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ISTITUTO
ZOOPROFILATTICO
SPERIMENTALE
DELL'ABRUZZO
E DEL MOLISE
"G. CAPORALE"

CBPP ANTE AND POST MORTEM INSPECTION

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«G. Caporale», Teramo, Italy*

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What is an *ante-mortem* inspection?

- Examination of animals before slaughter.
- Ensures only healthy animals enter the food chain.
- Protects public health and prevents disease spread.
- Must be conducted within 24 hours before slaughter.

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Primary Objective

- **Allow slaughter only of healthy animals.**
- **Suspect CBPP clinical disease.**
- **Express even the slightest suspicion of antibiotic use in the animal.**

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CBPP ANTE MORTEM INSPECTION

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Key *Ante-Mortem* sign for CBPP

- *Deep, painful, suppressed cough.*
- *Fever and respiratory distress.*
- *Elbow abduction.*
- *Reluctance to move.*
- *Injection of antibiotics must be checked!*

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1. Epidemiology

- Recent introduction from CBPP endemic regions.
- Coughing or respiratory disease in herd.
- High morbidity, but variable mortality.

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2. Clinical Signs – CBPP Acute Form

Observed during ante-mortem inspection (at rest & in motion):

- **Fever:** up to 41–42 °C (105.8–107.6 °F).
- **Respiratory distress:** rapid, shallow breathing, painful respiration.
- **Cough:** frequent, often suppressed because of pain.
- **Elbow abduction:** animals stand with elbows away from body to ease breathing.
- **Head/neck extended:** to reduce thoracic pain.
- **Nasal discharge:** sometimes mucopurulent.
- **Anorexia & depression:** weight loss, wasting (emaciation).

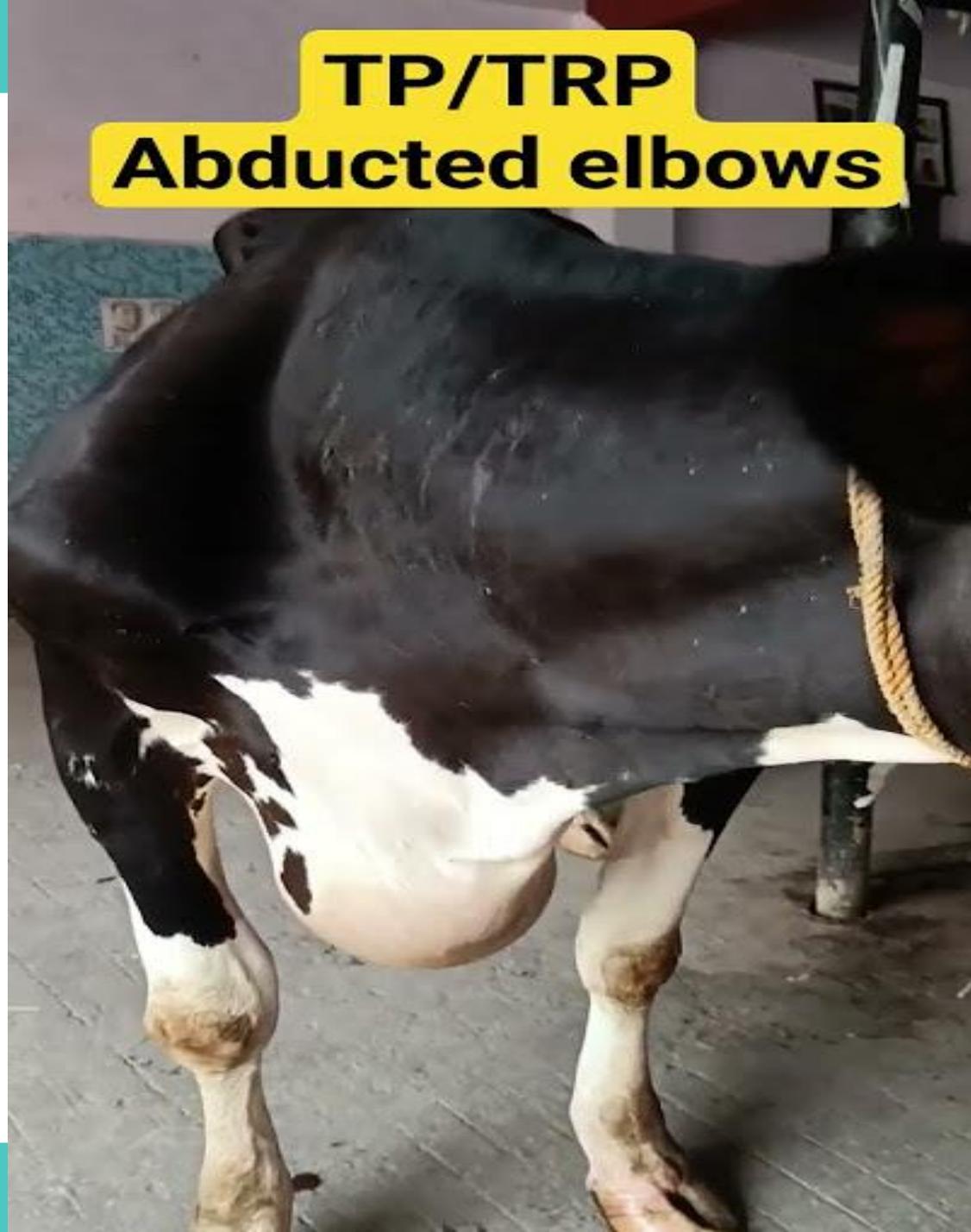
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TP/TRP
Abducted elbows



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Head/neck extended



3. *Ante-mortem* Differential Diagnosis

- . Bovine tuberculosis (TB).
- . Pasteurellosis (Shipping fever complex).
- . IBR
- . Pericarditis.
- . Traumatic reticuloperitonitis.

4. Inspector's Actions

- **Isolate suspect animals.**
- **Do not slaughter for human consumption** until veterinary authorities make an official decision.
- **Notify veterinary services:** when confirmed by classical CBPP lesions during PM Inspection.
CBPP is reportable to national authorities and WOAHA.
- **Collect samples** (blood and nasal swabs) only under veterinary direction.

