IVR
Italian Veterinary Radiology

Systematic approach to thoracic radiology

Edoardo Auriemma
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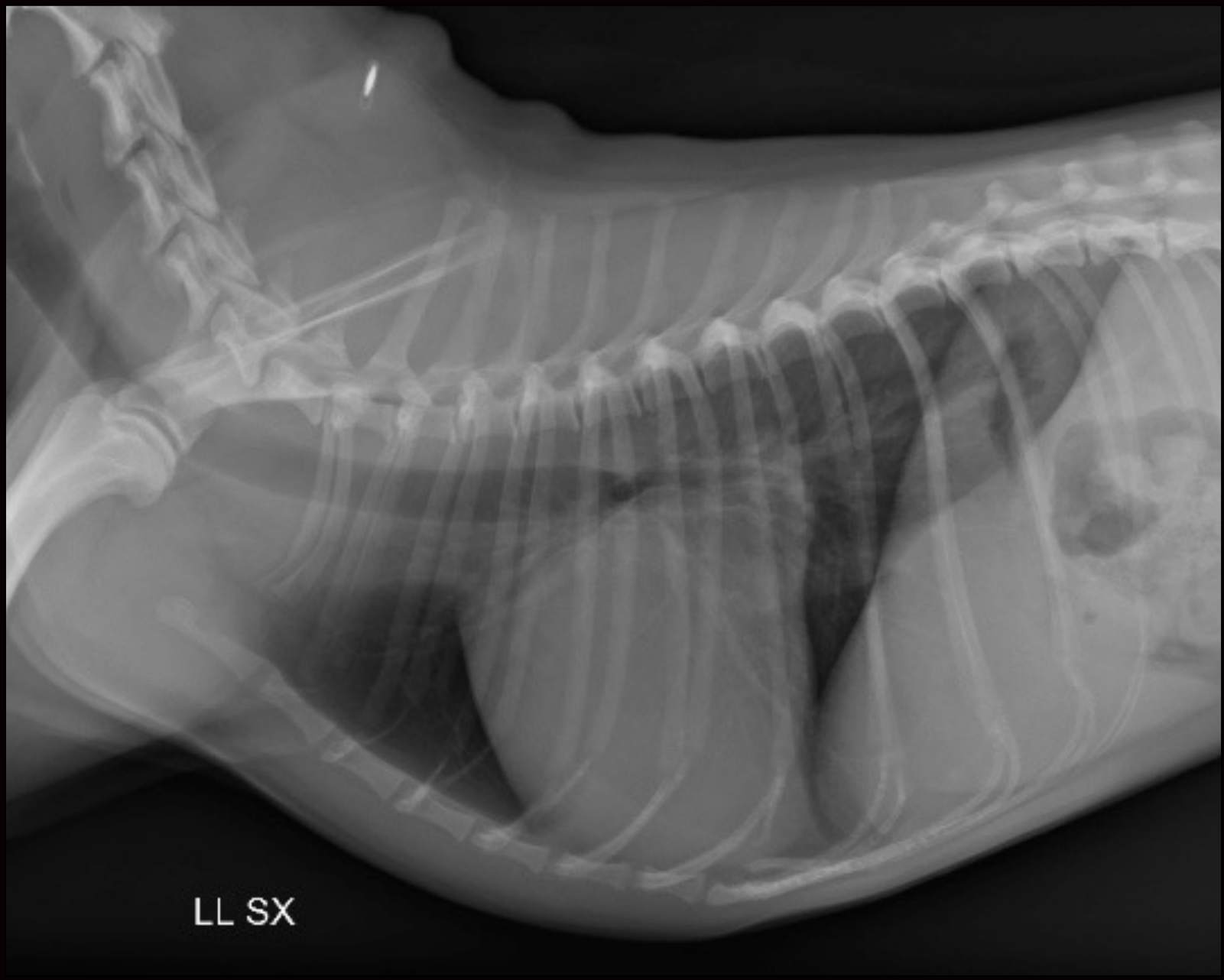
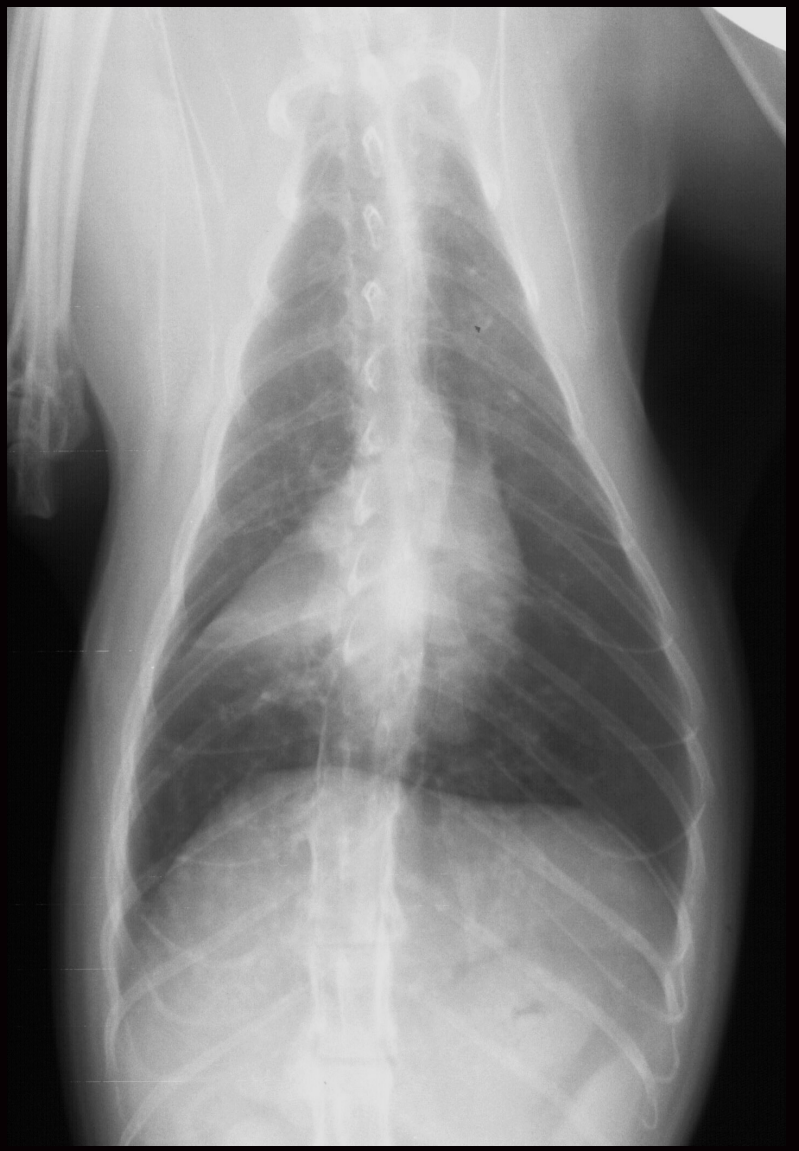

LL SX

"Radiographic interpretation is a logical process during which radiographic signs are looked for, recognized, classified as normal or abnormal and related to clinical signs. A differential diagnosis is established in order to identify appropriate medical or surgical therapy."

Timothy O'Brien. Radiographic Diagnosis of Abdominal Disorders in the Dog and Cat. WB Saunders, 1978.



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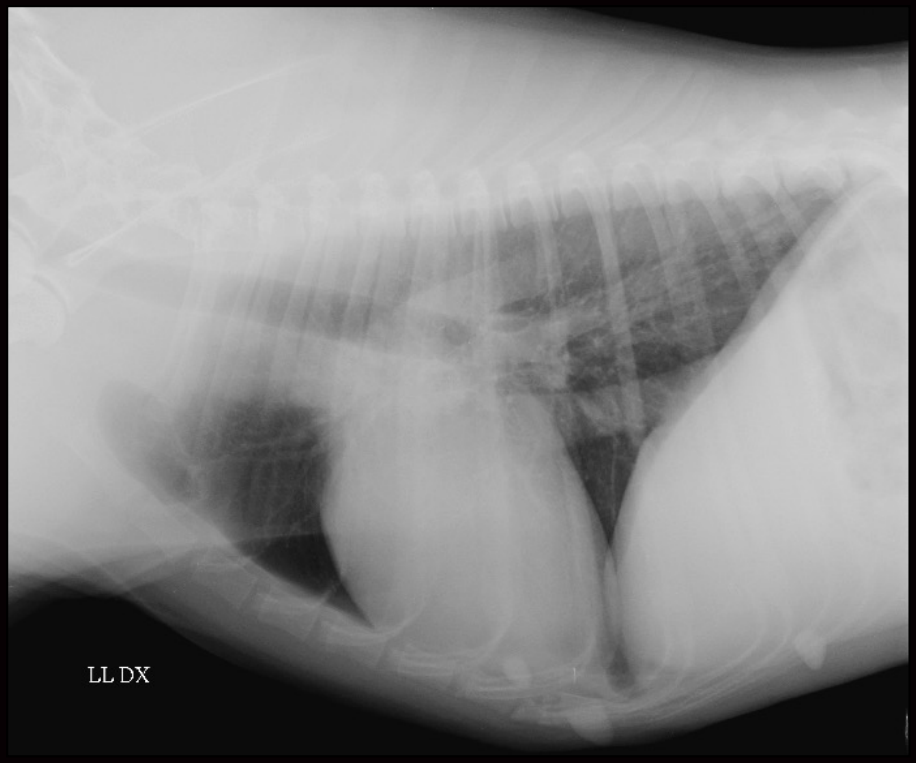

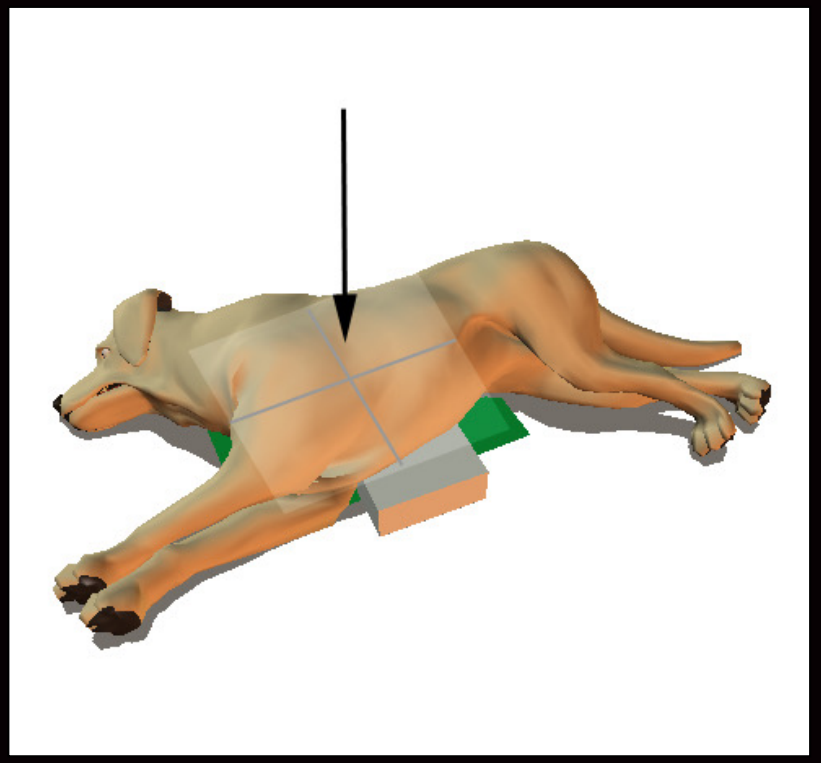

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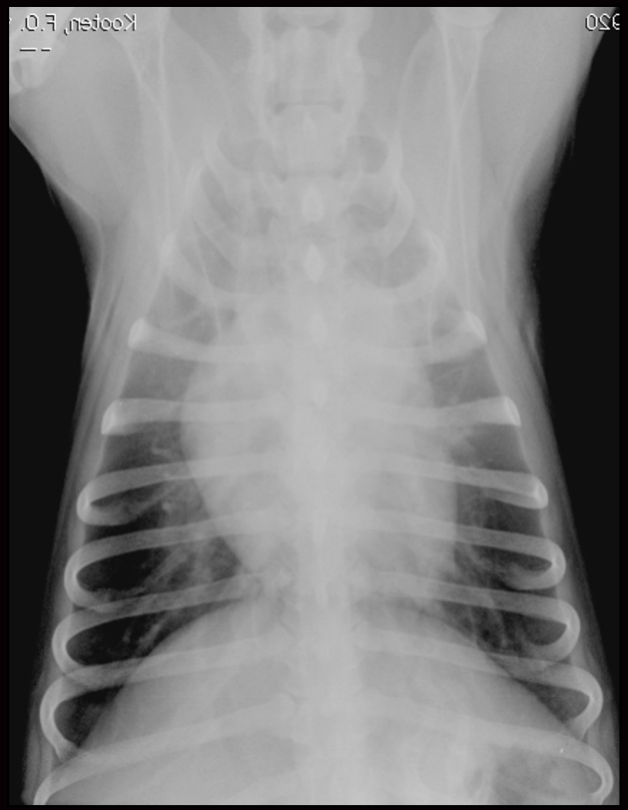

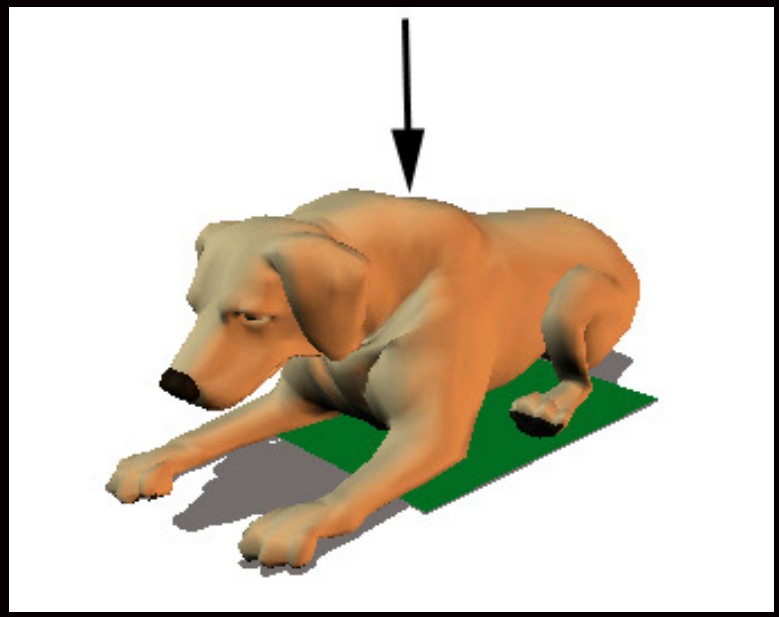

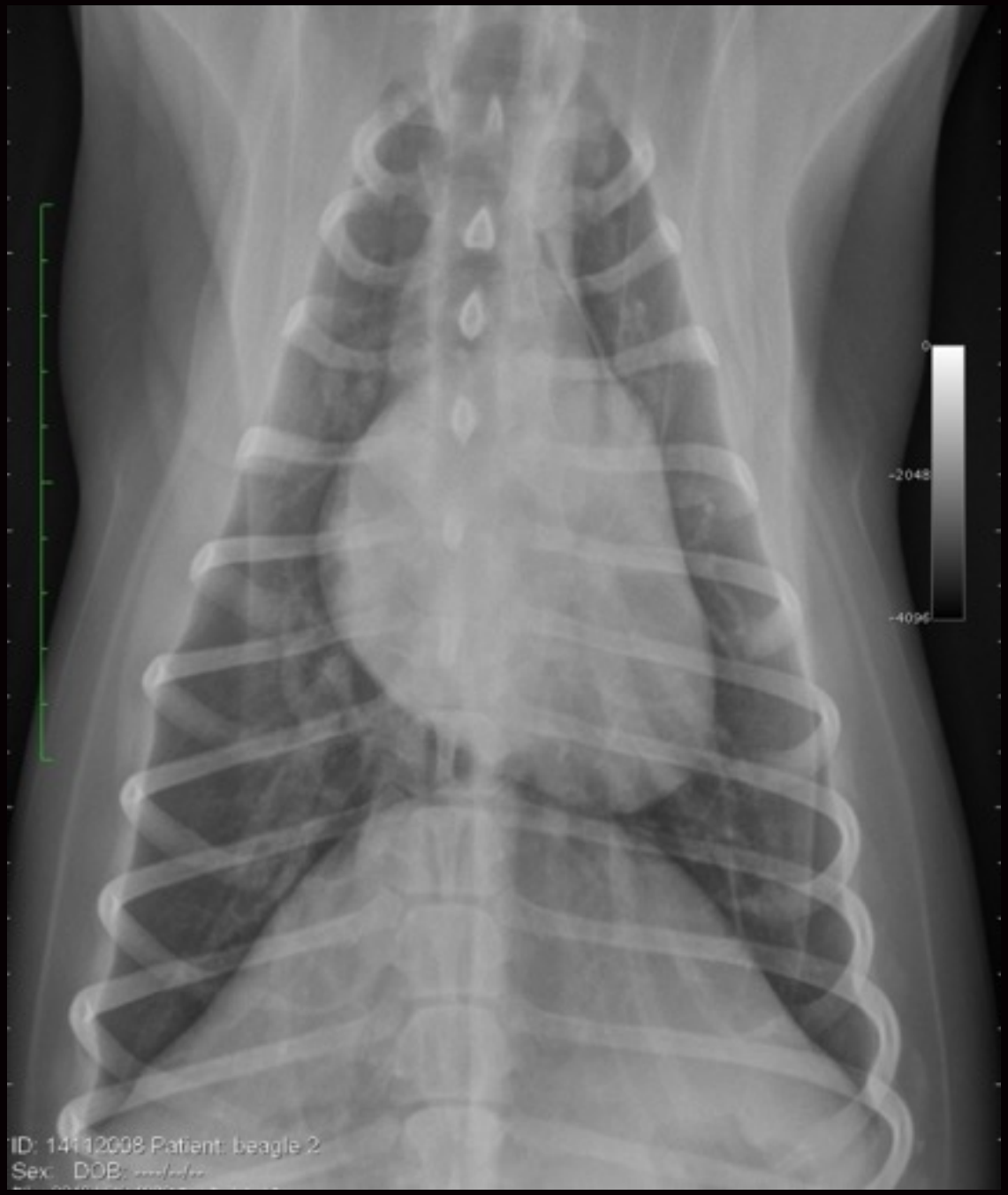
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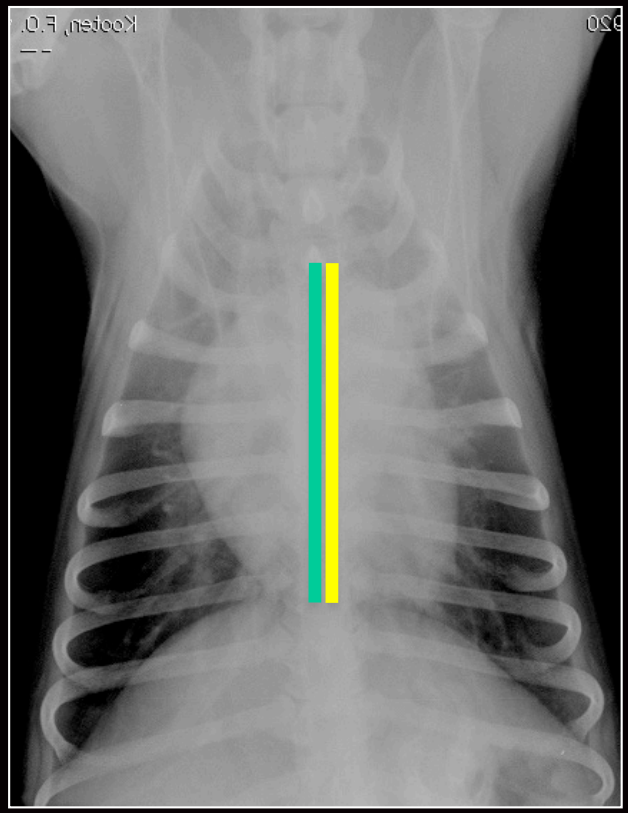
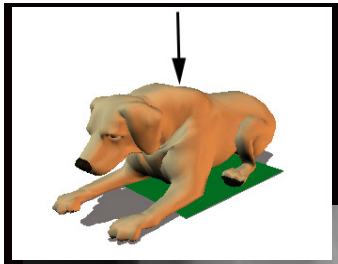
Sex: DOB: --/--/--





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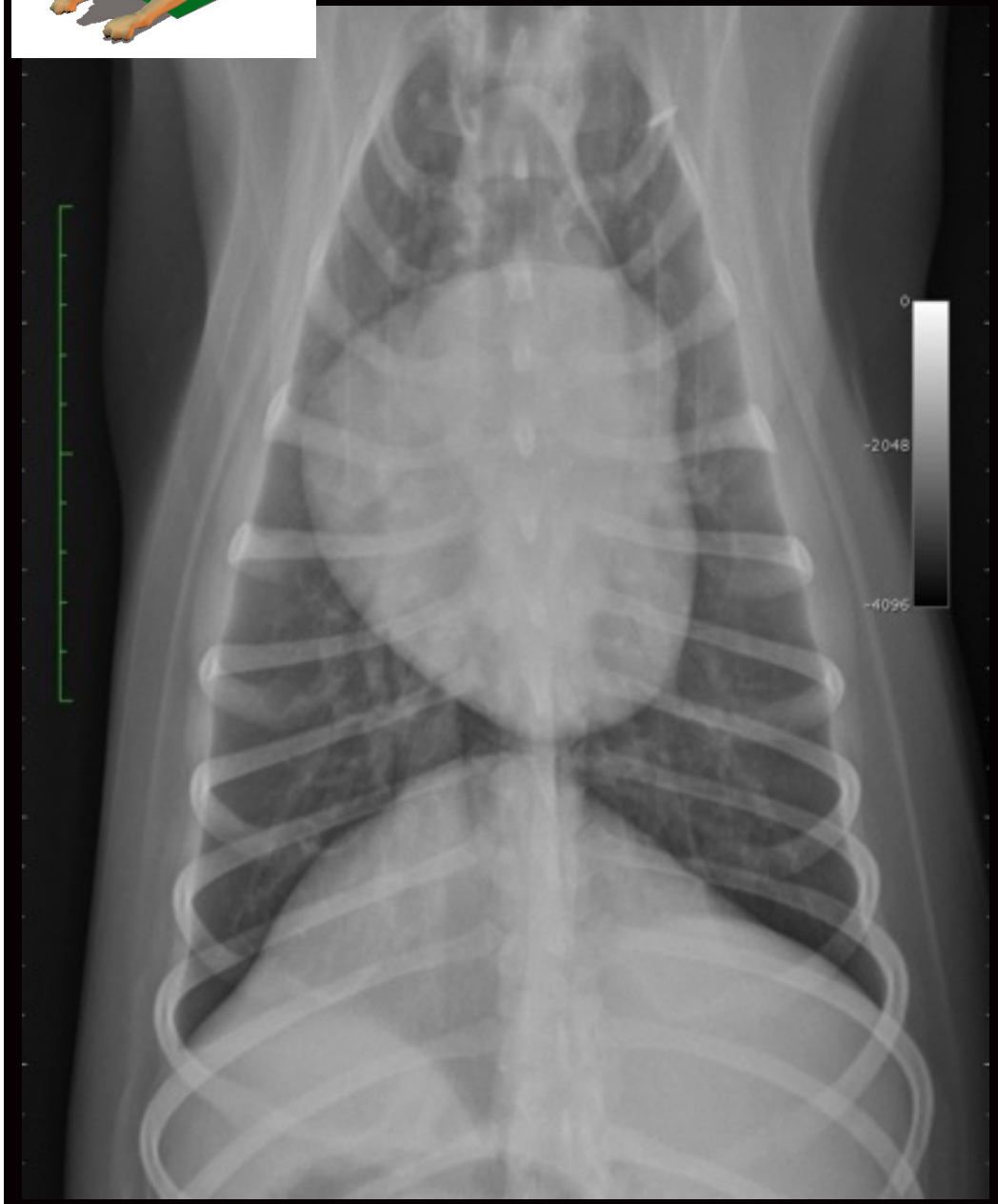

