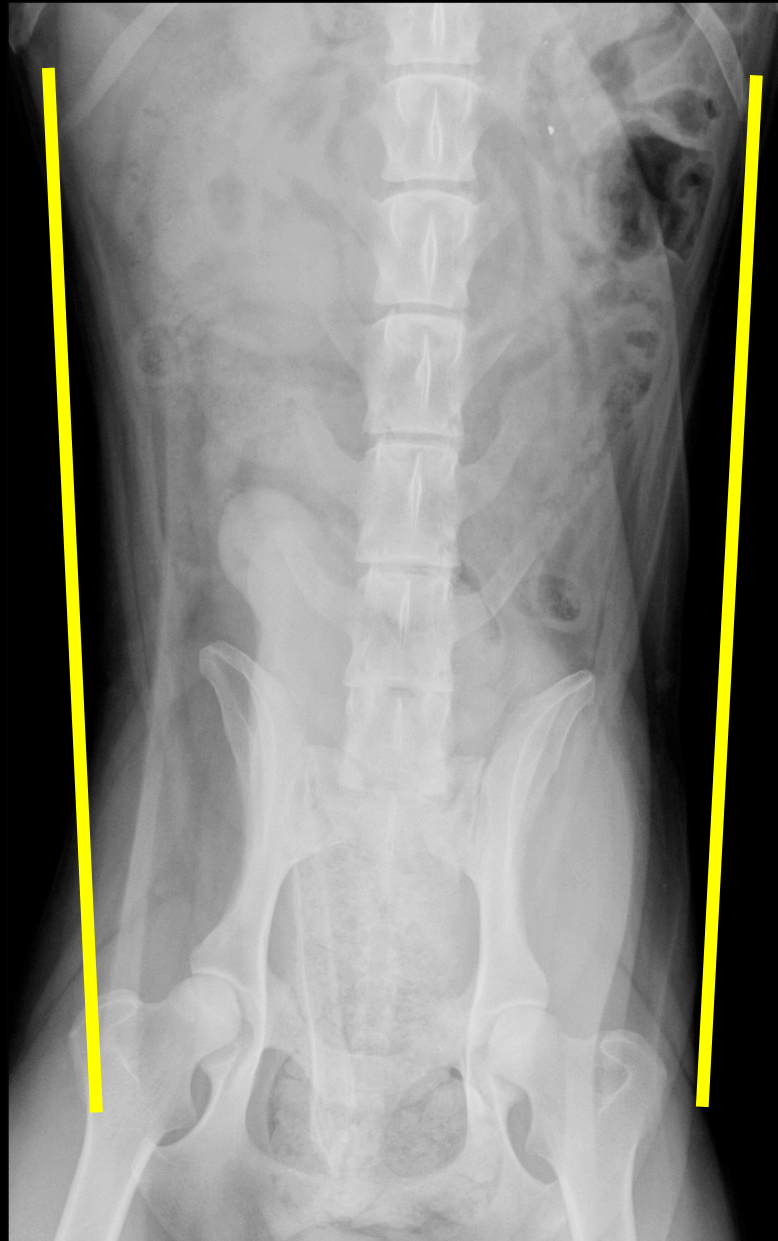
Abdominal effusion

ABDOMINAL WALL



TT



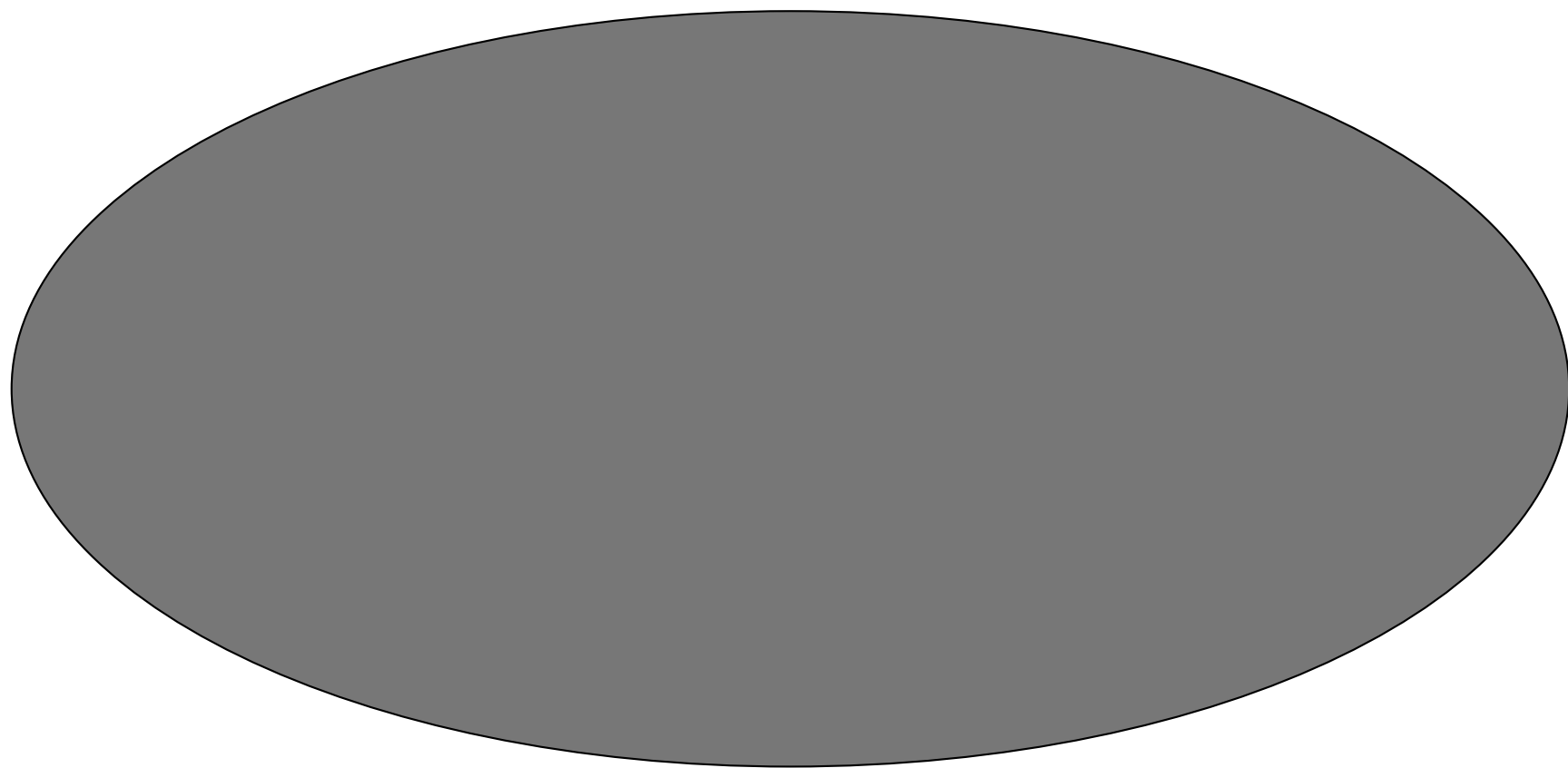


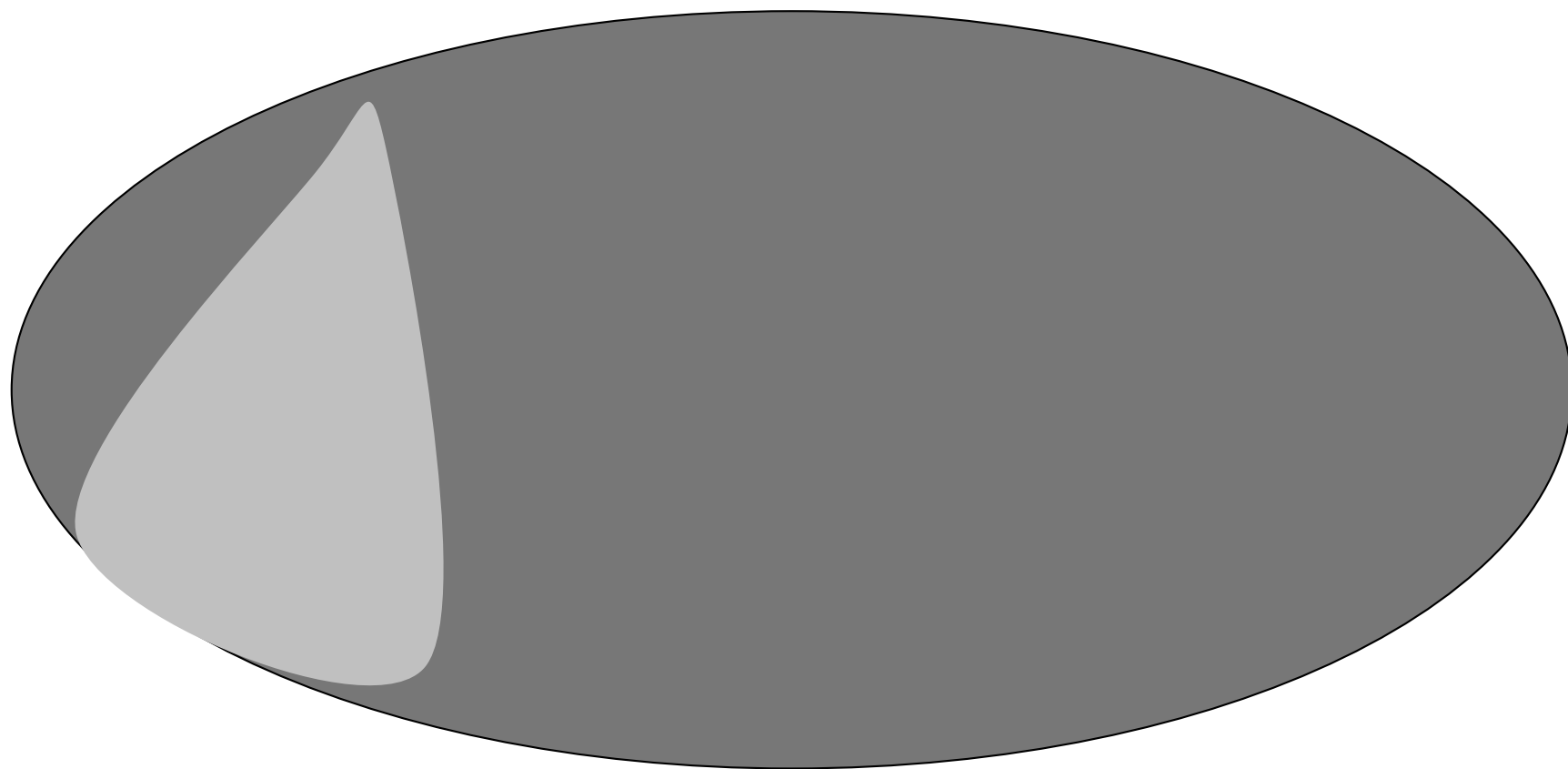
NORMAL?

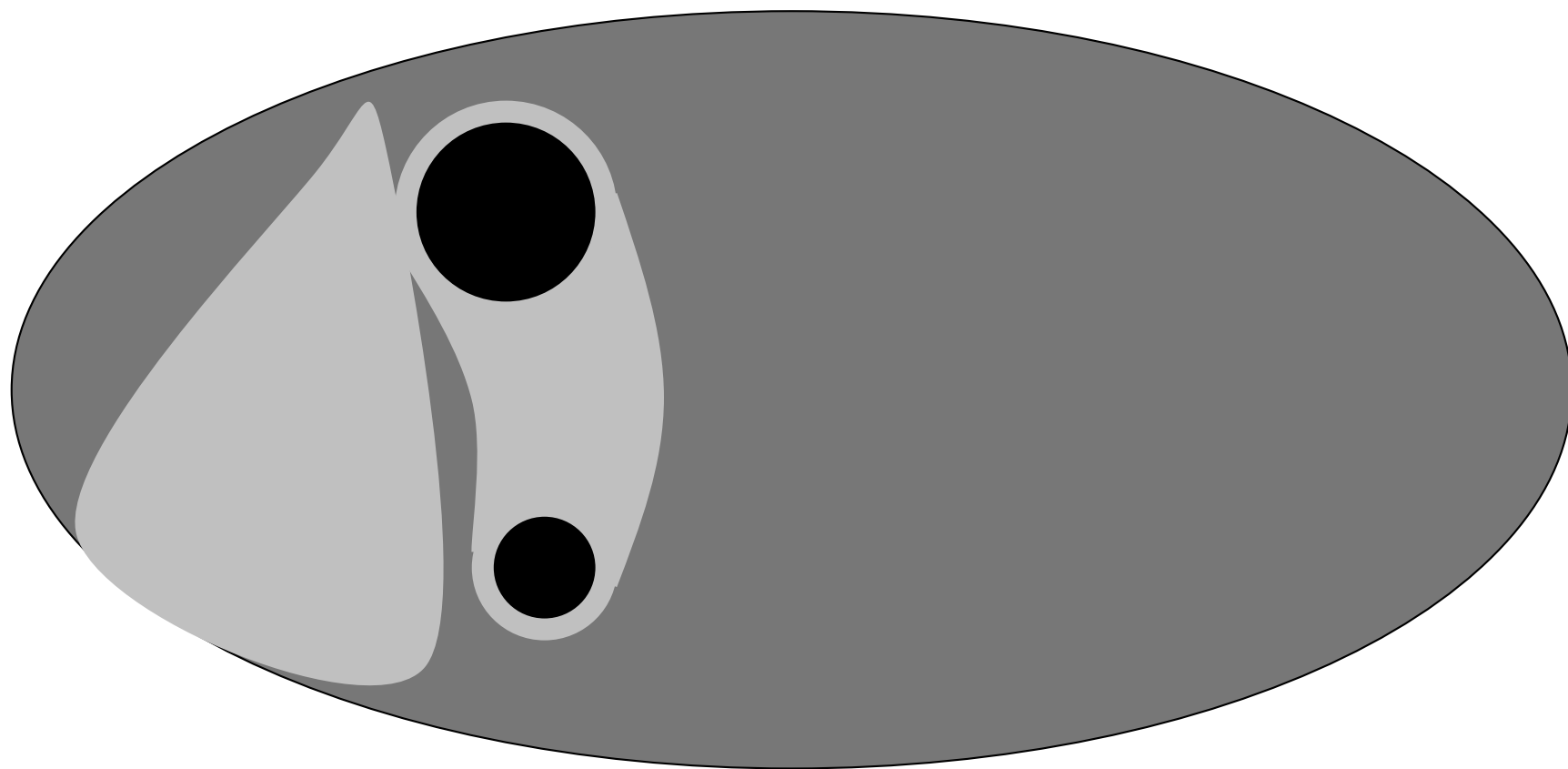


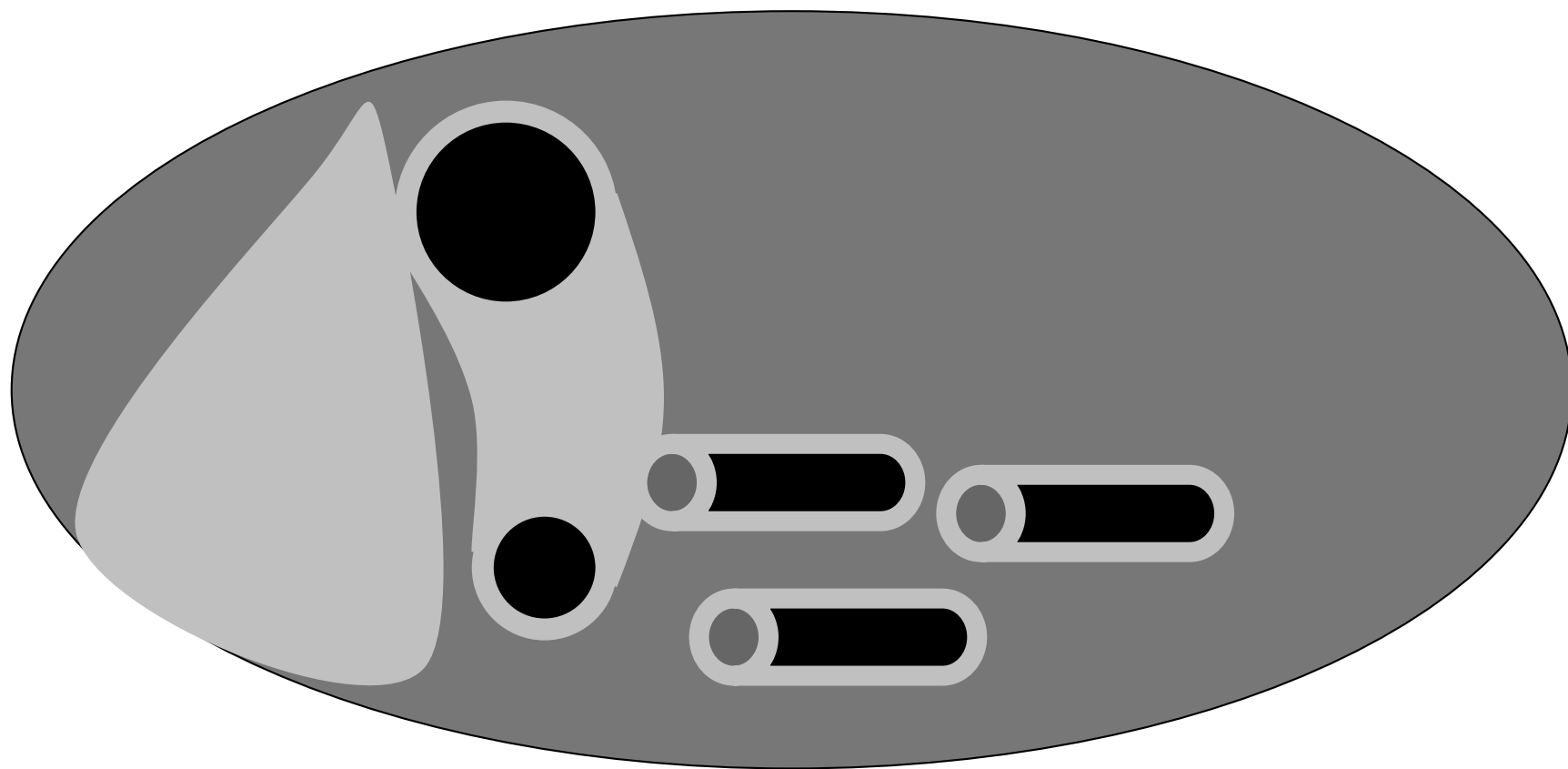
2 VIEWS!!!!