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5. Disposition

- **Condemnation:** Animals with clinical CBPP clinical signs and high fever must not enter the food chain.
- **Carcasses** from confirmed CBPP cases and high suspected treated with antibiotics are **totally condemned**.
- **Contact animals**  slaughtered quickly.

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**PRACTICAL
ANTE-MORTEM
INSPECTION
CHECKLIST TAILORED
FOR CBPP**

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Checklist – 1. Identification

- Tag / ID number
- Owner / source herd
- Origin (movement history, recent introduction, endemic area?)
- Date & time of inspection

Checklist – 2. General Condition

- Normal demeanour / alertness
- Depression, dullness, or reluctance to move
- Body condition score (normal / poor / emaciated)
- Wasting or chronic poor-doer appearance

Checklist – 3. Vital Signs

- Temperature (≥ 41 °C highly suspicious)
- Pulse rate (normal 60–80/min)
- Respiratory rate (normal 10–30/min; elevated if the animal is affected)

Checklist – 4. Respiratory Exam

- Rapid / shallow breathing
- Laboured or painful respiration
- Cough present (suppressed or painful?)
- Head/neck extended (to ease breathing)
- Elbows abduction
- Abnormal respiratory sounds (if auscultation possible)
- Nasal discharge (serous / mucopurulent)

Checklist – 5. Movement and other Signs

- Reluctance to move / stiff gait
- Cough induced by movement
- Anorexia
- Dehydration
- Emaciation
- Any other abnormalities

Checklist – 6. Epidemiology

- Herd respiratory disease history
- Recent introduction from CBPP-endemic areas regions
- Similar signs in multiple animals

Checklist – 7. Decision

- Passed** – no abnormality detected or CBPP chronic lesions are evident during *post-mortem* examination
- Suspect** – isolate, further vet investigation, possible lab sampling
- Condemned** – if CBPP acute stage, is strongly suspected, with high fever, please check presence of antimicrobials and do not slaughter for food chain, notify veterinary authority immediately

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Ante-mortem inspection check list for CBPP

Inspector Notes

- Observations: _____
- Signature: _____
- Date: _____

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CBPP

POST MORTEM

INSPECTION

Role and Importance

- **Post-mortem inspection is a key step in CBPP surveillance.**
- **Provides the most reliable evidence of infection at slaughter.**
- **Detects CBPP lesions in animals without clear clinical signs.**
- **Links ante-mortem findings with, when is possible, laboratory confirmation.**

Role and Importance

Post-mortem inspection is also important in highlighting and recording pathological lesions

- **arising from the administration of parenteral antibiotic formulations**
- **caused by zoonotic agents**

Role and Importance

Post-mortem examination:

- at Slaughterhouses
- at Informal/Bush abattoirs
- During slaughtering for ceremonies such as funerals, weddings, etc.

Role and Importance

**But also, we are talking about CBPP
suspicious lesions found during:**

- **Necropsy performed in the field**

Organisation

The players would be:
Veterinarians and Technicians but,
in my opinion, also,
in Pastoral and/or Unstable areas,
Traditional Leaders and Breeders

Recognition of Typical Lesions

- ❖ **Main thoracic lesions: fibrinous pleuritis, marbled hepatization, sequestra.**
- ❖ **Lung lesions often unilateral, sometimes bilateral in chronic stages.**
- ❖ **Visual recognition supports accurate sampling and reporting.**

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**First of all,
remind us how a
healthy lung looks**

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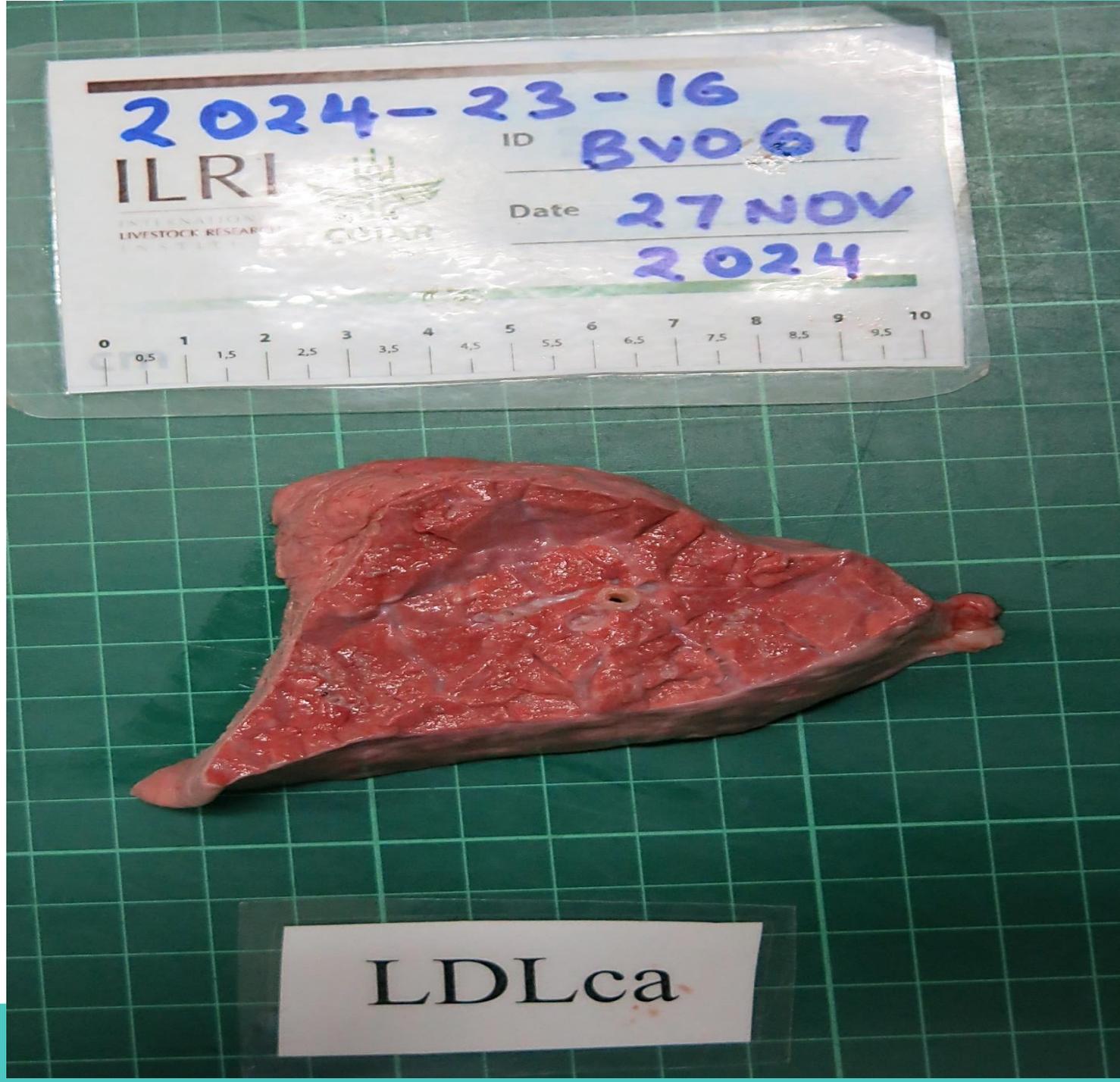


