

Thoracic Radiography: Respiratory

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Pulmonary Infiltrates

- Causes:

- Edema
 - Cardiogenic
 - Noncardiogenic
- Pneumonia
- LSA
- Pneumonitis
- Hemorrhage, Contusions
- Volume loss (atelectasis)
- PTE- Pulmonary Thromboembolism
- PIE- Pulmonary Infiltrates w/ eosinophilia
- Etc...

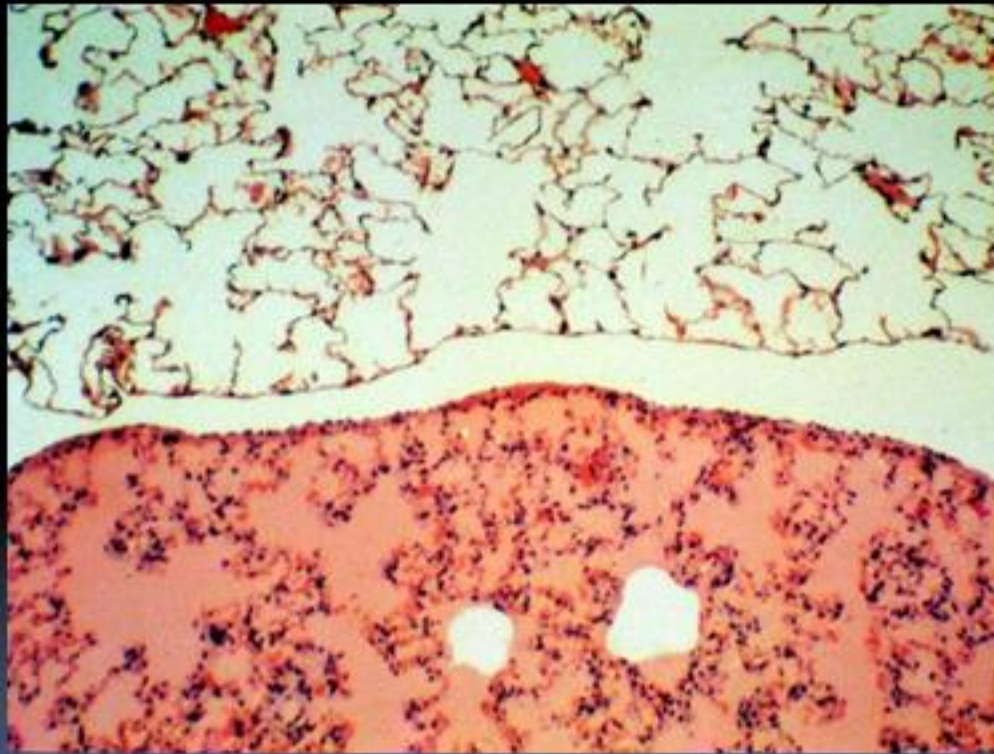
Pulmonary Infiltrates

- Mainly alveolar and interstitial patterns
- Atelectasis vs. Consolidation
- Location
 - Cranioventral v. Caudodorsal
 - Focal v. Diffuse
 - Bilateral v. Unilateral

Alveolar

- Air bronchograms
- Cannot visualize vessels adjacent the bronchus
- Lobar sign
 - Sharp demarcation between normal and abnormal lung lobes