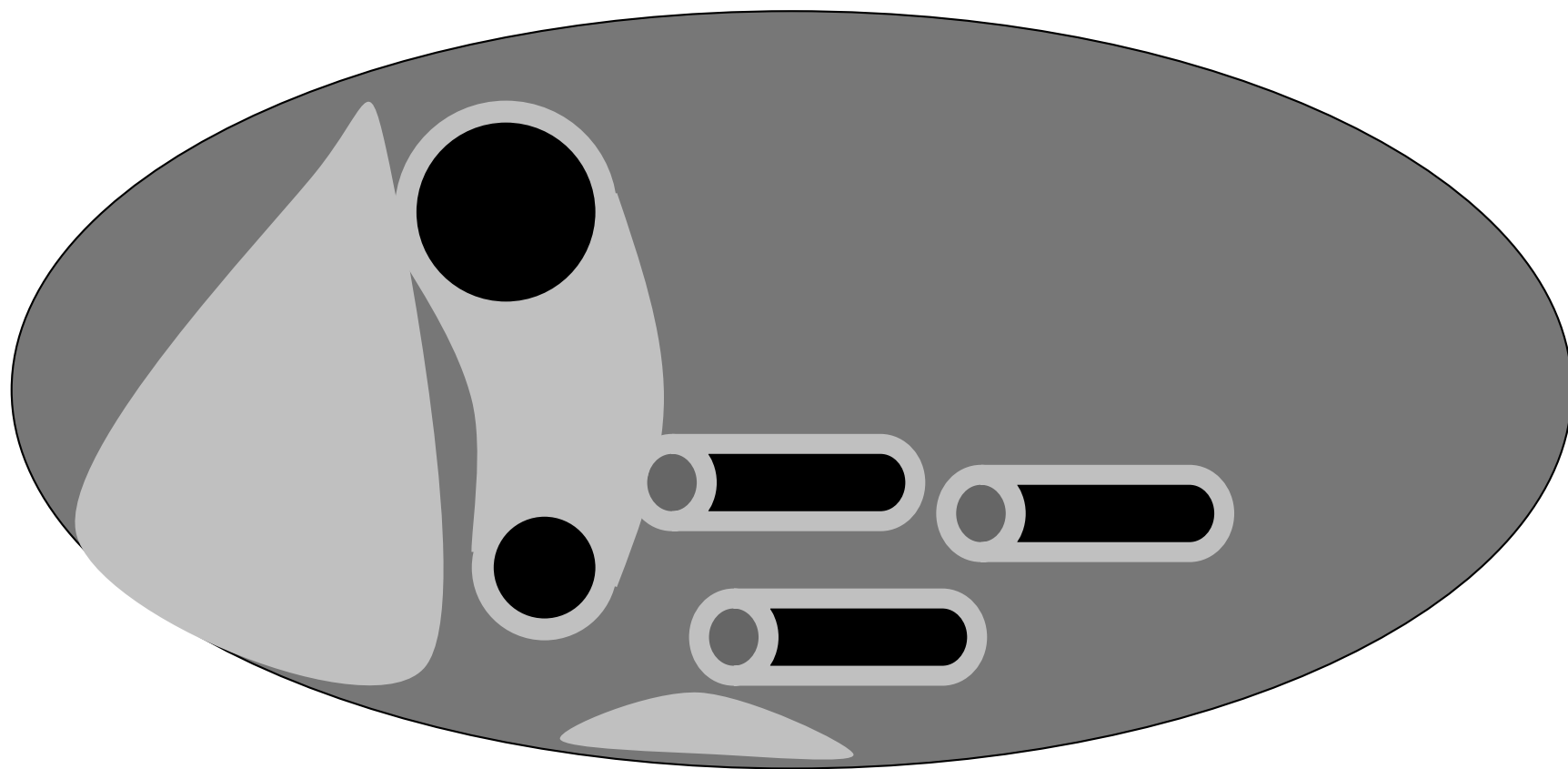


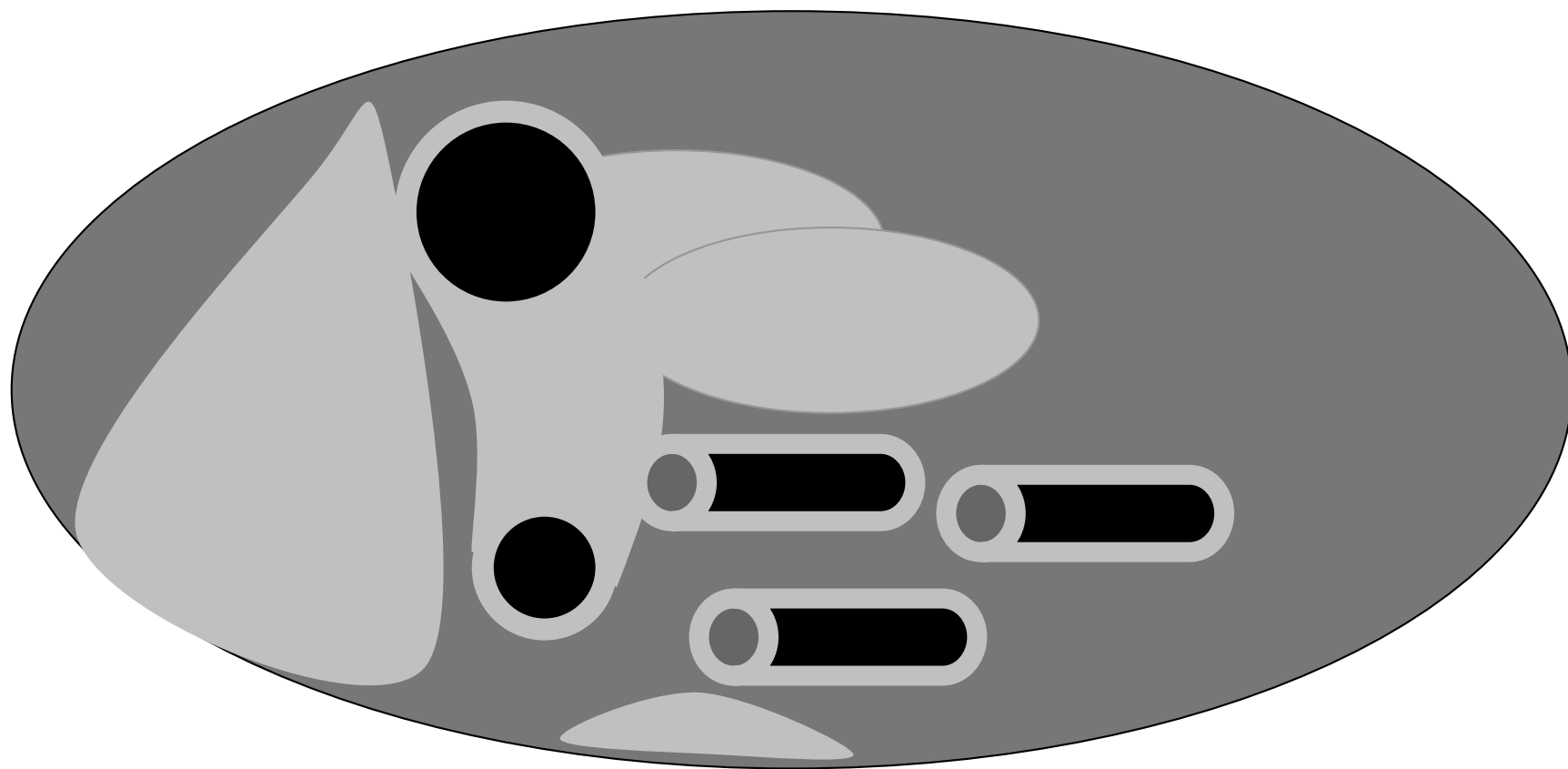


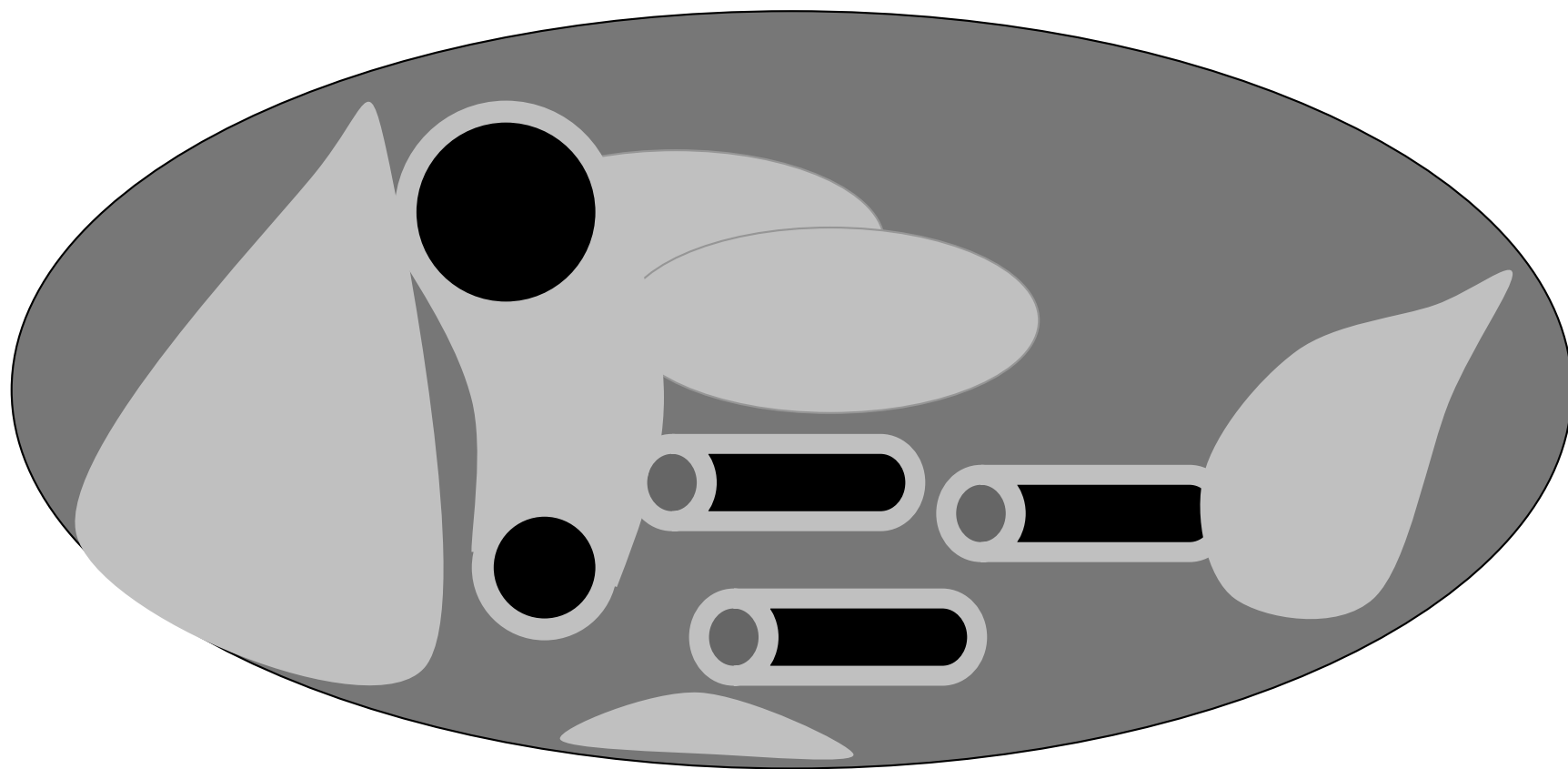


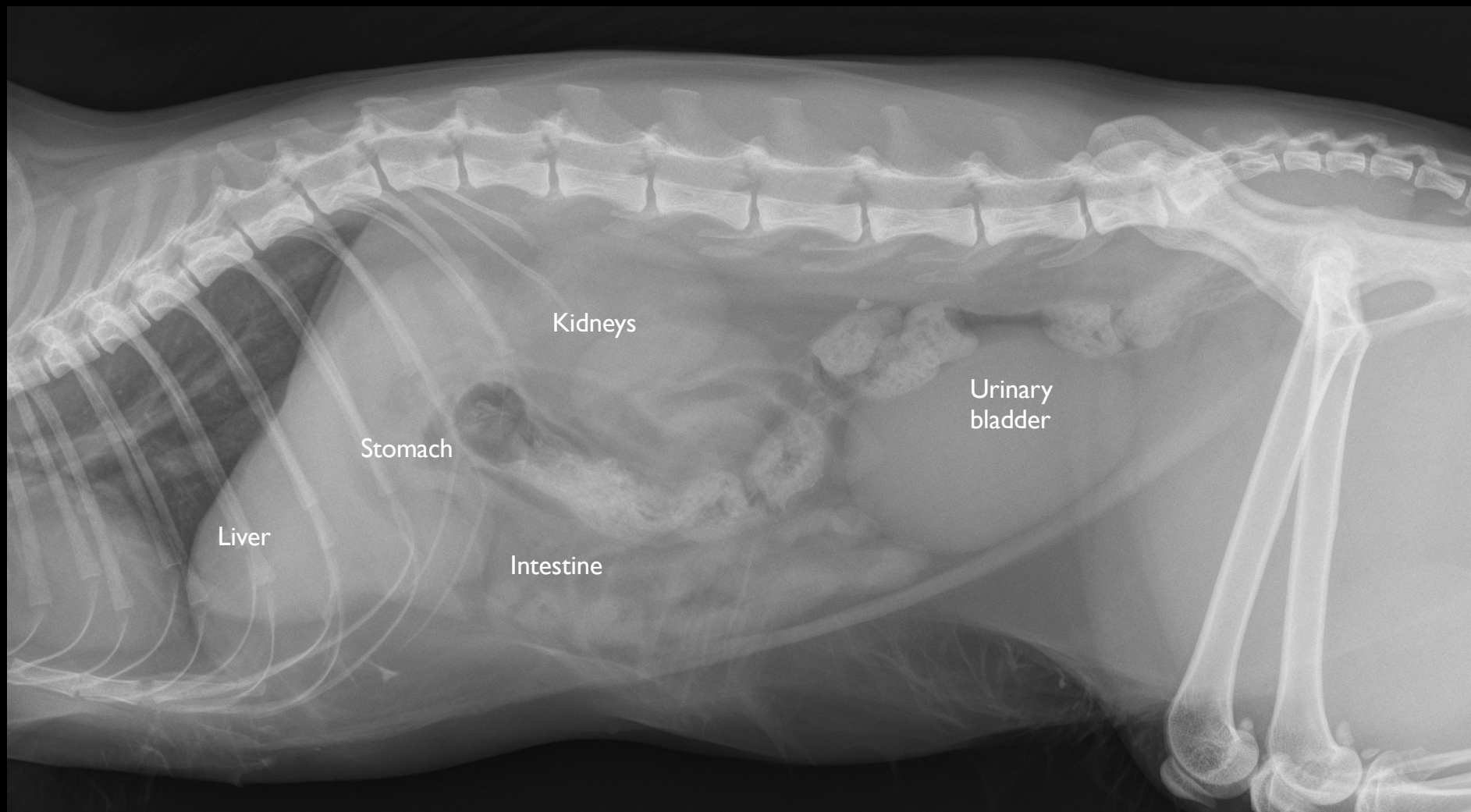












Liver

Stomach

Kidneys

Intestine

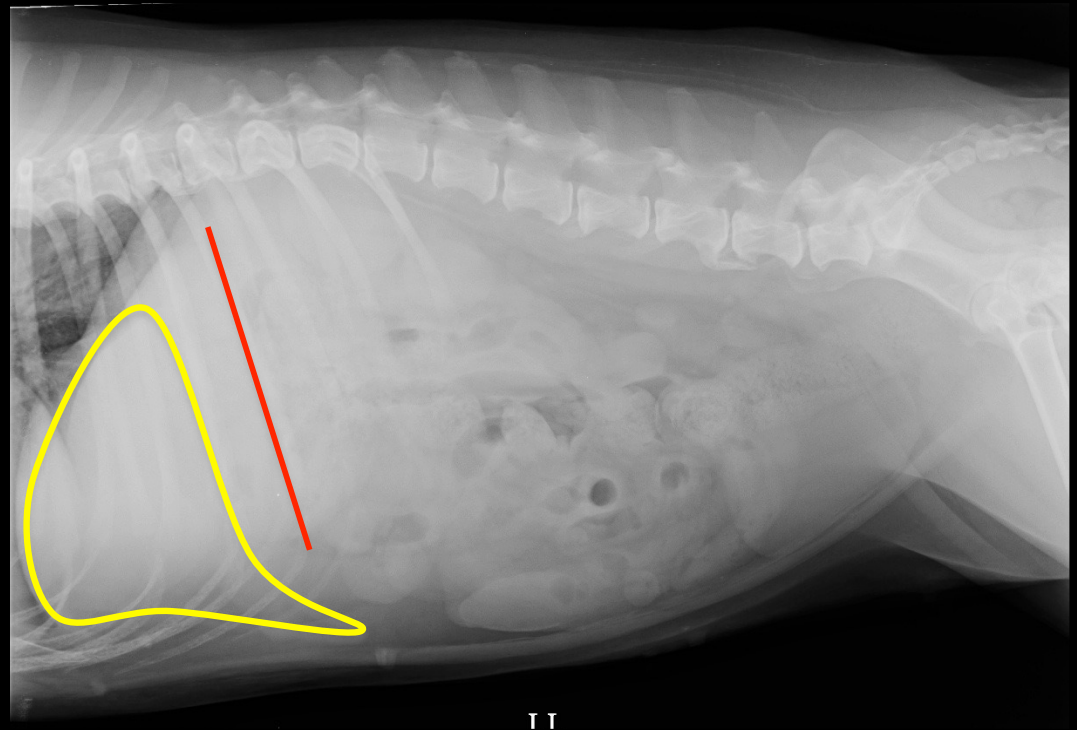
Urinary
bladder

CRANIAL-ABDOMEN

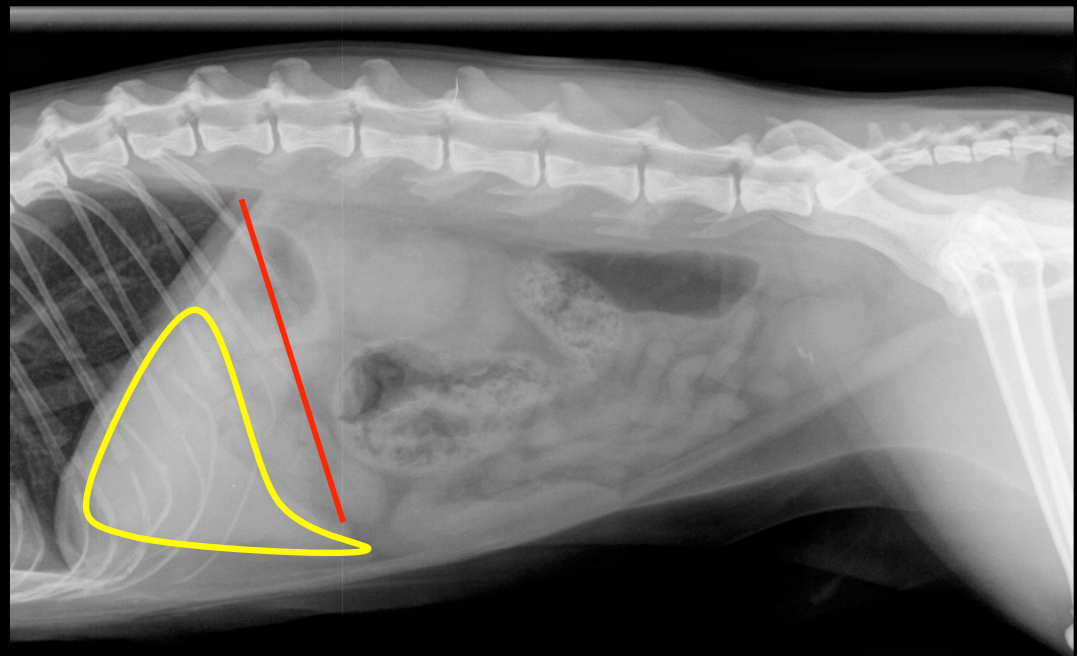
LIVER

- “Soft tissue” opacity
- Dog: “symmetric” shape
- Cat: more evident on the right side

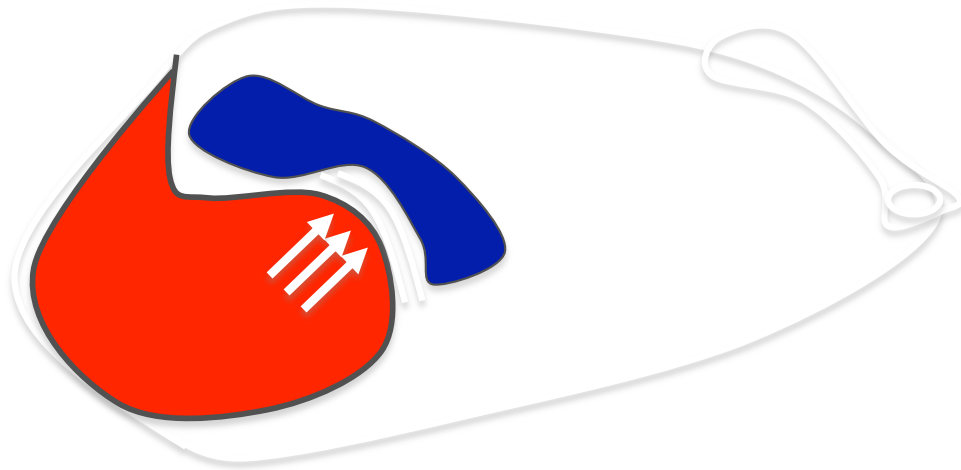
Dog



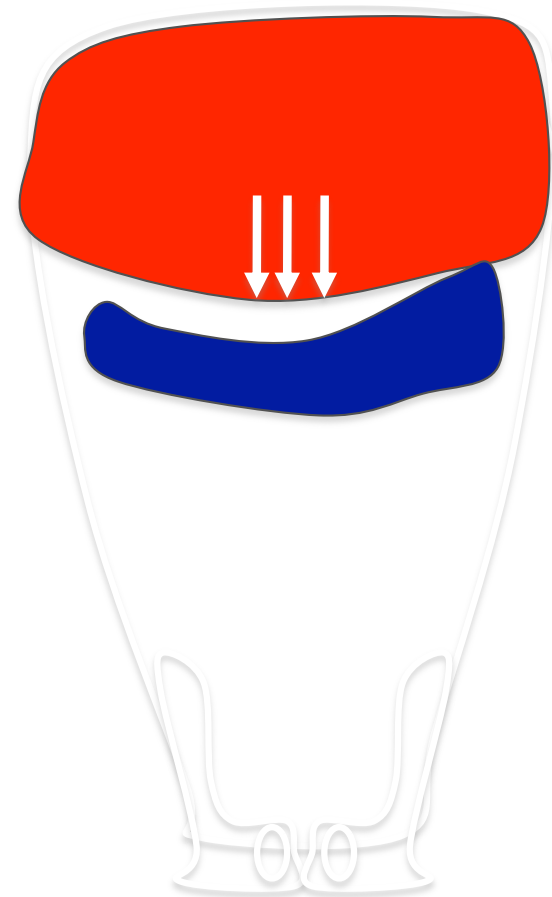
Cat



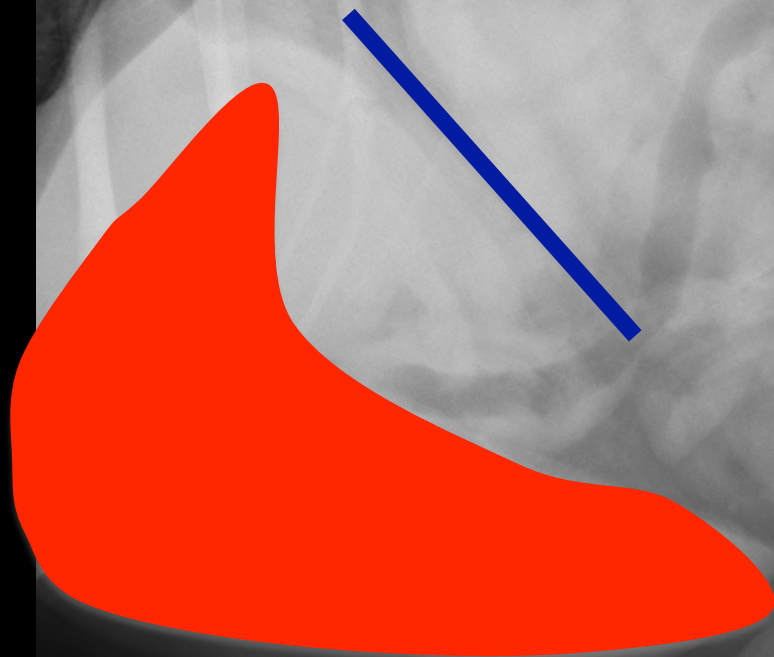
GENERALIZED HEPATOMEGALY

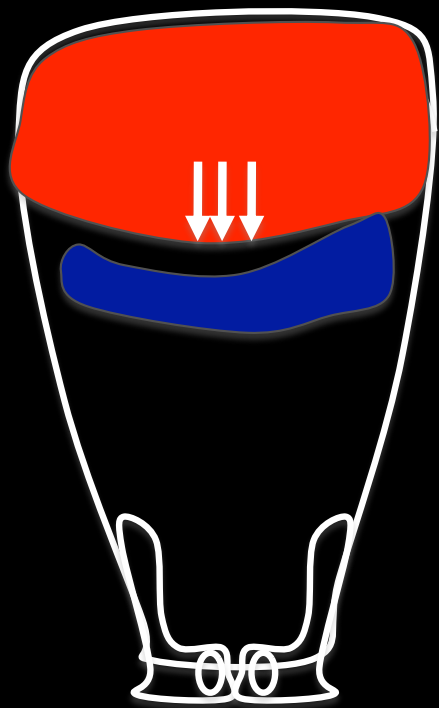
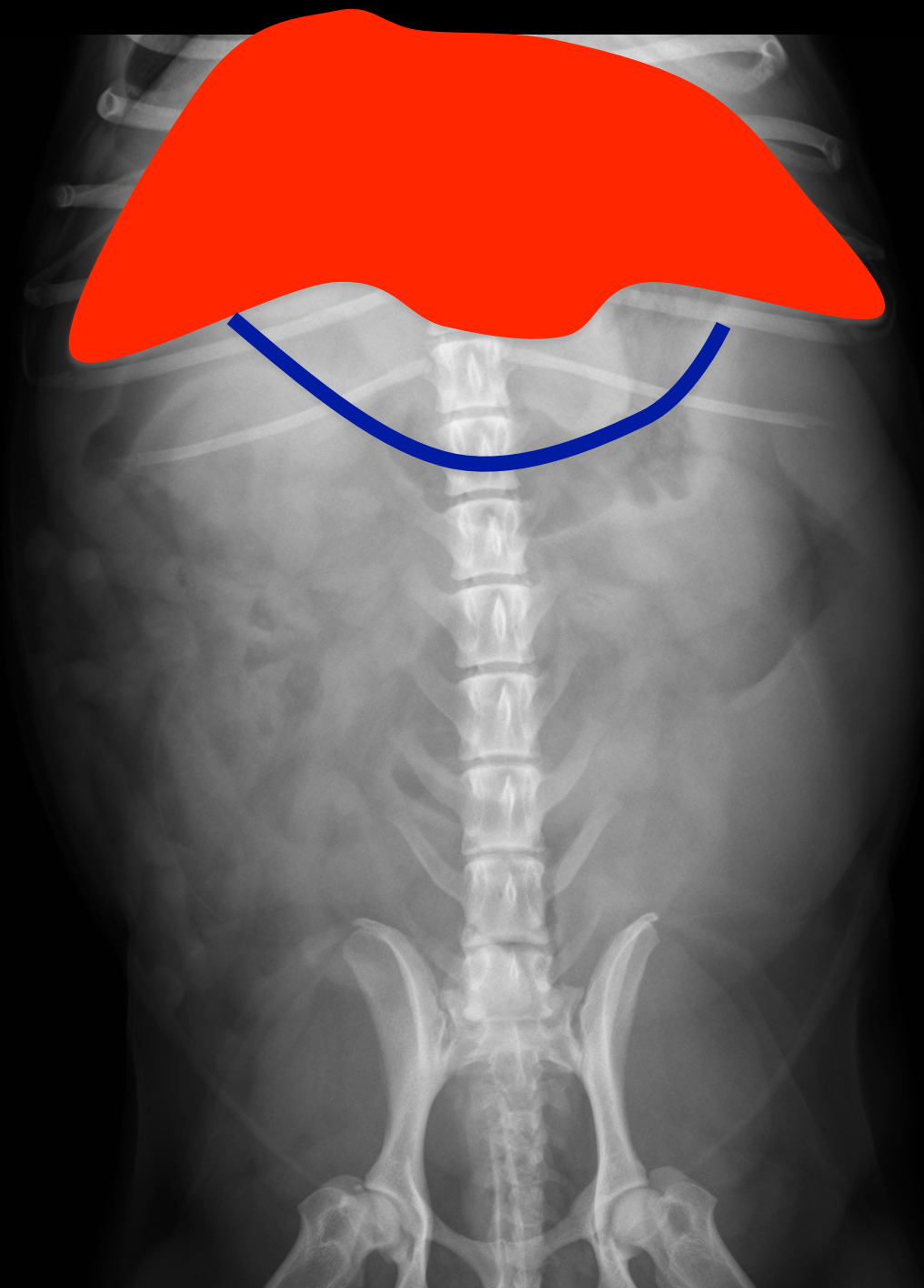