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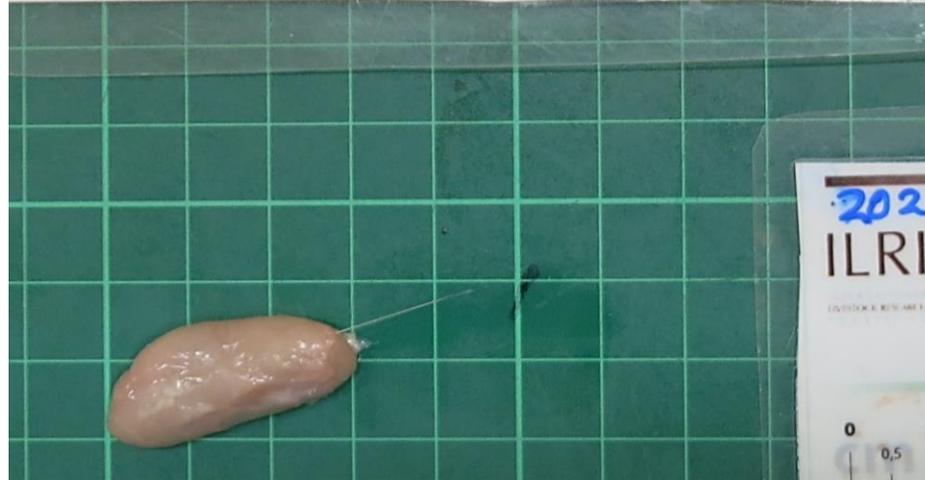


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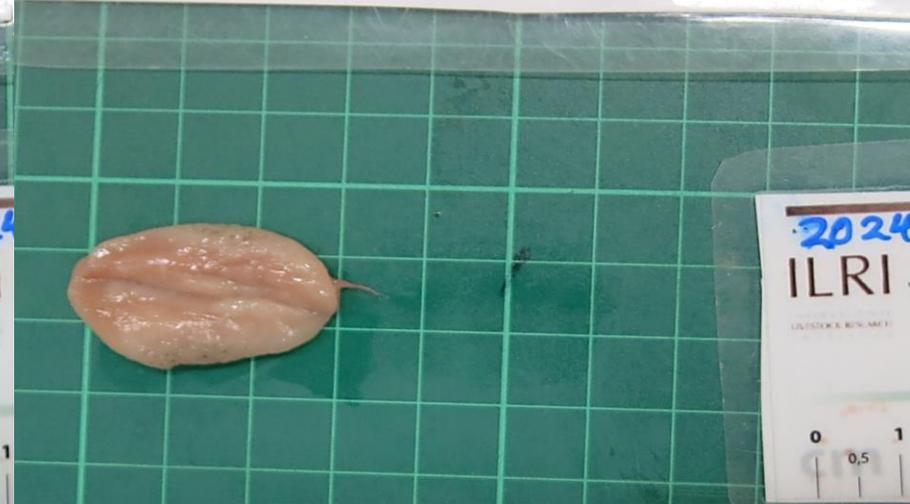
And healthy Lymph nodes

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Anterior Mediastinal Lymph node



Anterior Mediastinal Lymph node



Tracheobronchial Lnn



Tracheobronchial Lnn



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Posterior mediastinal lymph node



2024
ILRI

0 1
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And healthy
Lymph nodes

Posterior mediastinal lymph node



2024
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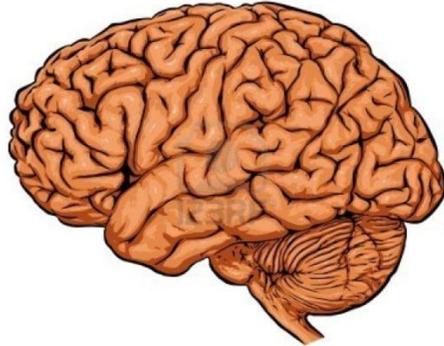
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Post mortem Inspection

1



4



2



3



Viscera Inspection

Lung and Chest cavity *Post mortem* Inspection



PLEURA

COLOR

SIZE

SHAPE

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Chest Cavity Inspection

**Parietal and visceral
Pleura should be visually
examined**

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Chest Cavity Inspection



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Chest Cavity Inspection



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Chest Cavity Inspection



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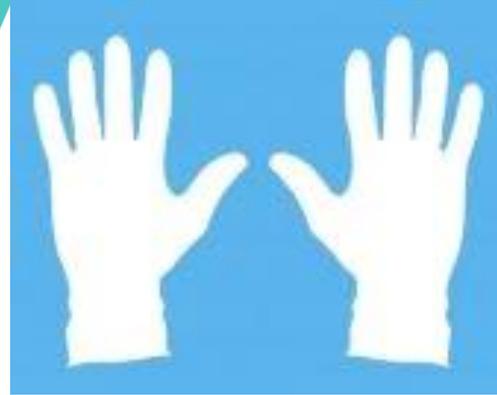
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Lung Inspection