Alveolar



Diffuse Lung Patterns



NORMAL



INTERSTITIAL



ALVEOLAR

WITH AIRBRONCHOGRAMS



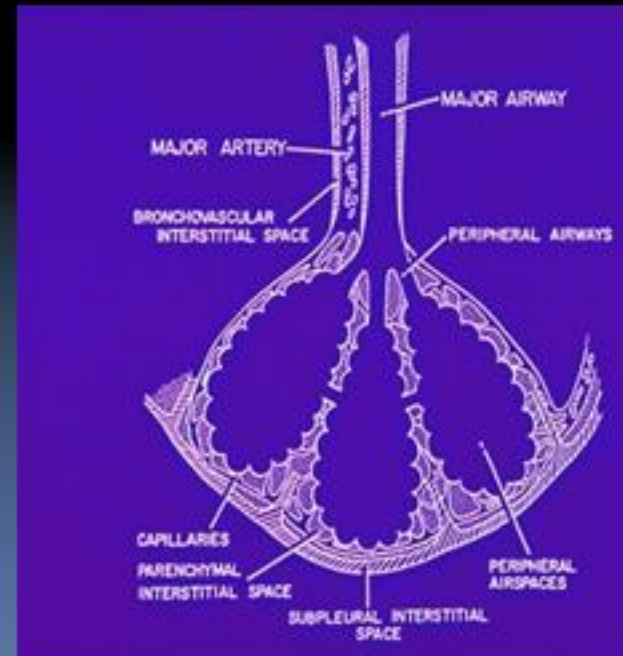
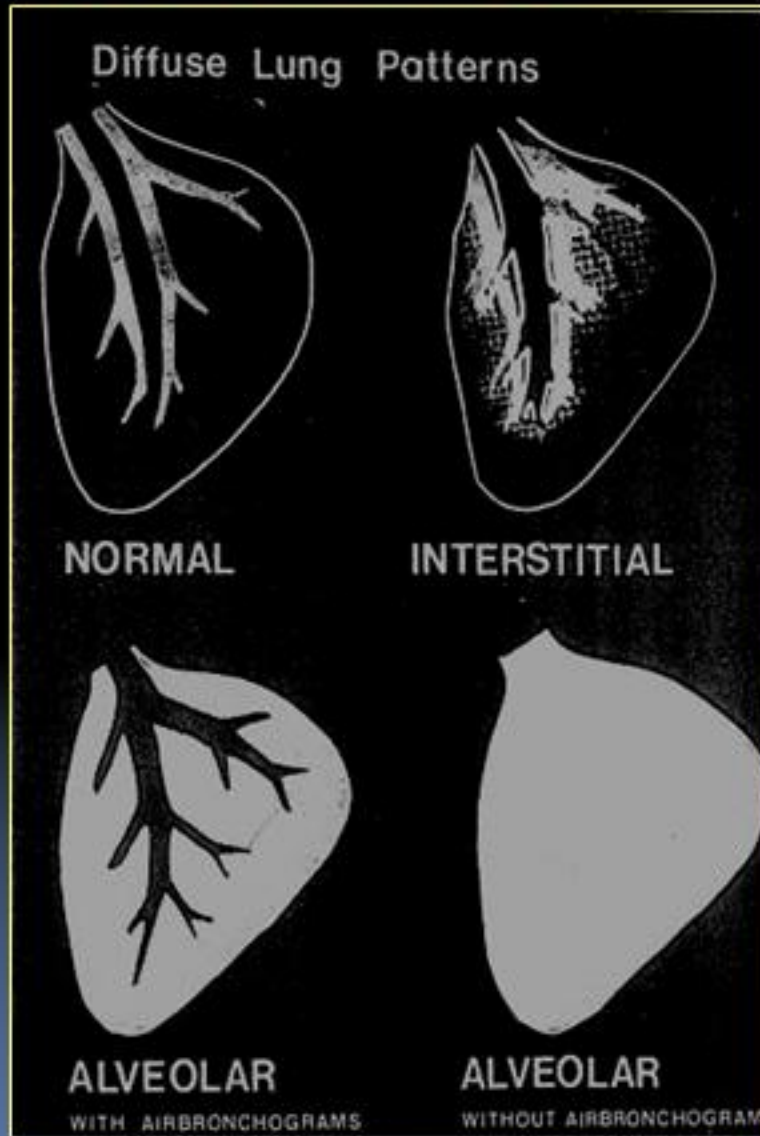
ALVEOLAR

WITHOUT AIRBRONCHOGRAM

Alveolar

- Atelectasis
 - Loss of gas volume
- Consolidation
 - Replace air with soft tissue opaque material
 - Blood
 - Pus
 - Water
 - Neoplasia