LL

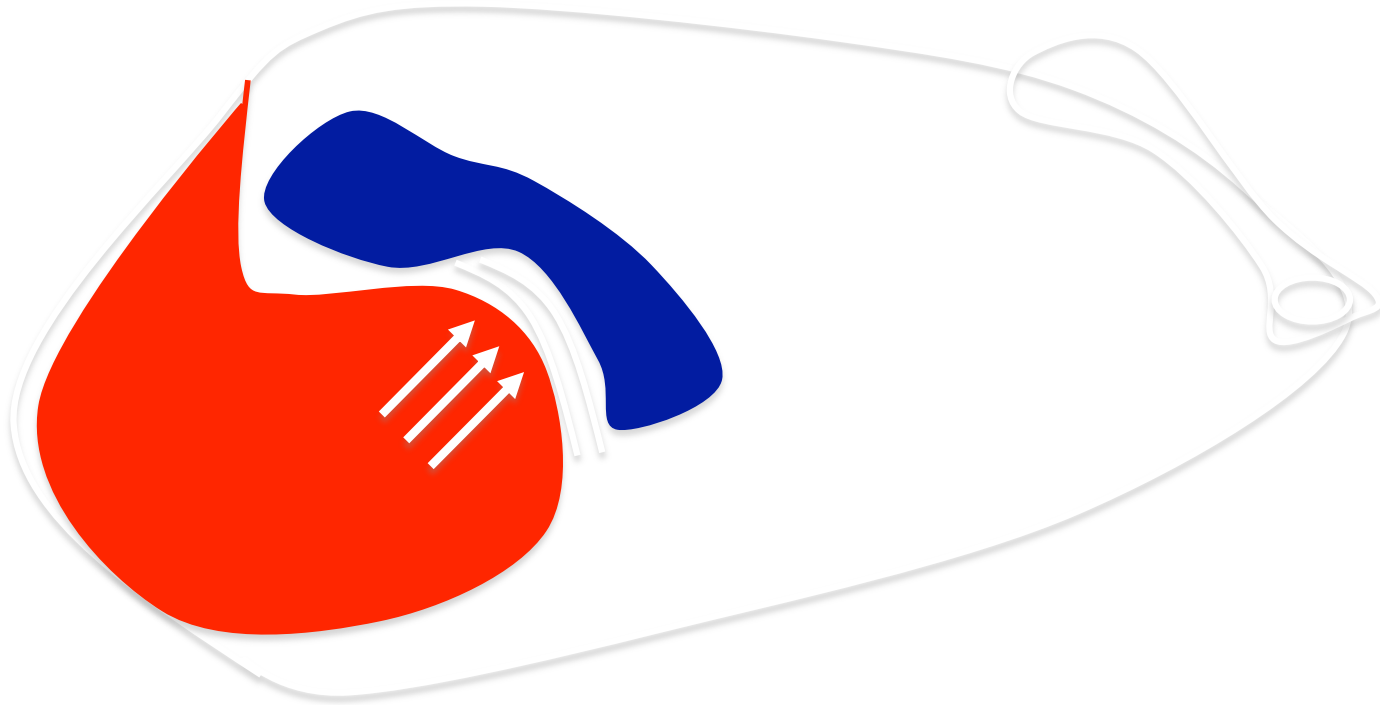


VD

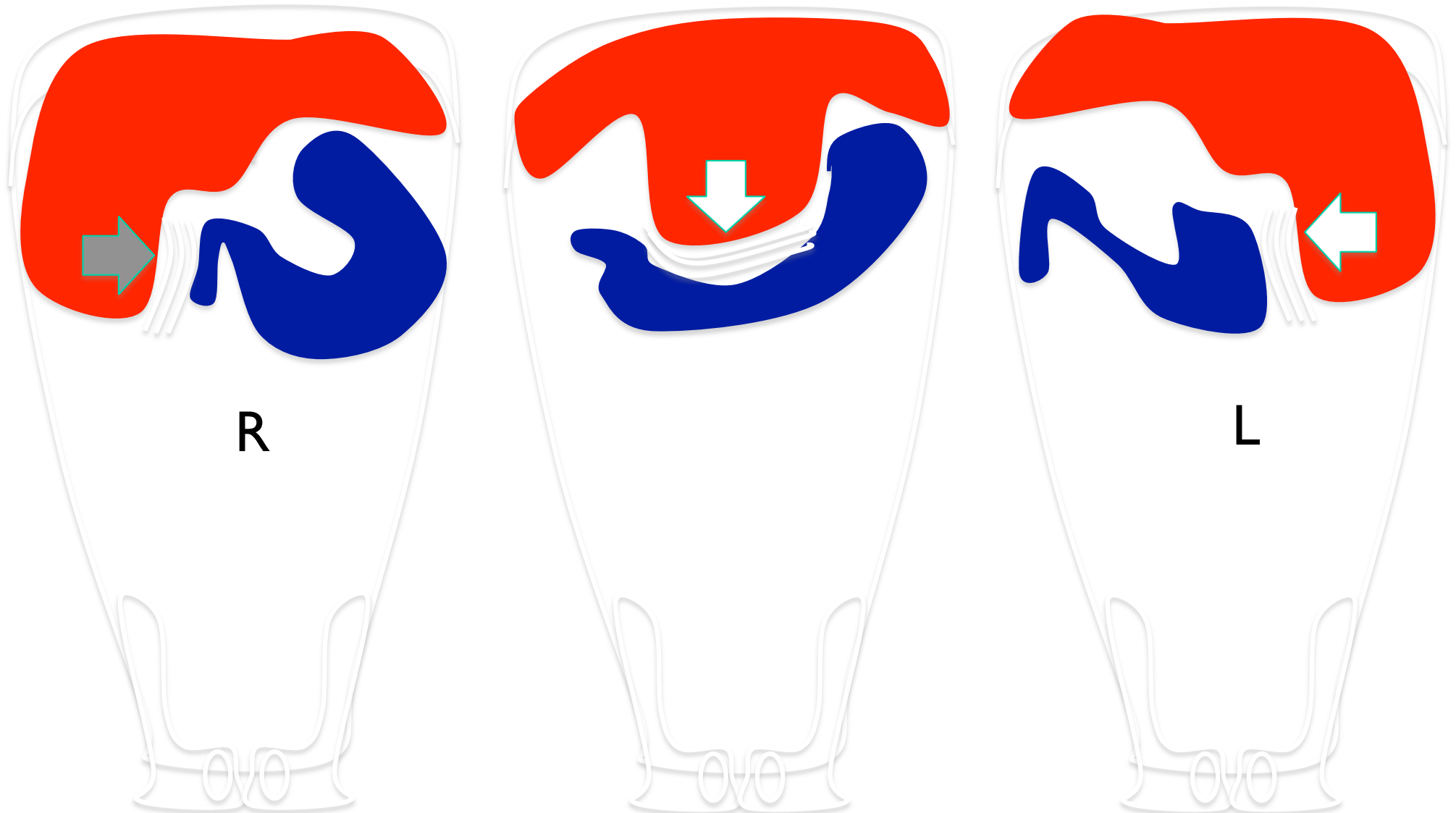


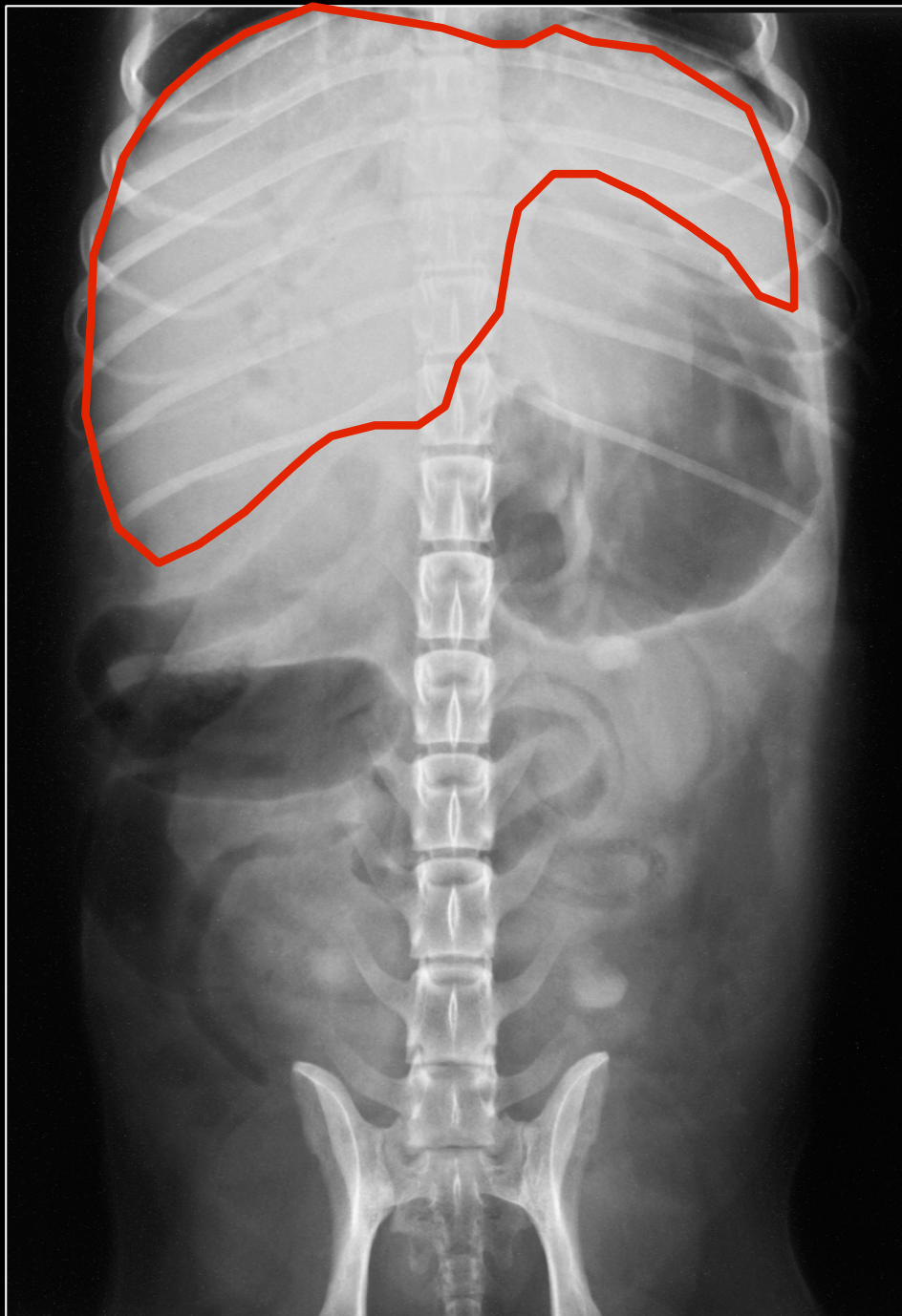
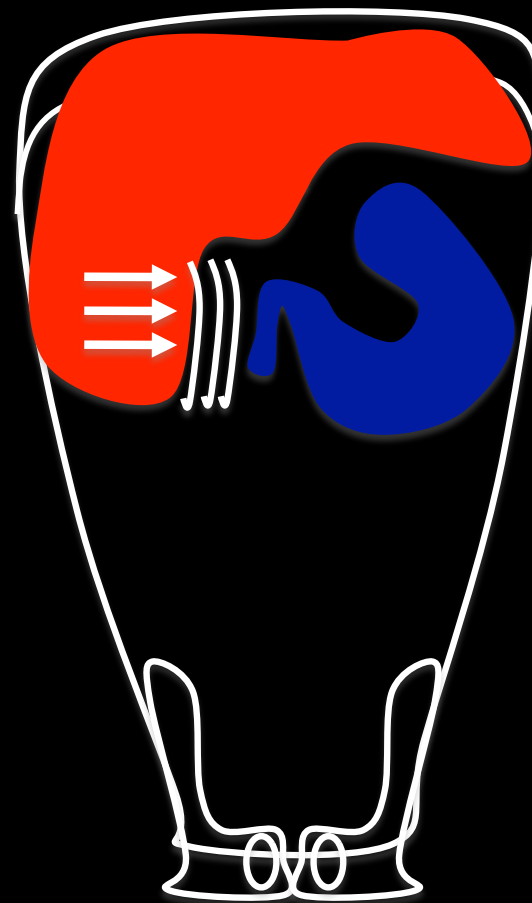