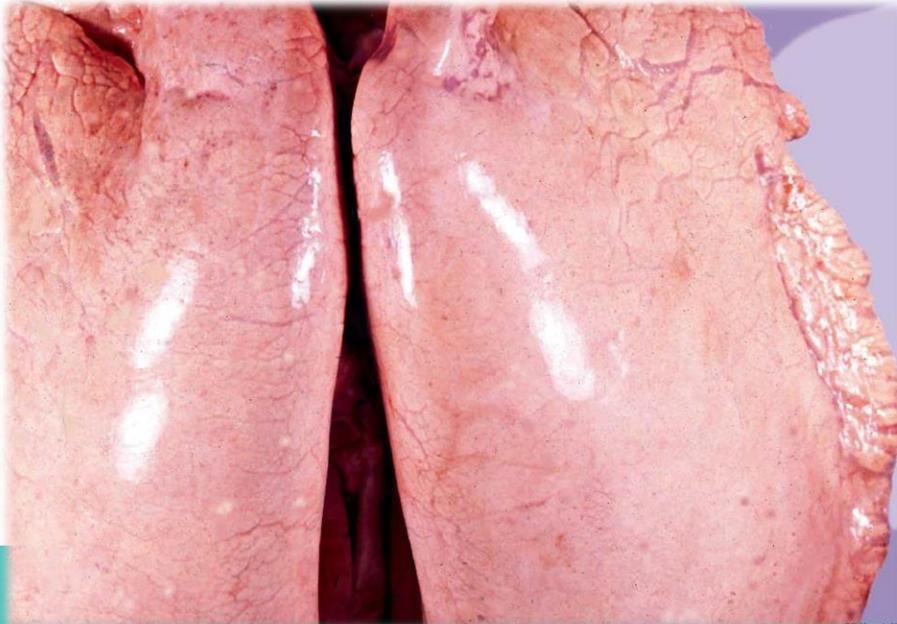
**INCREASED
CONSISTENCE**



Lung Inspection *Palpation*



**DECREASED
CONSISTENCE**



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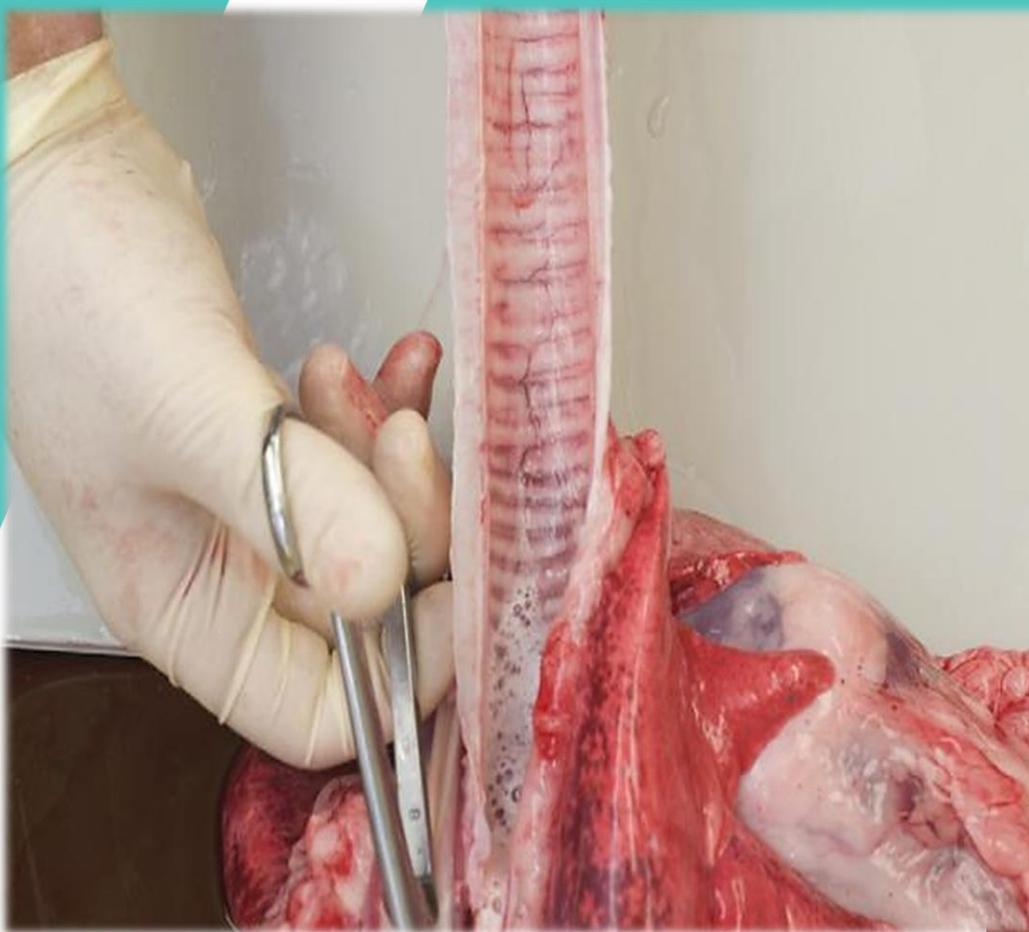
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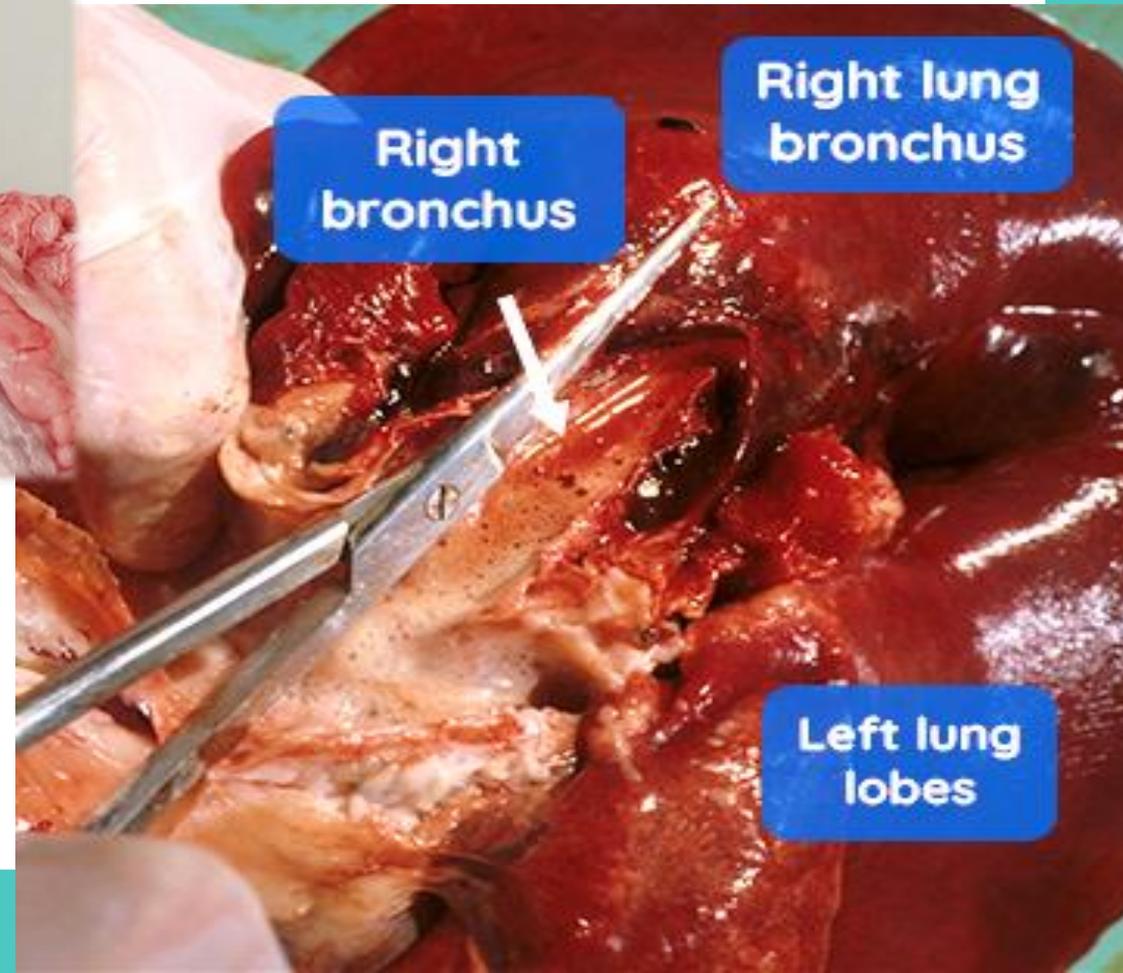
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Lung inspection *Dissection*