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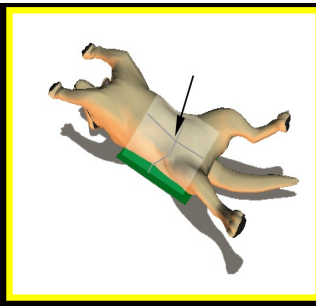
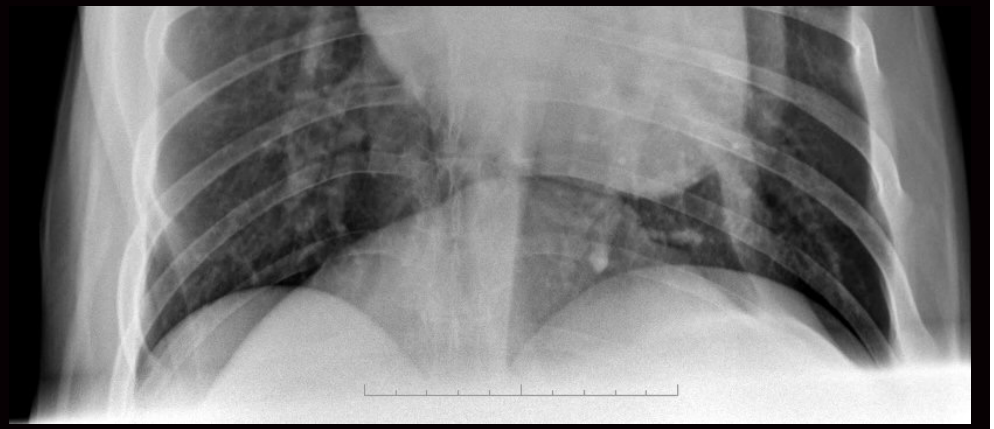
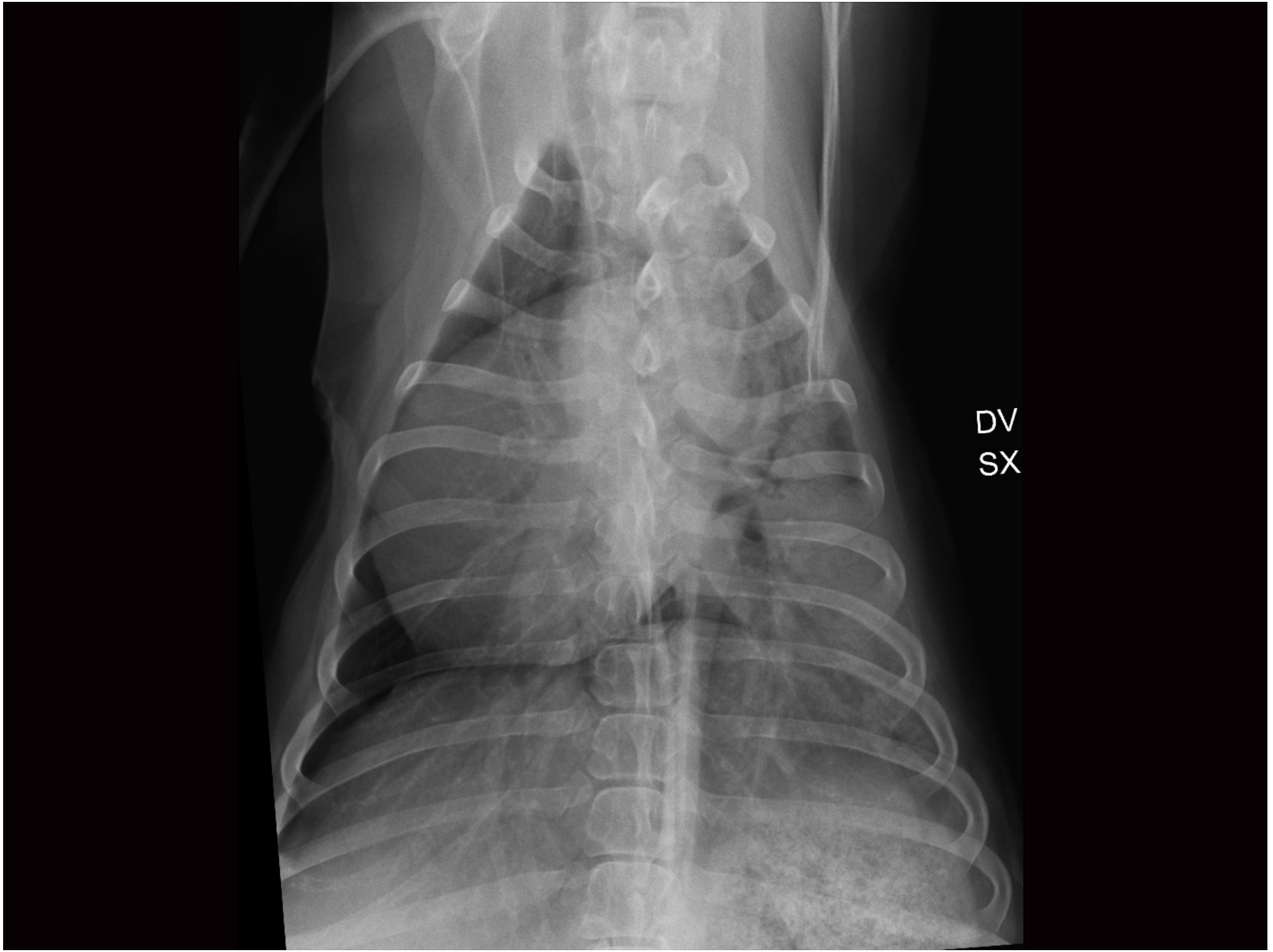




Projections?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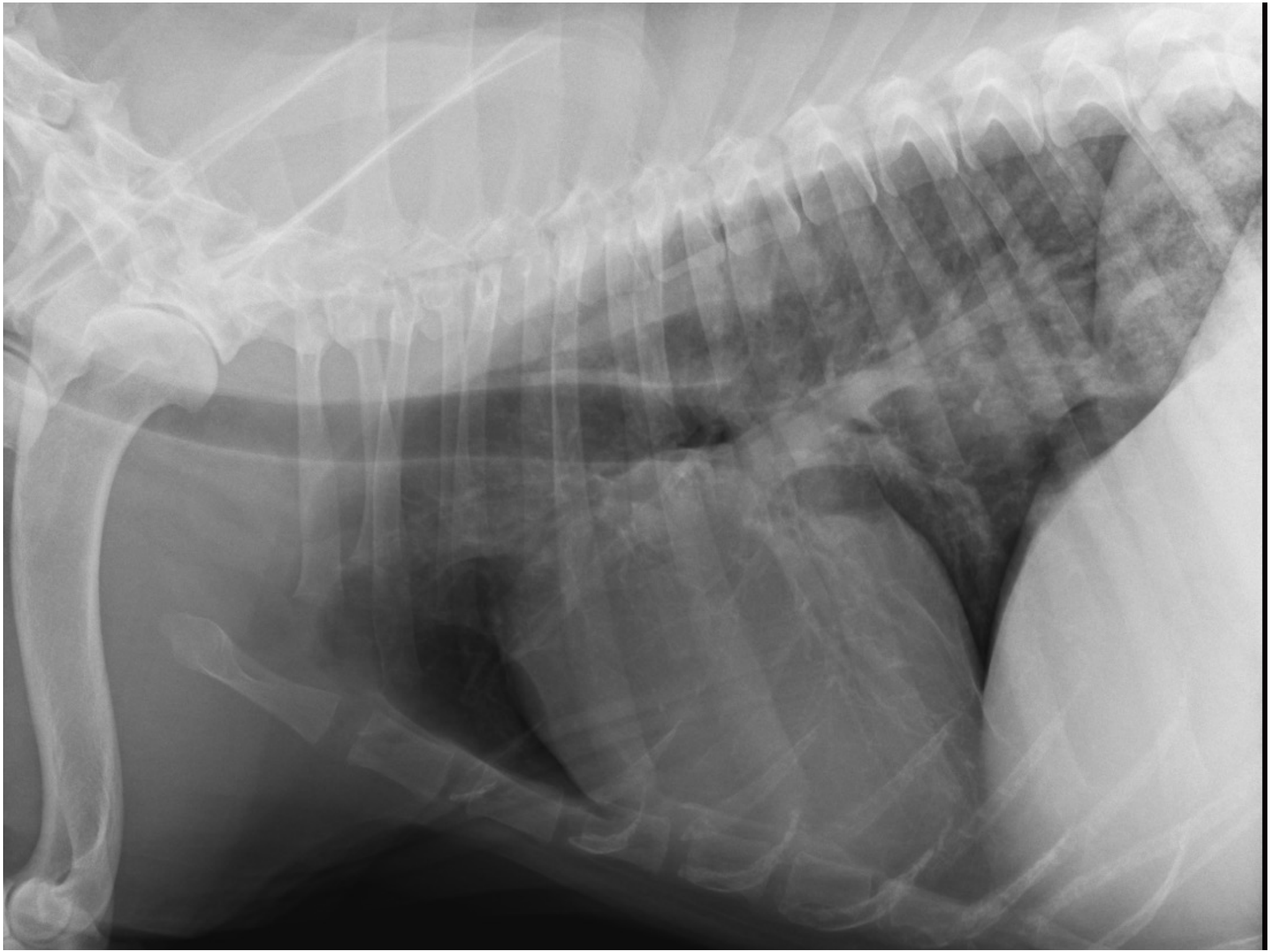