Hepatic masses

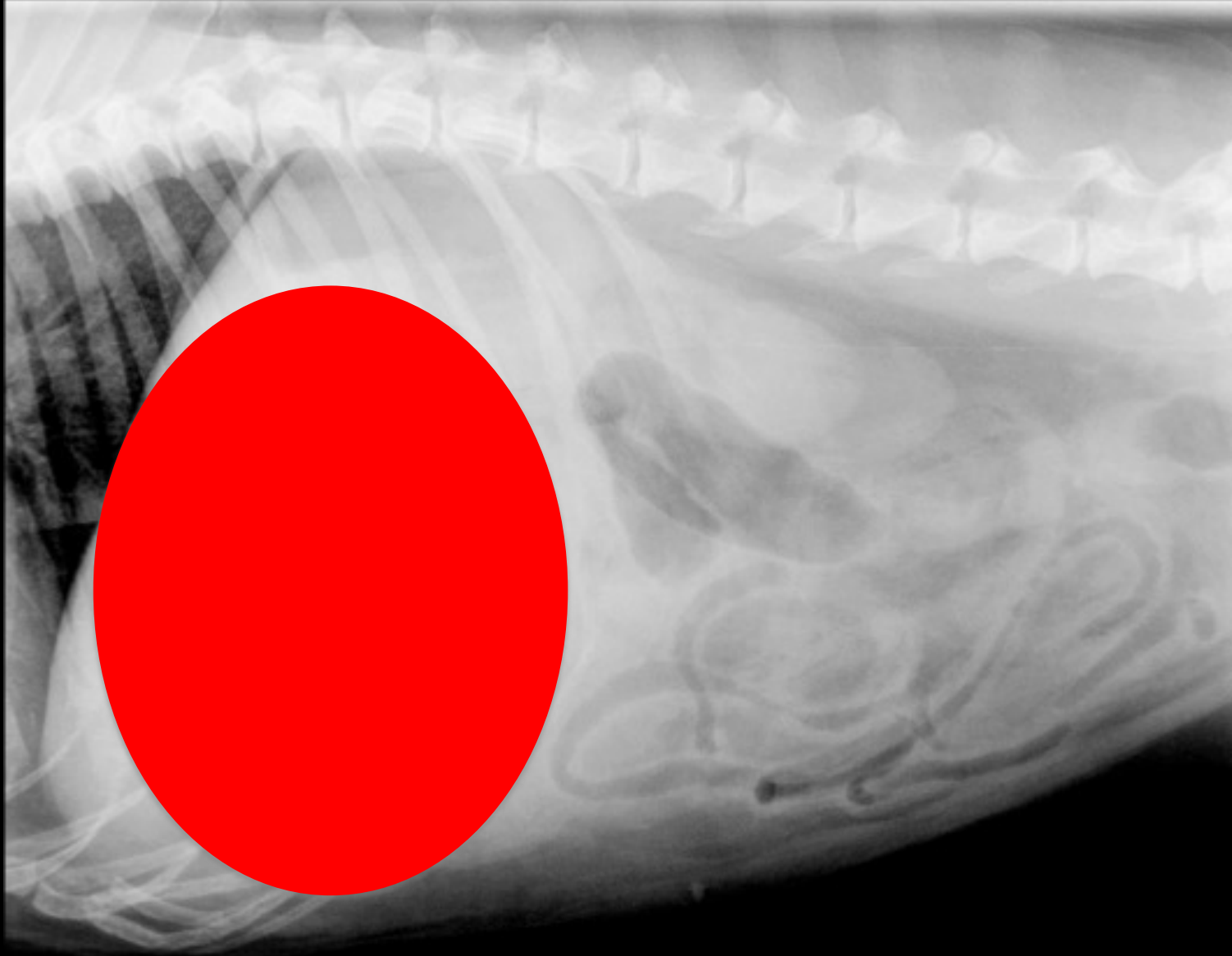


Hepatic masses

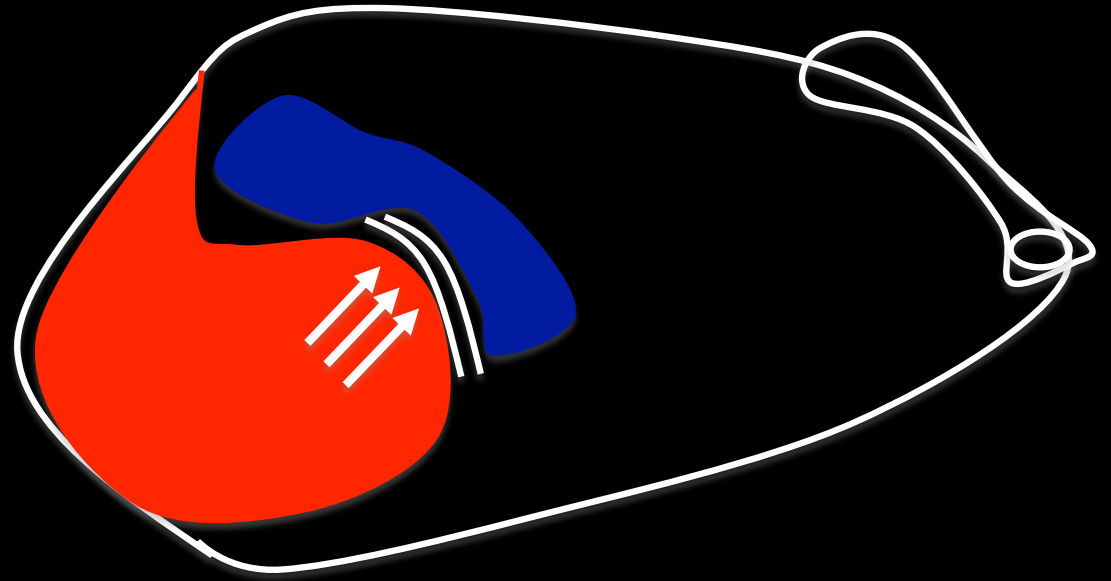




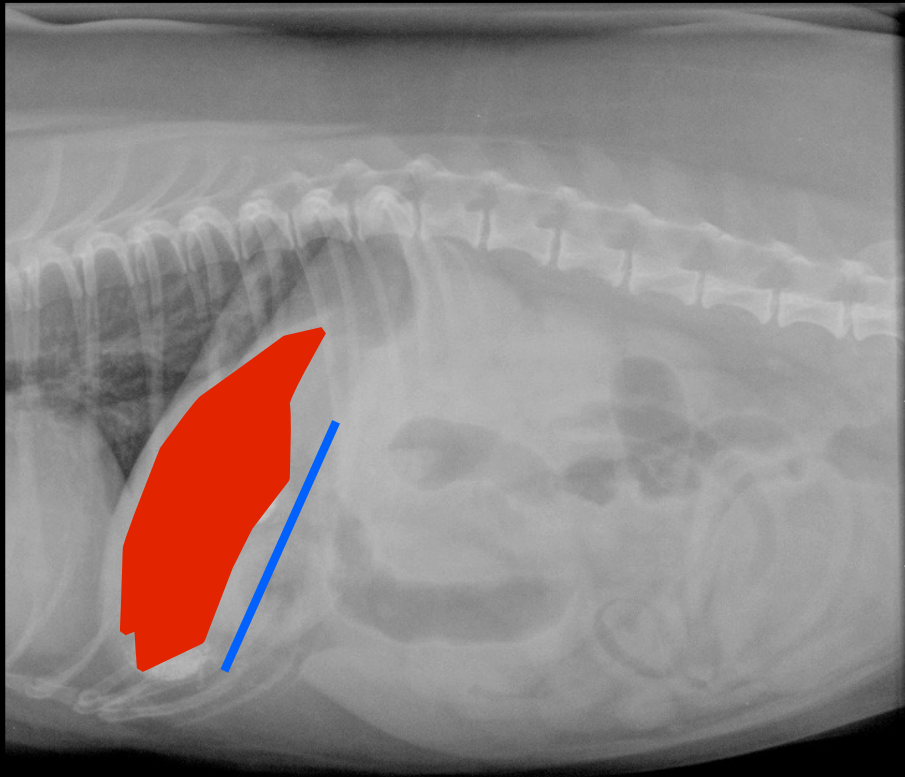
Hepatic masses



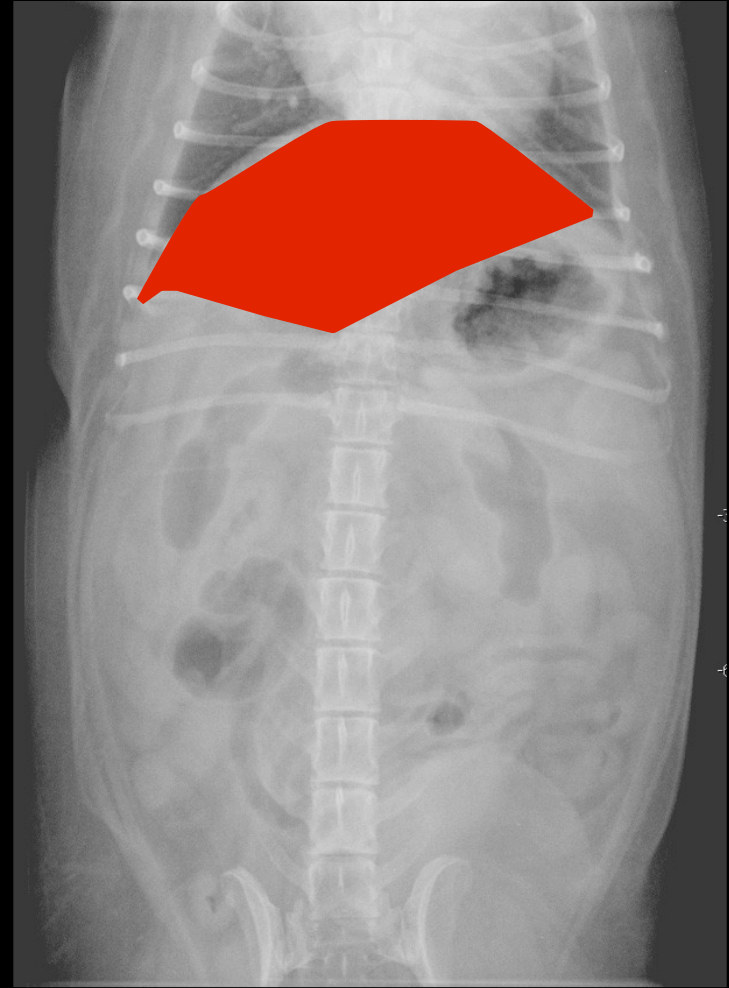
Hepatic masses



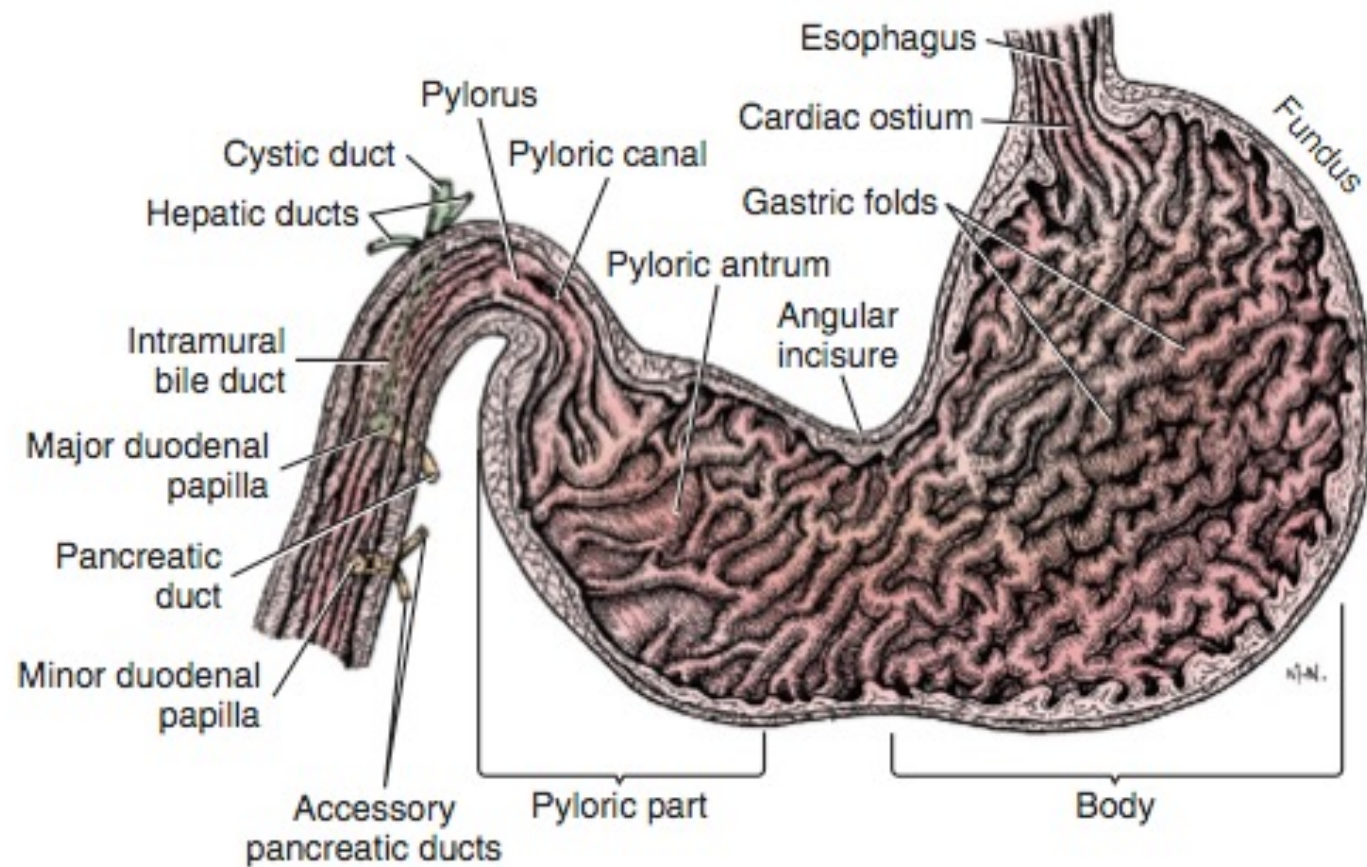
LIVER



Microhepazia



STOMACH

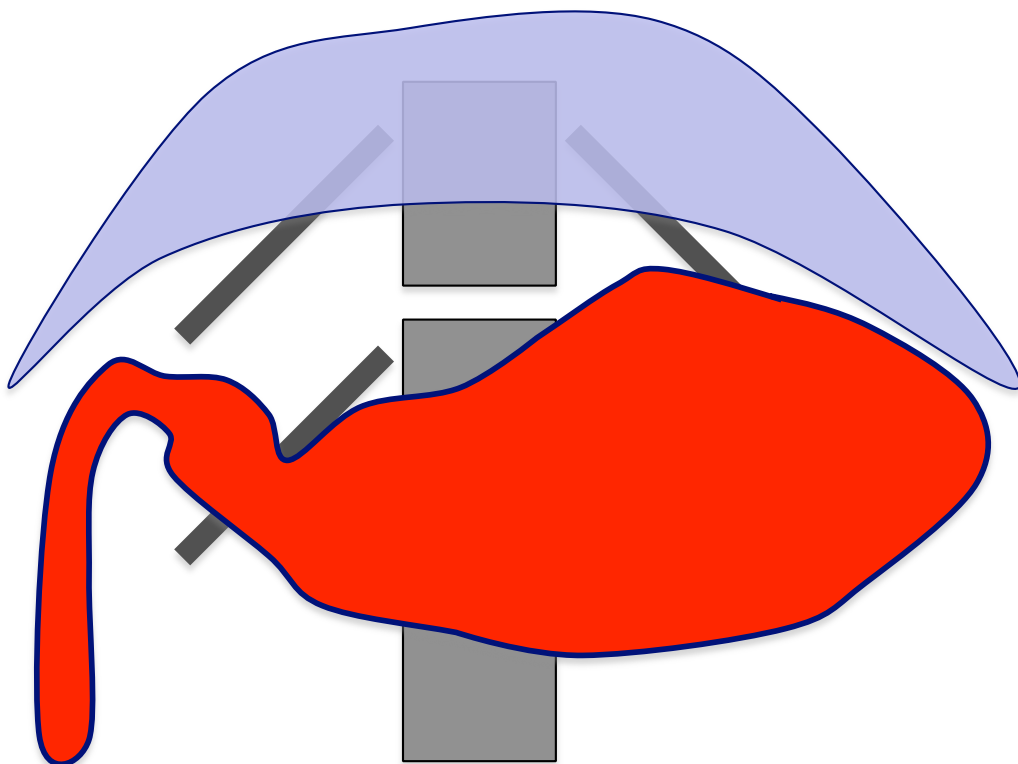


from Miller's - Anatomy of the dog 4th edition

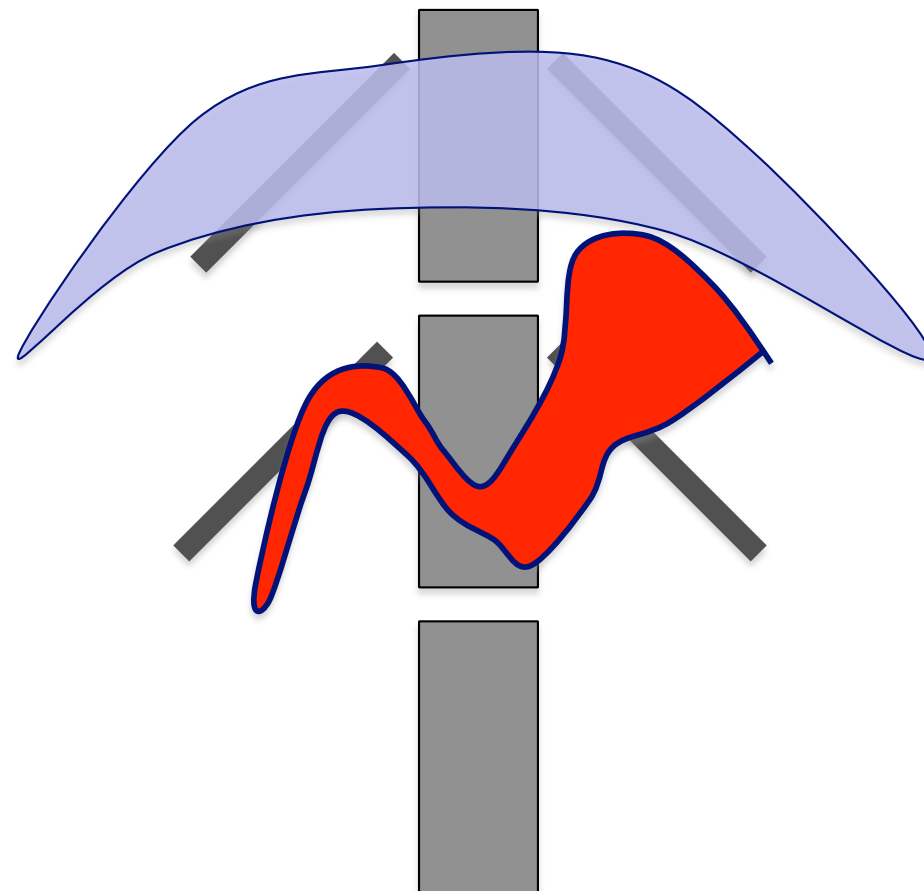
STOMACH

- Dog: “U” - shaped
- Cat: “J” - shaped
- Gastric body and fundus in the left hemiabdomen and pyloric region in the right hemiabdomen (dog)
- Pyloric region in the middle portion of the cranial abdomen (cat)

STOMACH



Dog

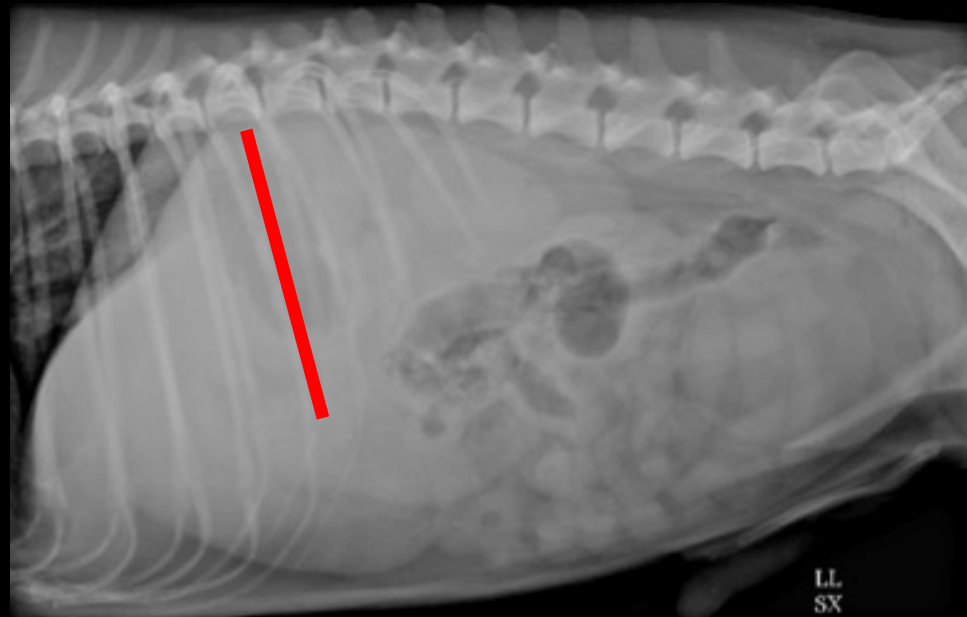


Cat

STOMACH

Size, shape and content (positioning)