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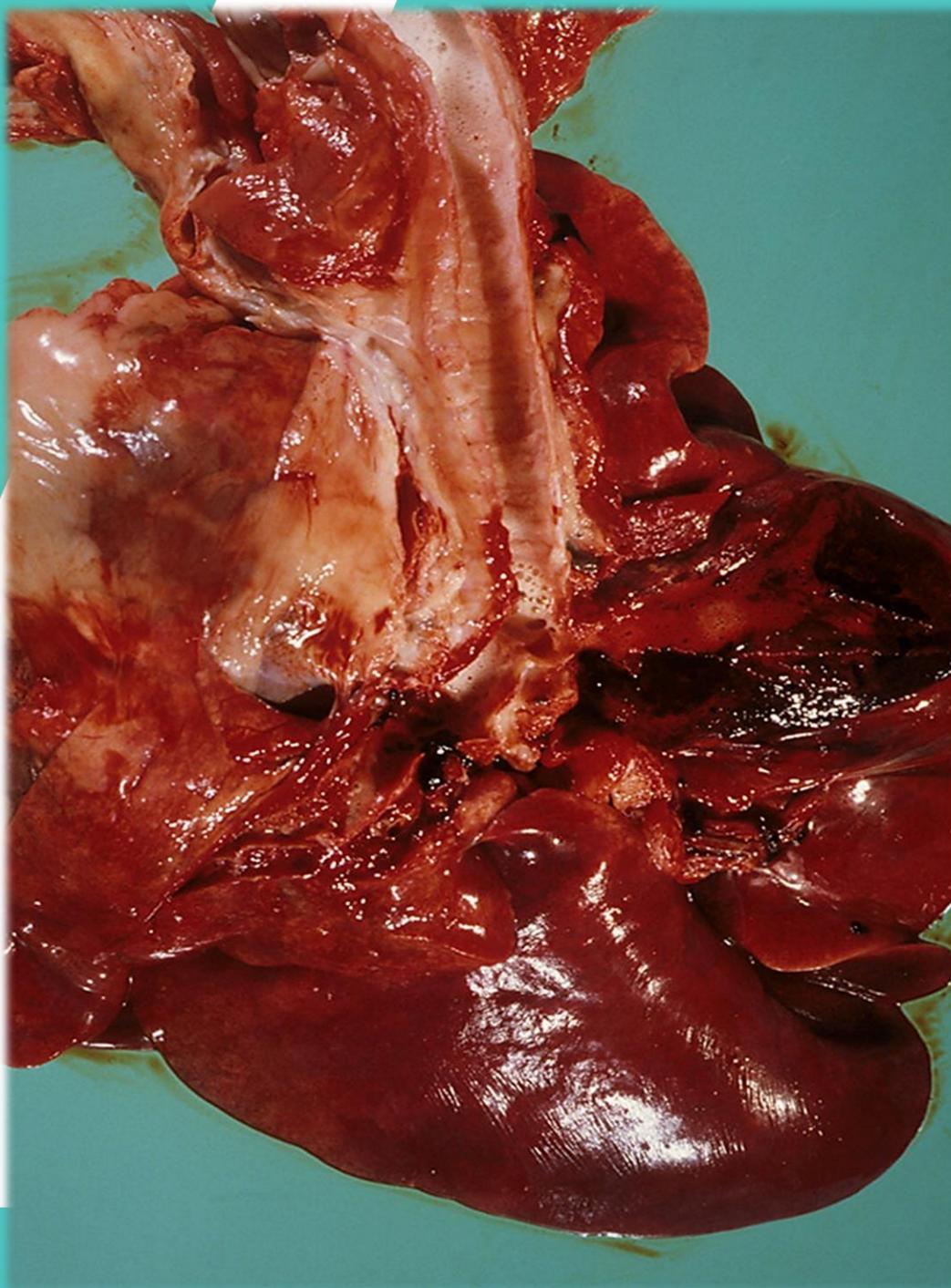
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