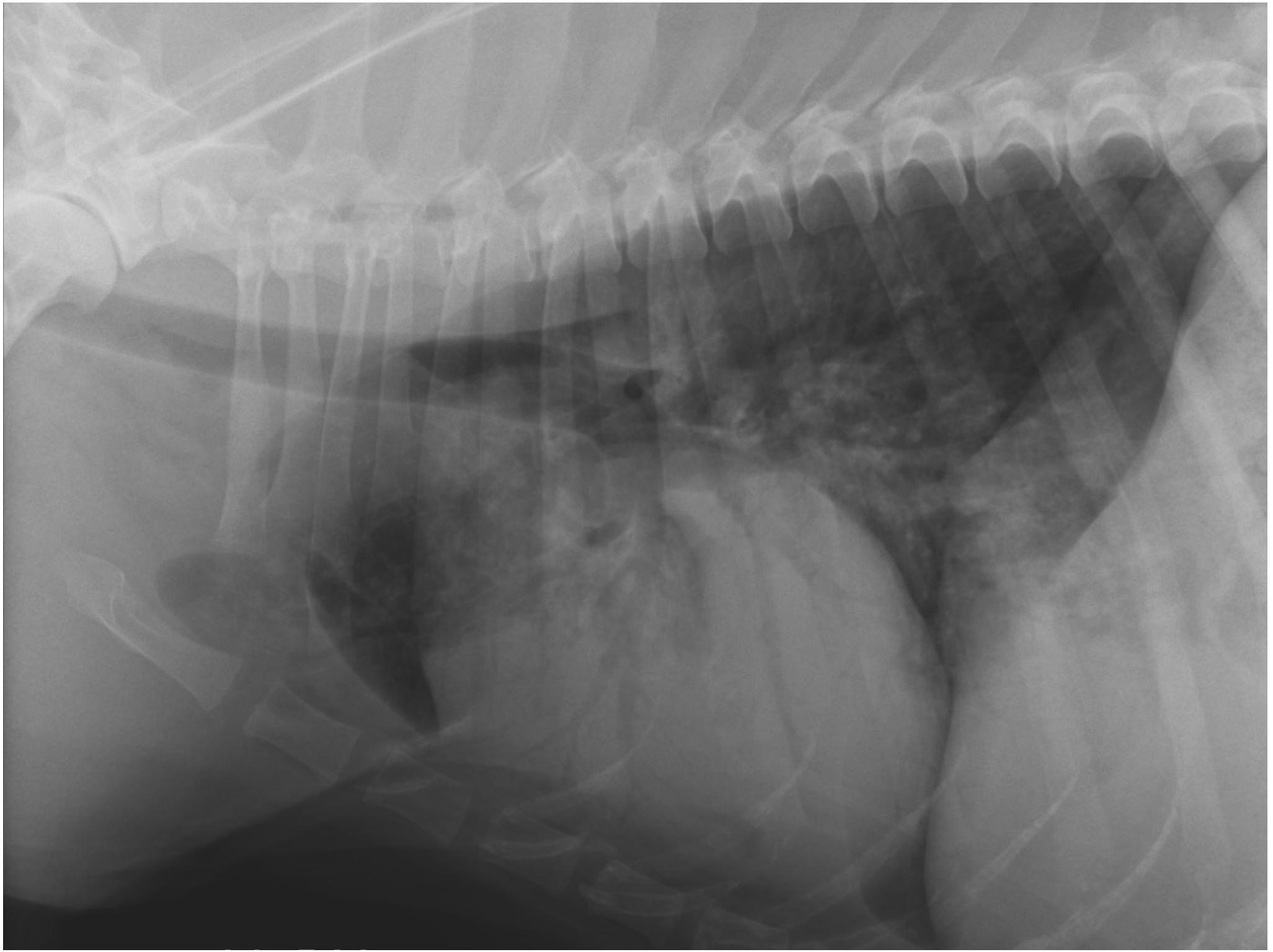

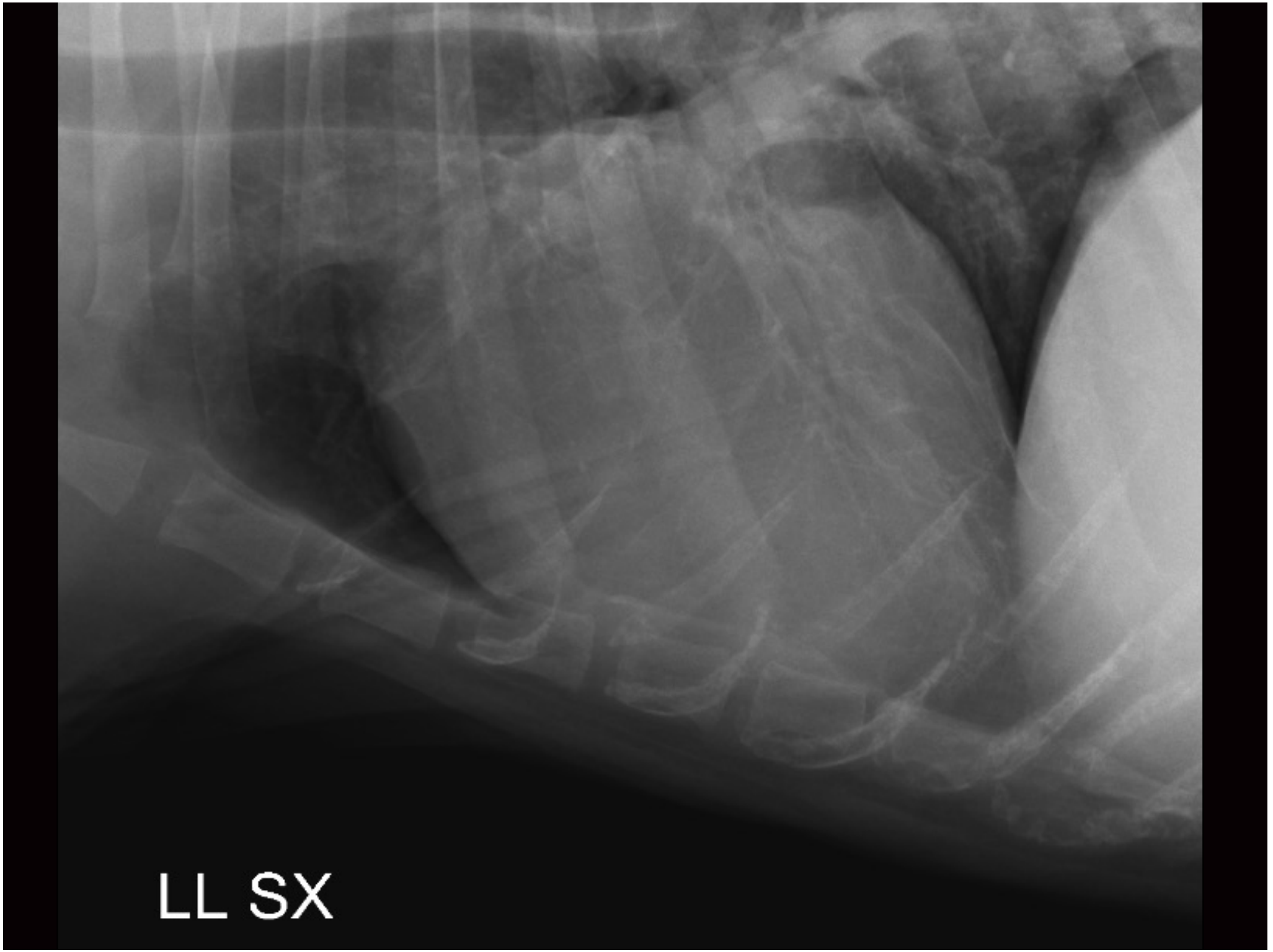
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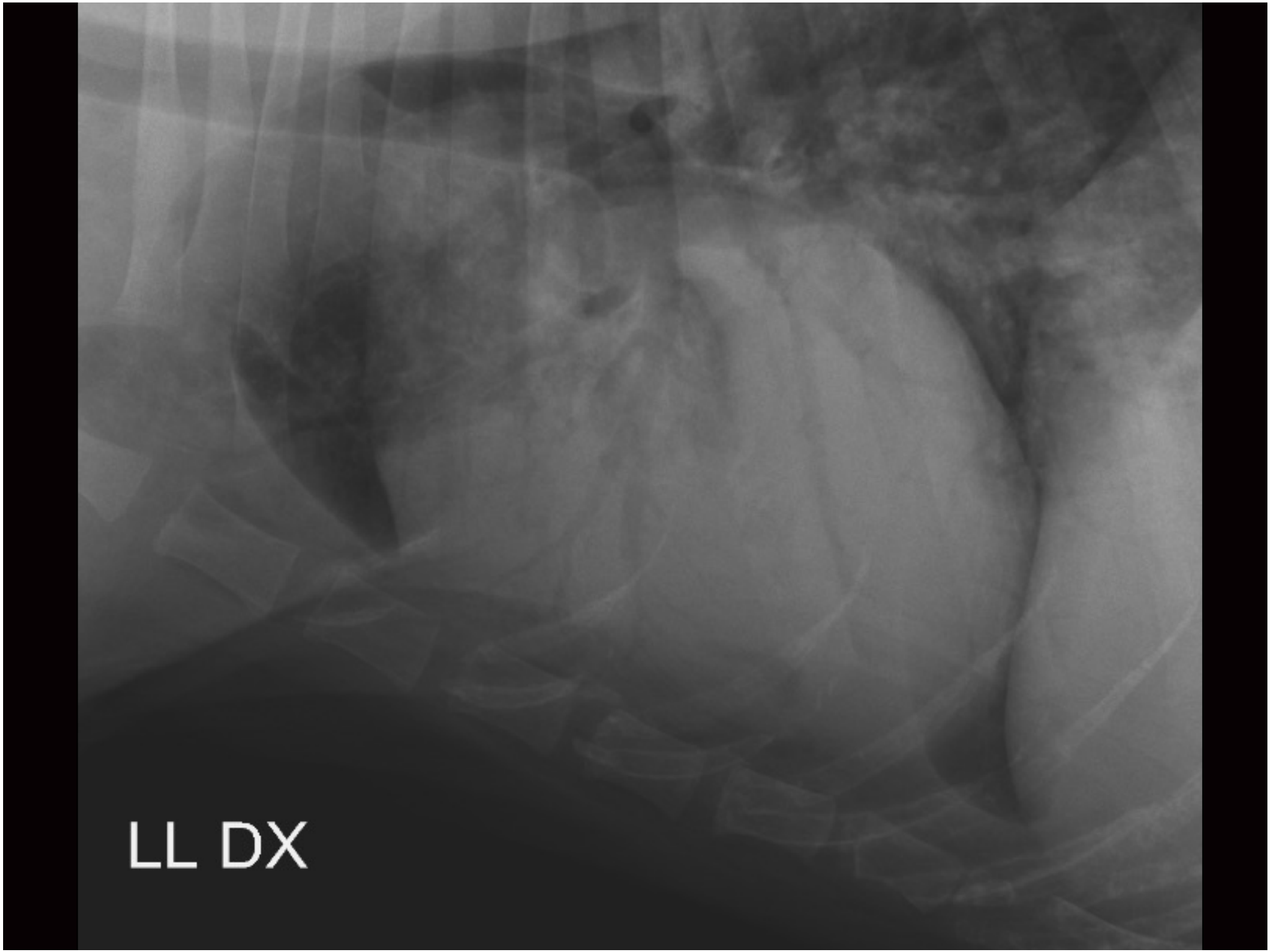
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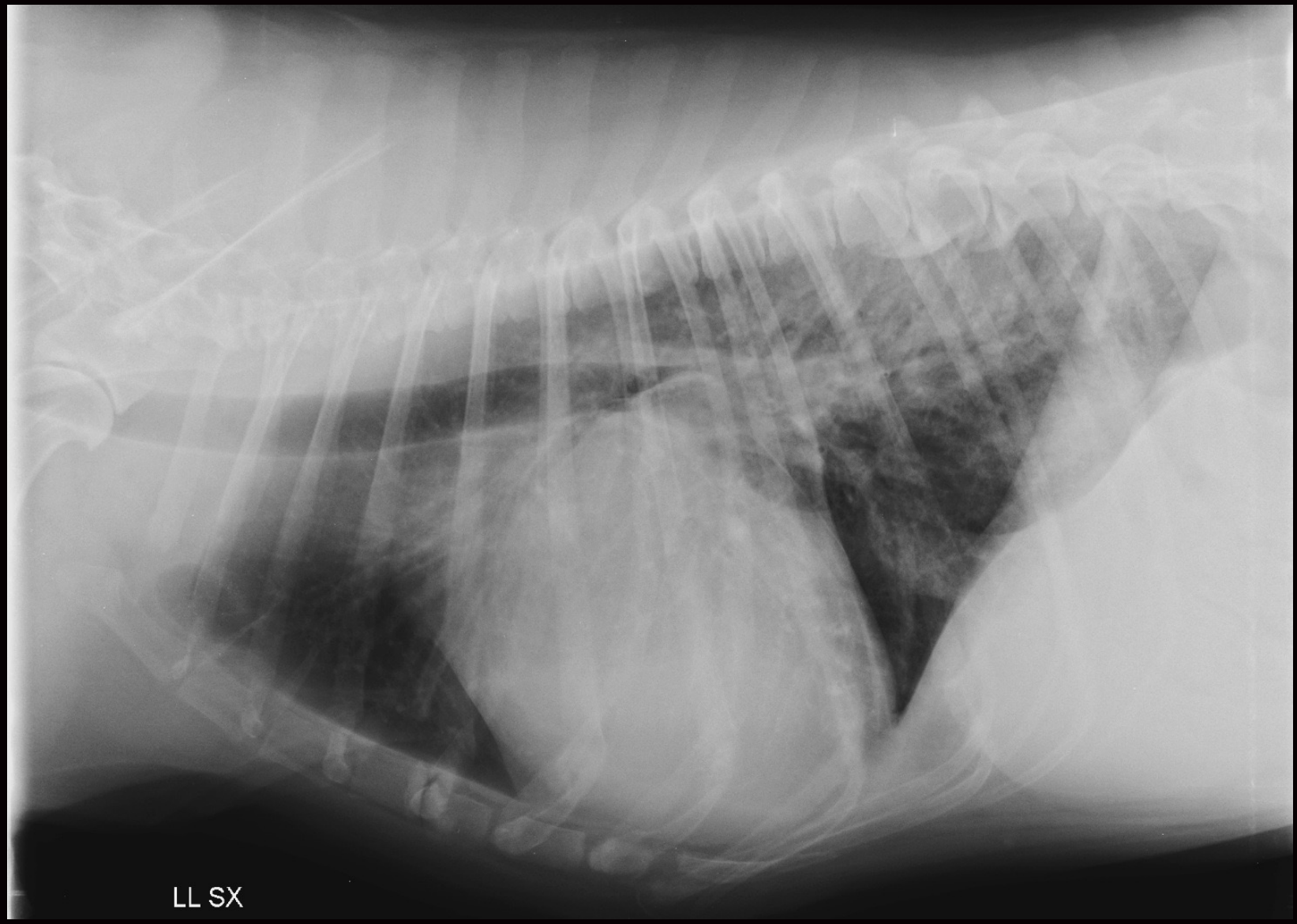
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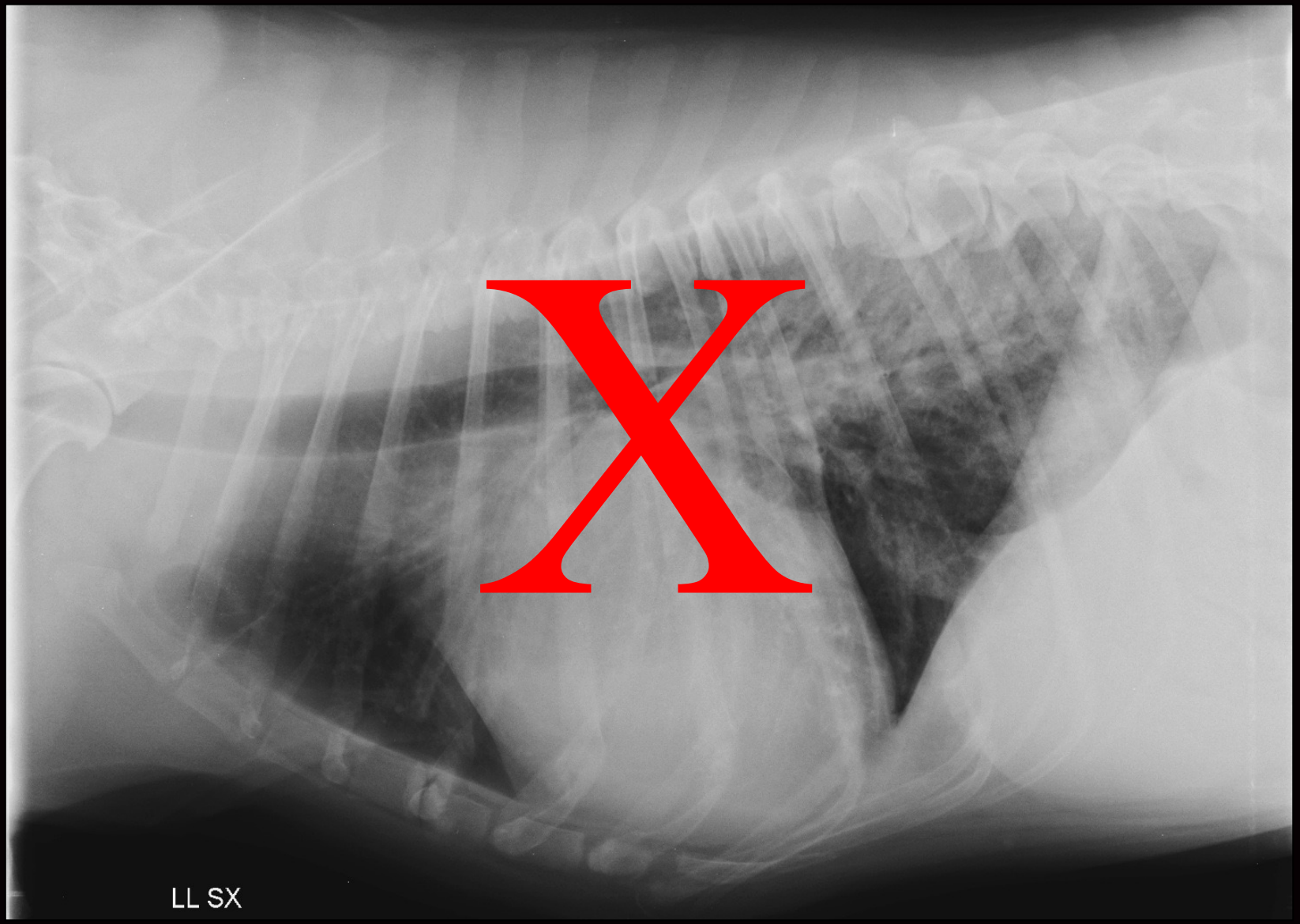
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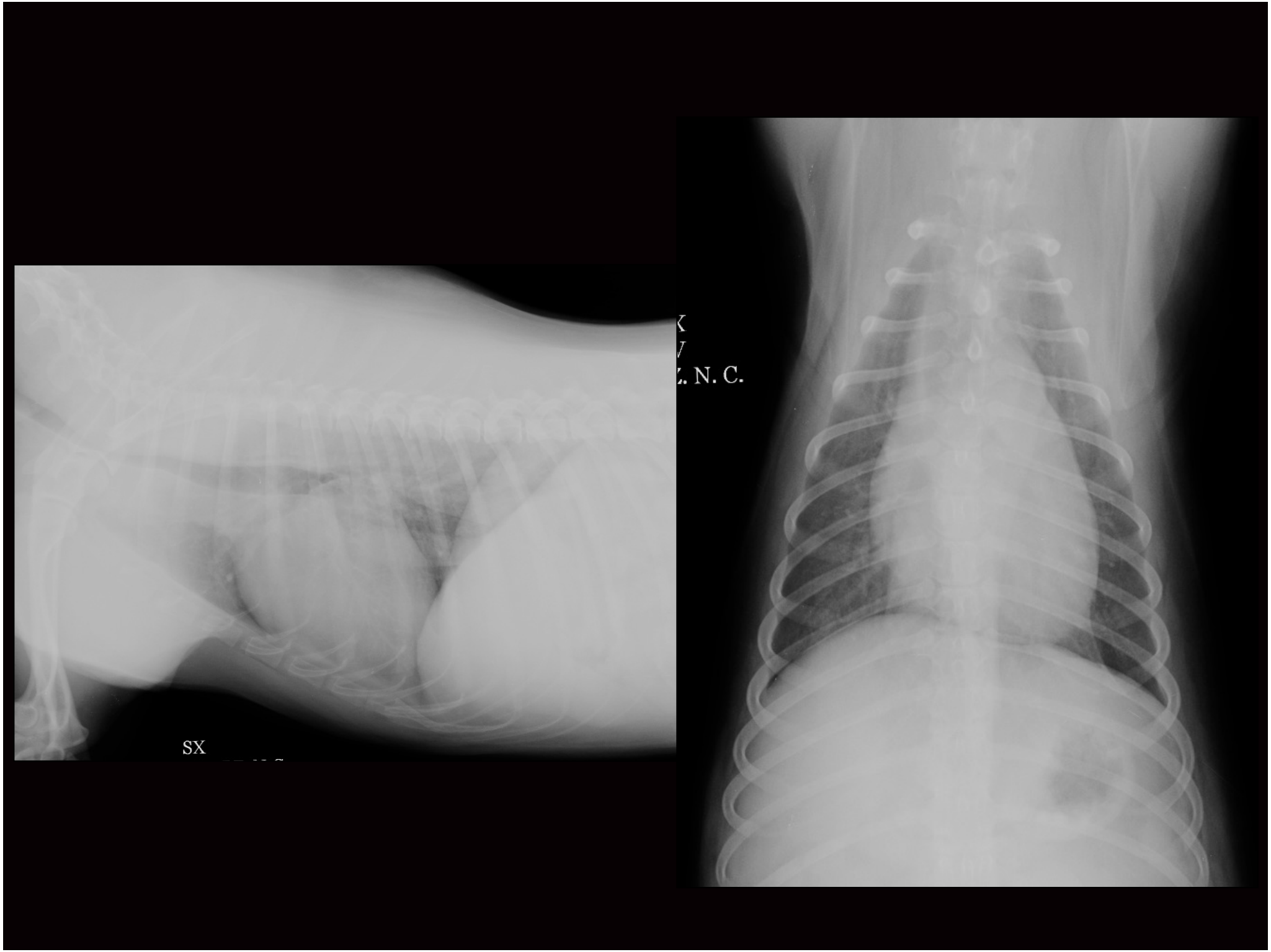
Critical assessment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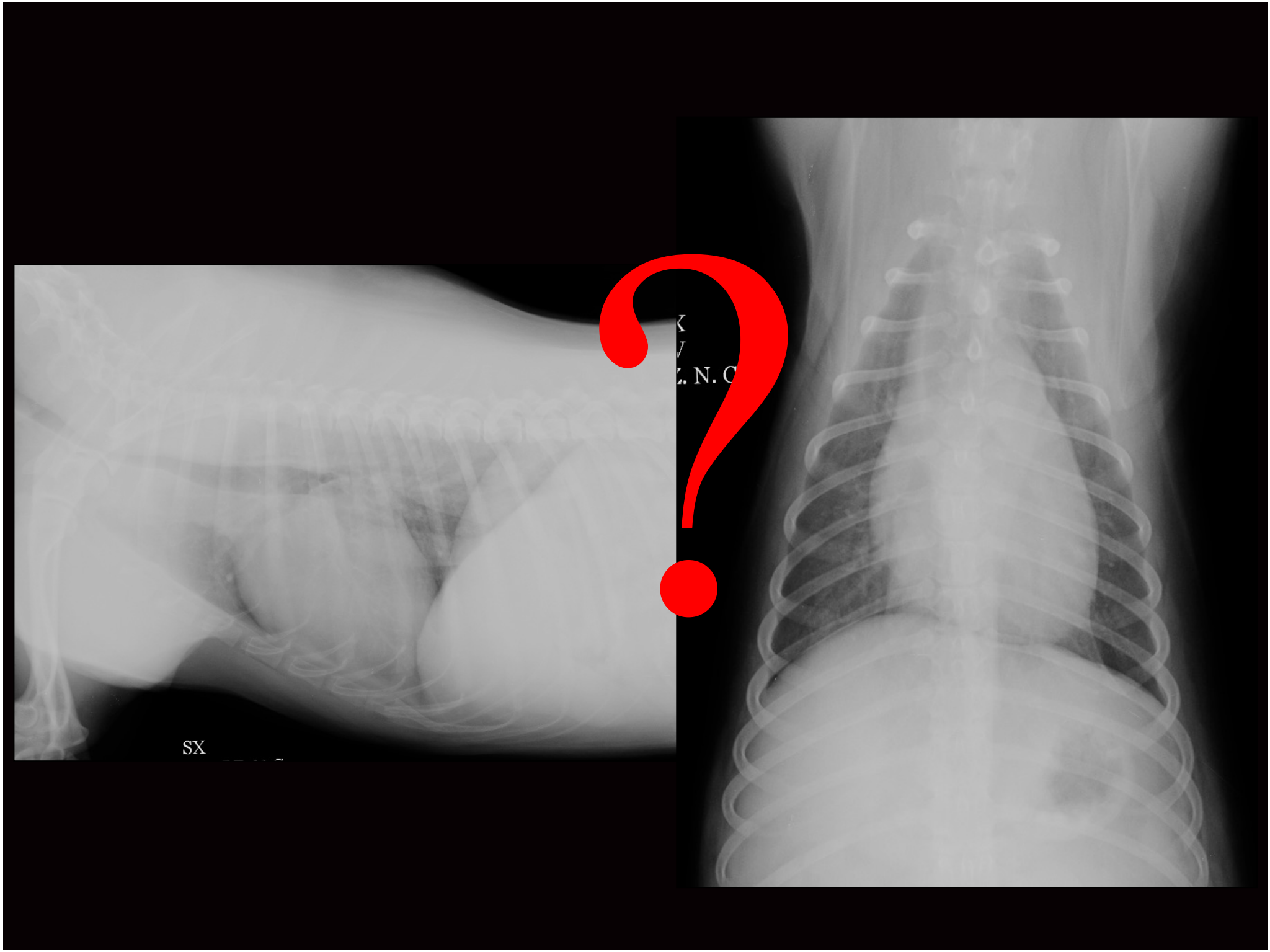
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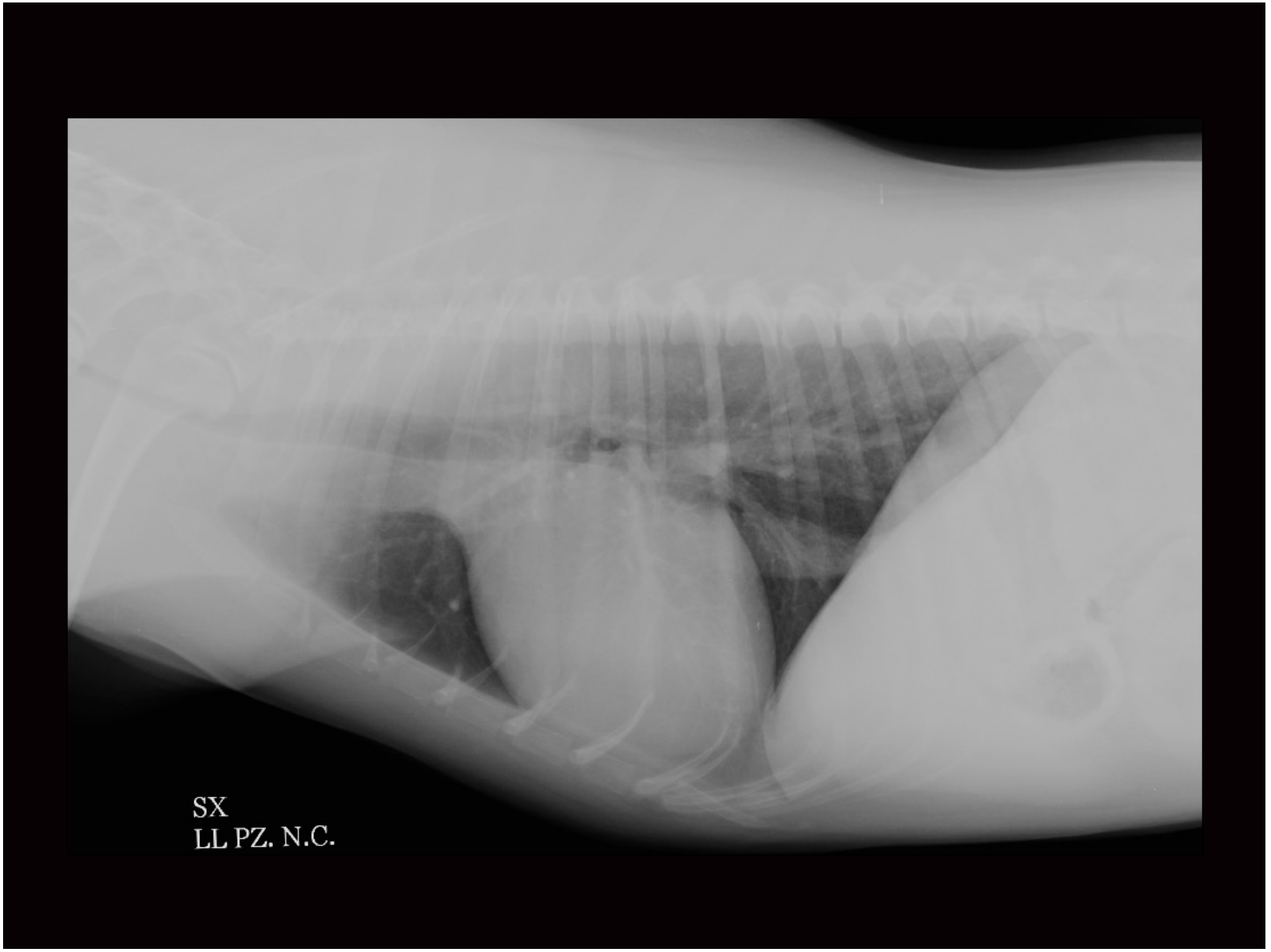
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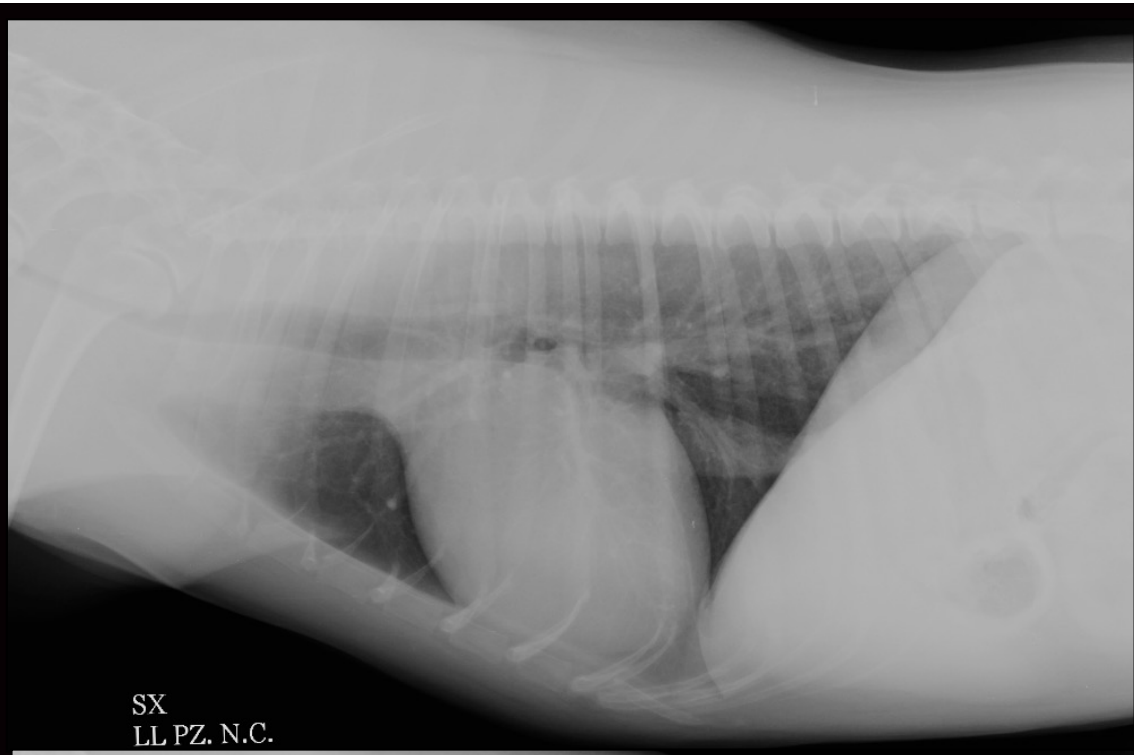
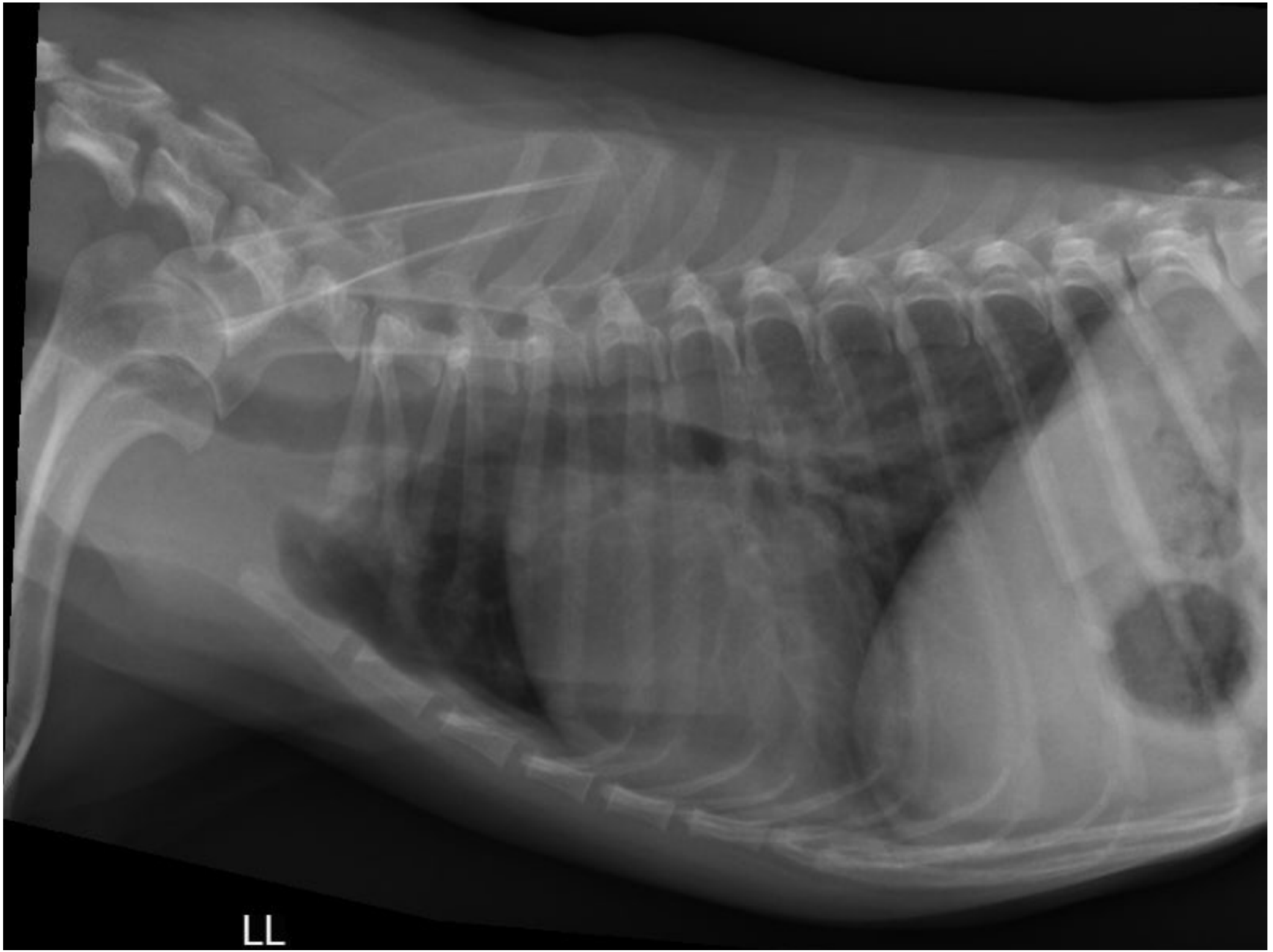