Interstitial

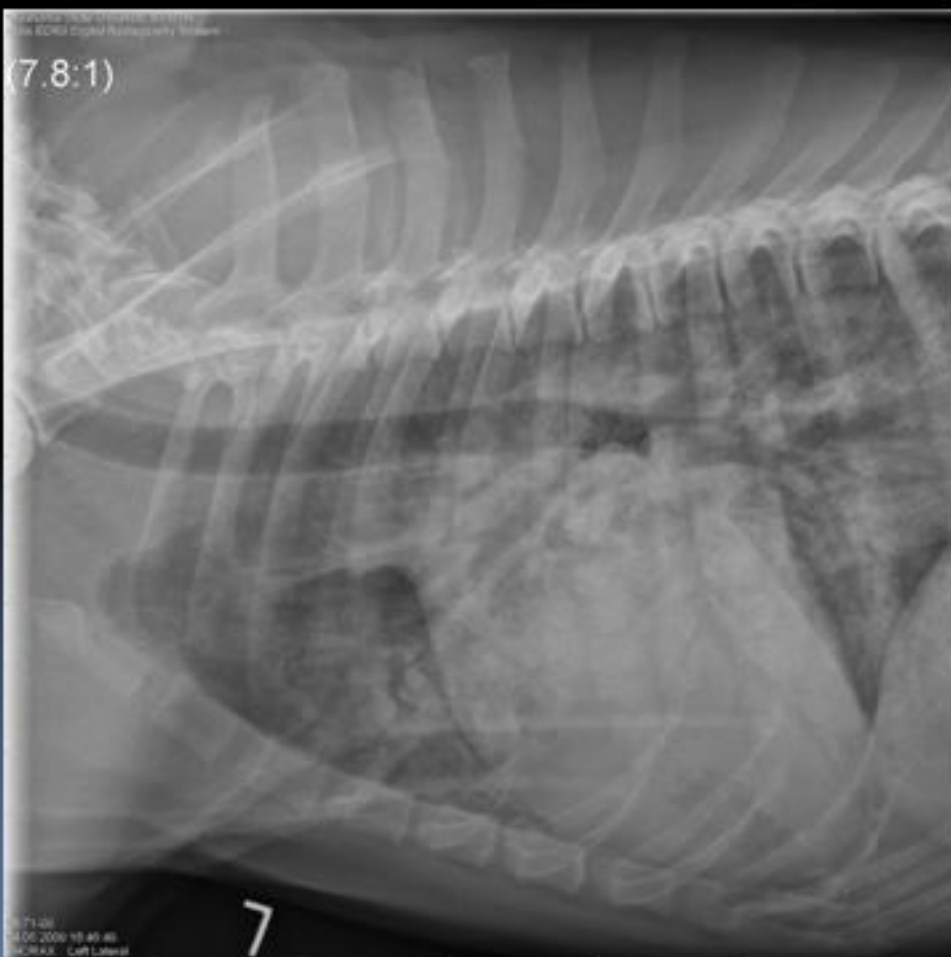


Interstitial



Consolidation

9:1)