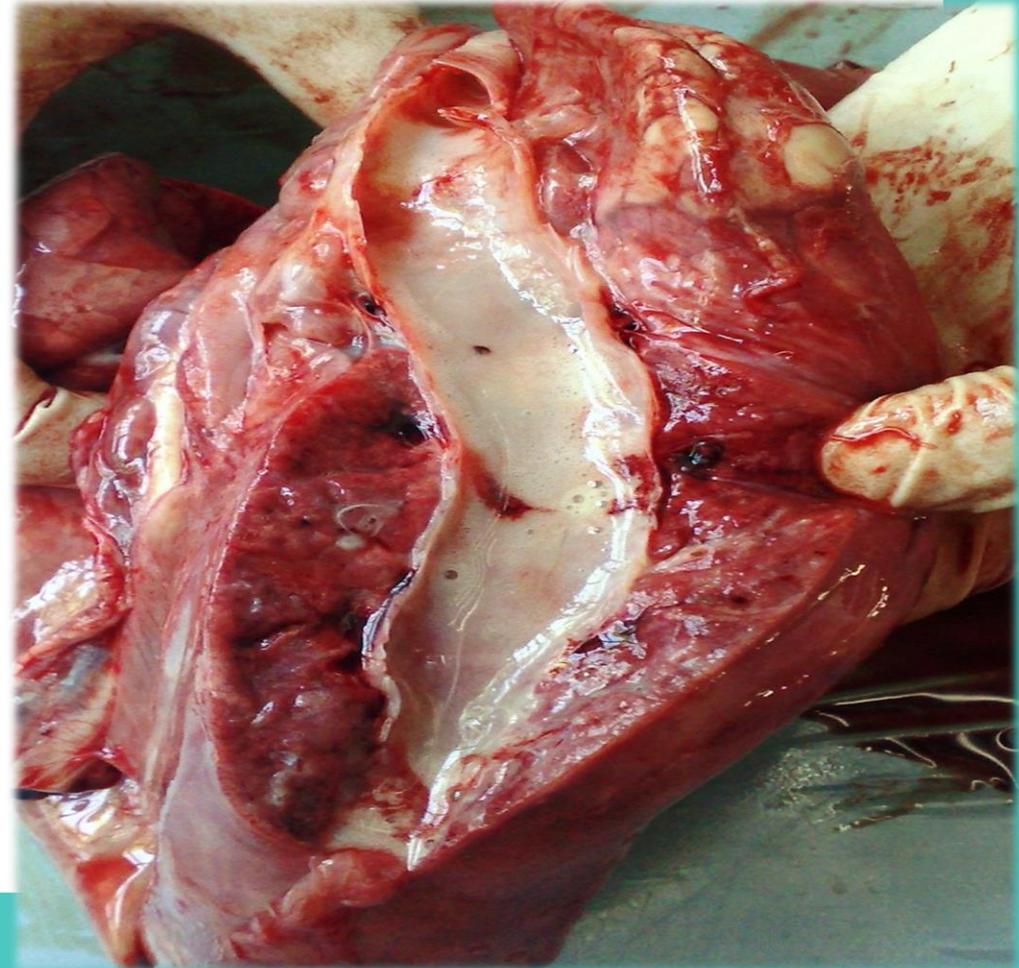
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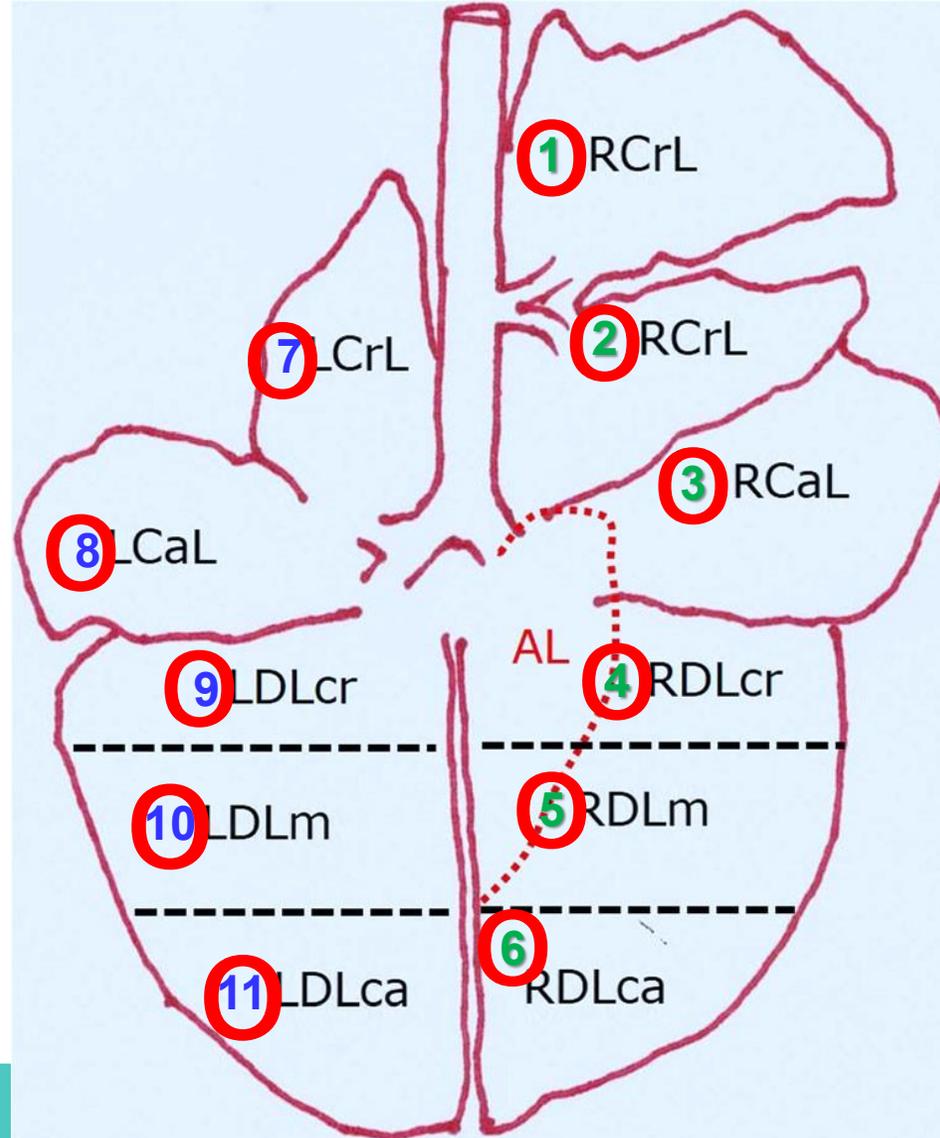