EXPIRATION

Inspiratory phase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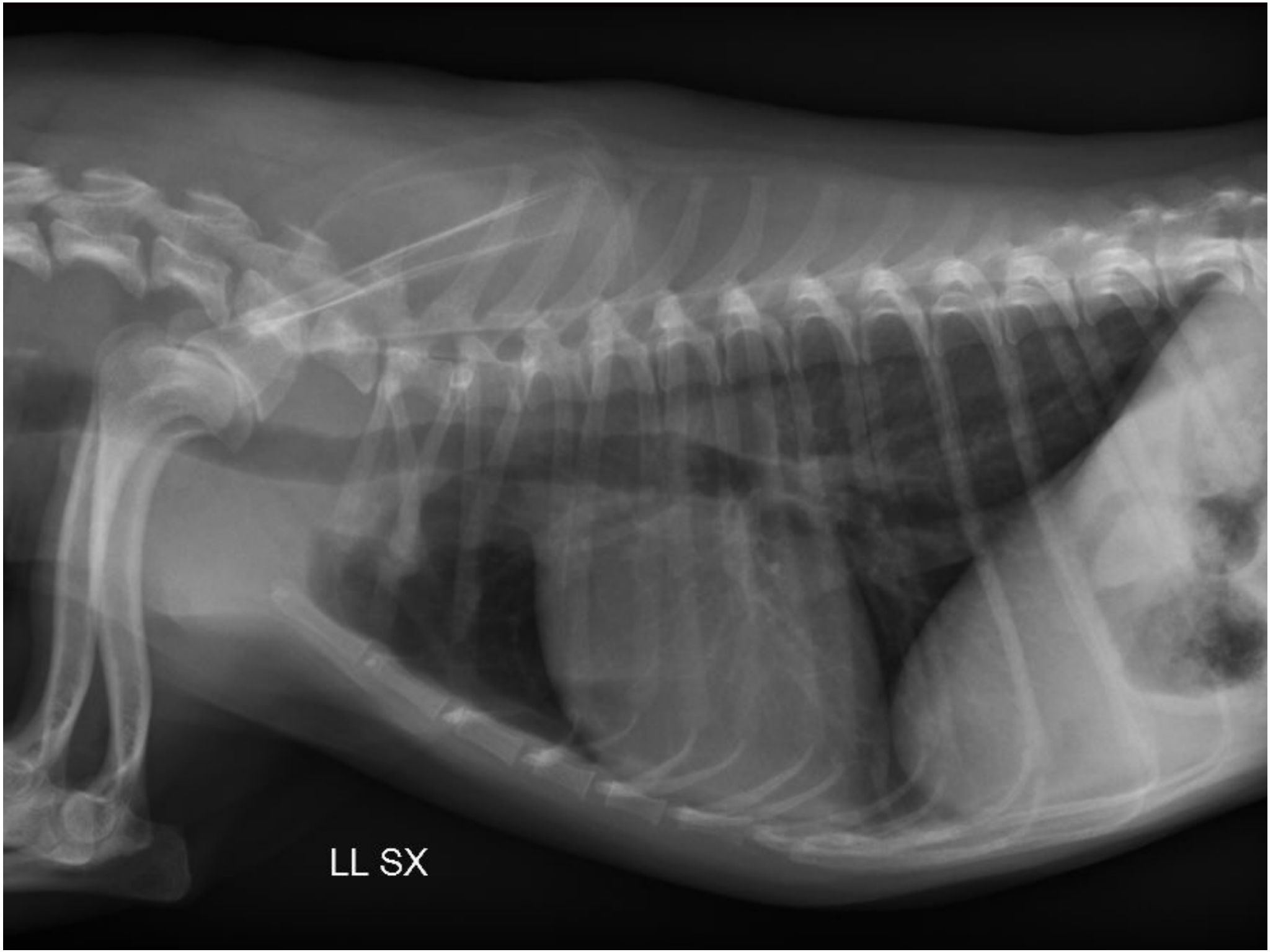
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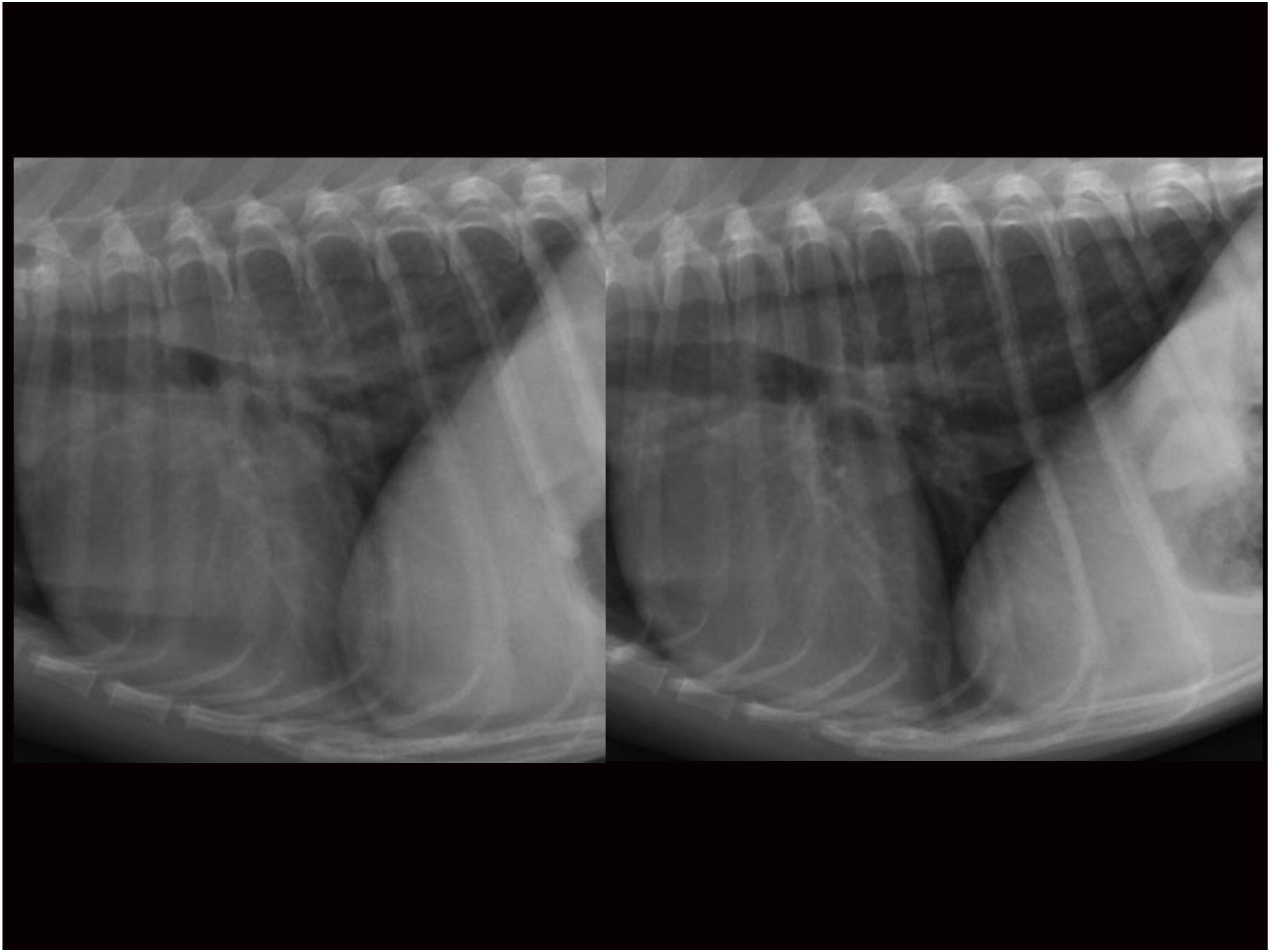