10/1/08
10:00:00 10:40:00
LUNG: Left Lateral

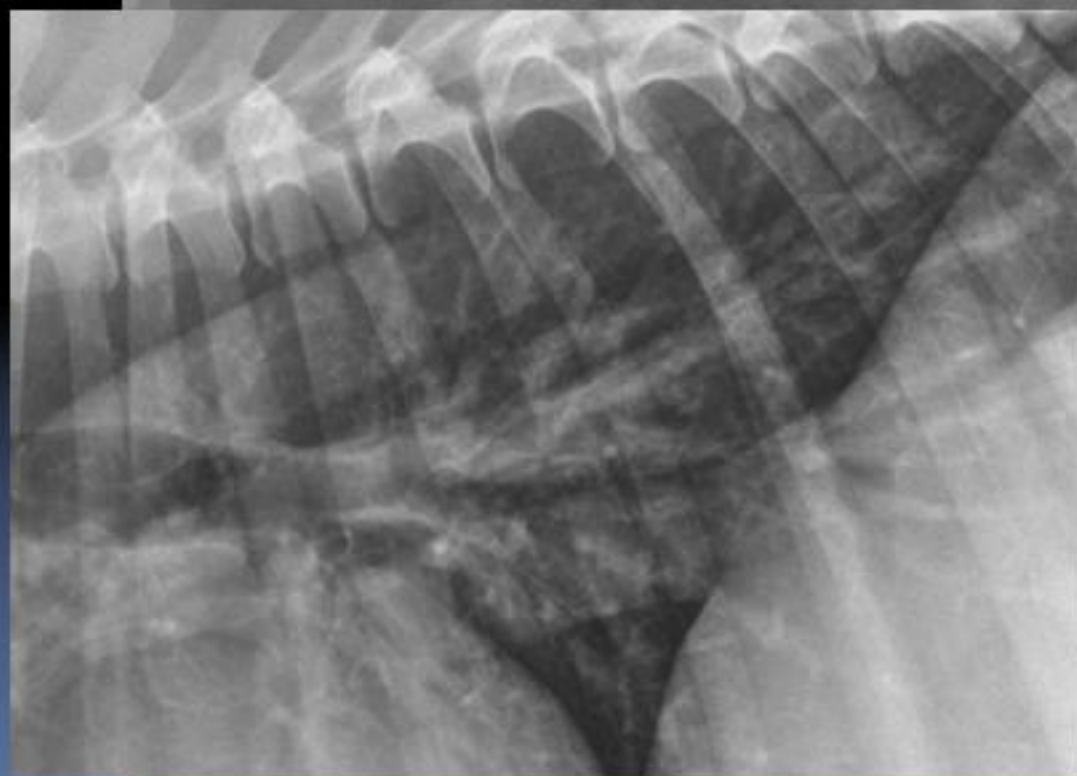
Atelectasis = decrease volume



X Patient ID: 000099660

Interstitial

- Increased opacity
- Vessels are “hazy”
 - Still visible but not well demarcated
- Most over read pulmonary pattern
 - Underexposed
 - Obese
 - Expiratory



Radiographic Real Estate

(location, location, location)

- Cranioventral

- Pneumonia
- Hemorrhage, Contusions
- Torsion
- Neoplasia/Fungal

- Caudodorsal/Perihilar

- Cardiogenic edema
- Noncardiogenic edema
- Viral/Hemotogenous Pneumonia
- Inflammation, vasculitis, PIE, etc...
- Neoplasia/Fungal

Cranioventral Infiltrates



Cranioventral Infiltrates

- **Pneumonia**
 - Bronchopneumonia
 - Aspiration pneumonia
- Hemorrhage/Contusions
- Torsion (left cranial, right middle)
- Neoplasia/Fungal

Exceptions for cranioventral cardiogenic edema

- Canine Dilated Cardiomyopathy
- Feline Left-sided Heart Failure
 - Cats don't follow rules, even in heart failure



Dr. ANDERSON RASCAL Patient: 000078617

Lung Lobe Torsion

- Lobar Consolidation
- **Vesicular Gas Pattern**
- Sharply Tapered Bronchus
- Abnormal Location of Bronchus
- Pleural Effusion





Neoplasia



Caudodorsal Infiltrates

- **Cardiogenic vs. Noncardiogenic**
 - Heart size
 - Pulmonary venous congestion
 - Age
 - Clinical presentation

