

## It's Your Case

Species: Canine

Breed: Poodle (Standard)

Sex: Female Entire

Age: 7 months

### Clinical History:

Acute collapse when playing in yard with other dogs. Possible gagging. Presented in respiratory distress. No cardiac murmur.

### Anatomic regions: Thorax

**Details of study and technical comments:** A radiographic study of the thorax is presented for evaluation. The study consists of right and left lateral views as well as a ventrodorsal view.

### Diagnostic interpretation:

The cardiac silhouette is normal in shape and slightly small; there is no specific chamber enlargement. The apex is displaced from the sternum on the lateral views (red arrow). Where visible, the pulmonary vasculature is normal in diameter and tapers as it extends to the periphery.

There is caudodorsal severe interstitial to alveolar pattern, evidenced by increased soft tissue opacity (silhouetting with the diaphragm on the lateral projections, but not silhouetting with the cardiac silhouette on the ventrodorsal view) and air bronchograms (orange arrows); it is more severe in the left caudal lung lobe. No nodules are seen.

The trachea and main stem bronchi are patent. The pleural space and mediastinum are unremarkable. A metallic microchip is in the dorsal soft tissues of the cranial thorax.

The included vertebral column and musculoskeletal structures are unremarkable. The cranial abdomen has good serosal contrast. The visible margins of the liver are radiographically normal. The stomach contains gas and heterogeneous soft tissue ingesta.

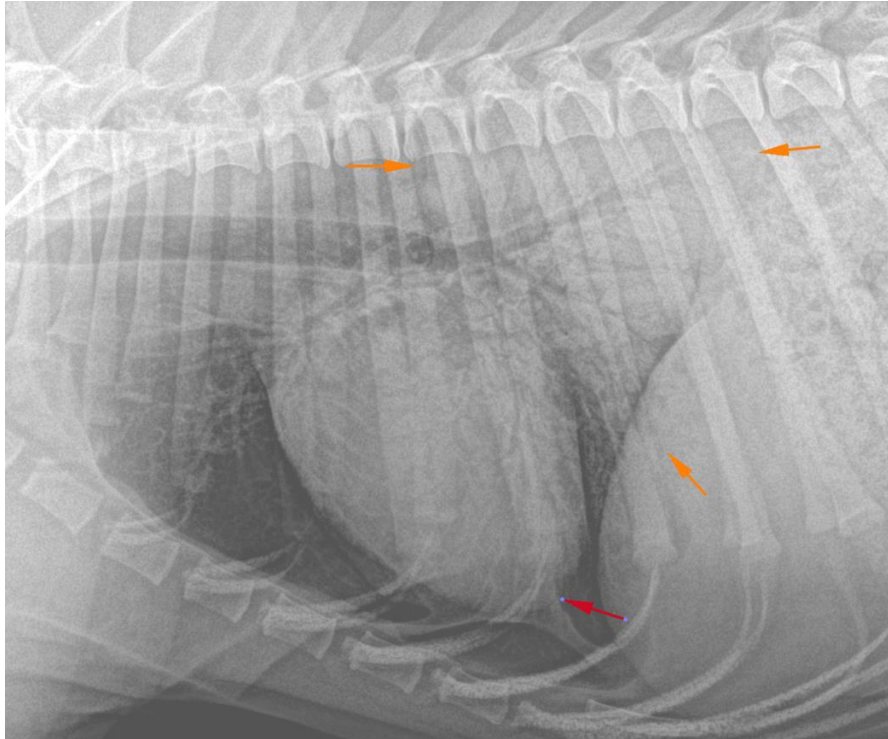


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This report is based on the available history and radiographic interpretation only and not on a physical examination of the patient. It has been prepared specifically for interpretation by the currently licensed and registered veterinary surgeon responsible for the care of this patient.



### Conclusions:

- Caudodorsal severe interstitial to alveolar pattern.  
This is most consistent with non-cardiogenic pulmonary oedema, considering the acute history and absence of heart murmur. Other differential diagnoses for caudodorsal interstitial to alveolar lung patterns such as cardiogenic oedema, viral pneumonia, pneumonitis or lymphoma are considered much less likely.
- Equivocal mild decrease in size of the cardiac silhouette: normal variation for the breed and deep-chested conformation) or hypovolemia/shock.

### Additional comments:

The distribution pattern of pulmonary changes is most consistent with non-cardiogenic pulmonary oedema. Non-cardiogenic pulmonary oedema is a manifestation of pulmonary shock. It can occur secondary to electrocution, strangulation/suffocation, heat stroke, near drowning, seizures... In the absence of cardiac and vascular changes and with acute signs, this is the principal differential diagnosis.

The mild “dorsal elevation” of the cardiac silhouette from the sternum on the lateral views is likely due to the atelectasis of the underlying lung lobes and possible mildly reduced size of the cardiac silhouette. The middle lung segments (right middle lung lobe and caudal sub-segment of the left cranial lung lobe) buoy the heart when positioned in lateral recumbency. Atelectasis of the middle lung segments can allow the cardiac silhouette to displace the apex away from the sternum, especially in tall deep chested dogs. This appears as “dorsal displacement” of the cardiac silhouette on the lateral views. It is a similar mechanism to the appearance of pneumothorax on lateral thoracic radiographs. However,



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there is no pneumothorax seen here on the ventrodorsal view (preserved visibility of pulmonary vessels in the periphery).



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