Rugal folds

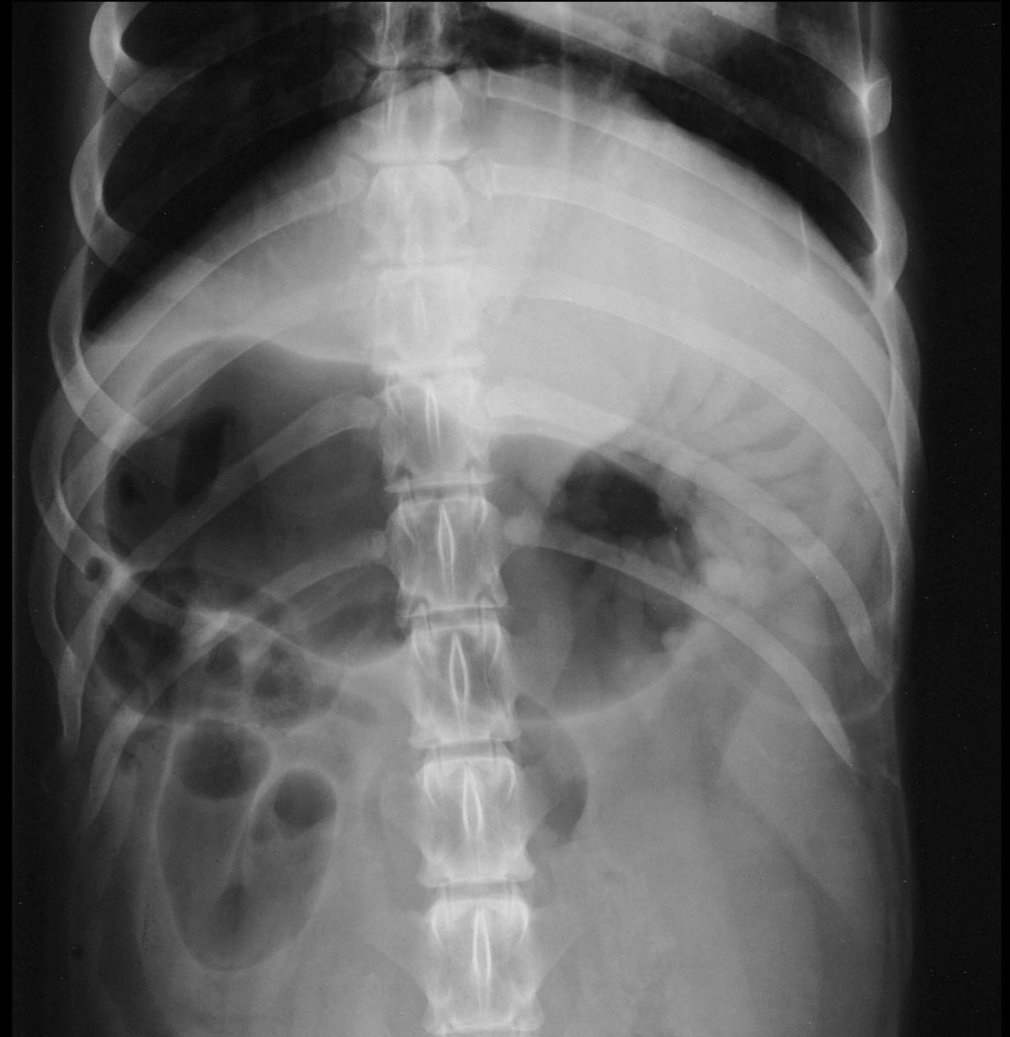


Gas within the fundus
Fluids within body and pylorus

Gas within the body and
pylorus
Fluids within the fundus

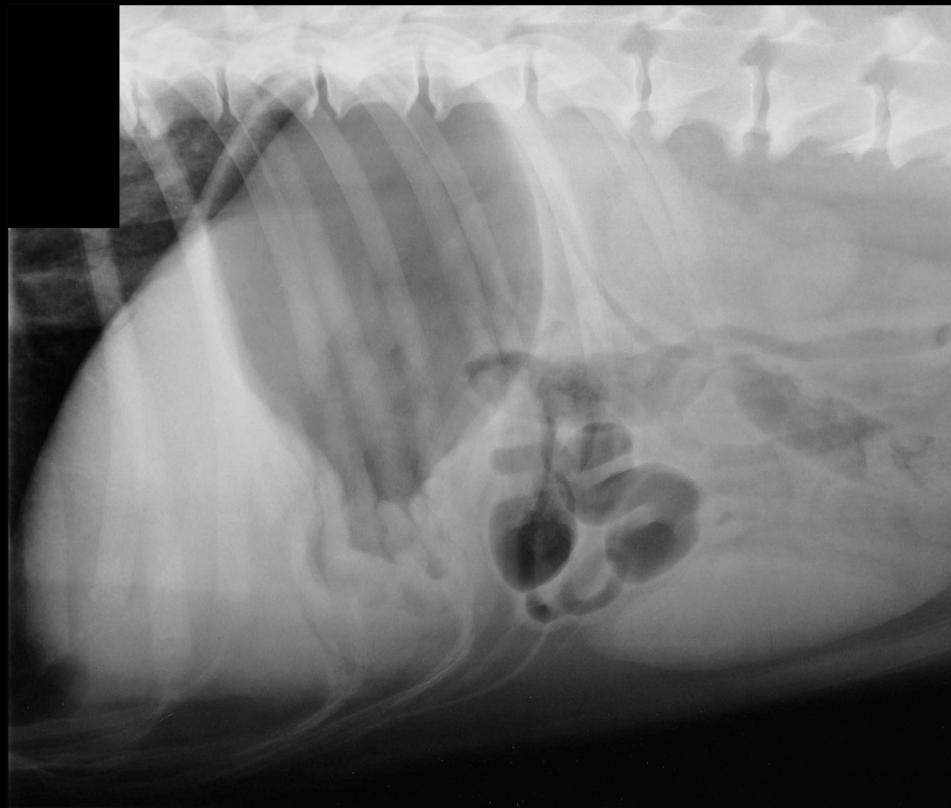


DV



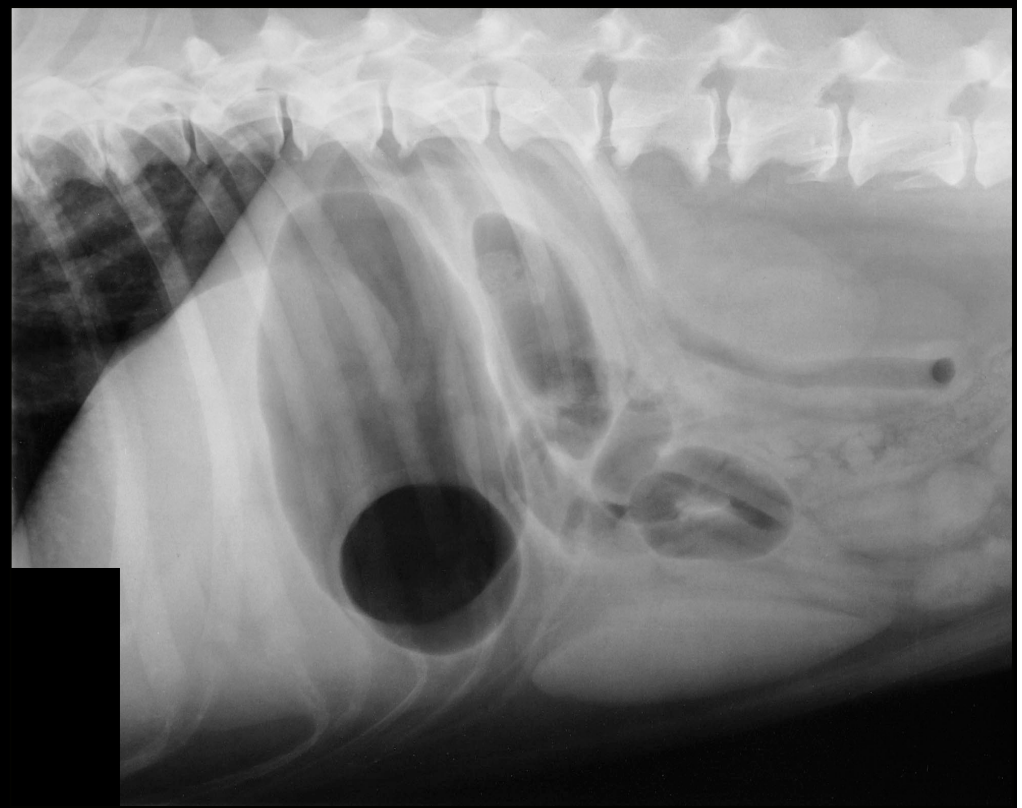
VD

Gas within the fundus
Fluids within the pylorus

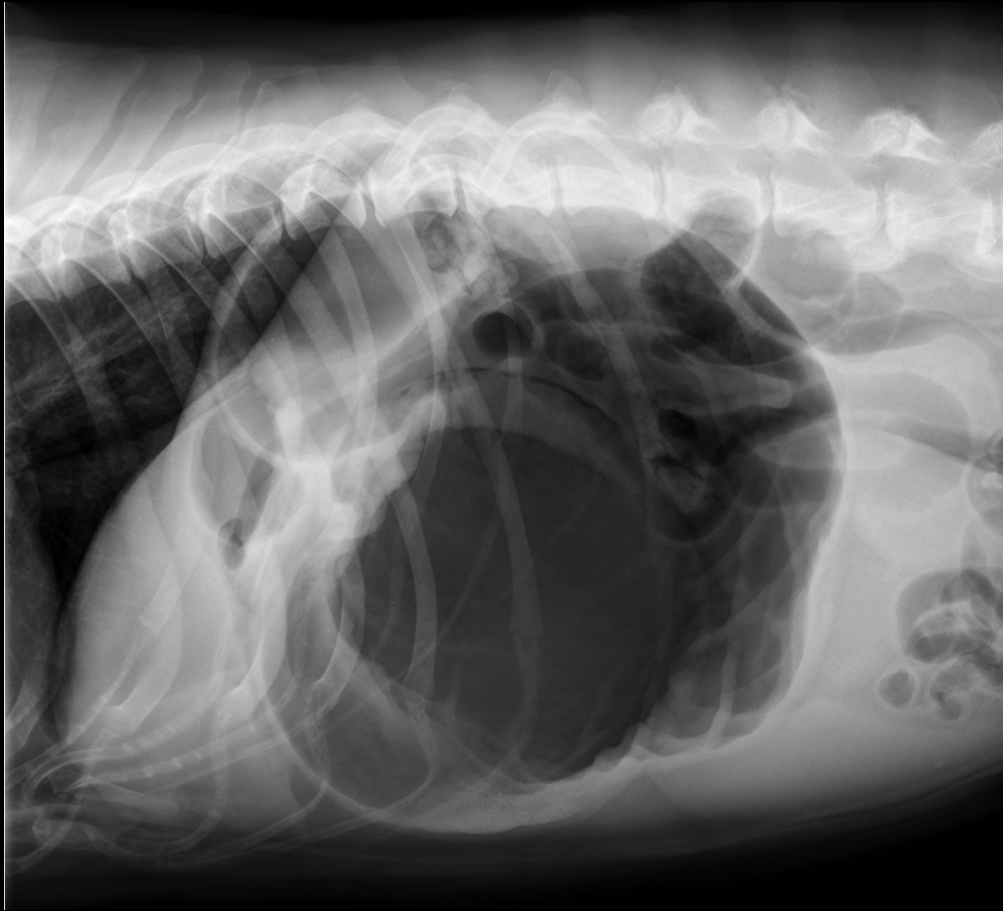


RLat

Gas within the pylorus
Fluids within the fundus

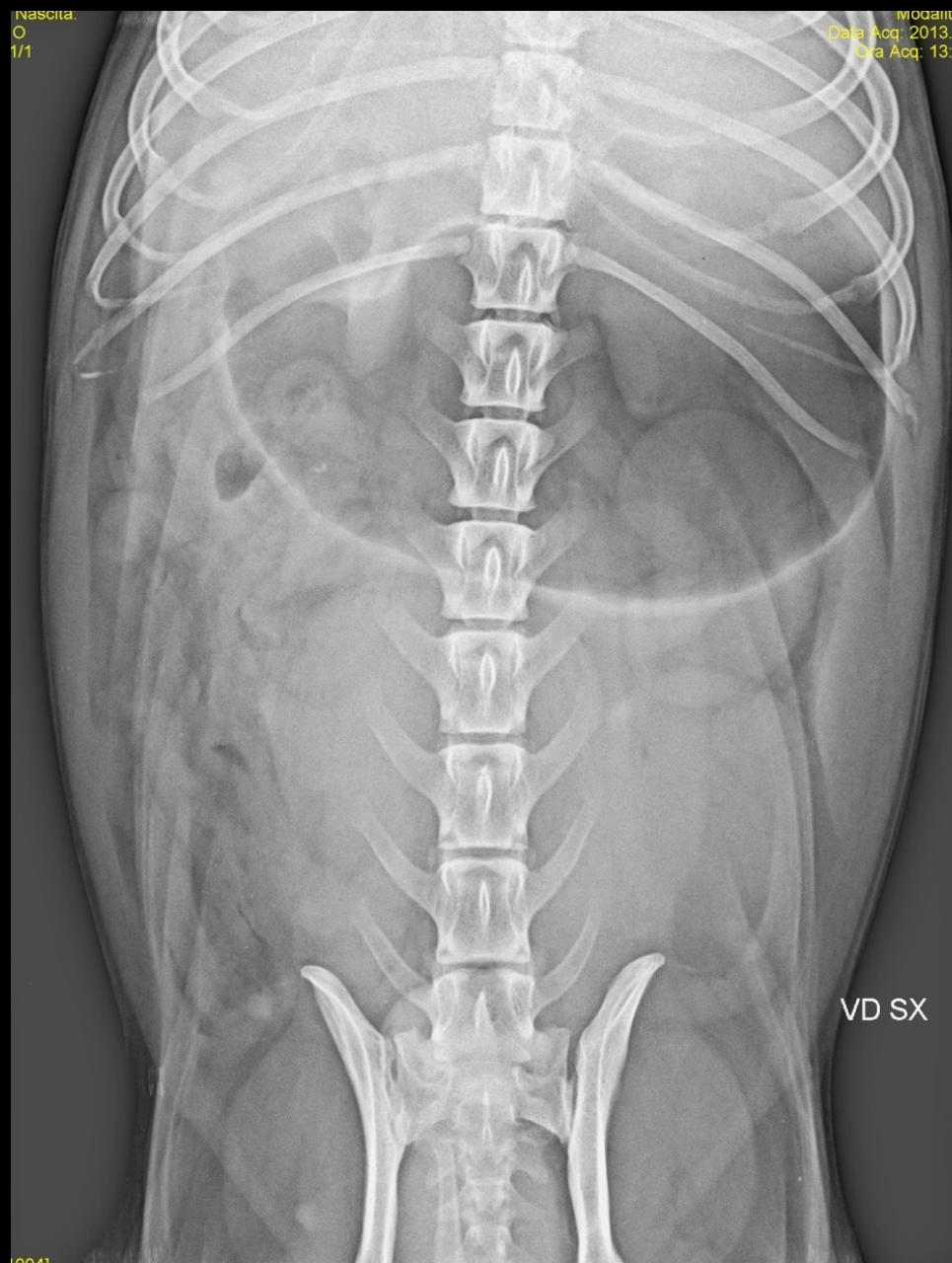


LLat



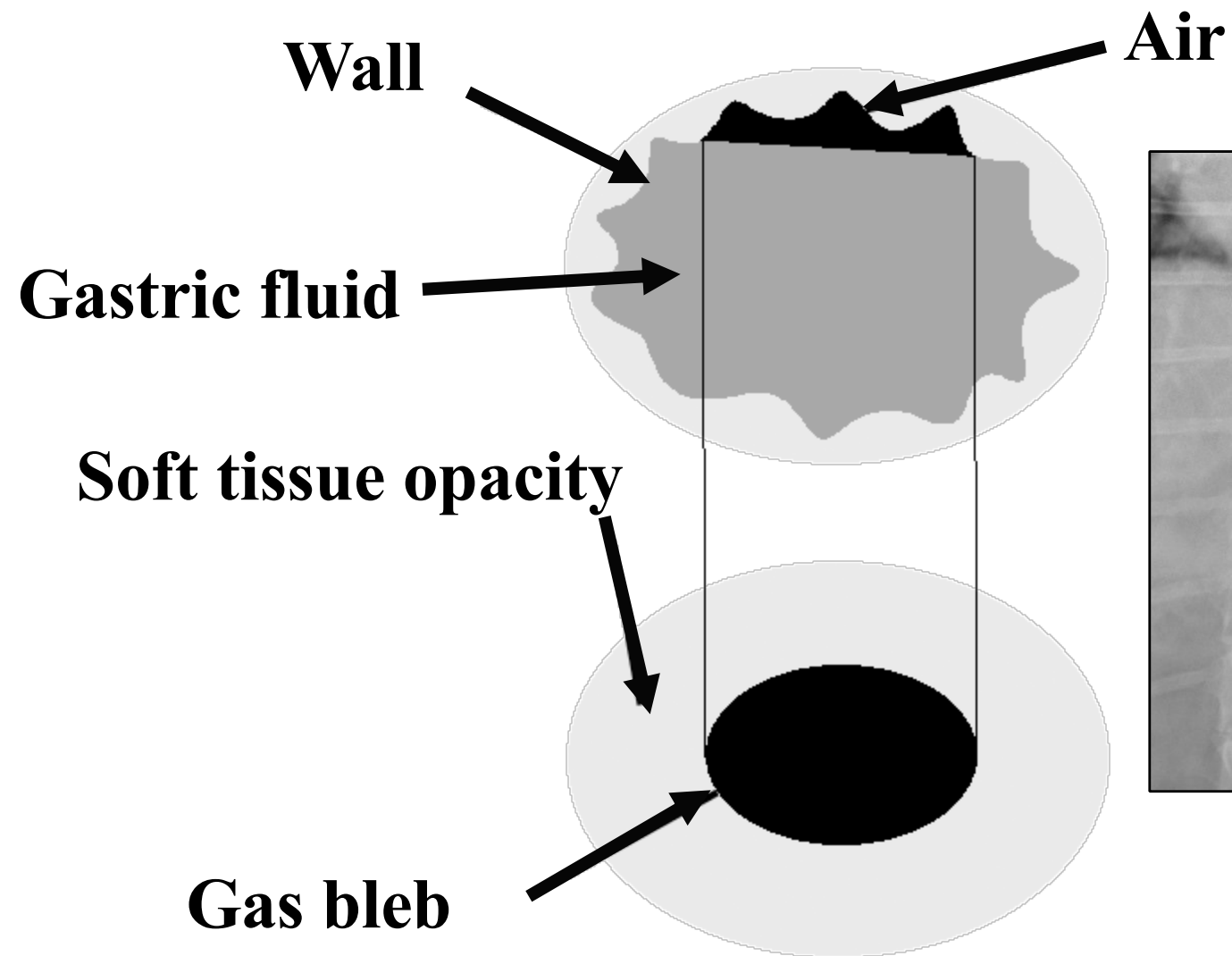
INASCITA:
O
1/1

modalita
Data Acq: 2013.1
Ora Acq: 13:1

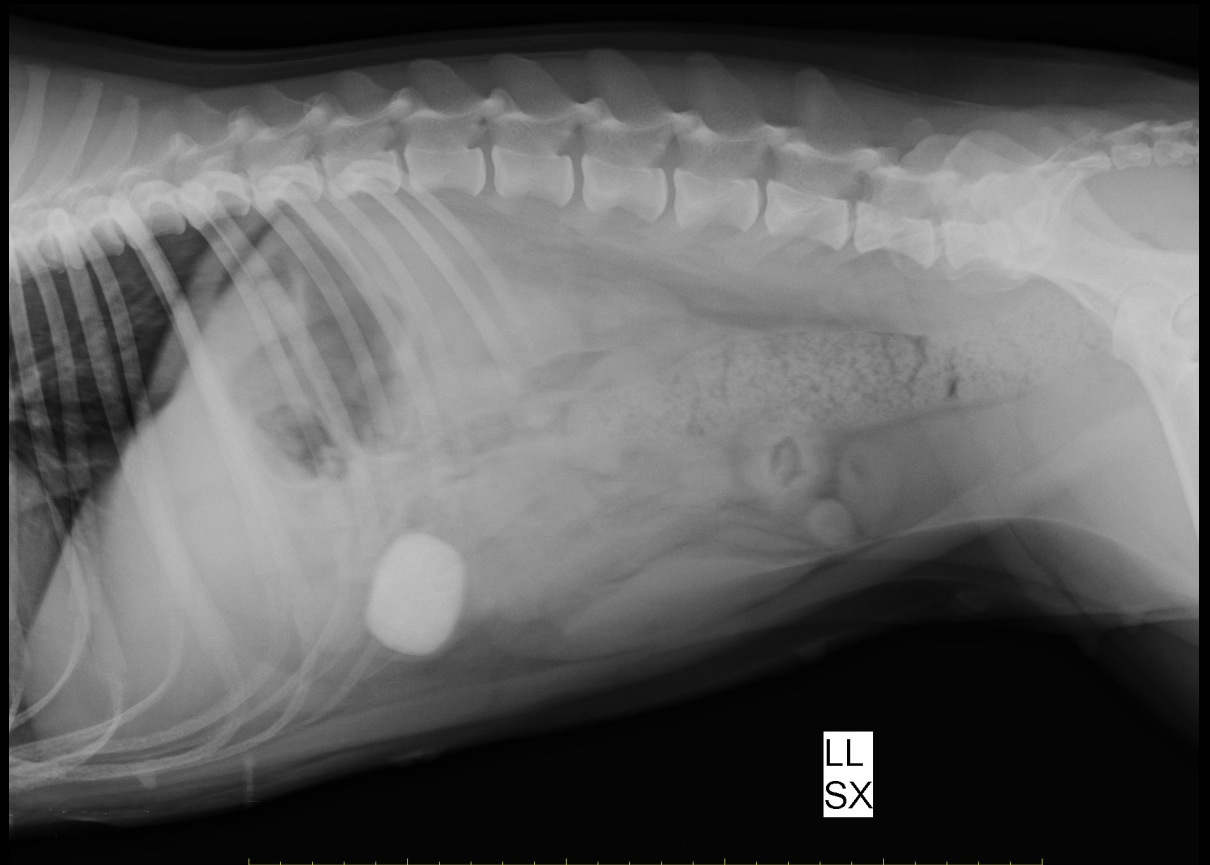


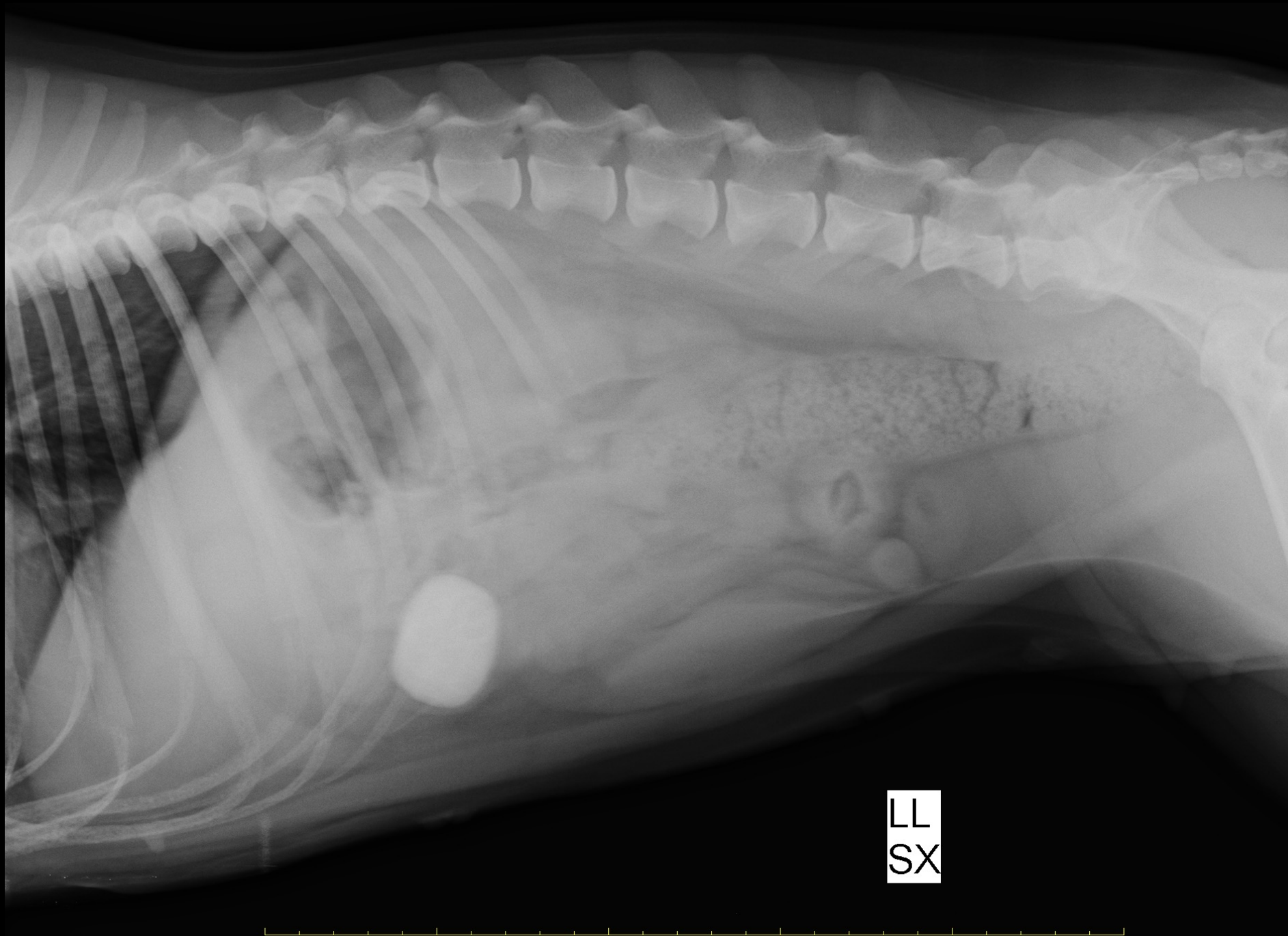
VD SX

10041



VOMITING





LL
SX

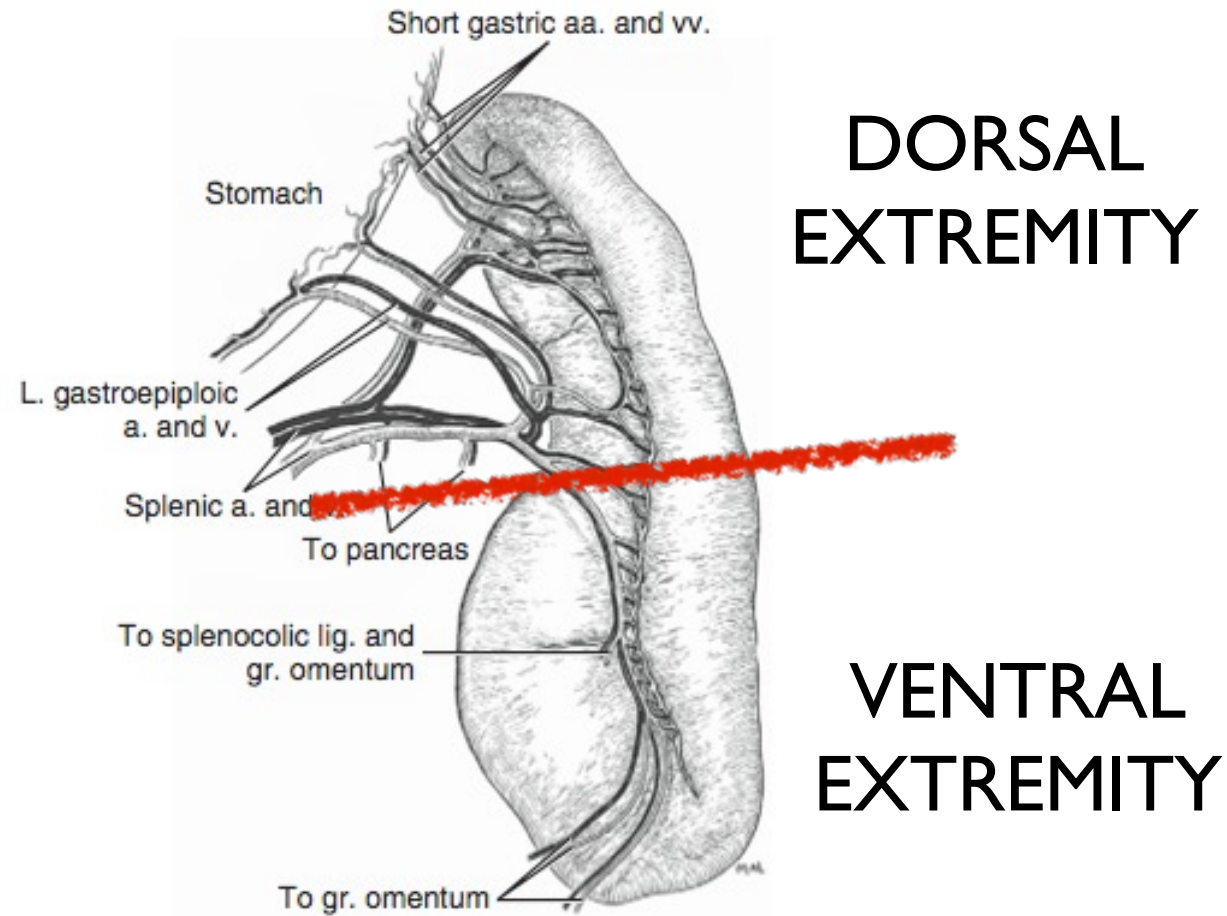


MID-ABDOMEN

SPLEEN

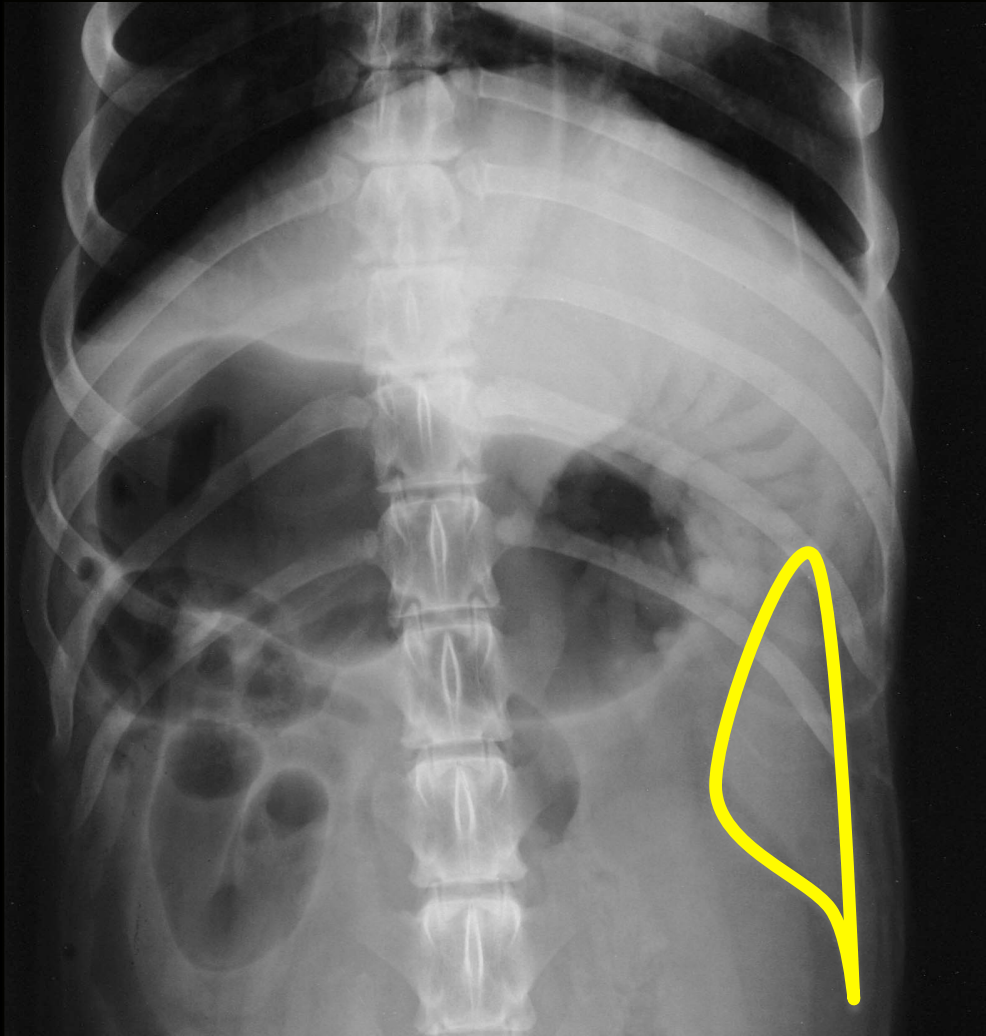
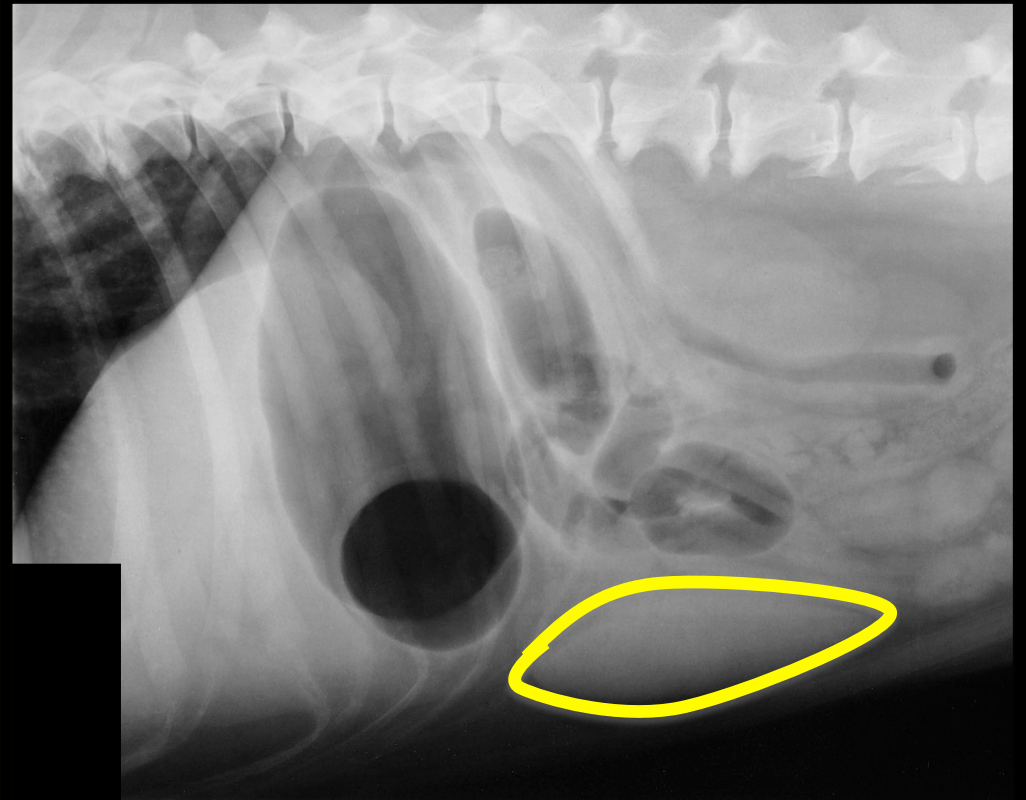
- Smaller in cats than dogs
- Non enterely visible
- Soft tissue opacity