Left-sided Congestive Heart Failure

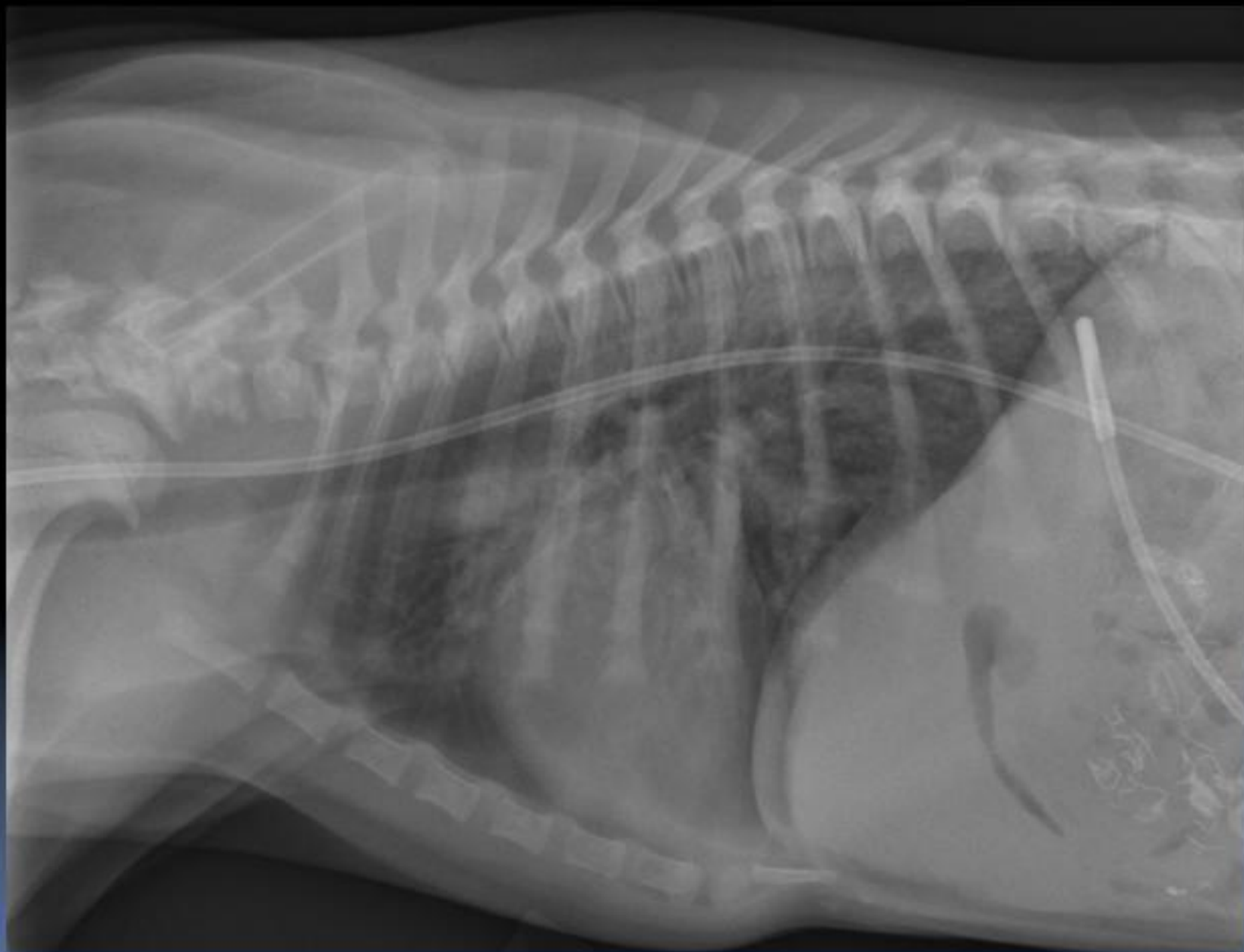


Noncardiogenic Edema



Noncardiogenic Edema

- Electrocution
- Post-Ictal
- Asphyxia (strangulation, near drowning)
- Smoke Inhalation
- Acute Lung injury (ALI)
 - Severe = Acute Respiratory Distress Syndrome