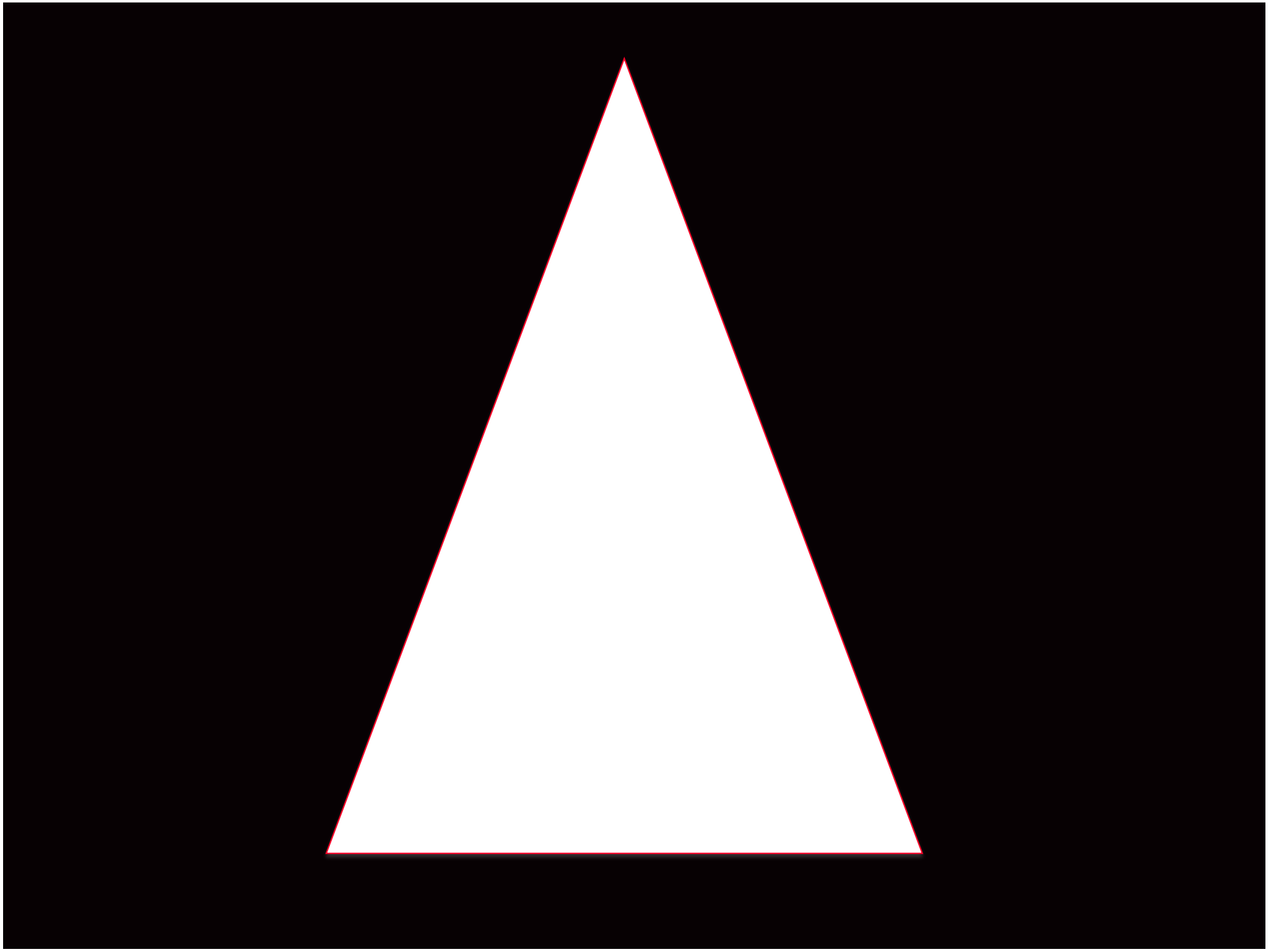

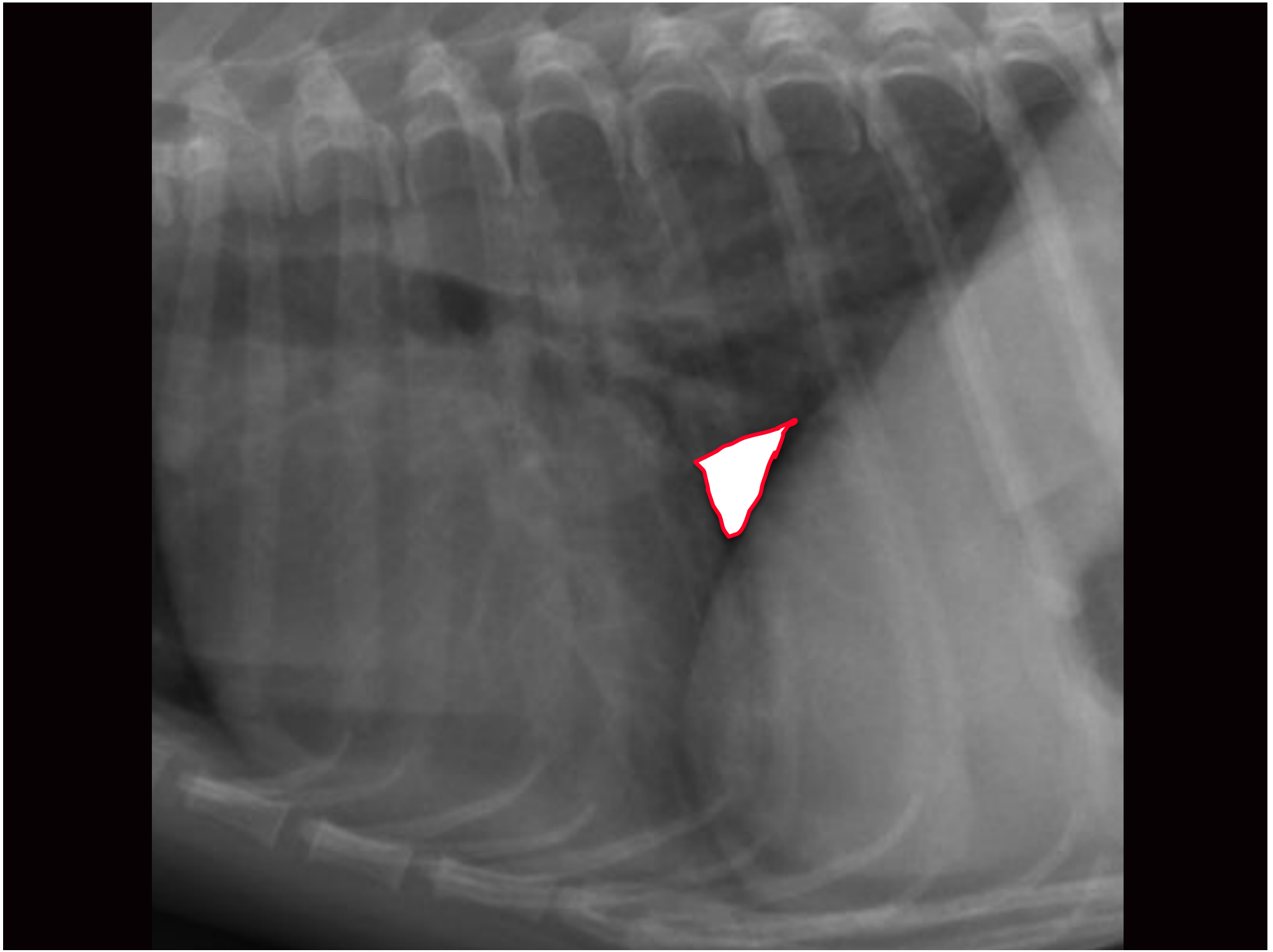

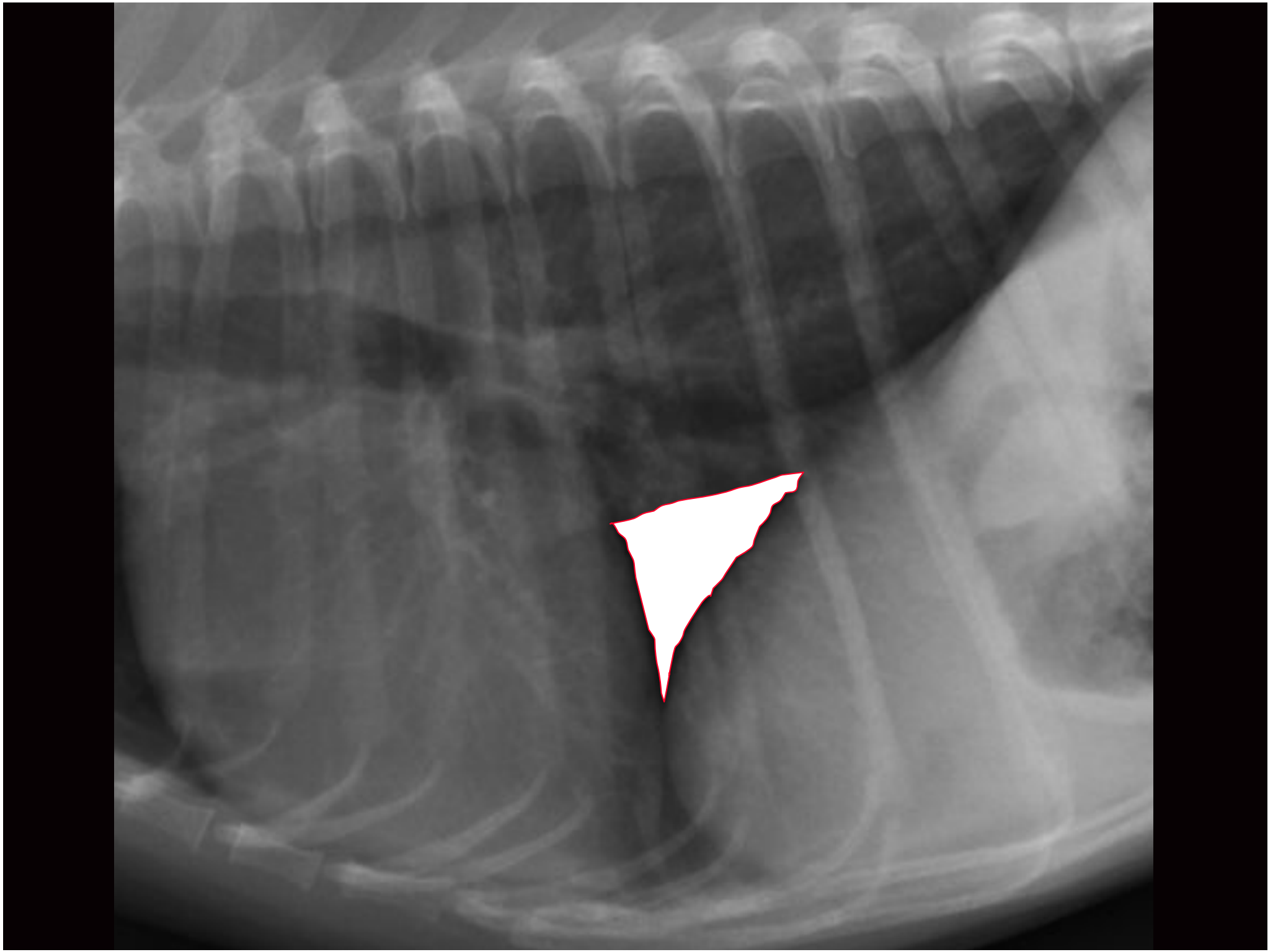

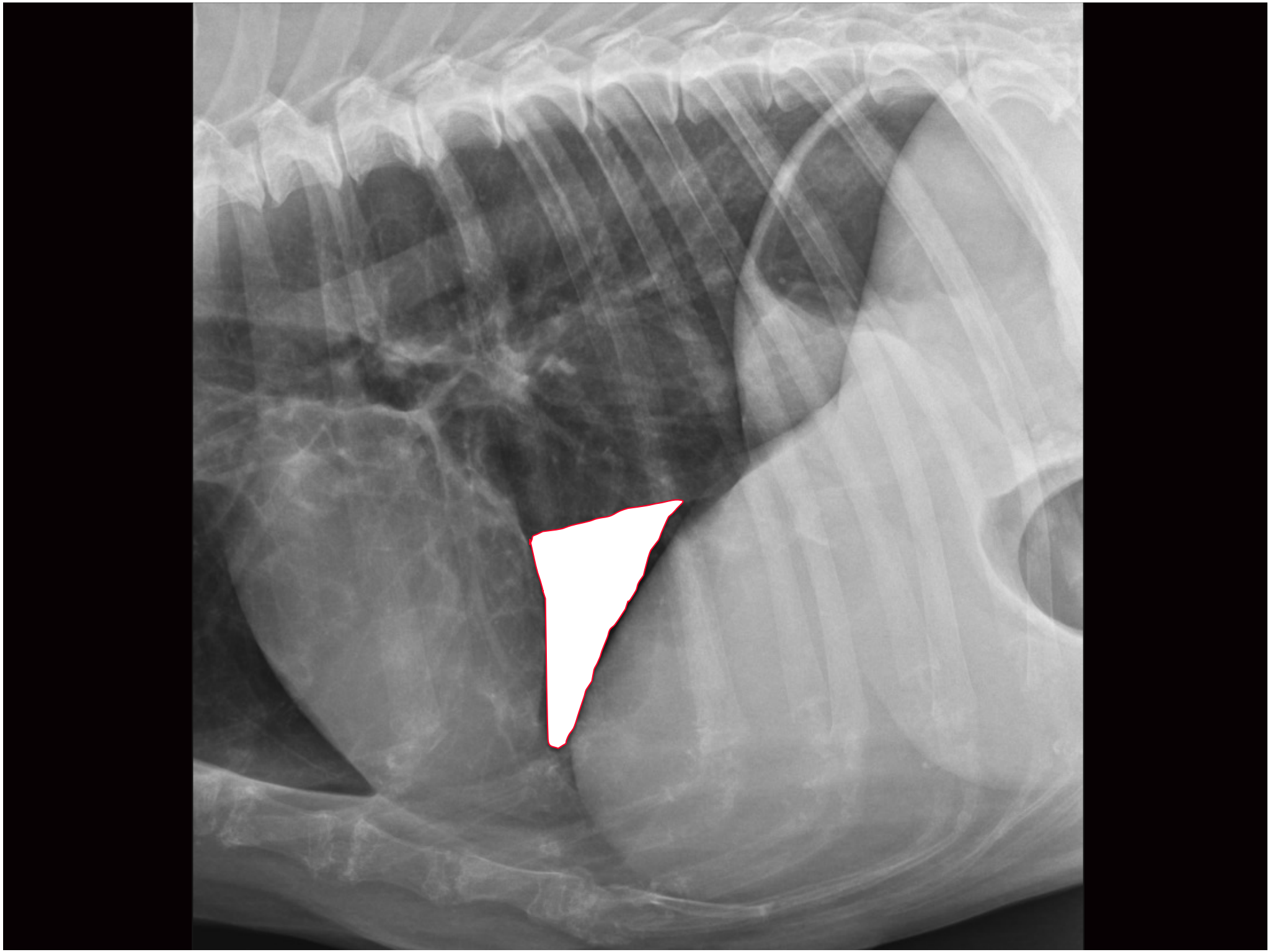

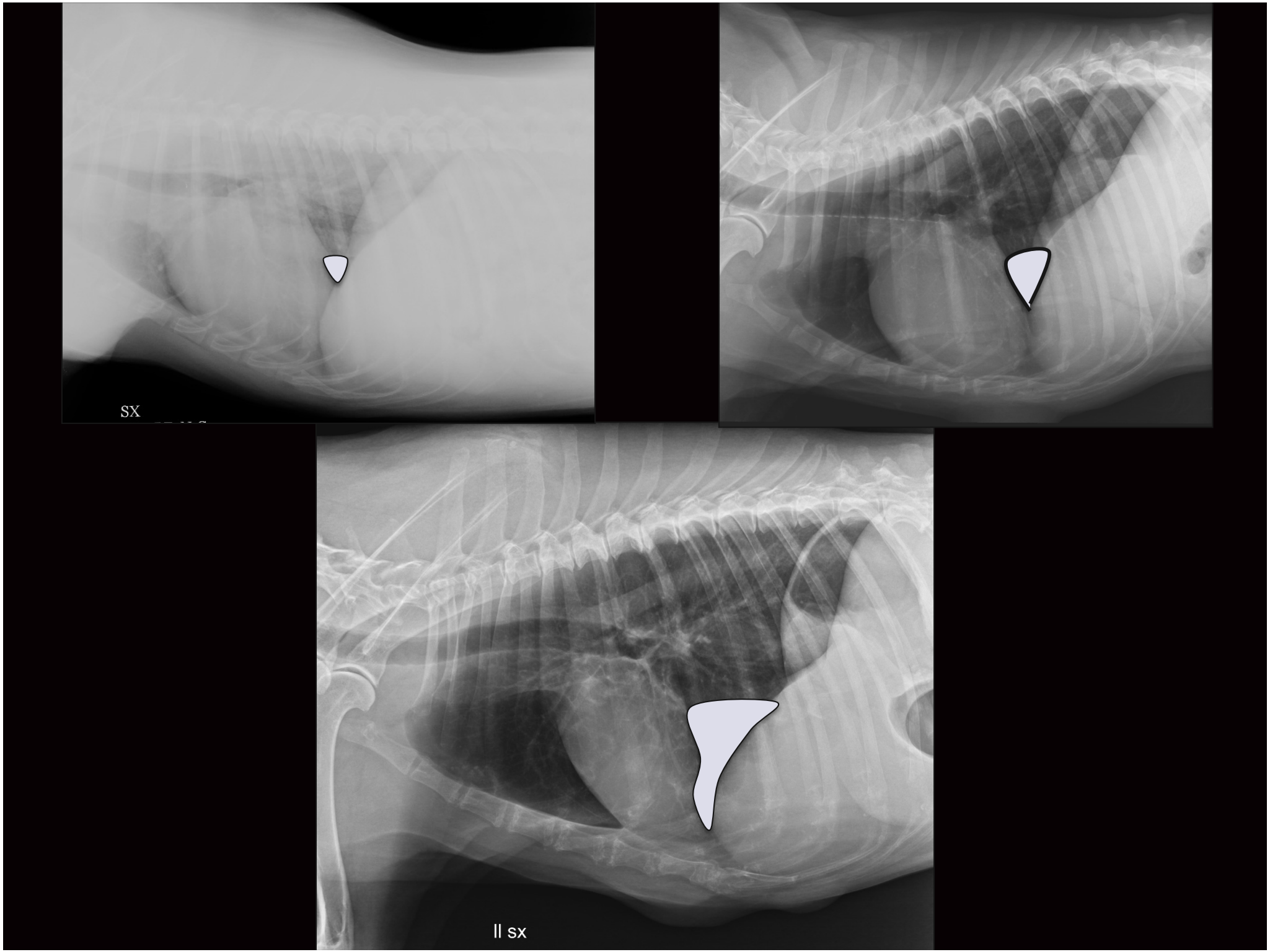
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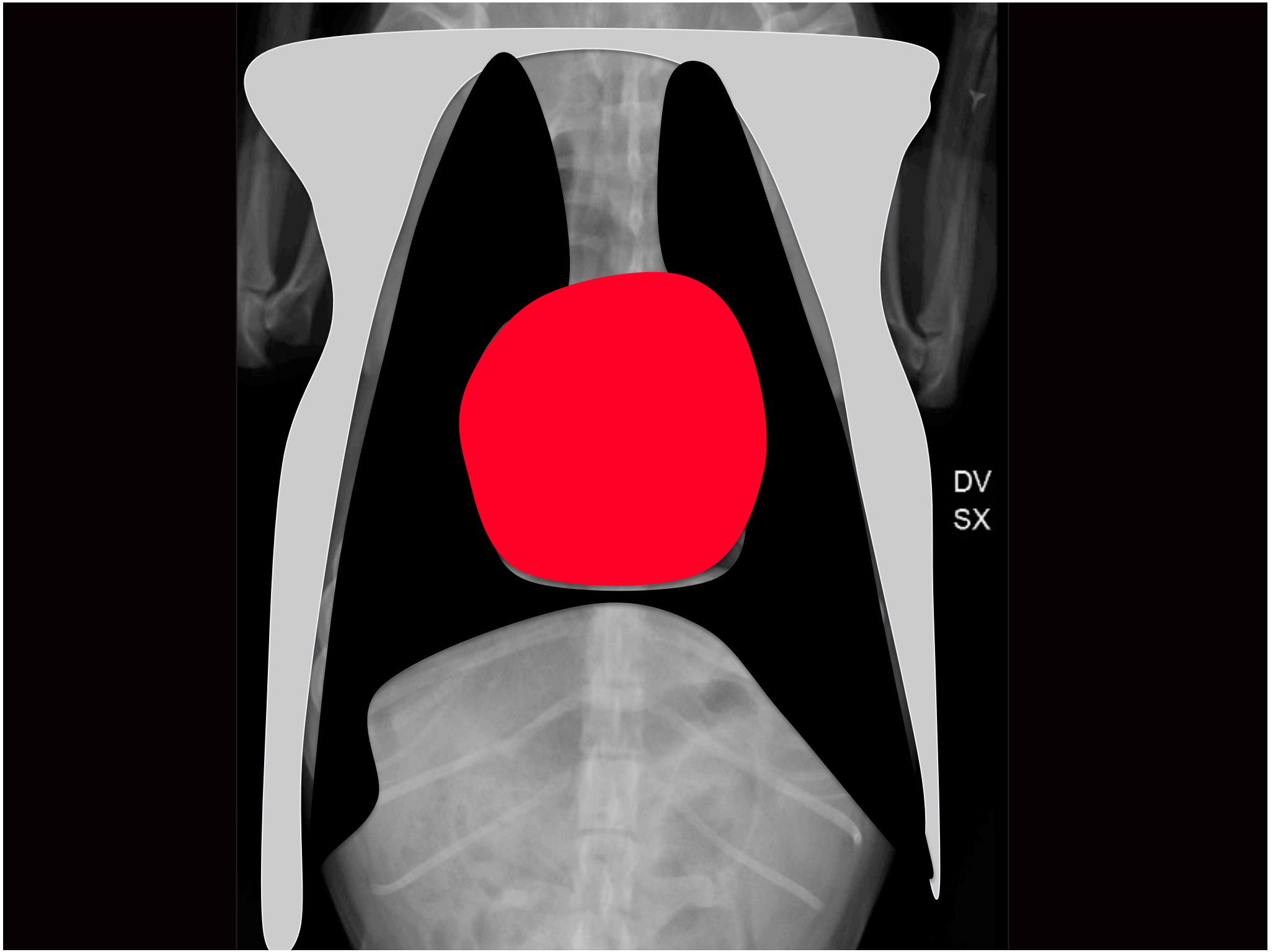
READY TO BEGIN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Source: Google

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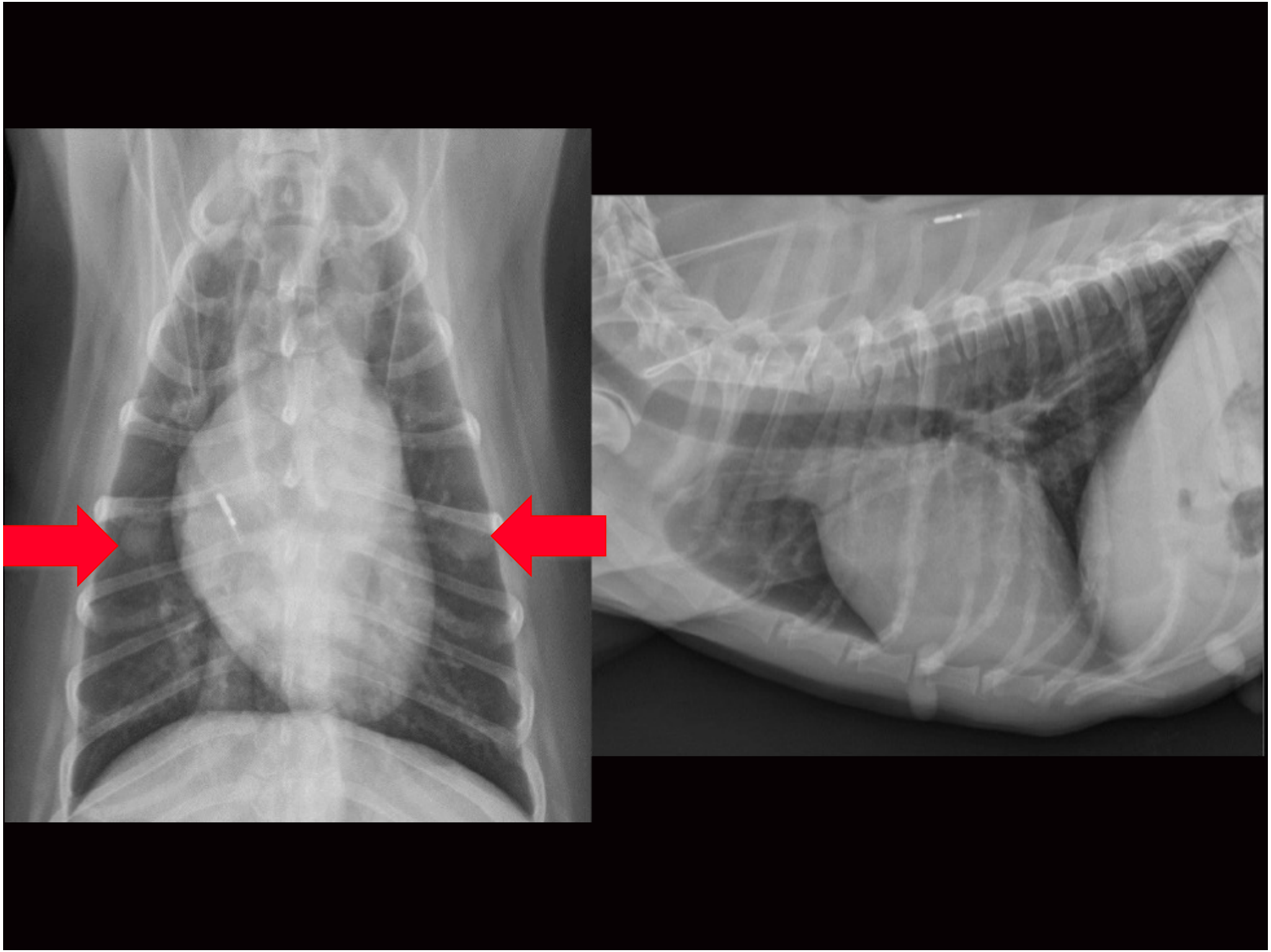

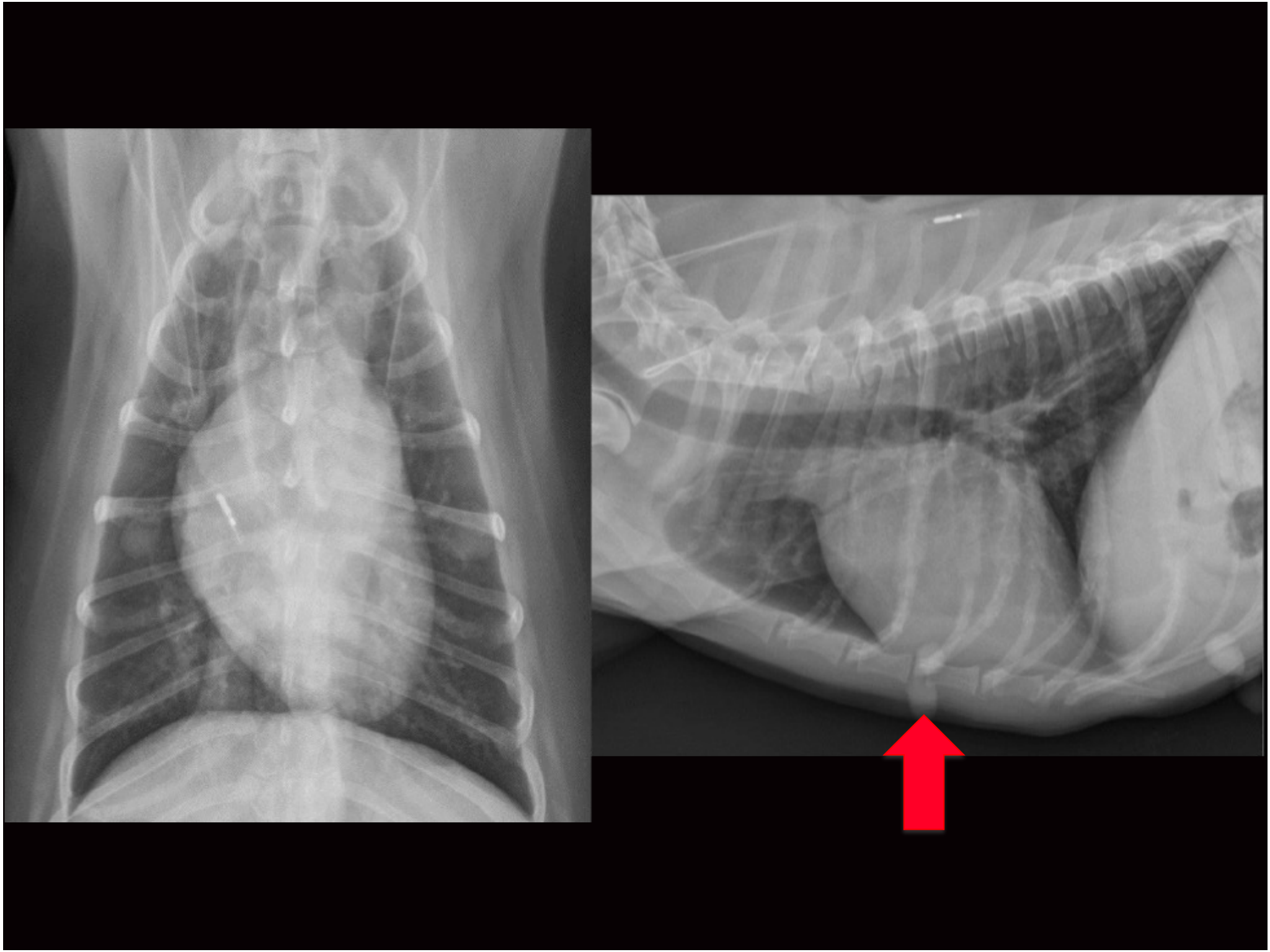

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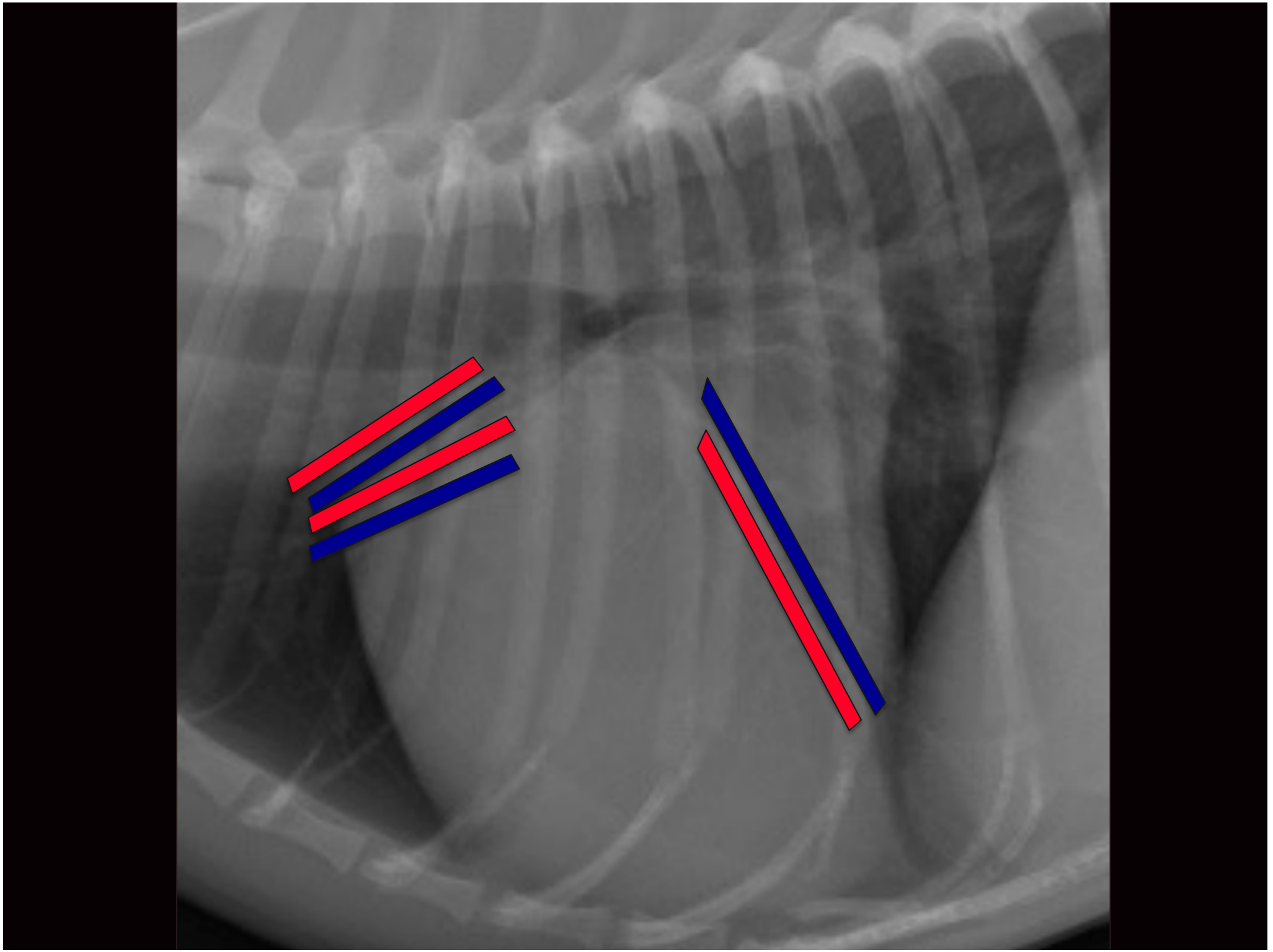
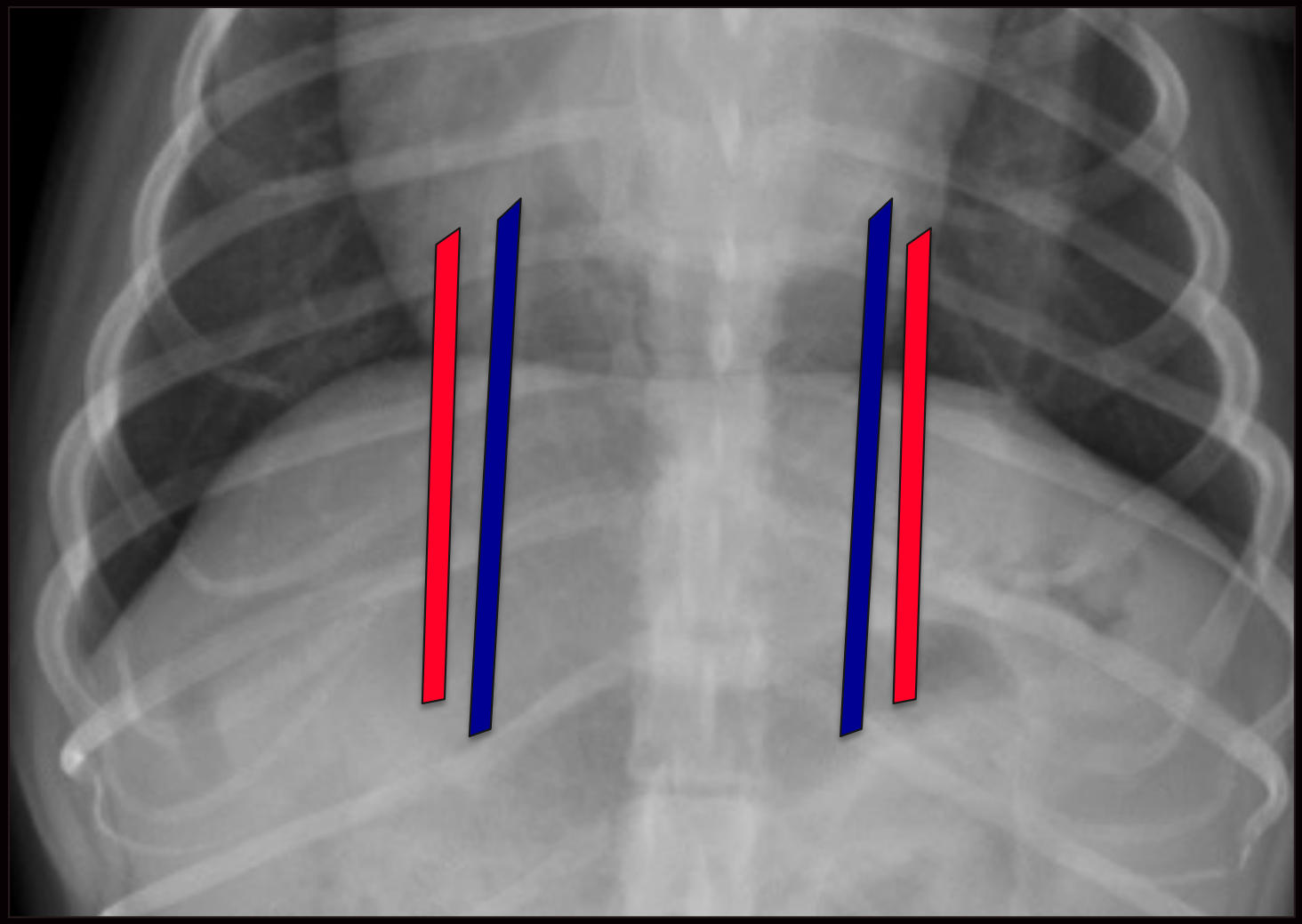