SPLEEN

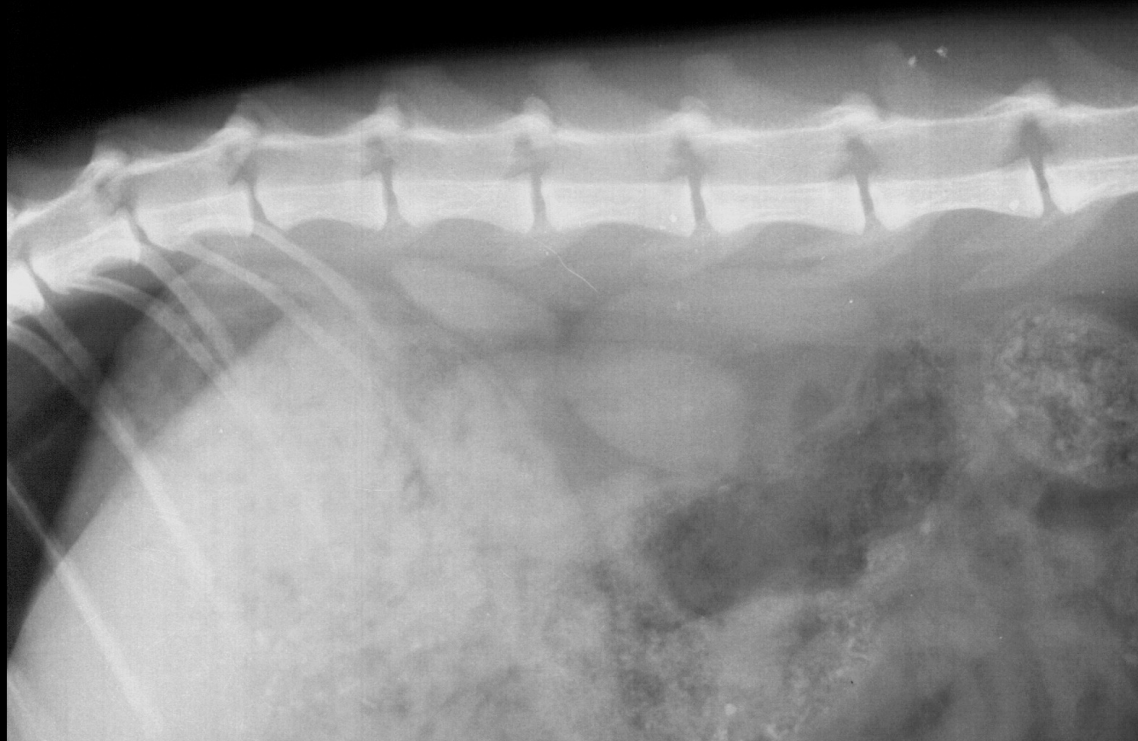


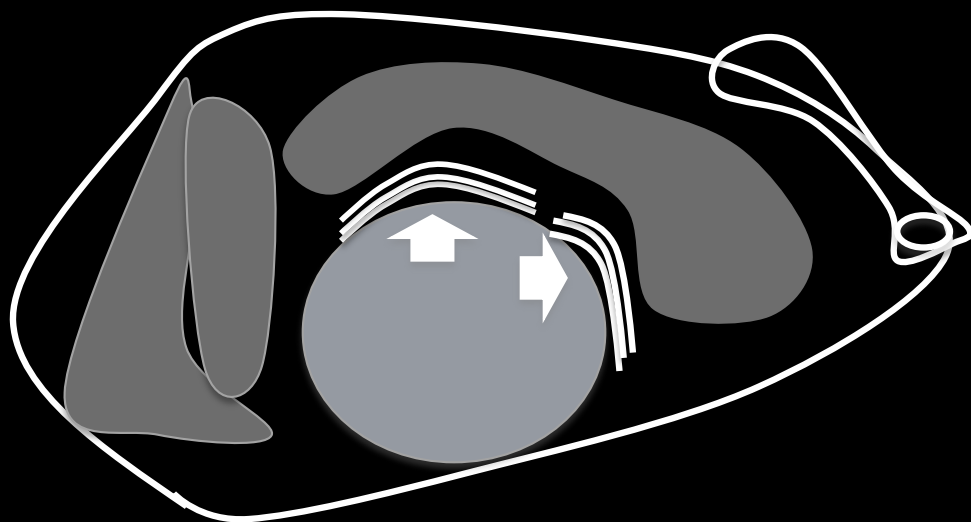
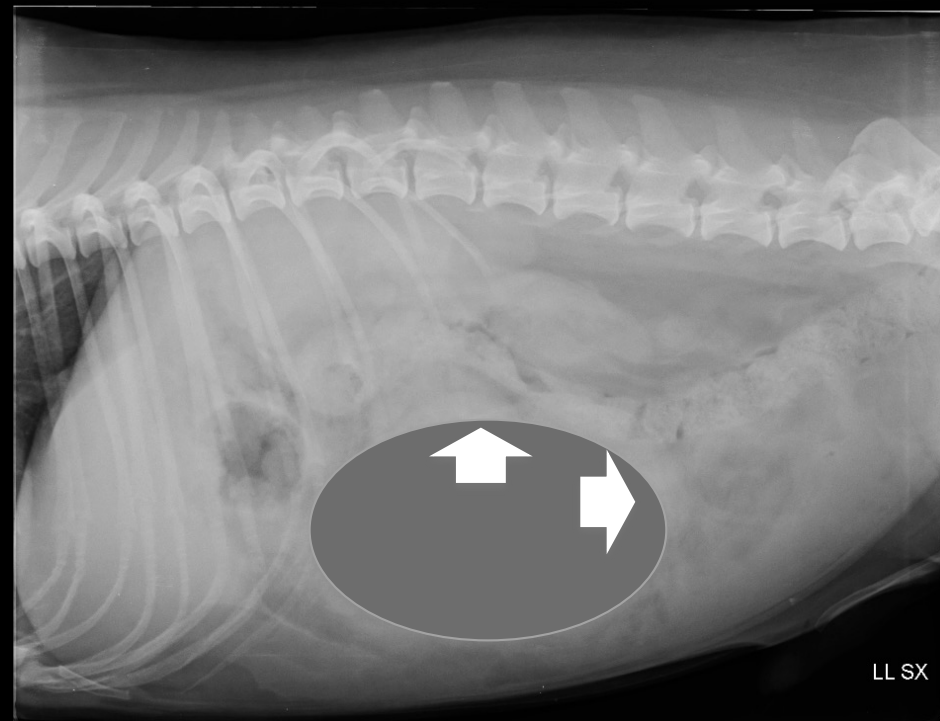
from Miller's- Anatomy of the dog 4th edition

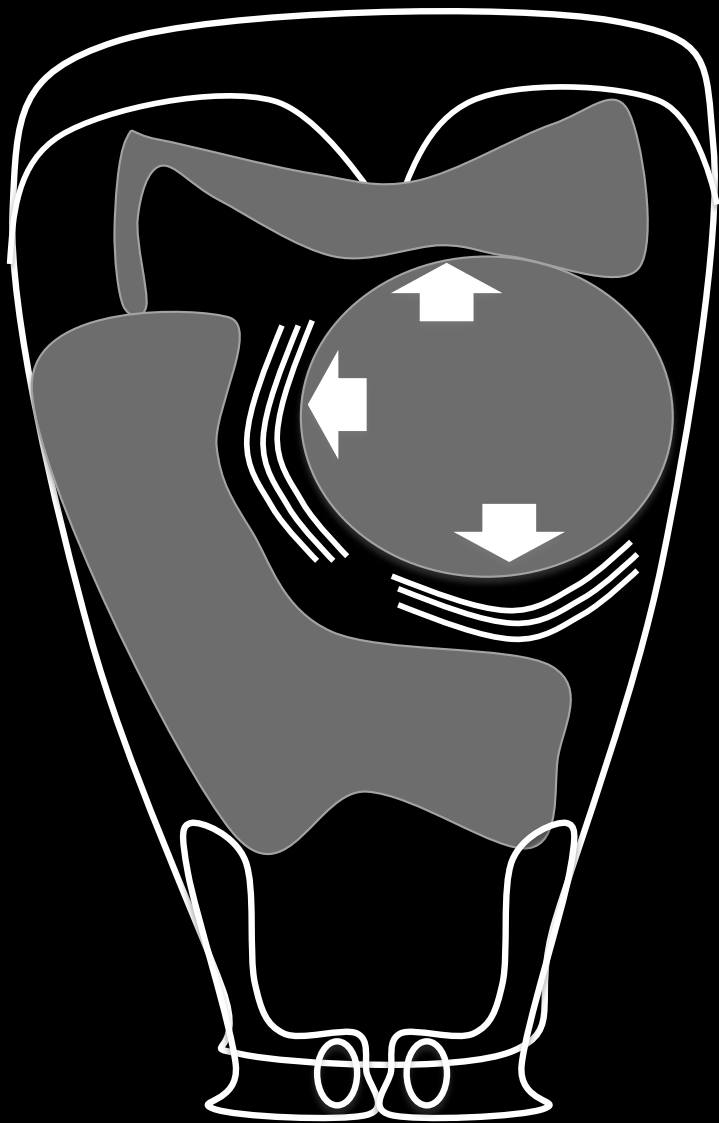
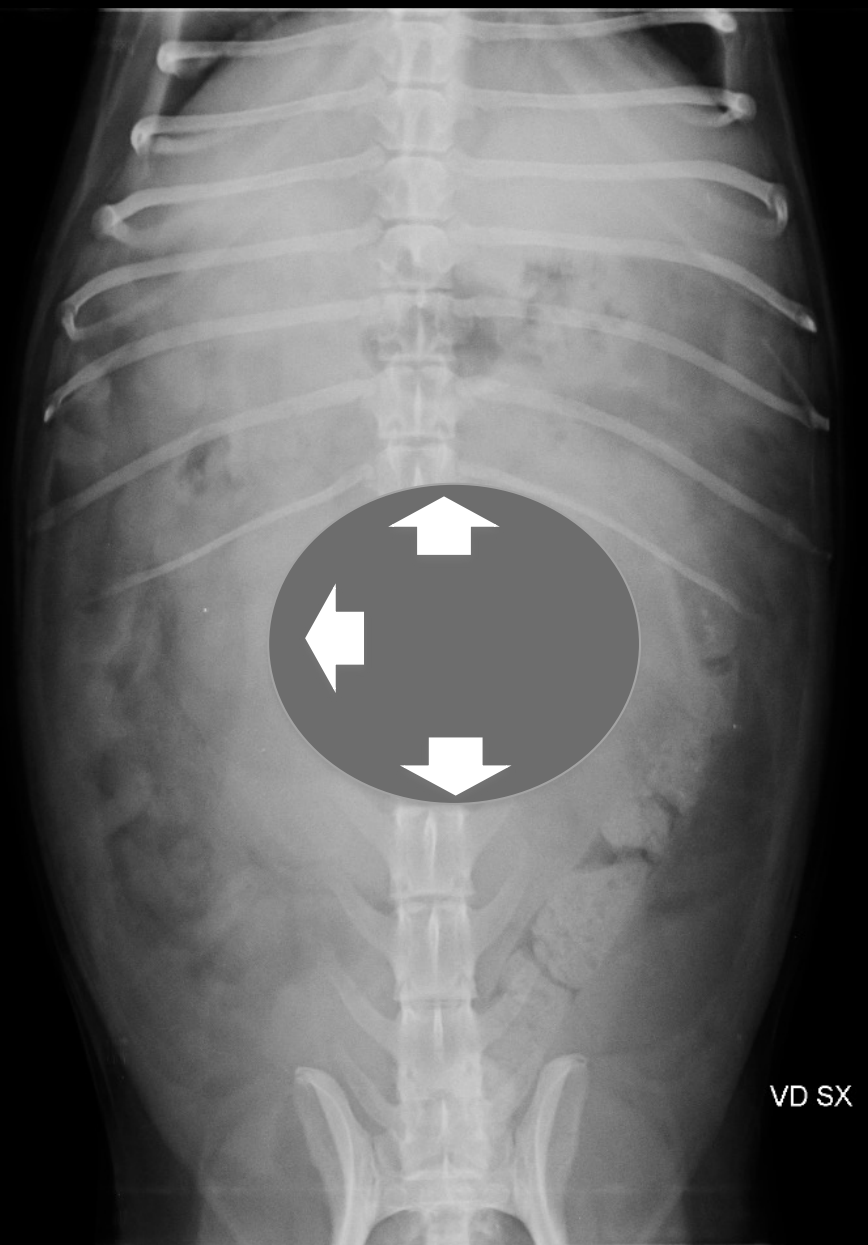
SPLEEN



SPLEEN



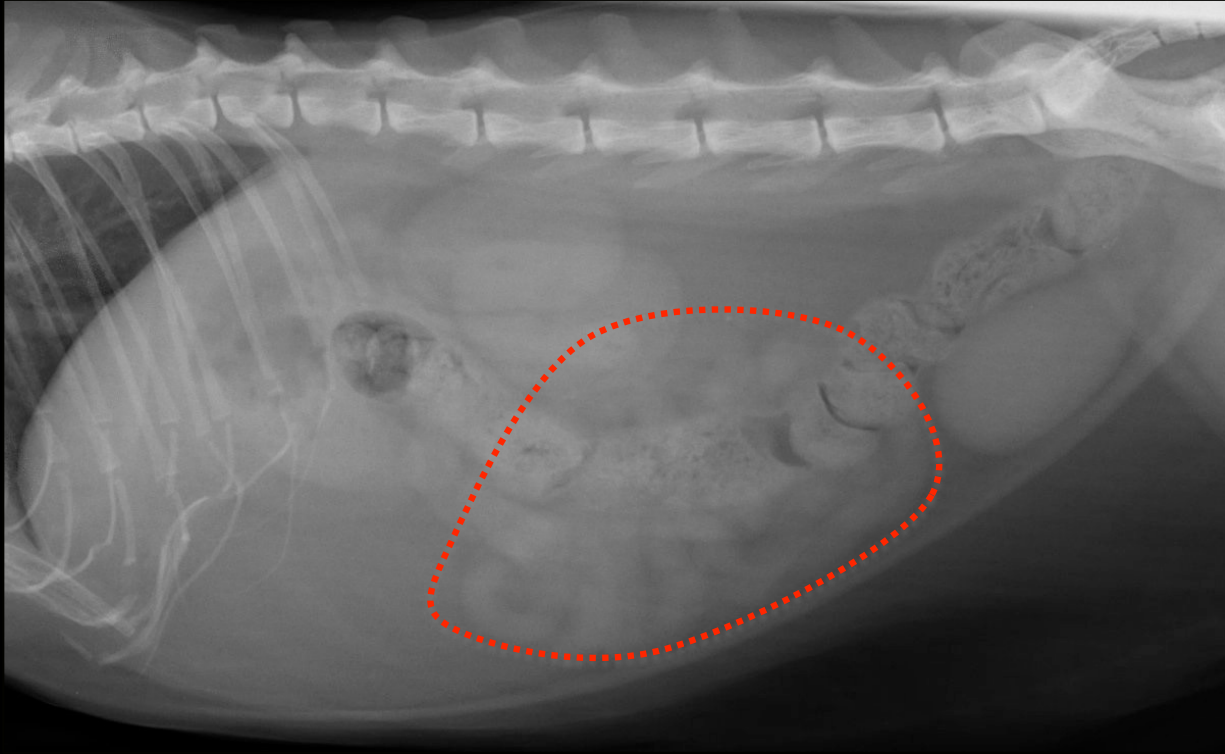
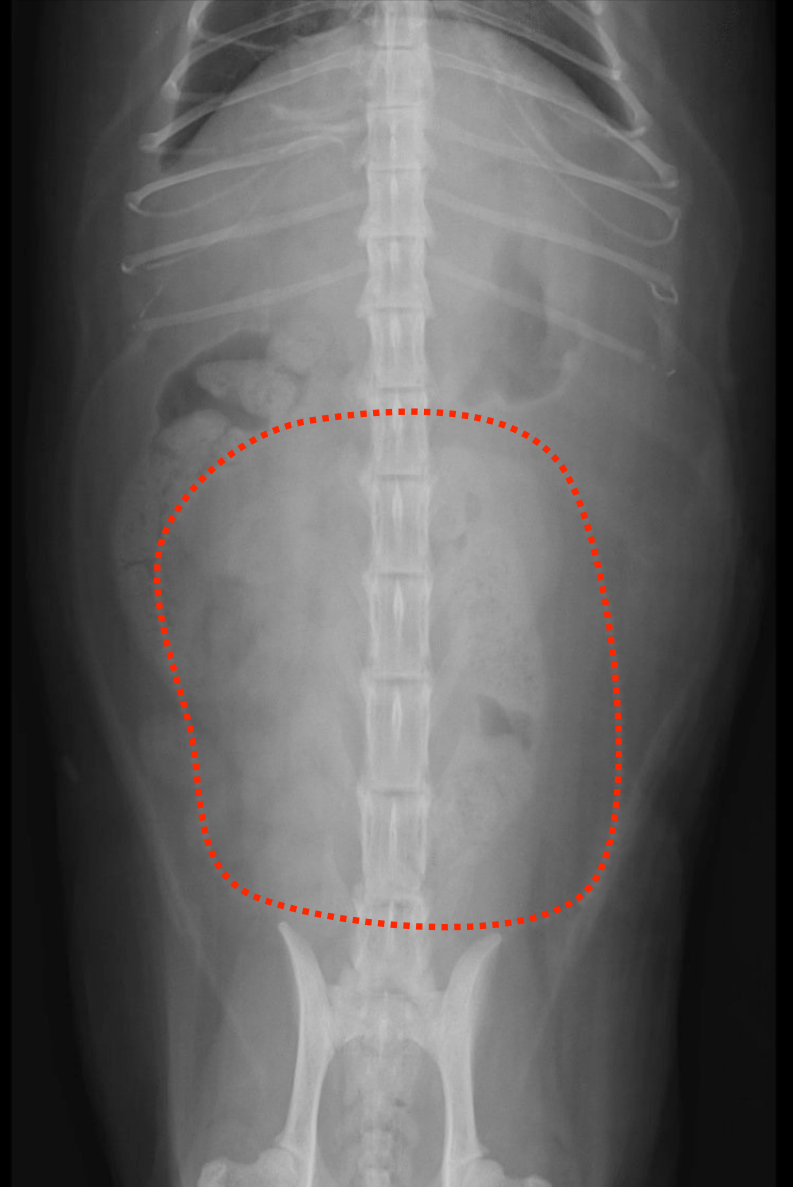




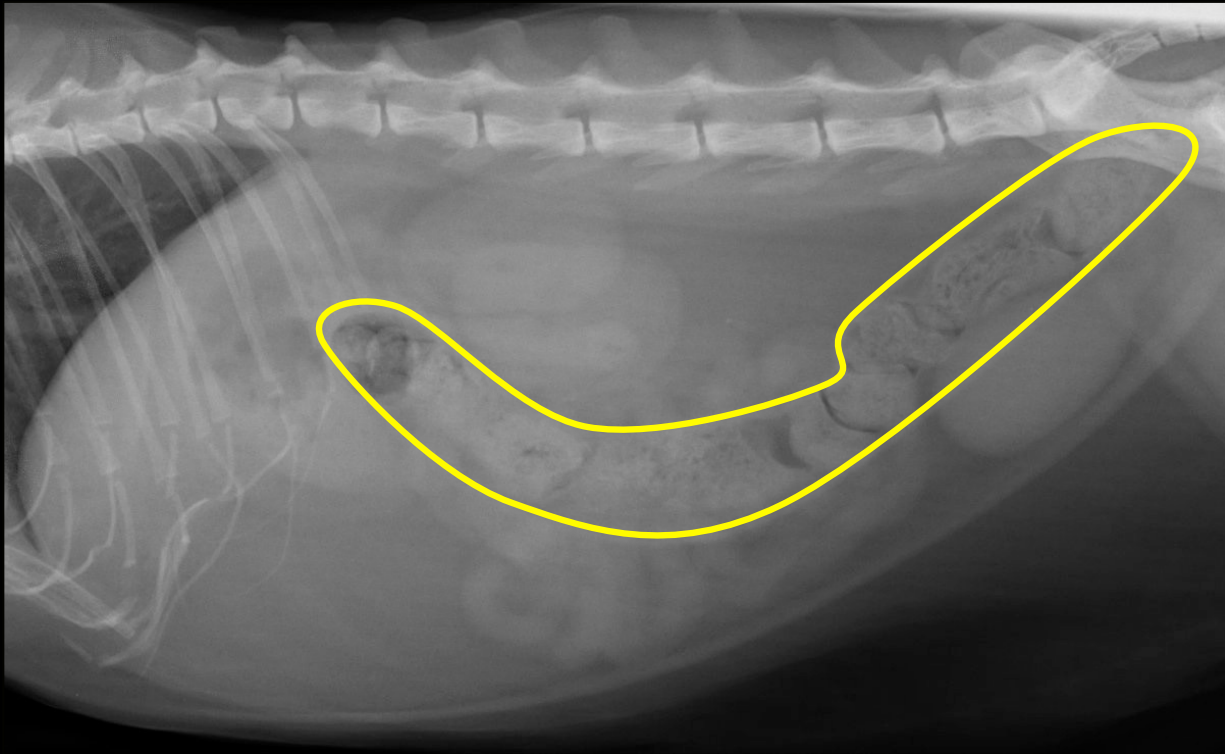
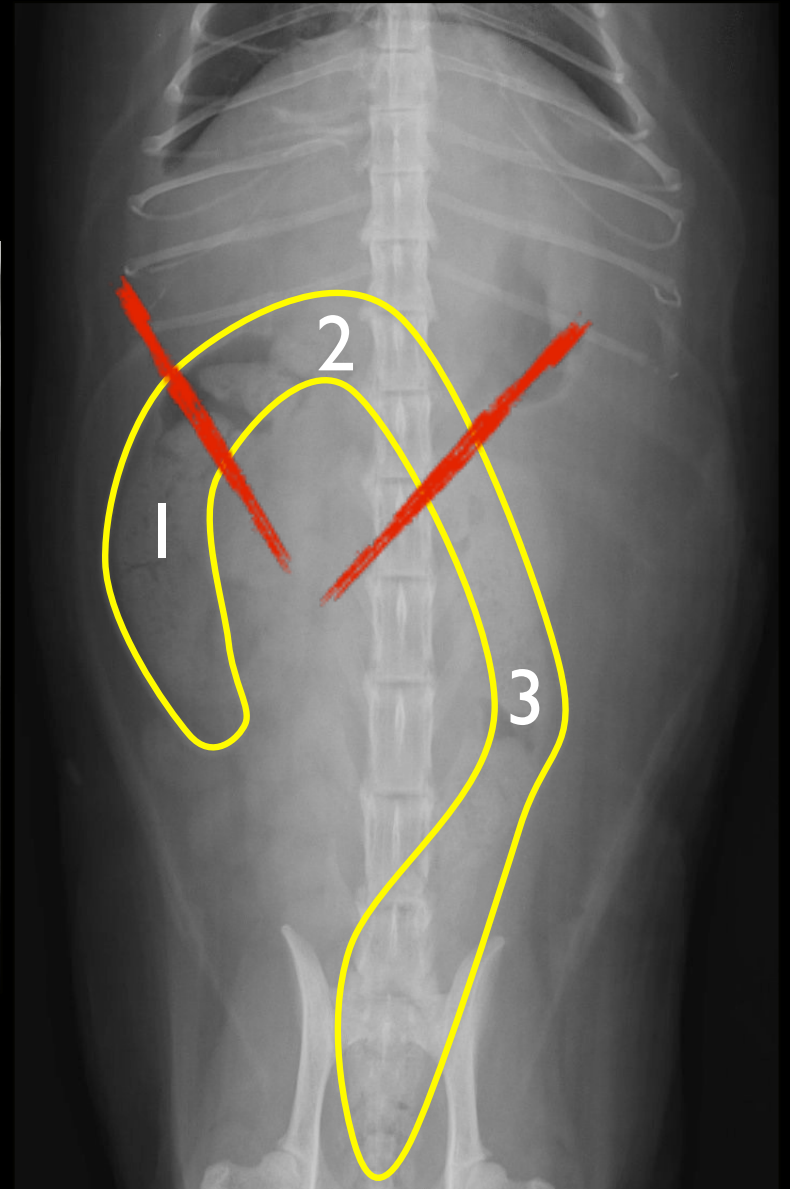
SMALL INTESTINE

- Tubular/circular structures
- Variable radiopacity
- Normal size?