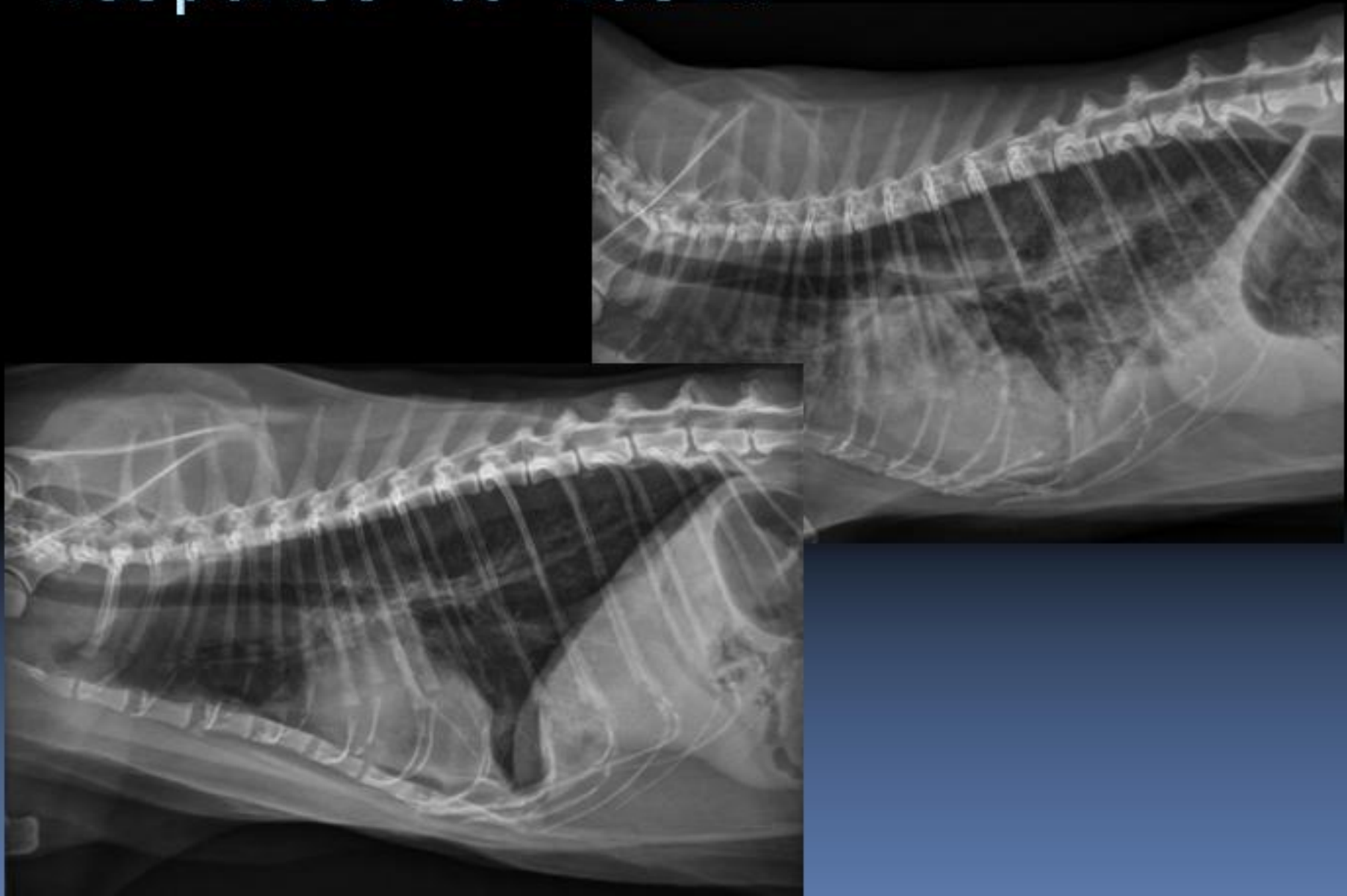




Adult cat in respiratory distress



Response to Lasix[®]



Focal



Focal Masses

- Primary dDX for solitary pulmonary mass is NEOPLASIA- especially in caudal lung lobes
- dDX
 - Neoplasia
 - Cyst
 - Hematoma
 - Abscess
 - Granuloma