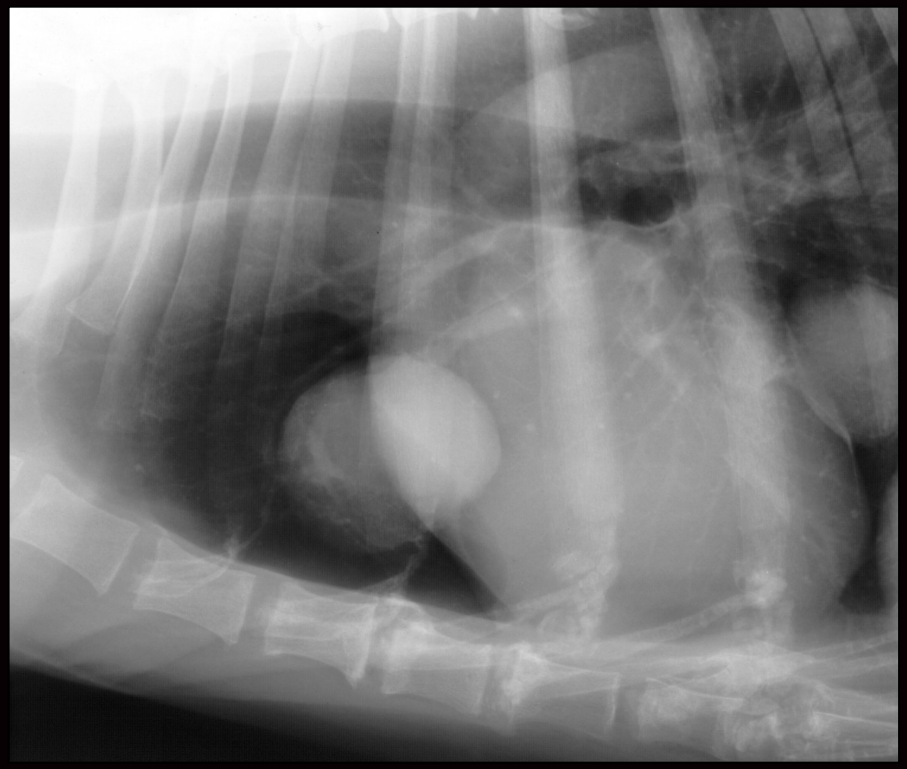


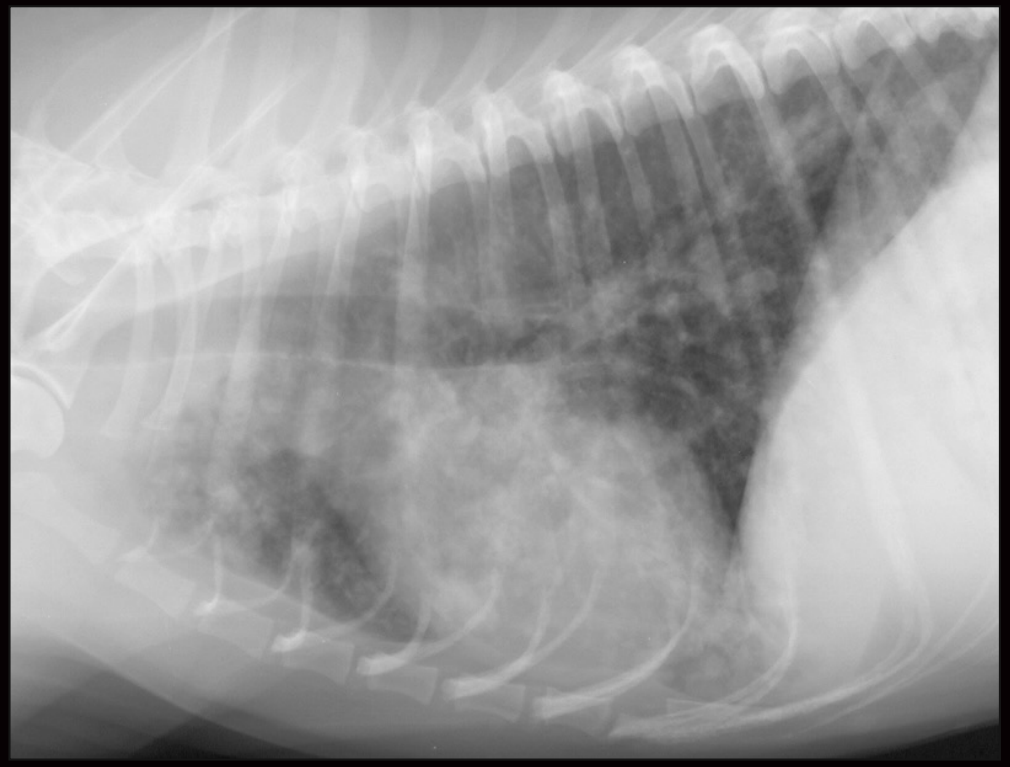
Pulmonary patterns

- Pulmonary patterns
  - *Interstitial*
  - *Bronchial*
  - *Alveolar*
  - *Vascular*

Pulmonary patterns

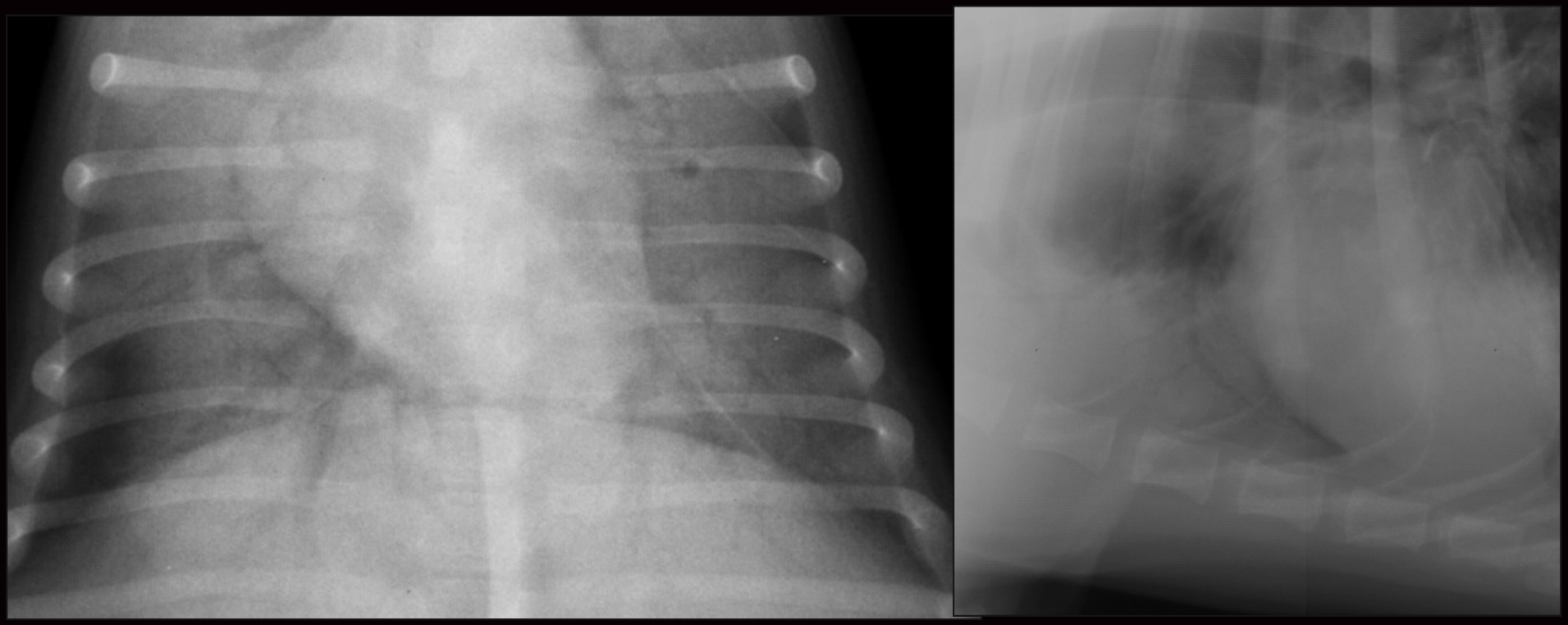
- Same pathology different patterns





Pulmonary patterns

- Same pattern different pathologies



STEP 1

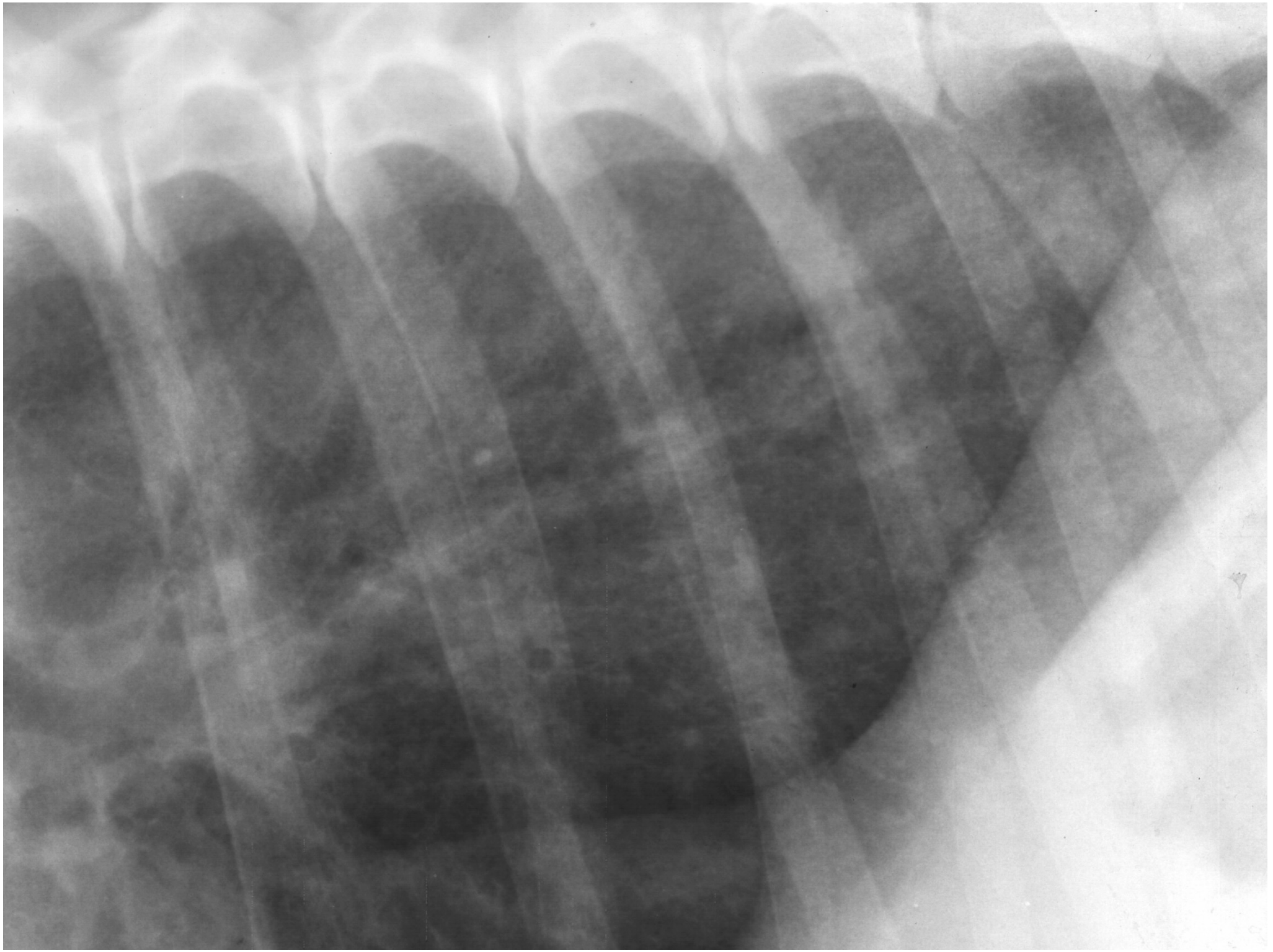
DEFINE THE LUNG PATTERN

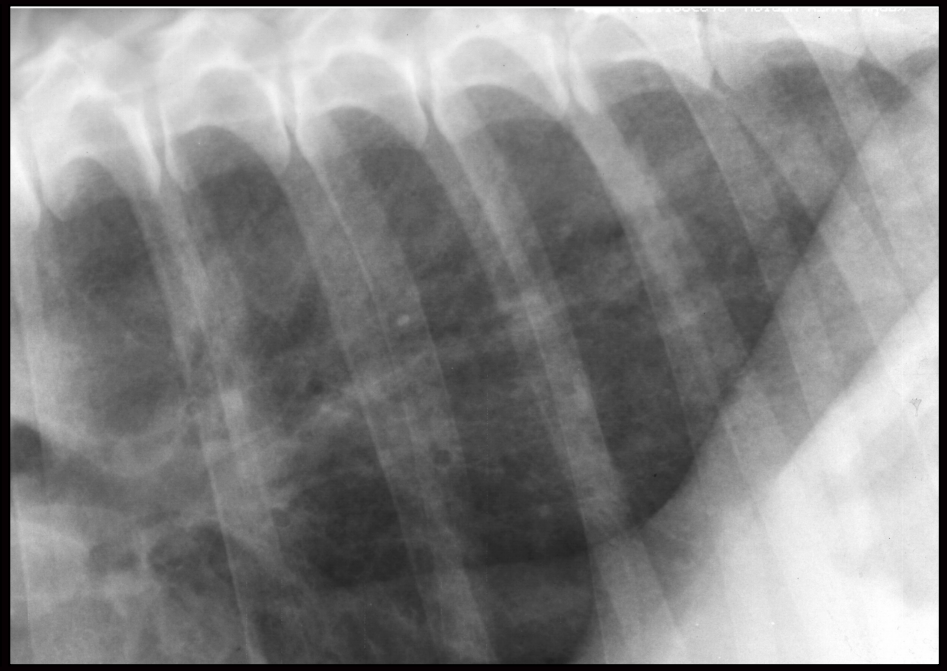
STEP 2

DESCRIBE THE LUNG PATTERN

STEP 3

- **Radiographic signs**
  - *Numbers*
  - *Opacity*
  - *Size-Distribution*
  - *Shape*
  - *Margins*

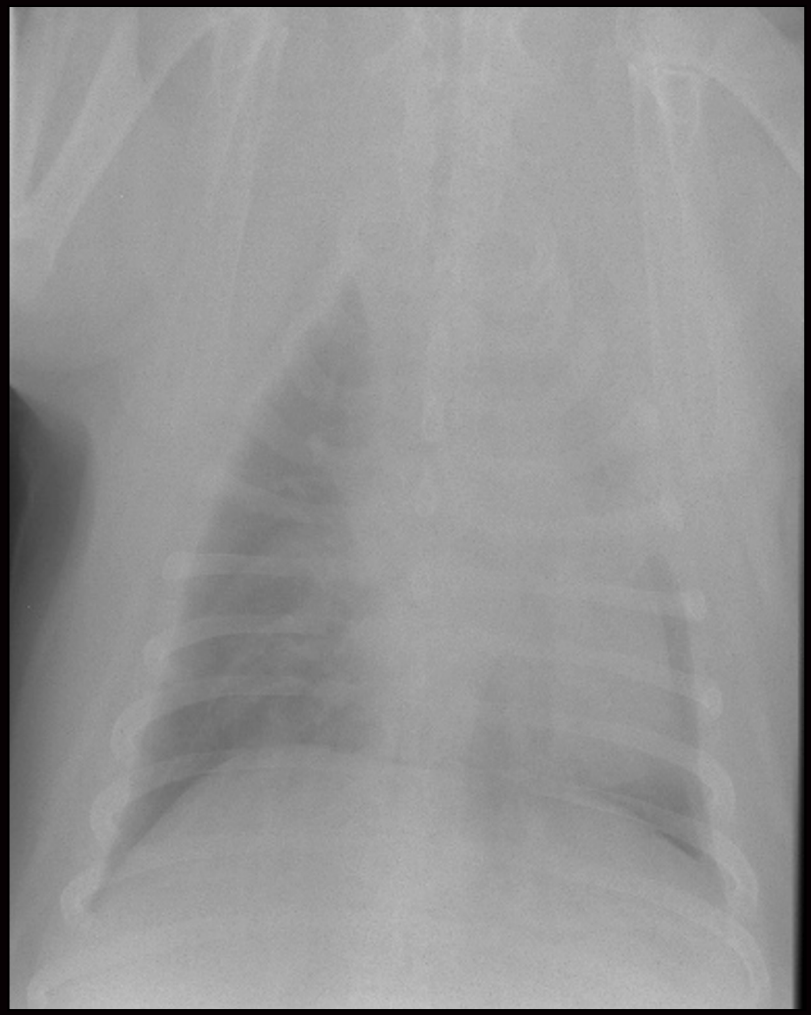




Normal lung

INTERSTITIAL PATTERN

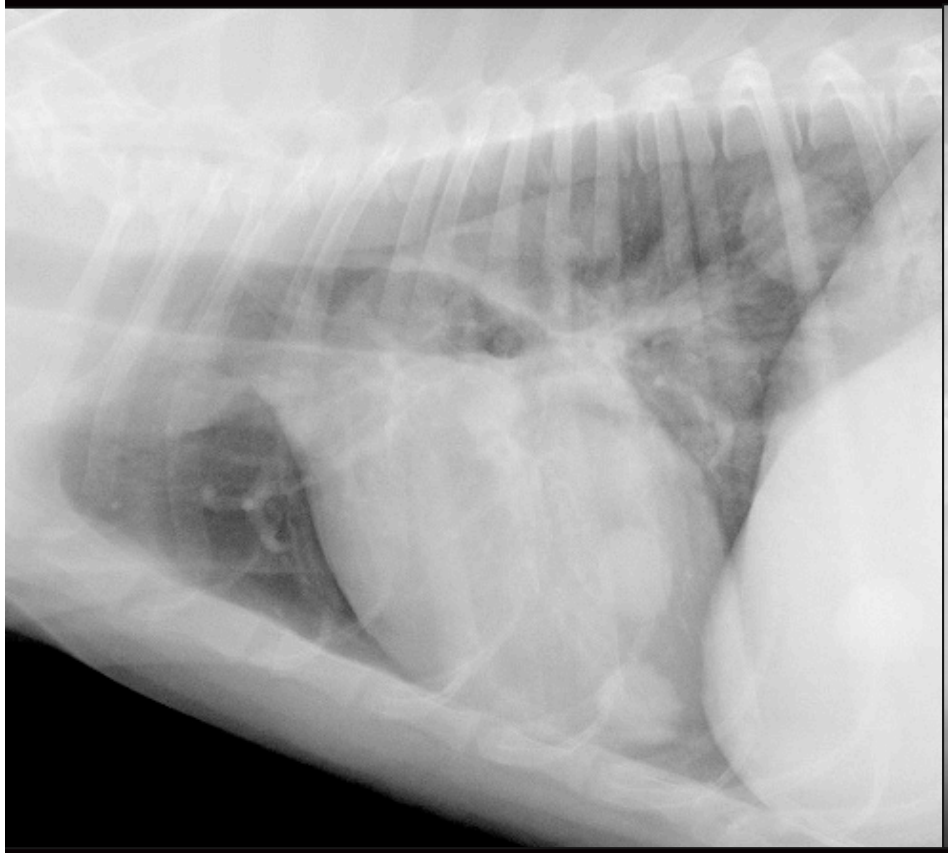
Interstitial pattern

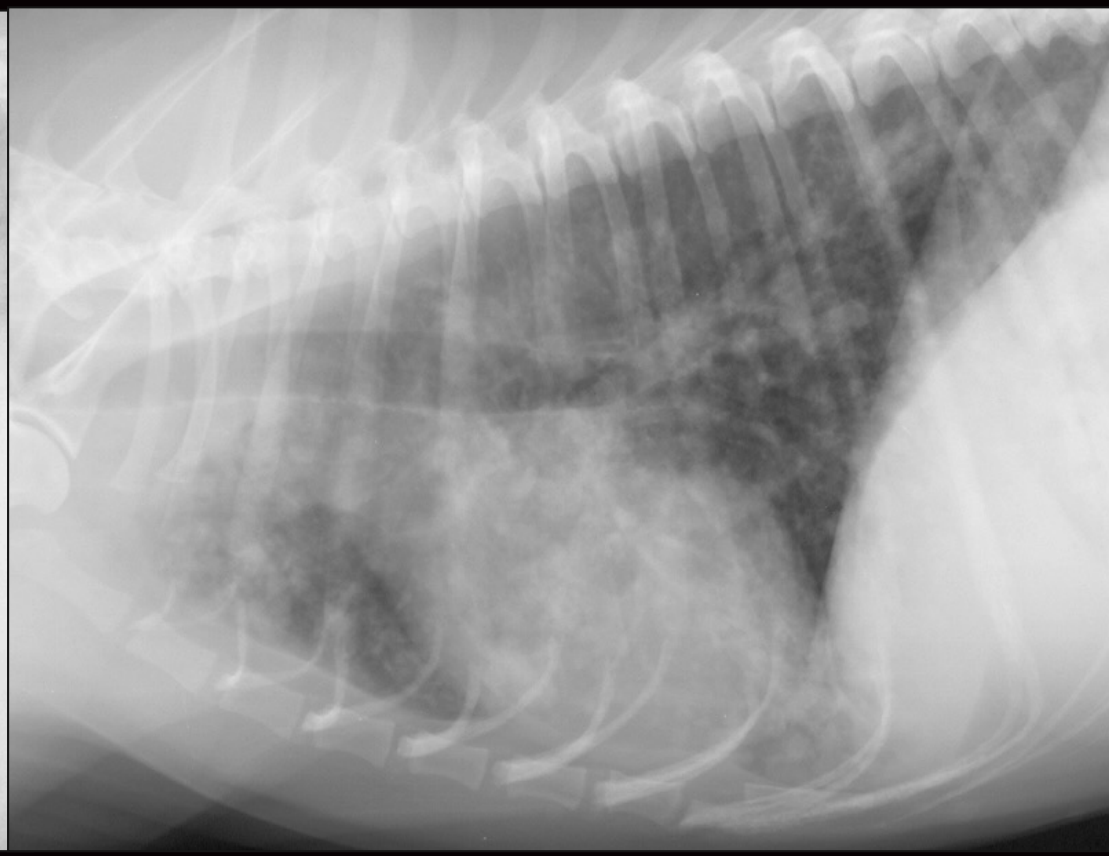


Obesity

- Radiographic signs
  - *Increased lung opacity*
  - *Vessels poorly visible*
  - *Nodular or unstructured (localized or diffuse)*