Lung inspection *Dissection*





Lung Dissection

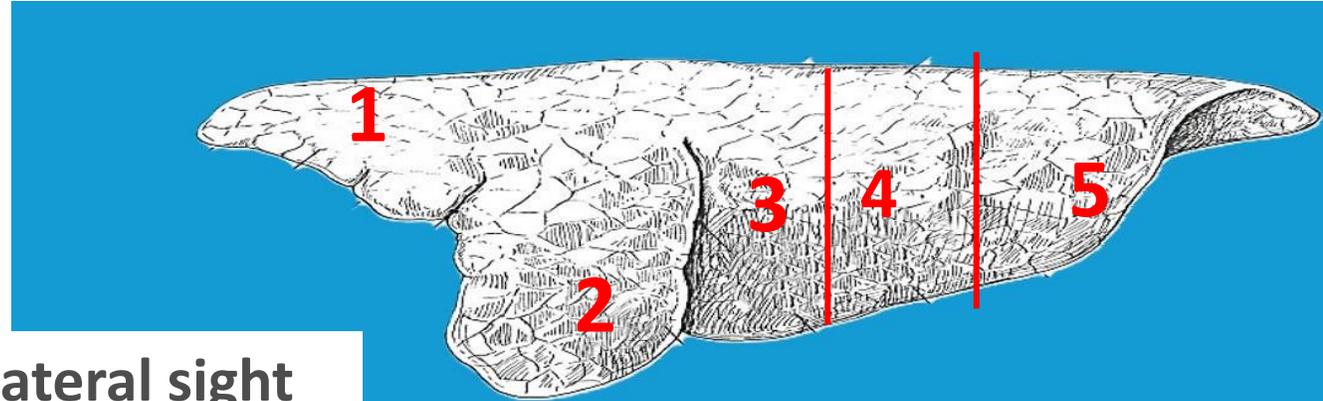


Lung incisions

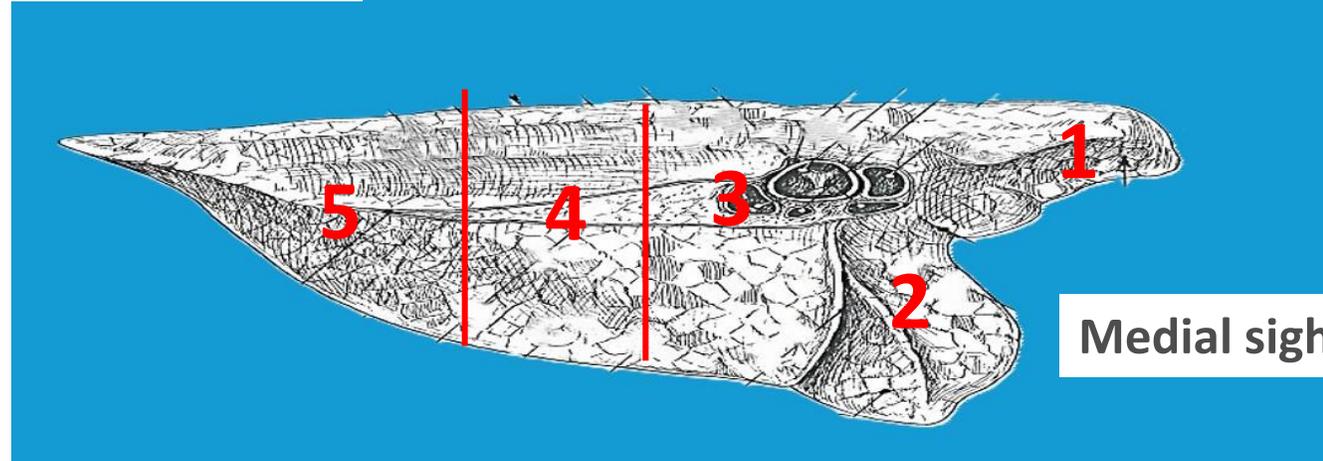
Left Lung



Lateral sight



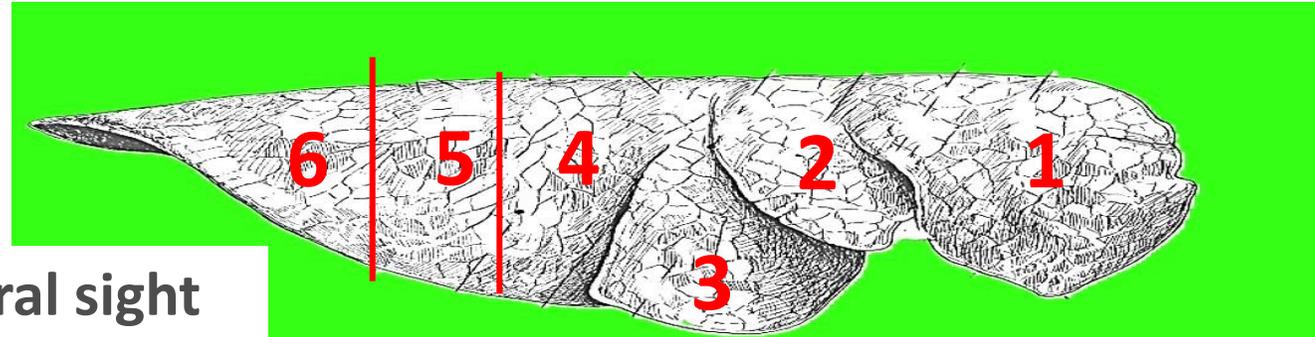
Medial sight



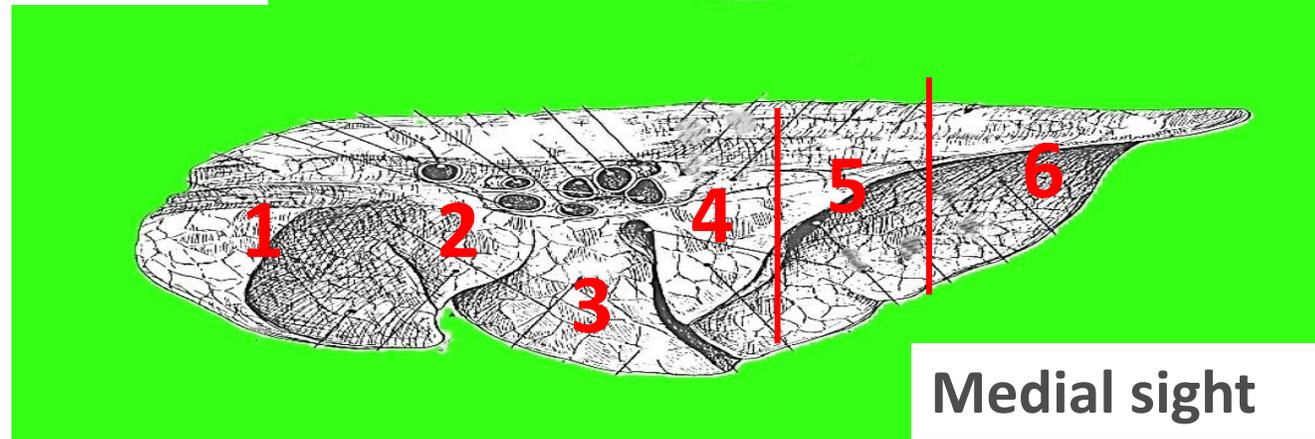
Lung incisions