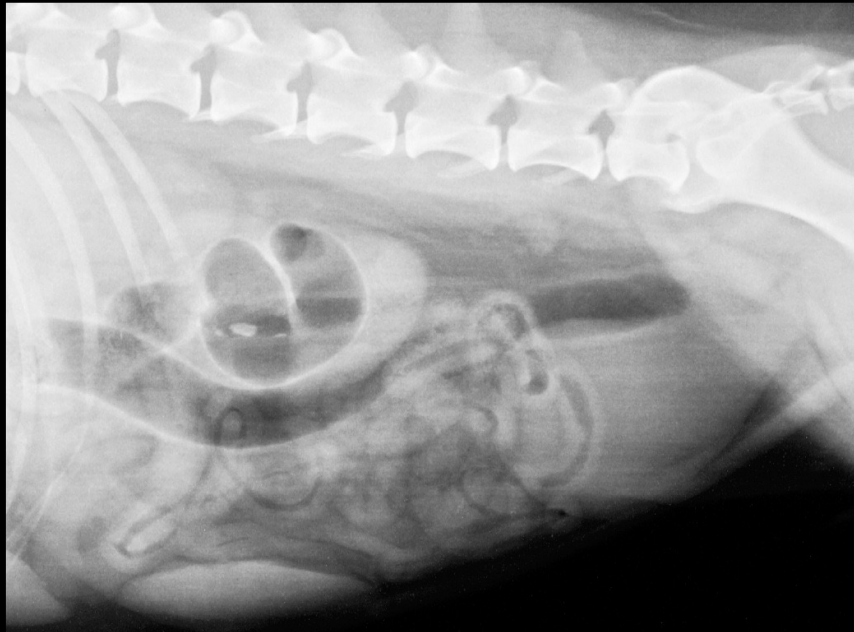




COLON



CECUM



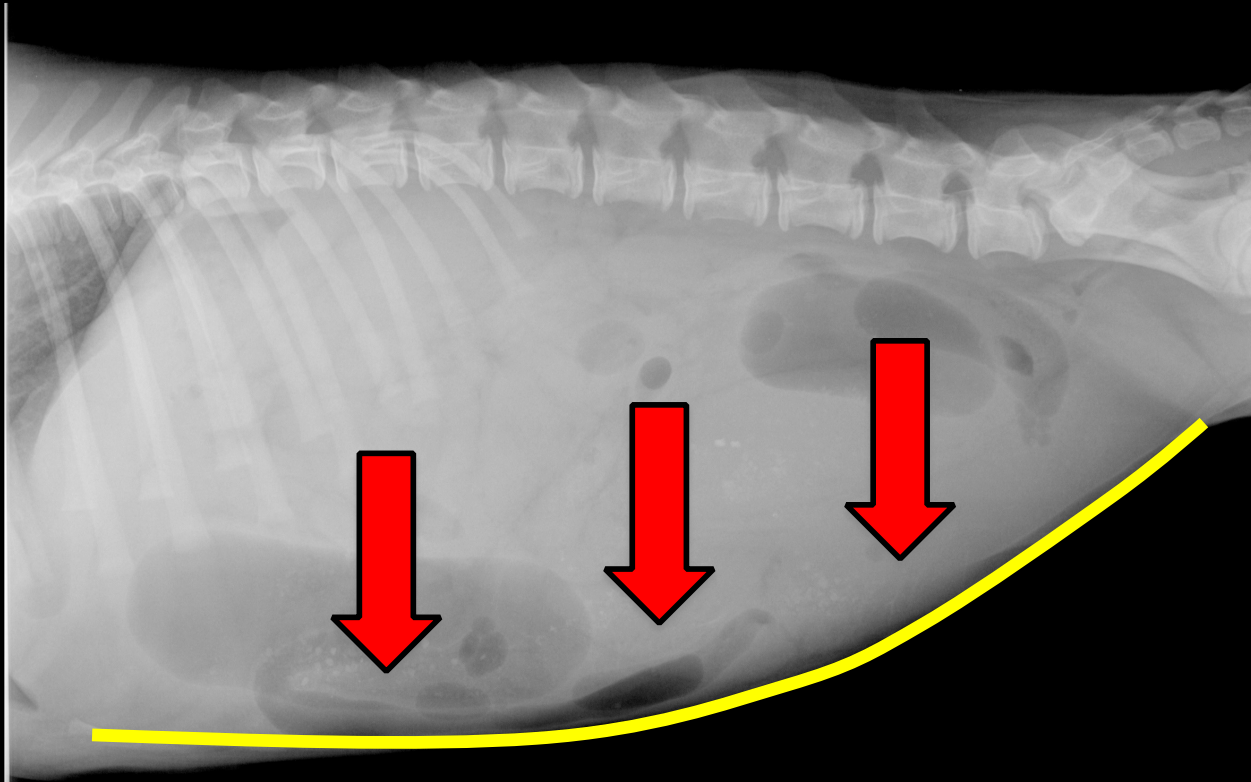
VOMITING: TO CUT OR NOT ?????



STEP I: ABDOMINAL DETAIL



STEP II: ABDOMINAL SIZE



STEP III: SMALL VS LARGE INTESTINE



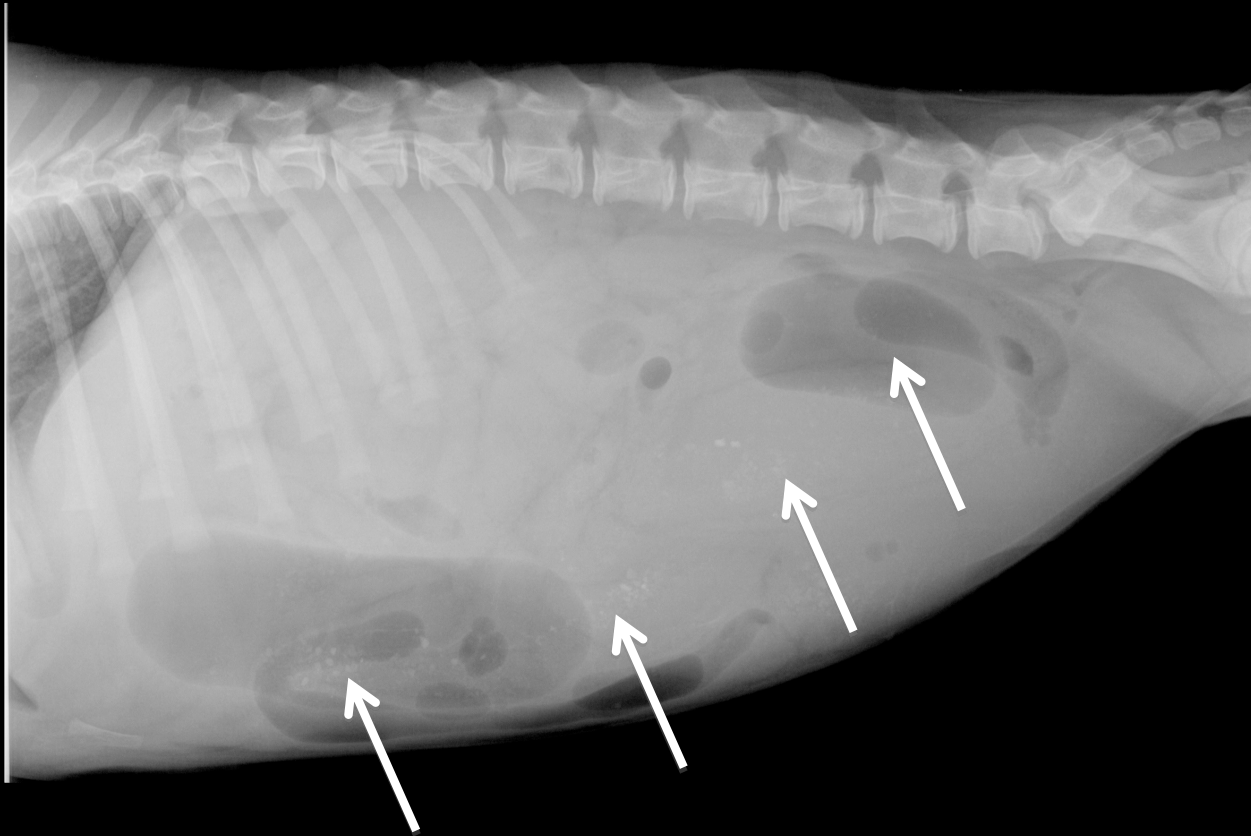
WHAT COMES IN HAS TO GO OUT!!!!!!



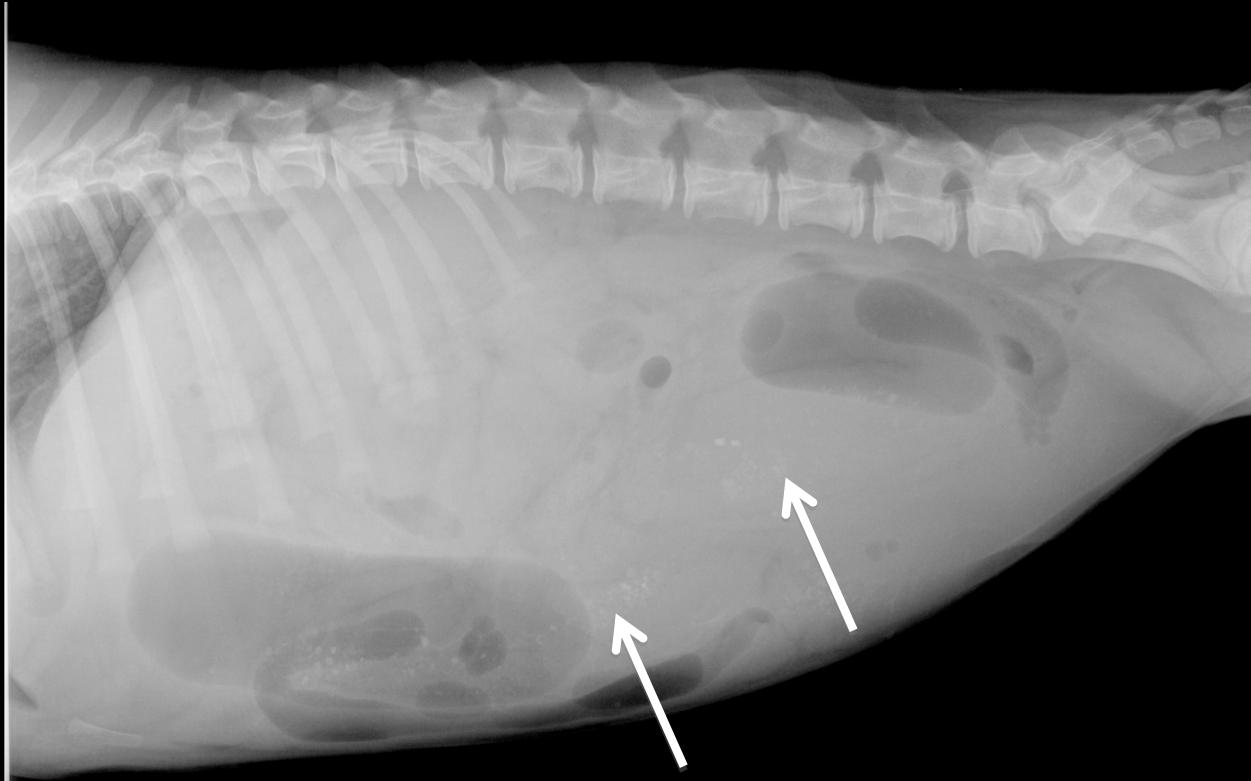
COLON



DISTENDED SMALL INTESTINAL LOOPS



GRAVEL SIGN



EMPTY COLON

+

DILATED SMALL INTESTINE

=

OBSTRUCTION

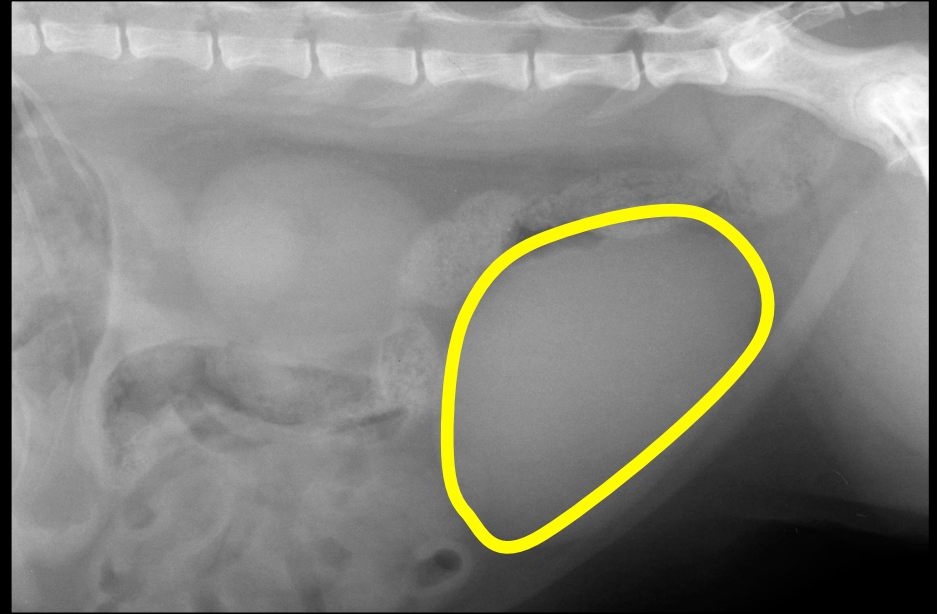
CAUDAL ABDOMEN

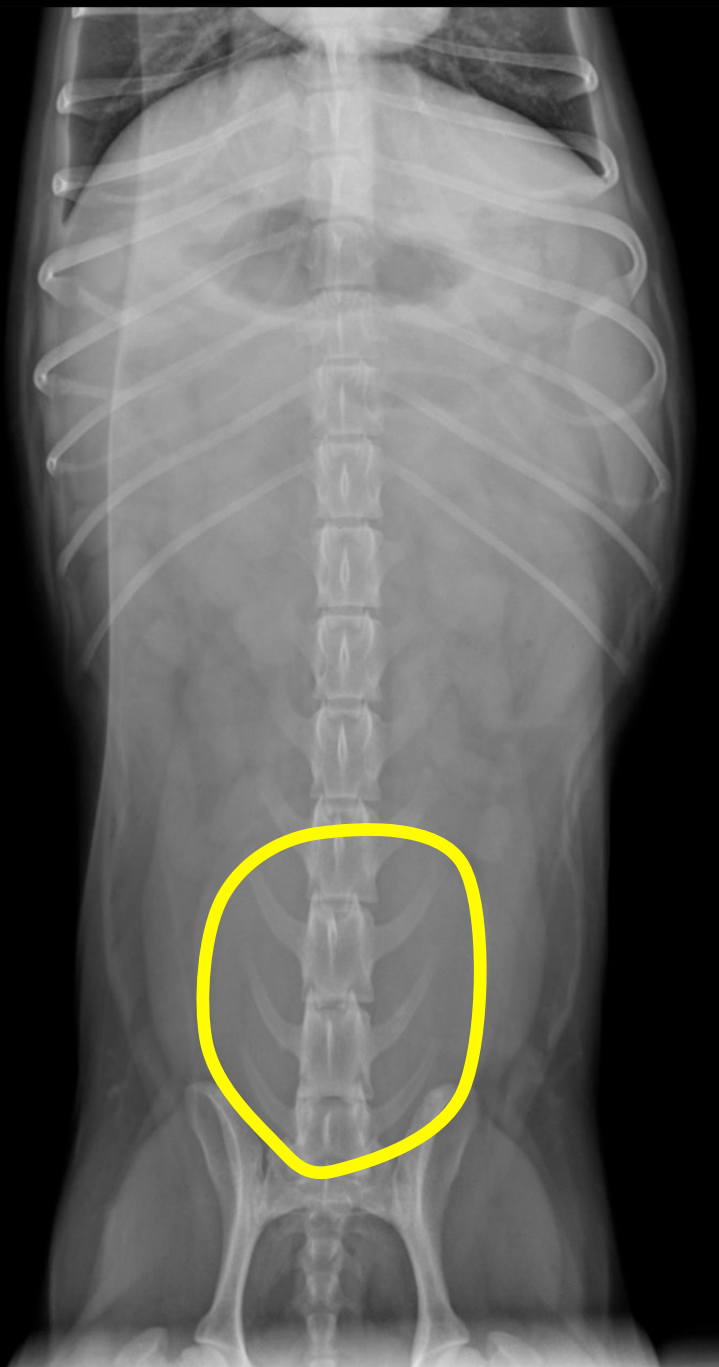
URINARY BLADDER

- Soft tissue opacity
- Elongated-oval shaped
- Intra-abdominal o intra-pelvic in dogs
- Ellipsoid shaped intra-abdominal in cats



TT





PROSTATE

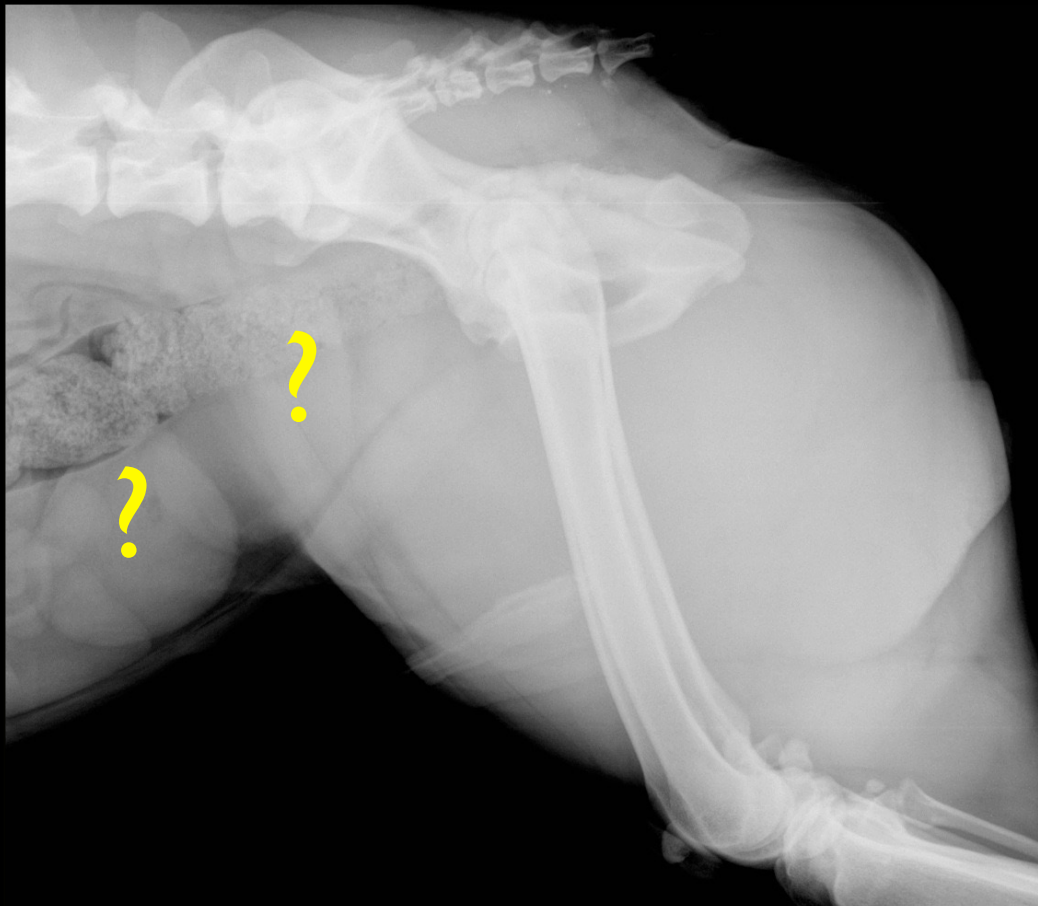
Soft tissue opacity located caudal to the bladder