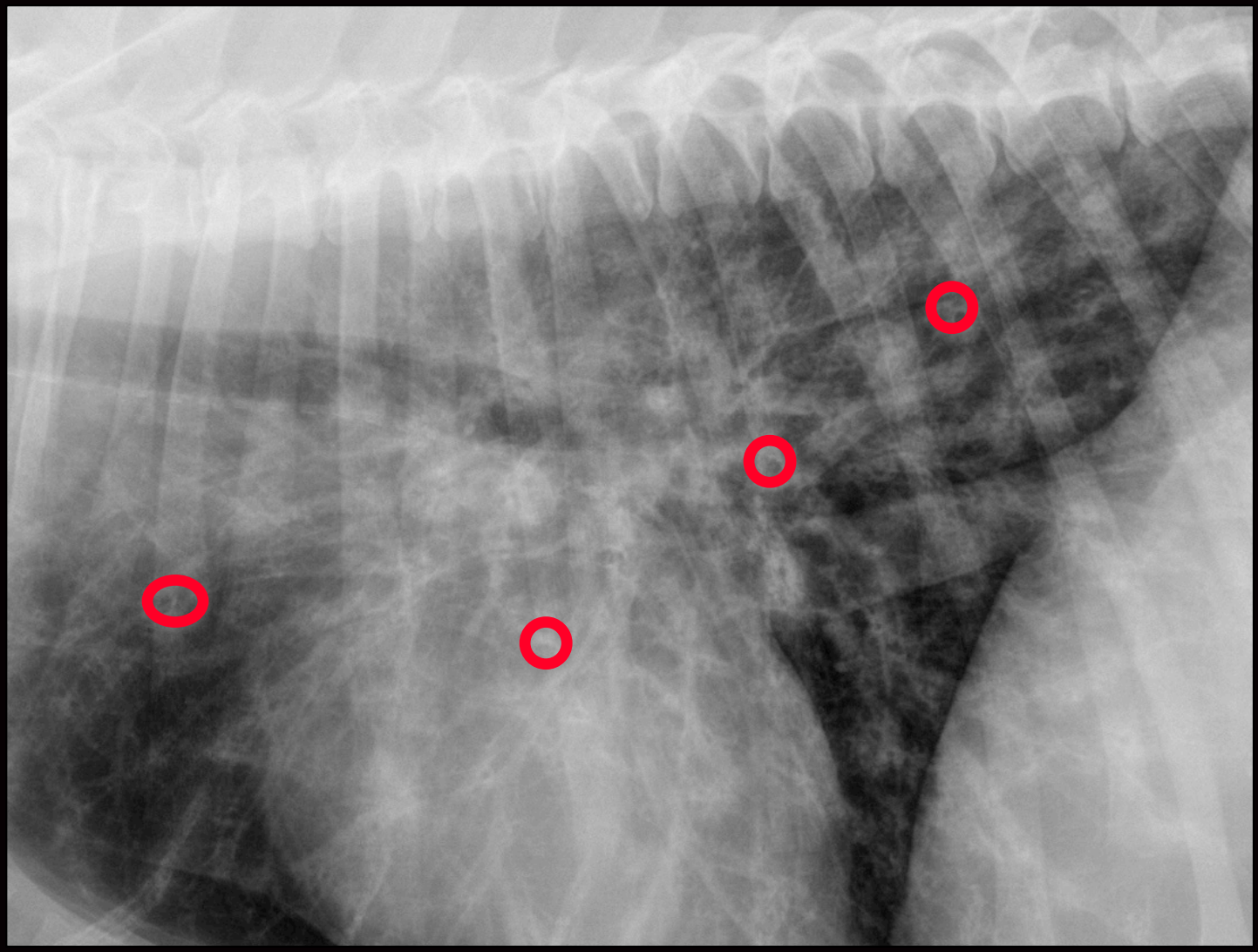
Structured interstitial

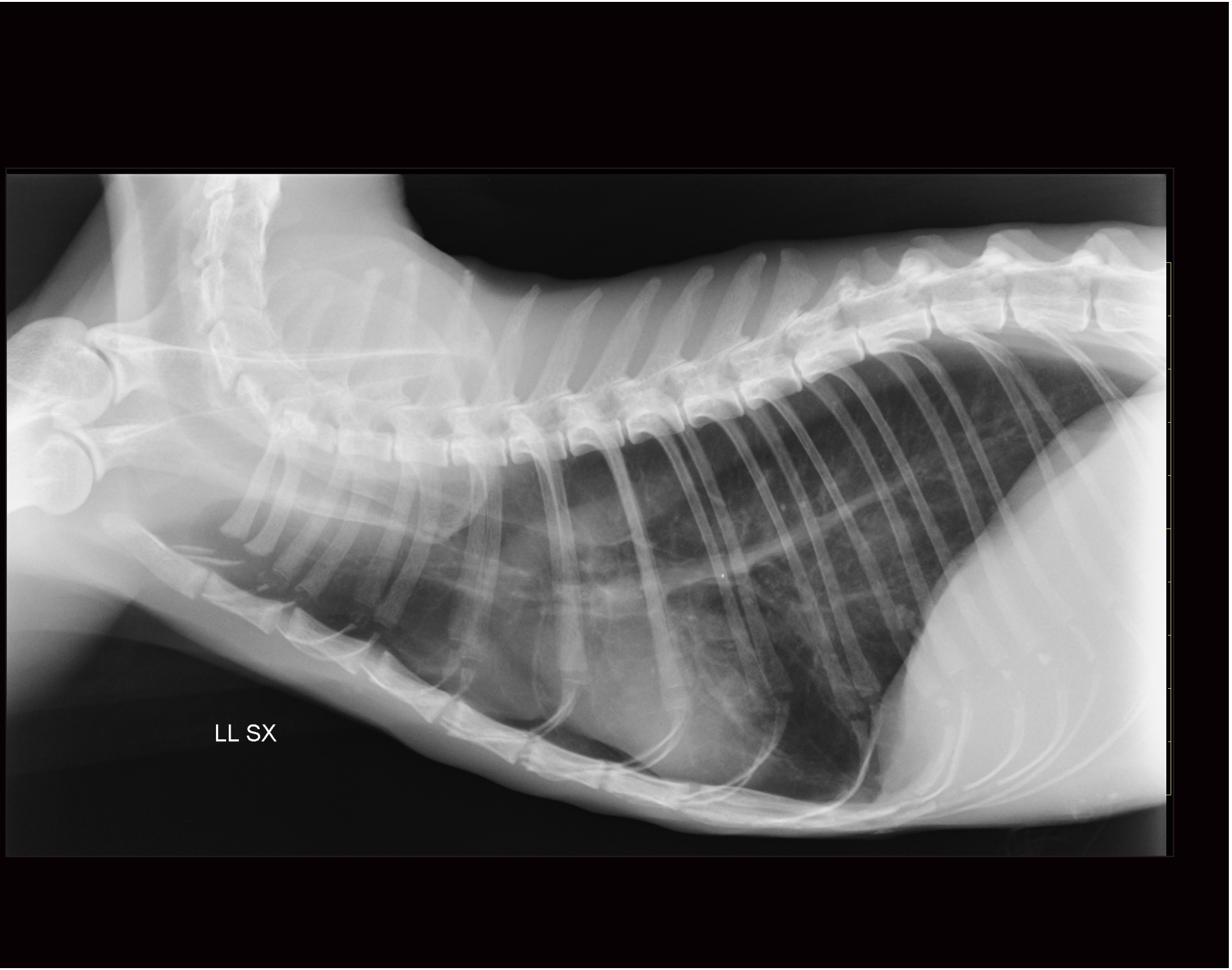




Nodular

Bronchial pattern

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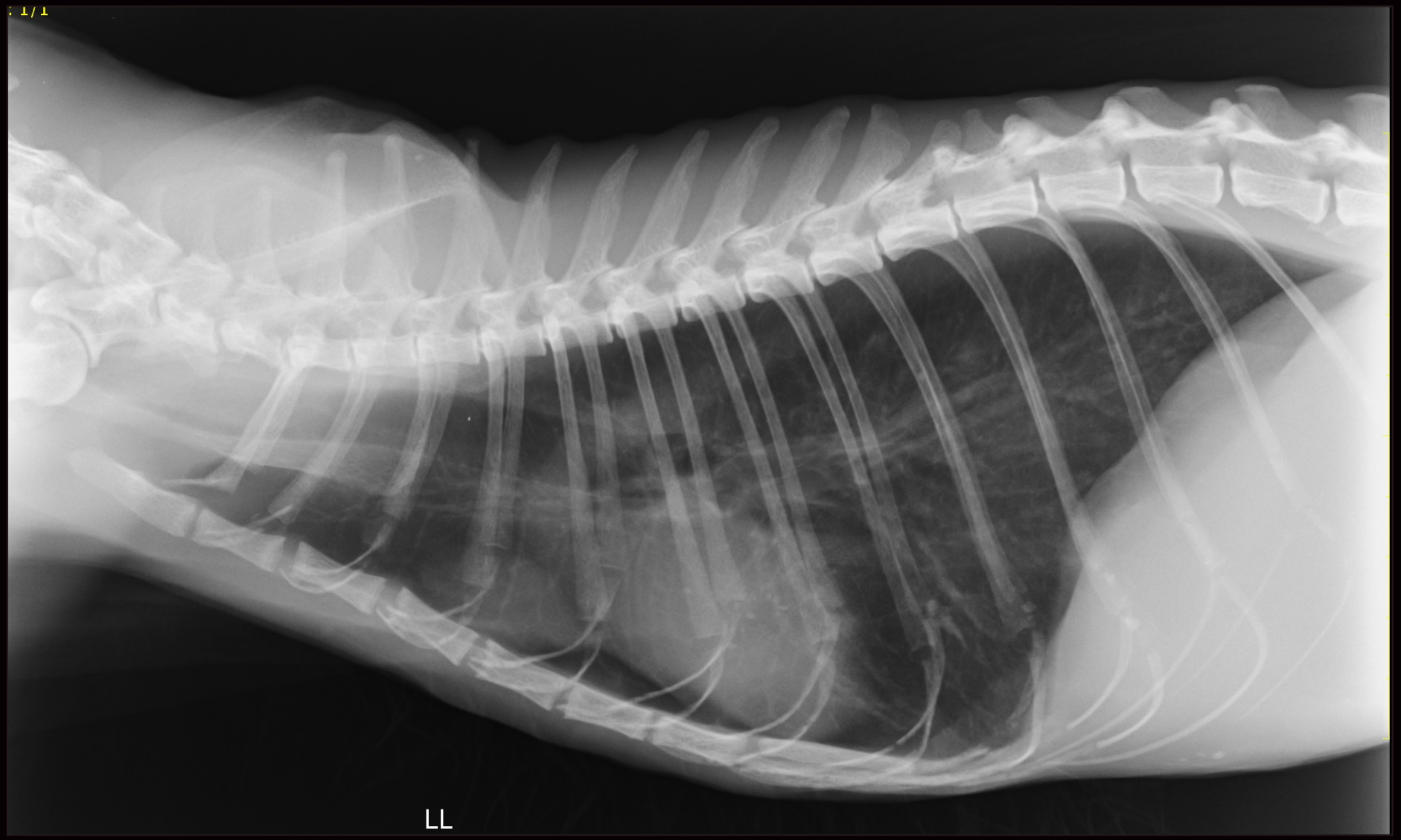
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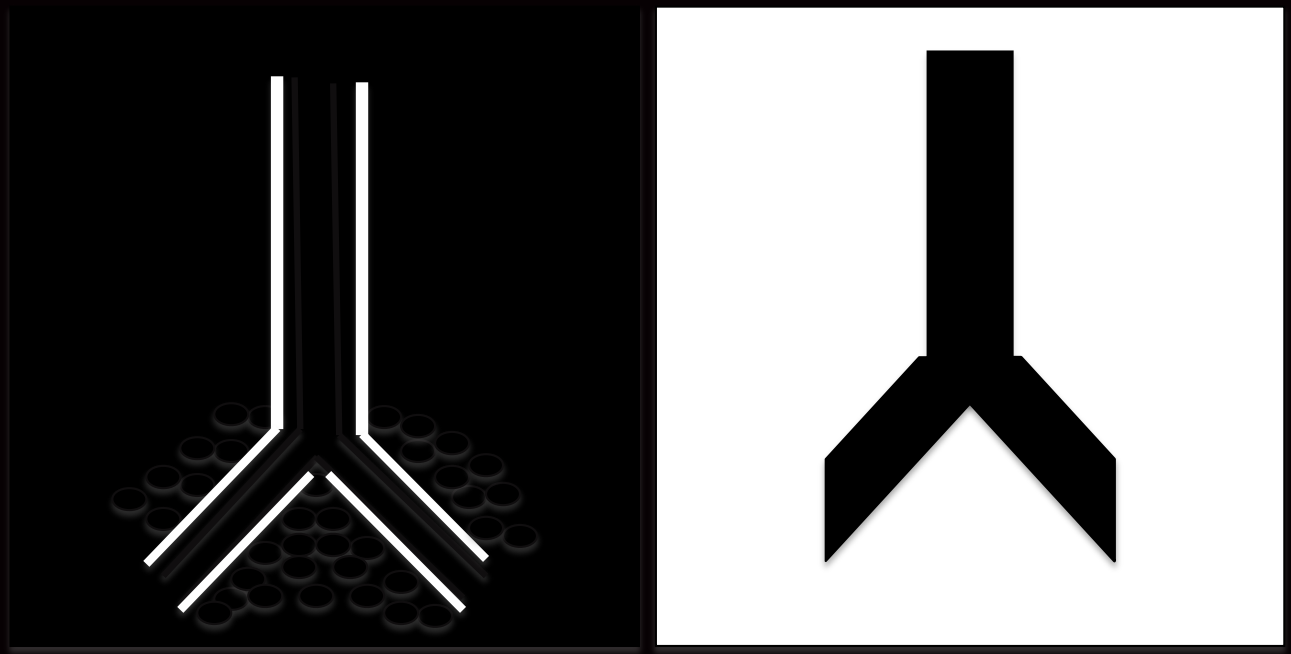
DV SX

Alveolar pattern

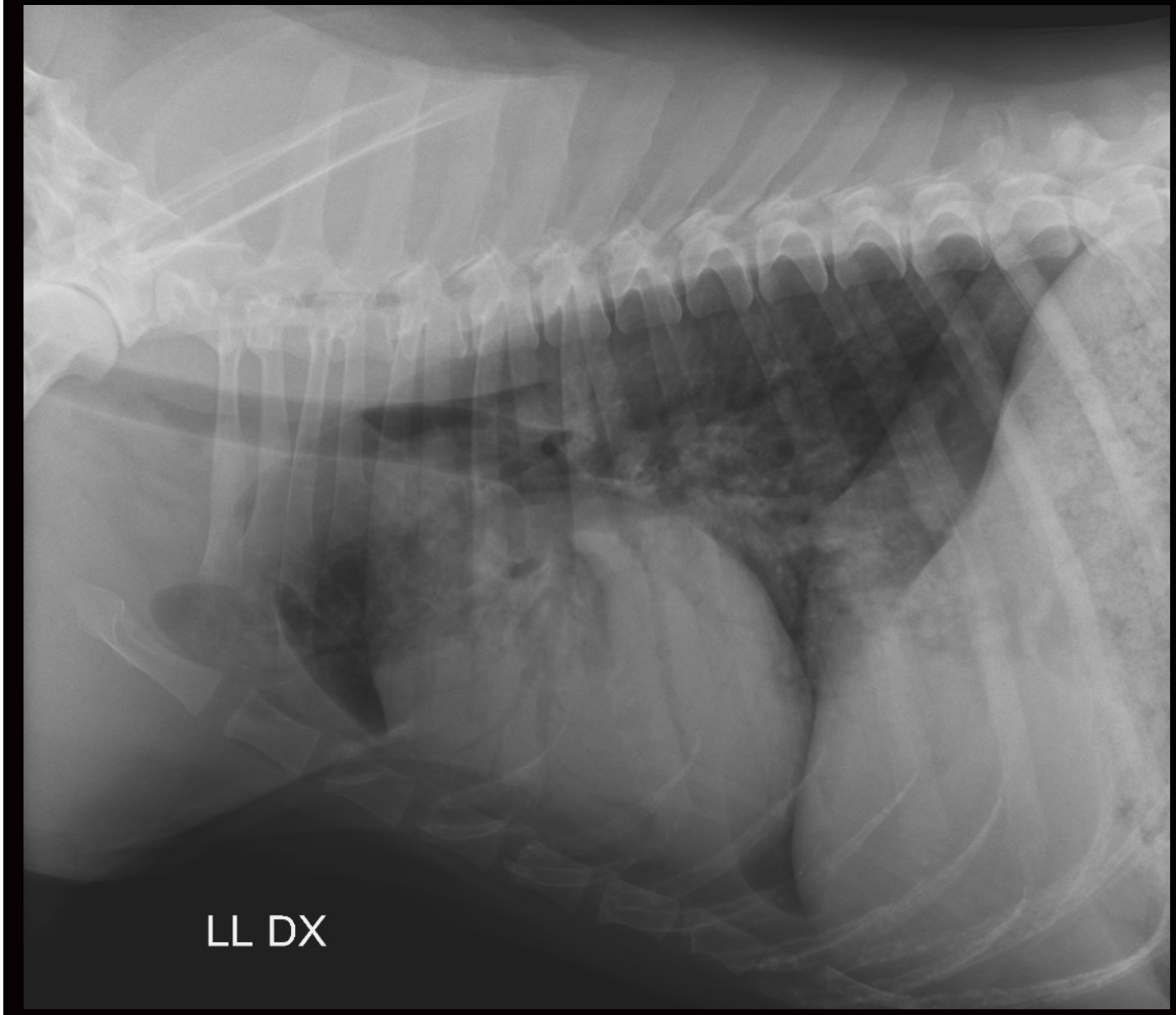
- Lack of air in the alveoli
- Air replaced by fluidy infiltrate or collapsed alveoli

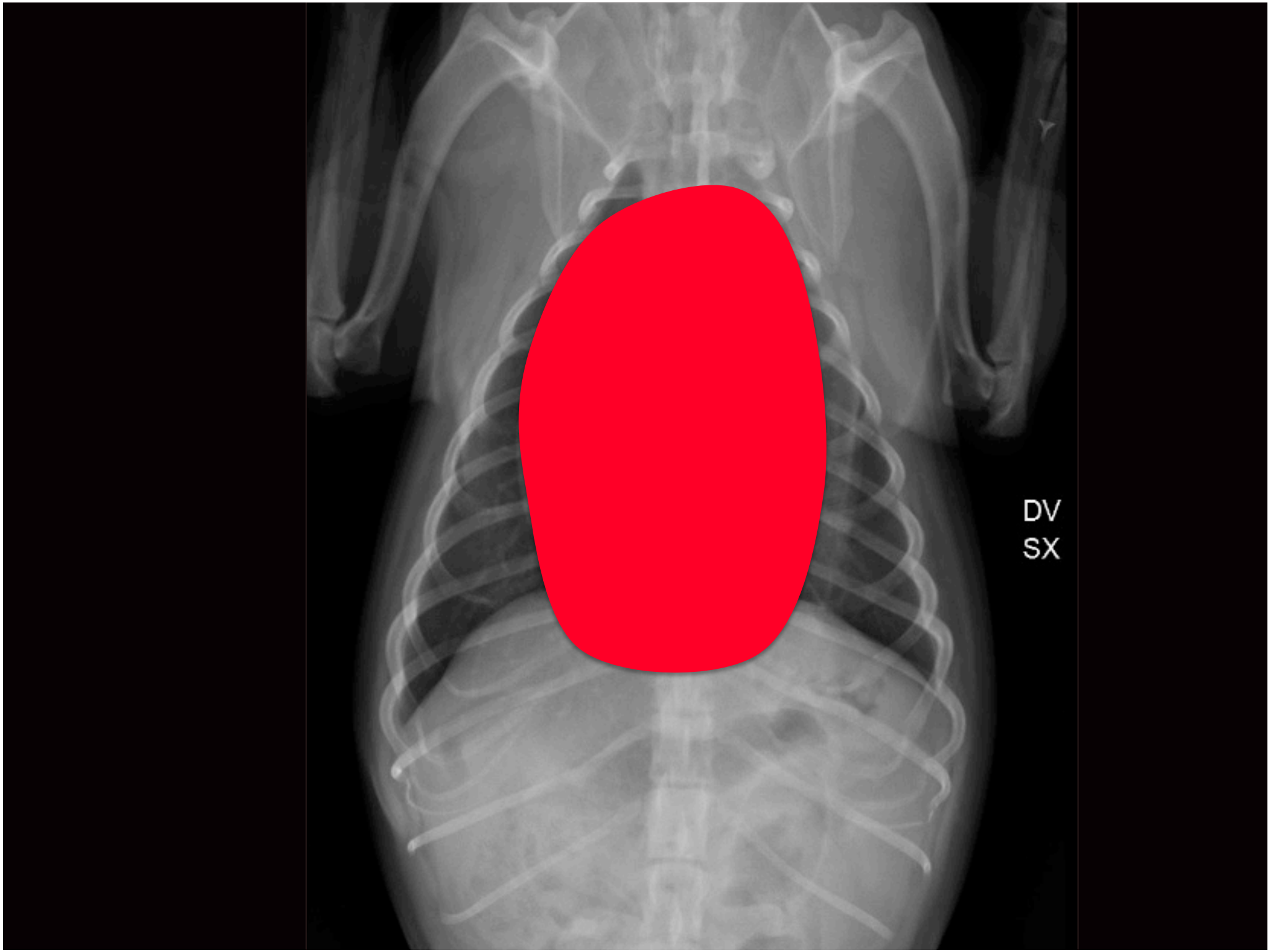
Alveolar pattern

- Consolidation lung parenchyma
- No vessels!!
- Air bronchogram!



Alveolar pattern

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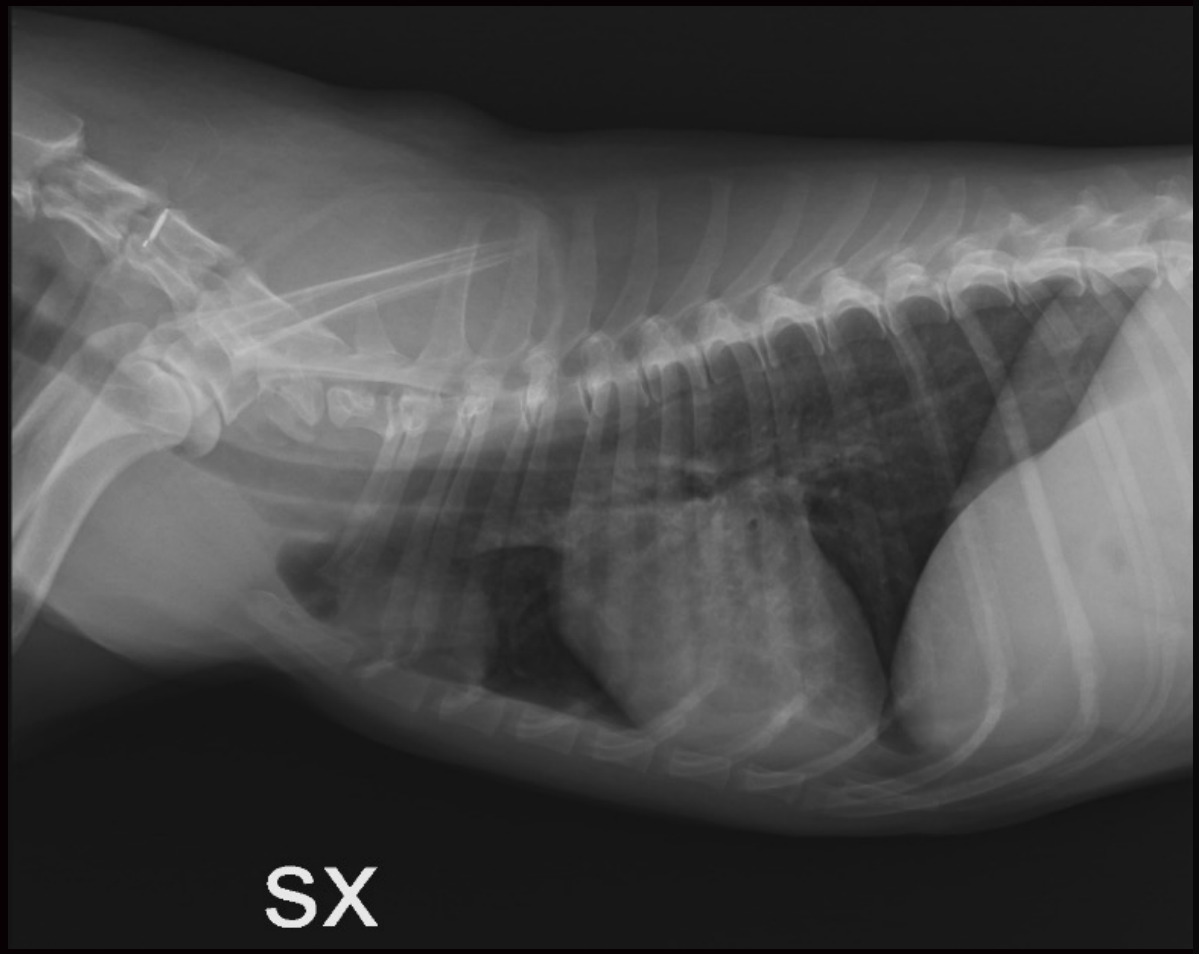
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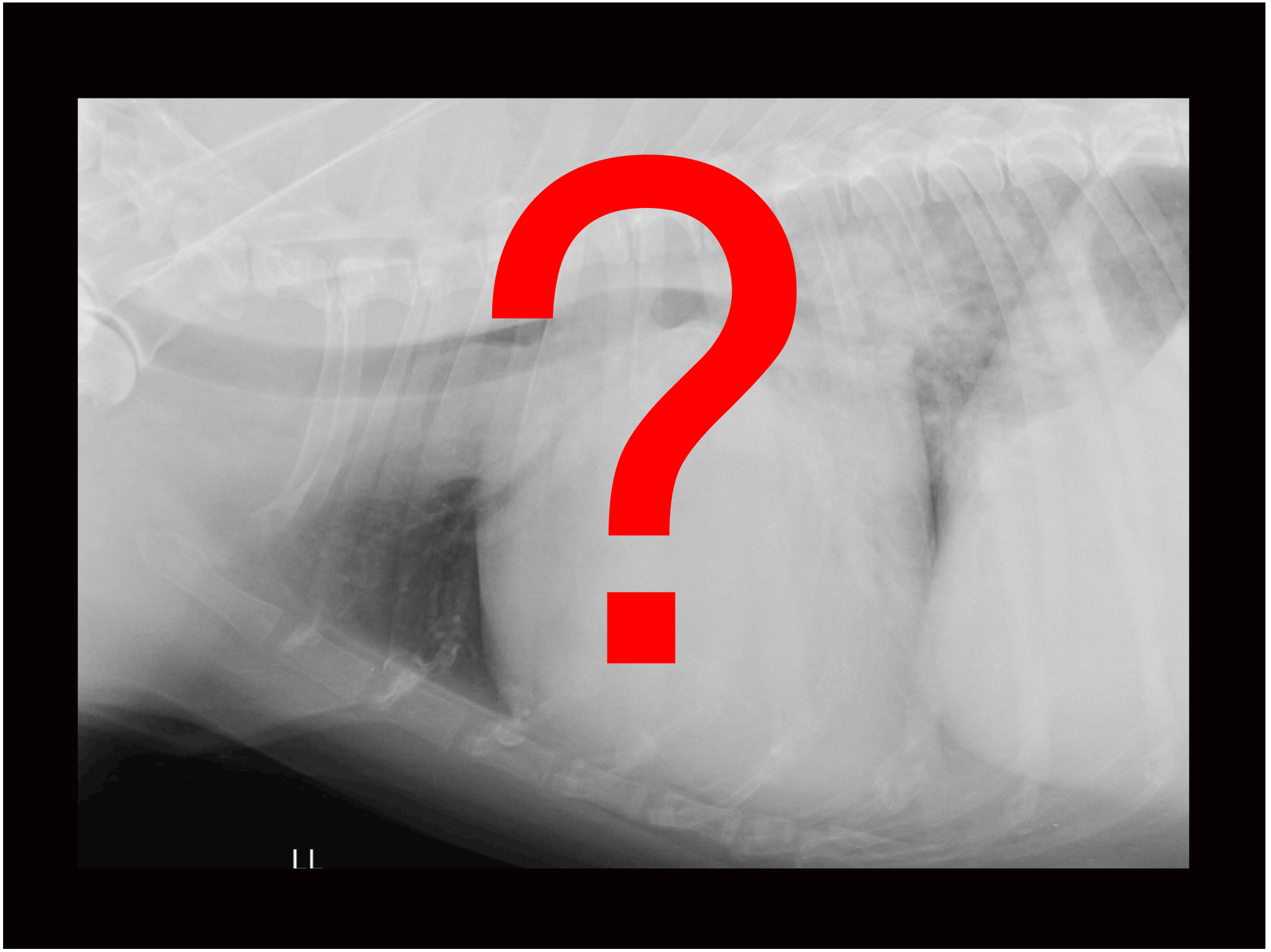
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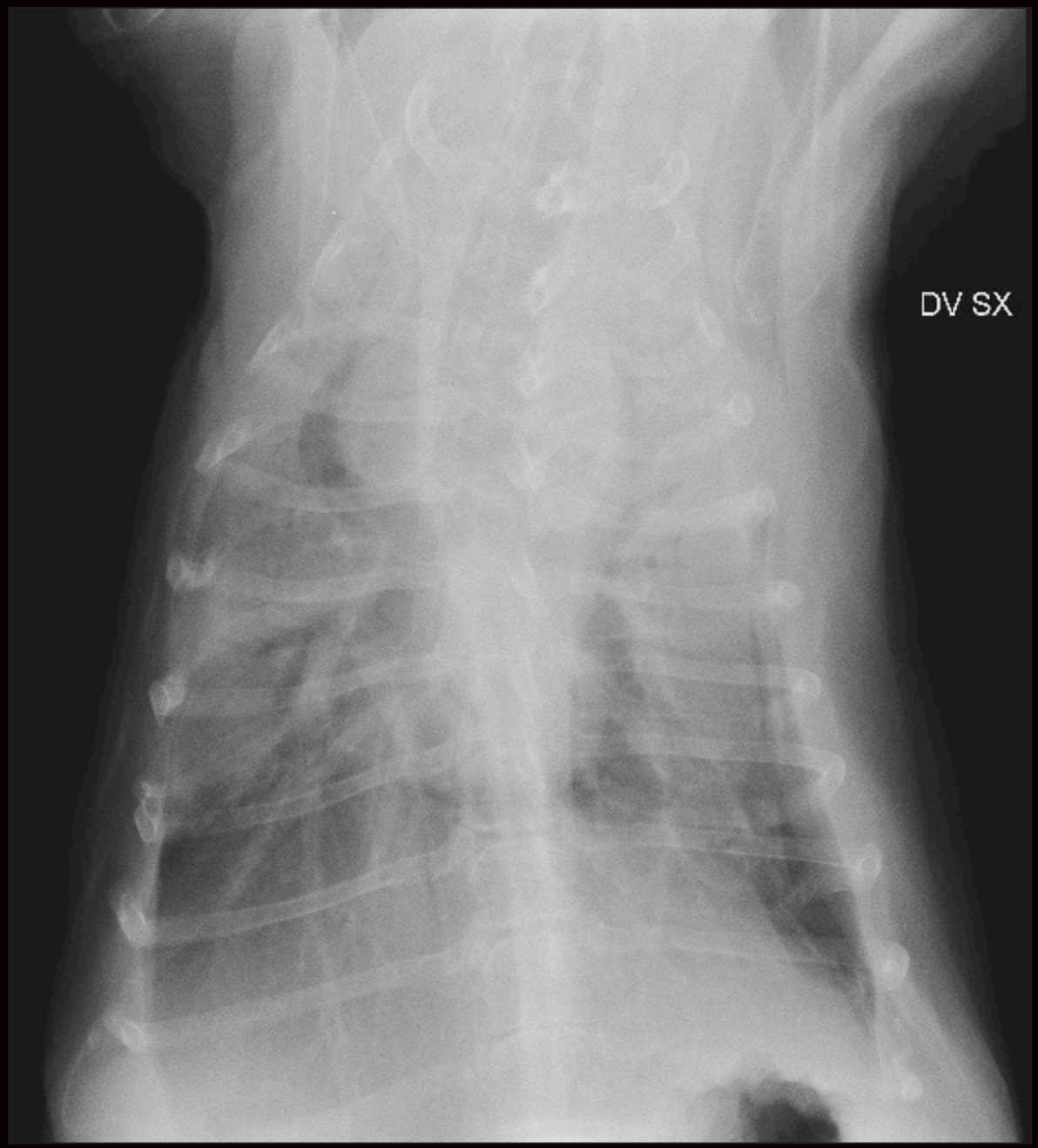
- Pulmonary vessels?

- Not clearly visible: lung pattern ????



STEP I

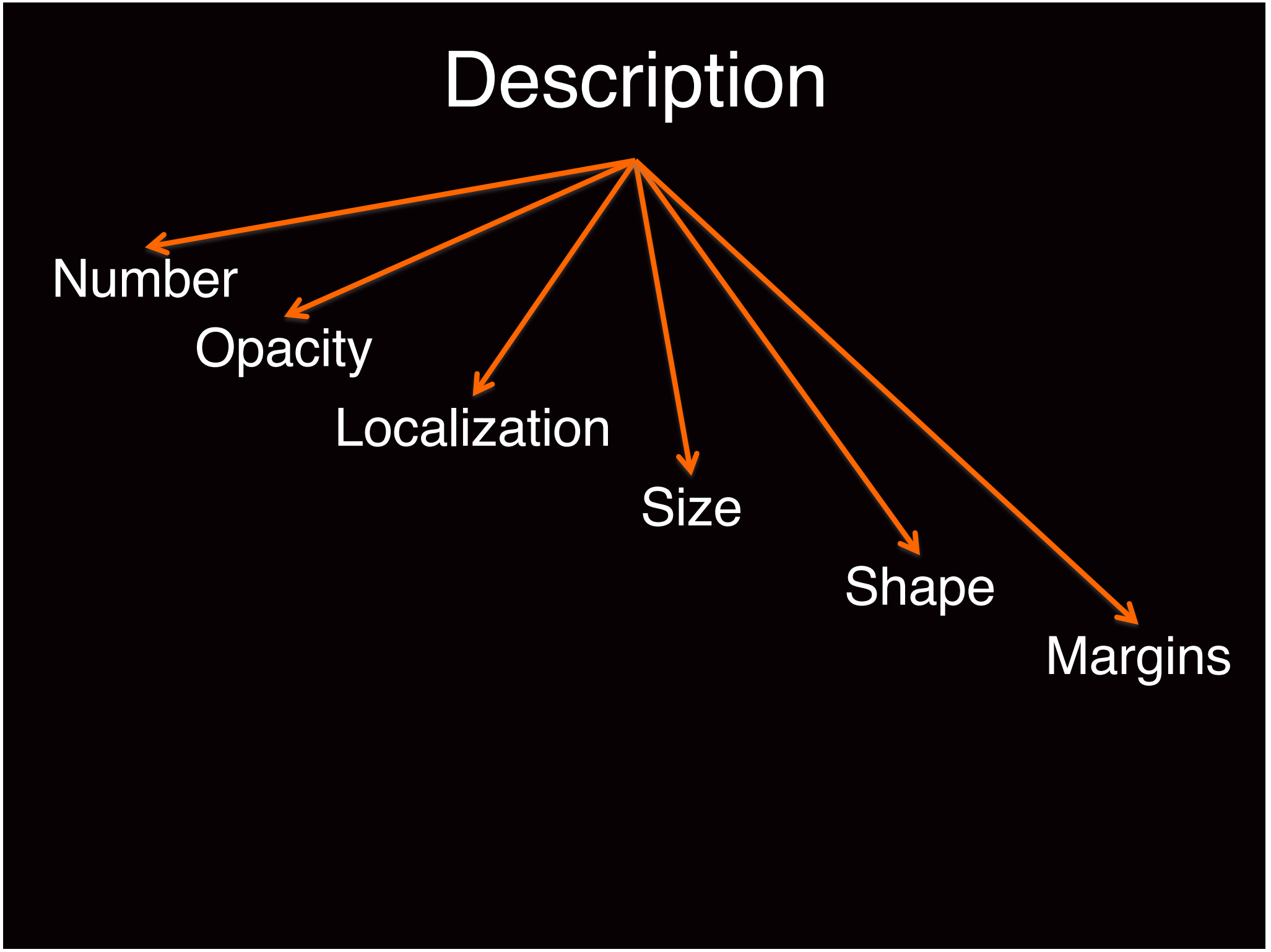
DEFINE THE TYPE OF PATTERN

Alveolar pattern

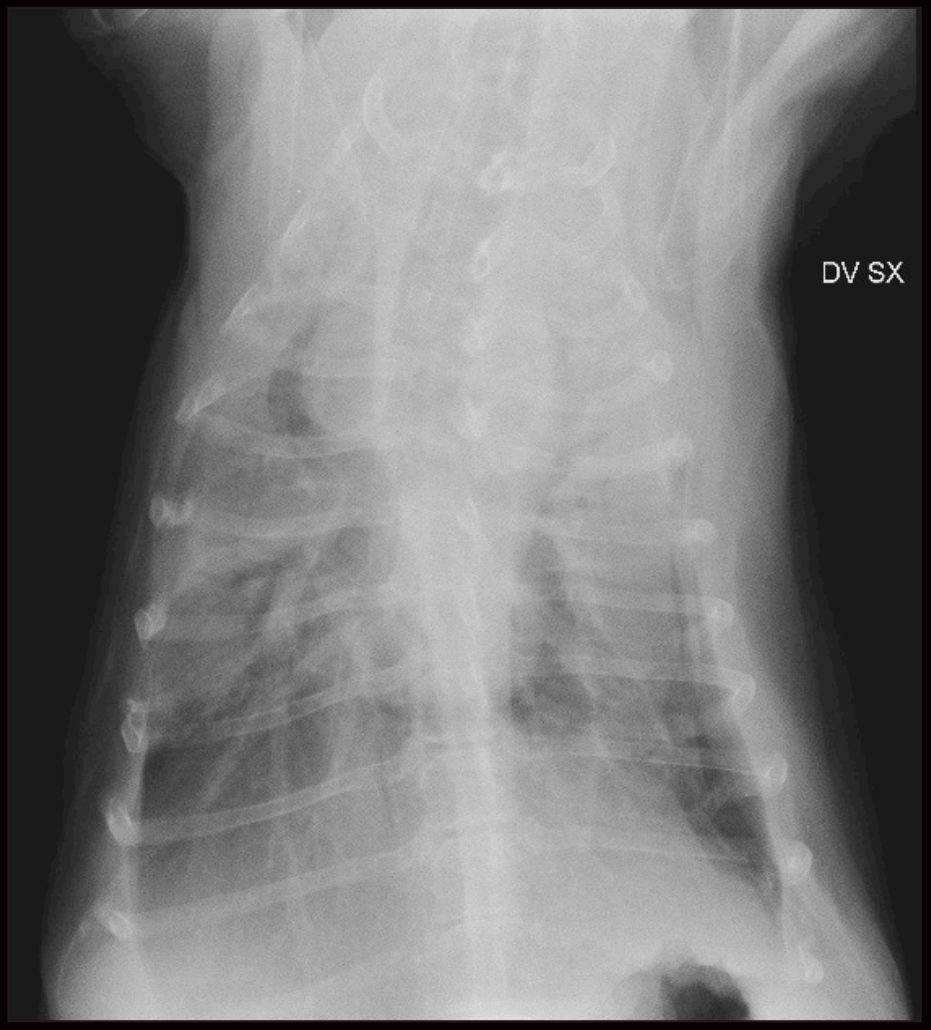
- *Abscess*
- *Hemorrhage*
- *Neoplasia*
- *Pneumonia*
- *Collapsed*

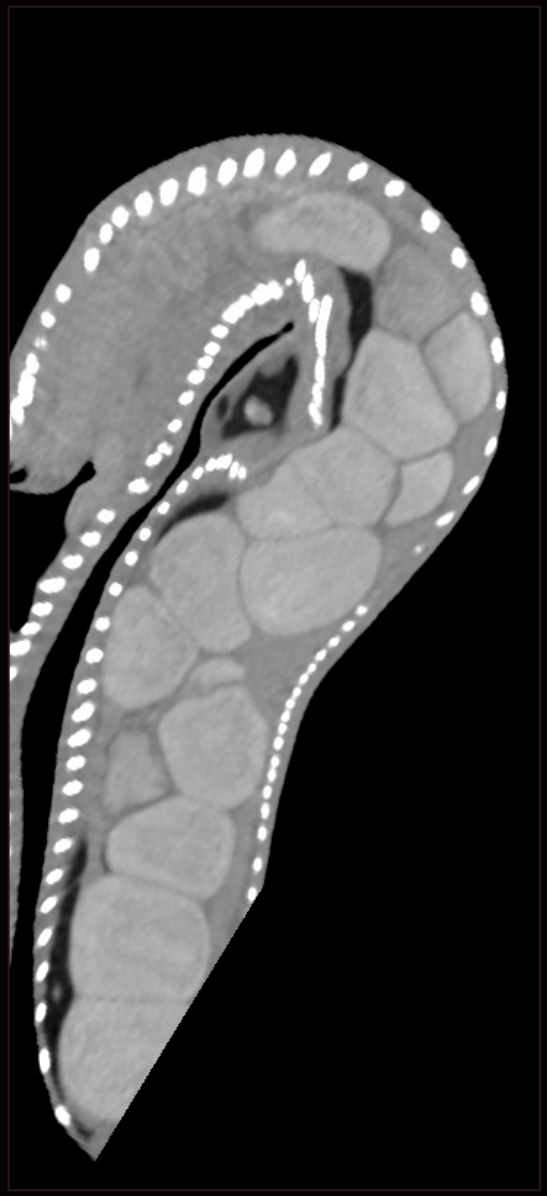
STEP II

DESCRIBE THE TYPE OF PATTERN


Description
Number
Opacity
Localization
Size
Shape
Margins

Aspiration pneumonia



Take home message

- Do not rush
- Systematic approach
- Vessels?
- Define pattern and distribution of the lesion
- Conclusions - Diagnosis