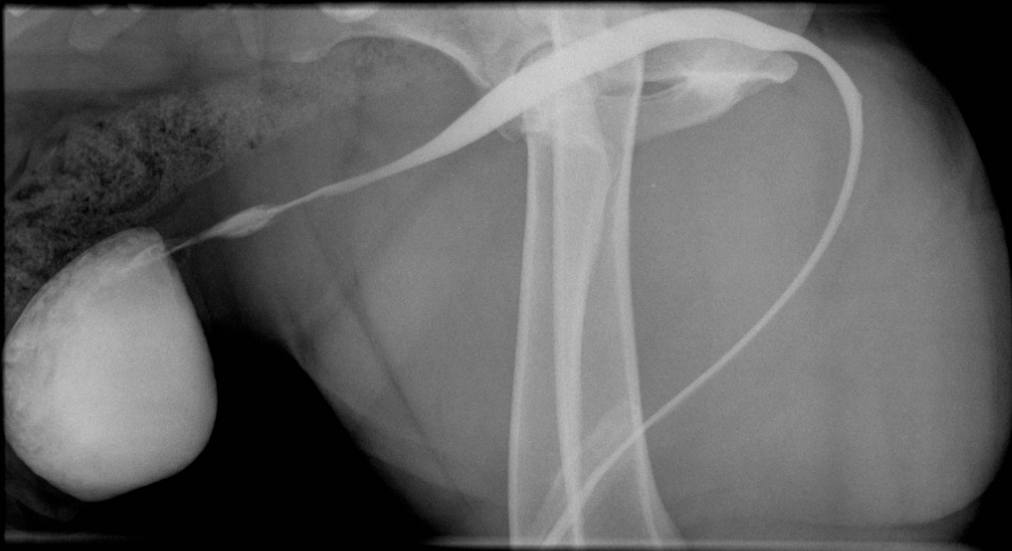
Not visible in cats

PROSTATE



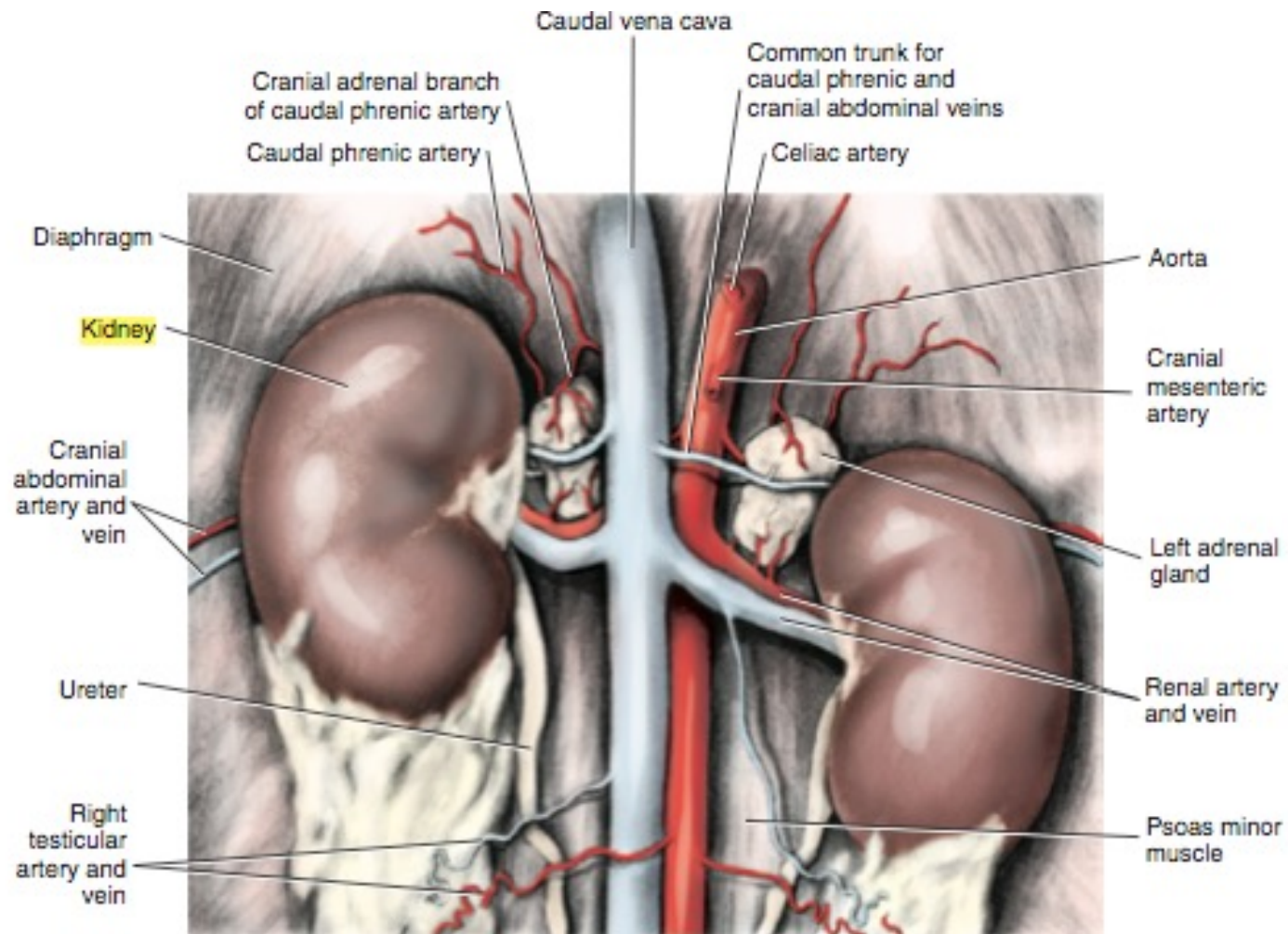
Double opacity: urinary bladder?





RETROPERITONEAL SPACE

KIDNEYS



from Miller' s- Anatomy of the dog 4th edition

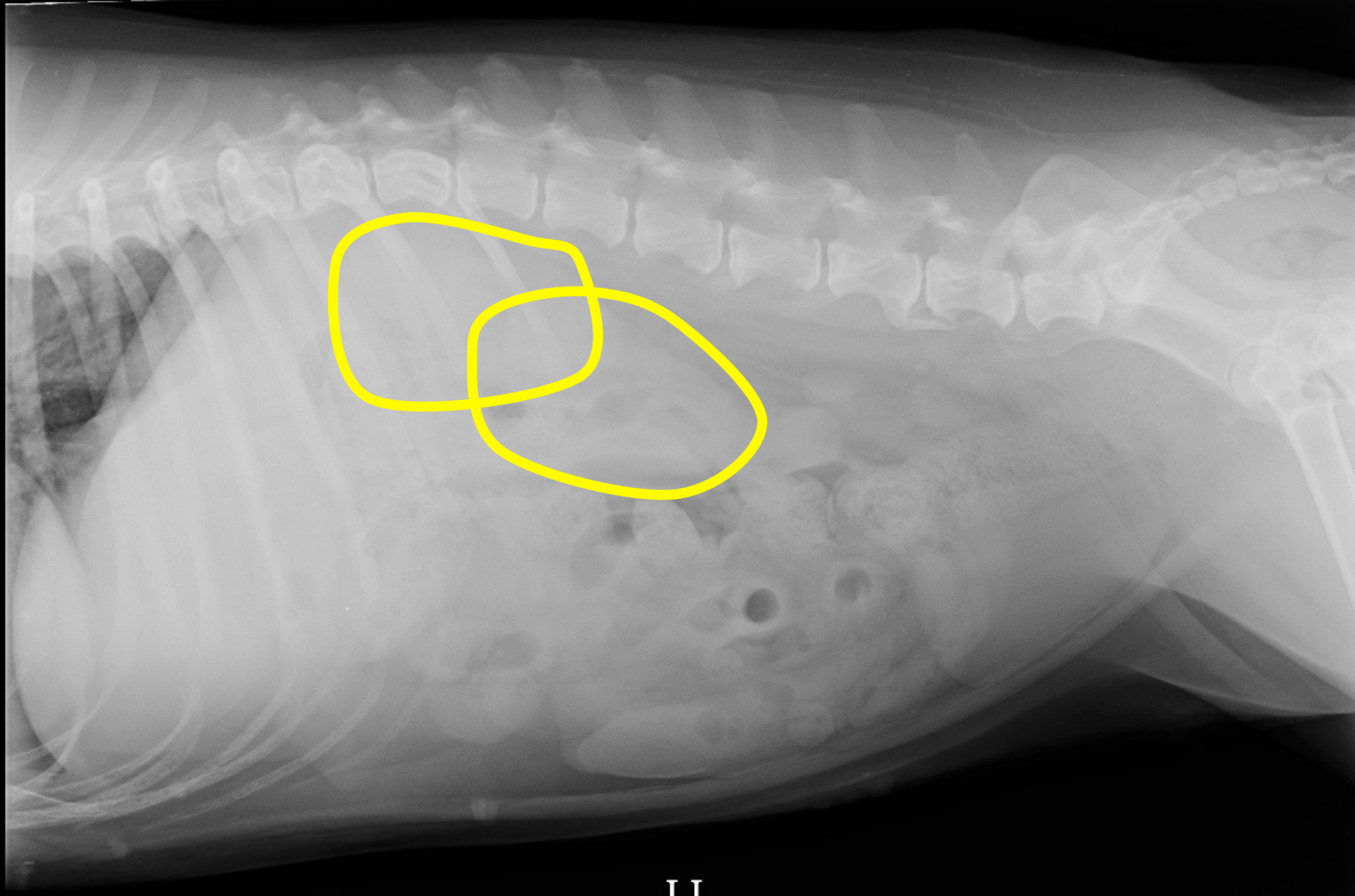
Kidneys

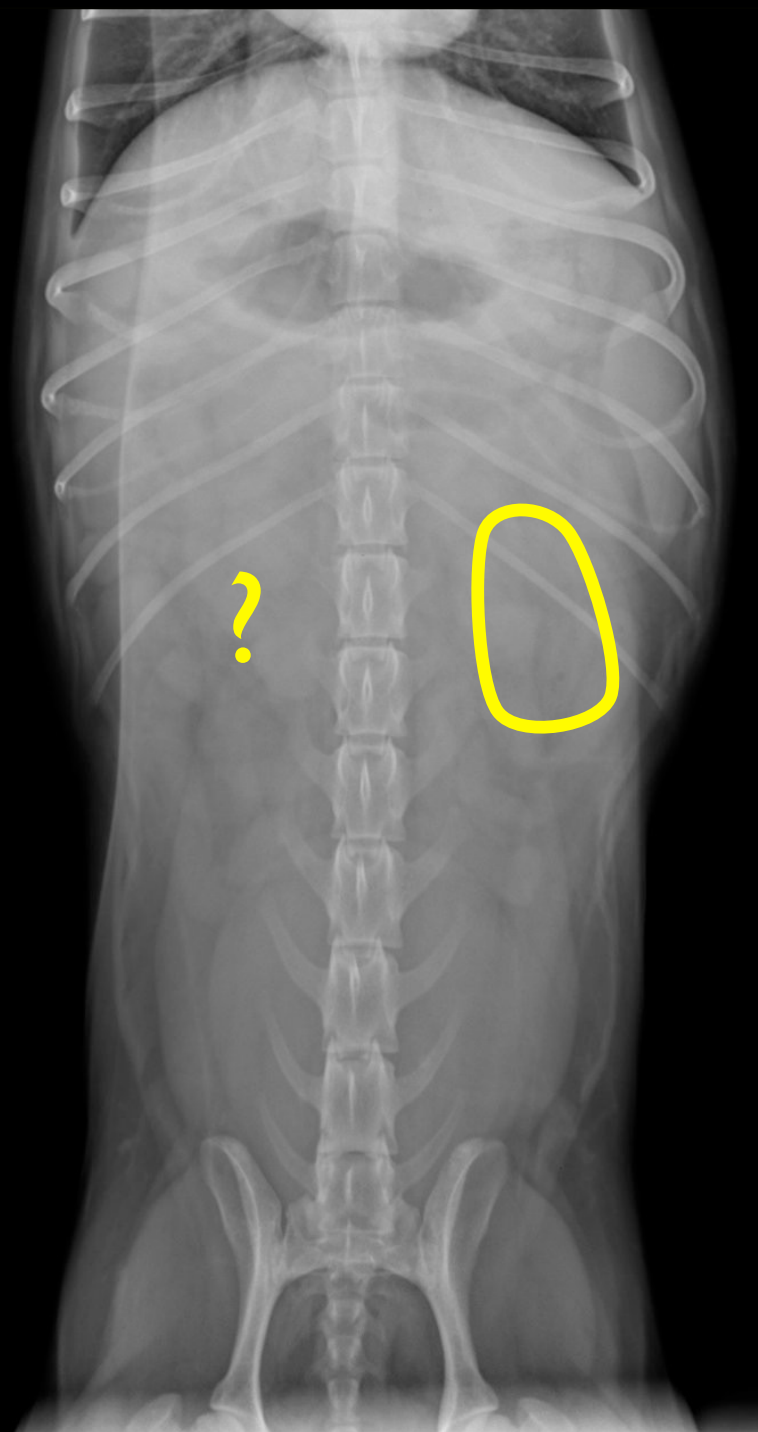
- Pair organs of homogenous soft tissue opacity
- Located at the level of L1-L3
- Right kidney not completely visible
- Left kidney slightly caudal to right kidney

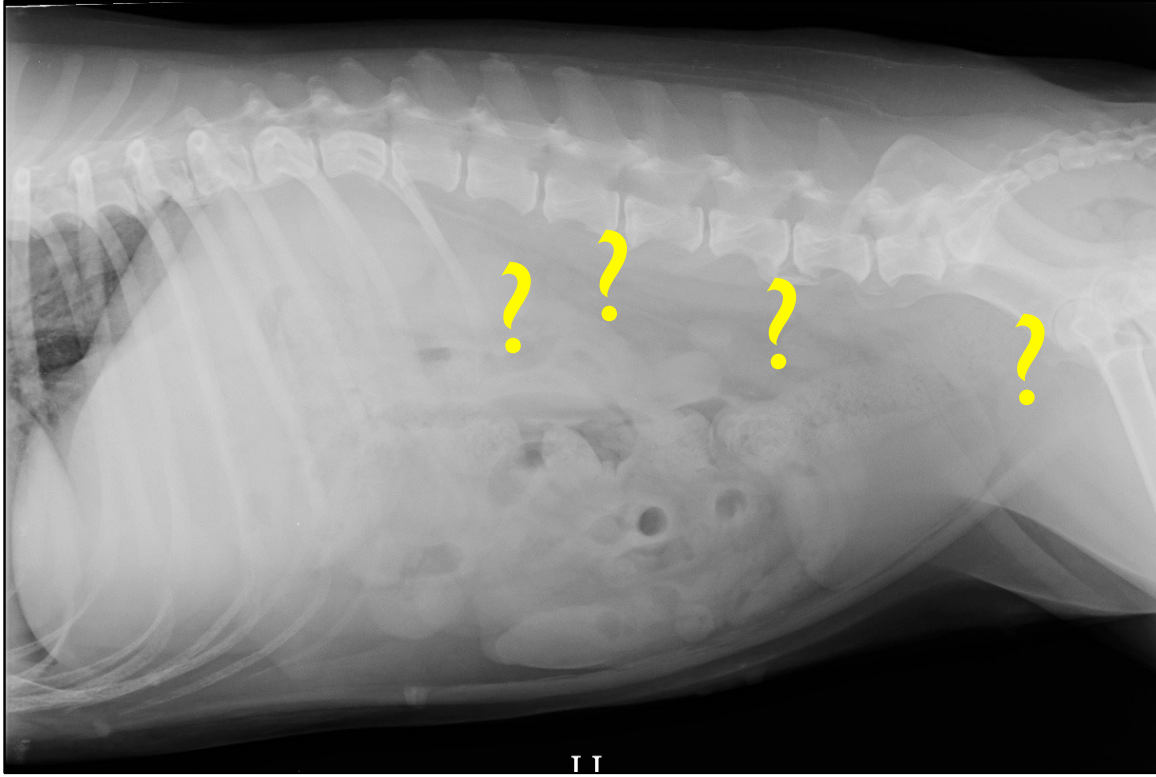
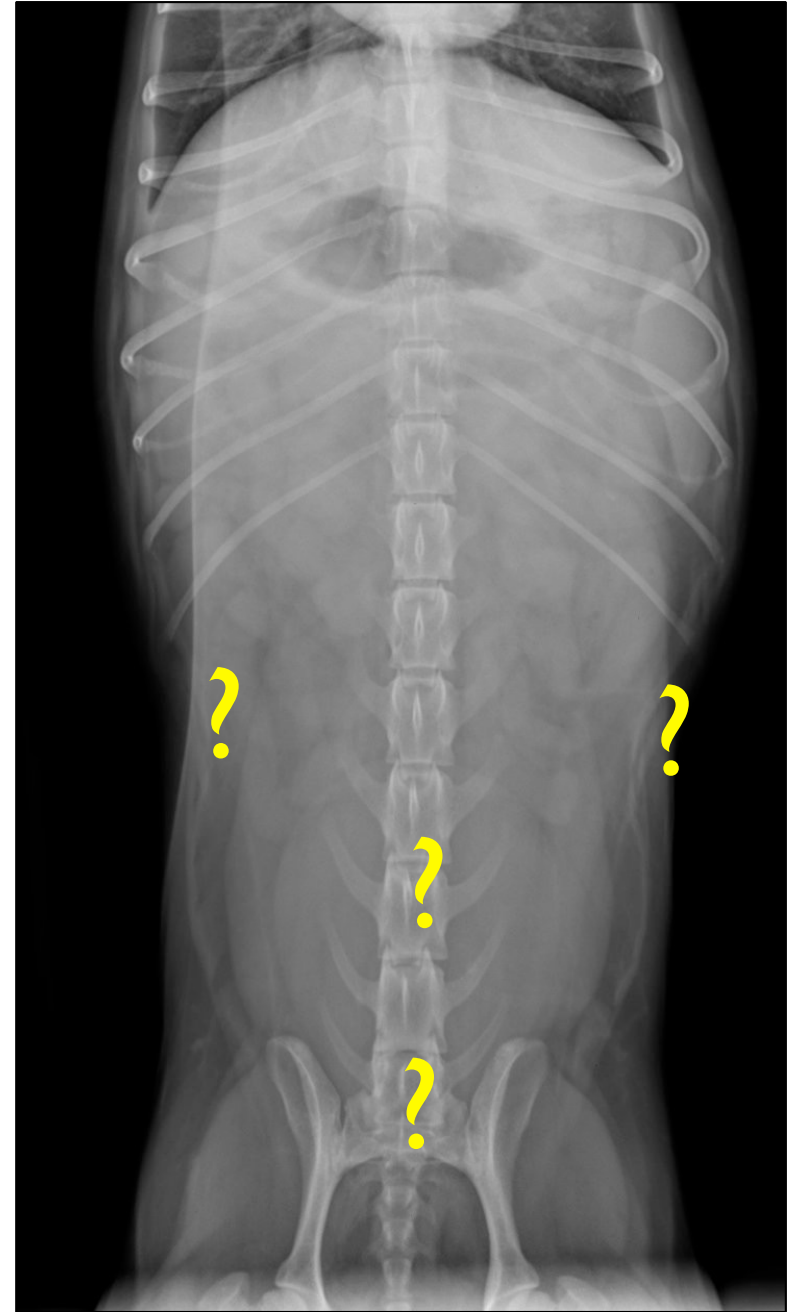
Kidneys

- Size?
- Rule of thumb:
 - *Dog: 2.5-3.5 times length of L2 (VD view)*
 - *Cat: 2.4-3 times length of L2 (VD view)*

KIDNEYS

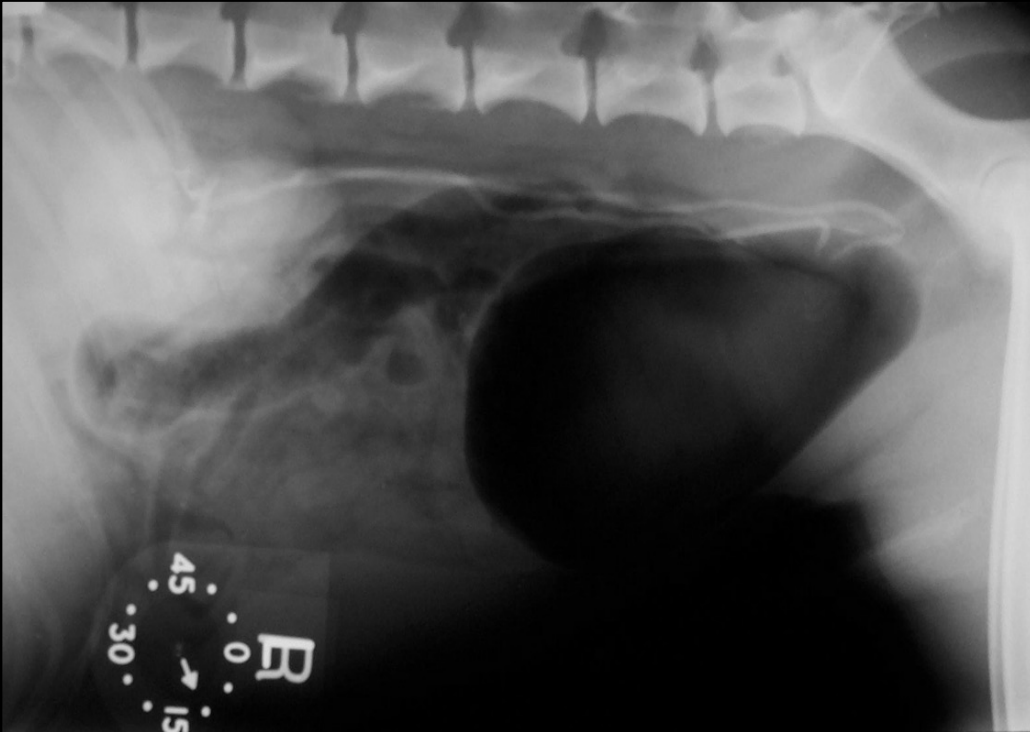




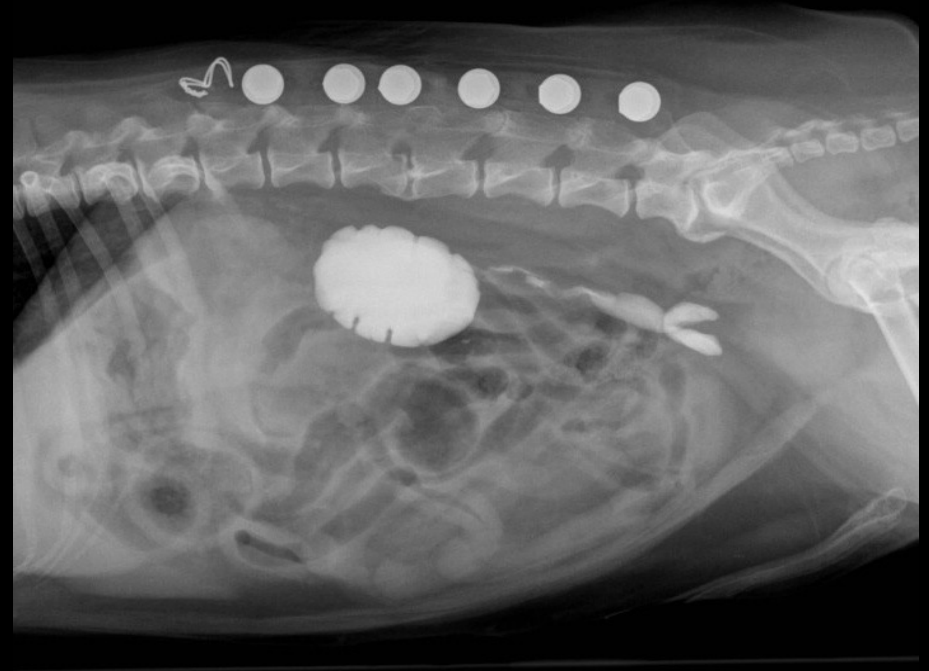


Contrast studies

Contrast studies



Intravenous pyelography



Antegrade pyelography

Contrast studies



Retrograde
urethrography



Retrograde vagino-
urethrography

QUESTIONS ?