Right Lung

Lateral sight



Medial sight



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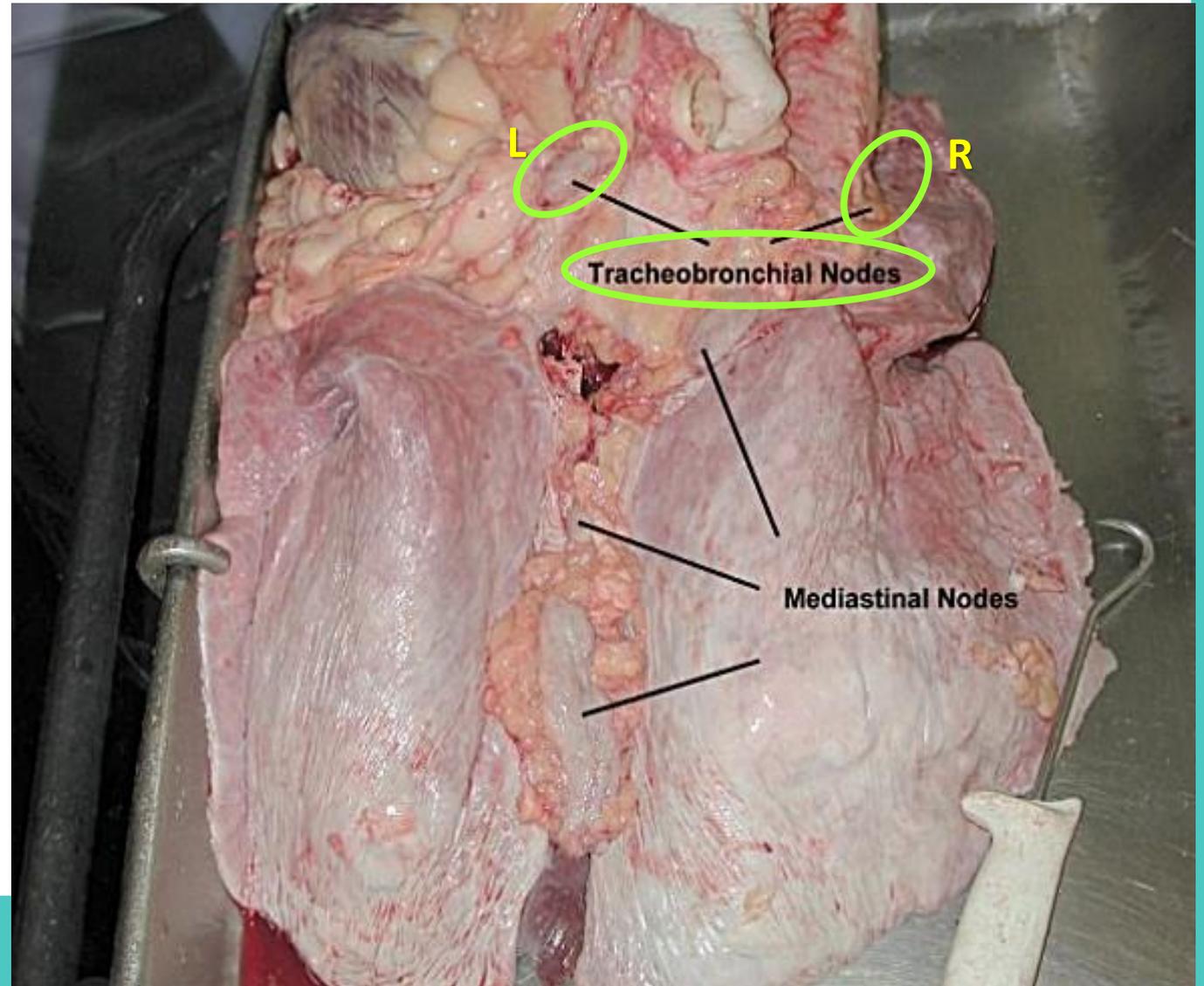
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Tracheobronchial Lymph Nodes

Viscera Inspection



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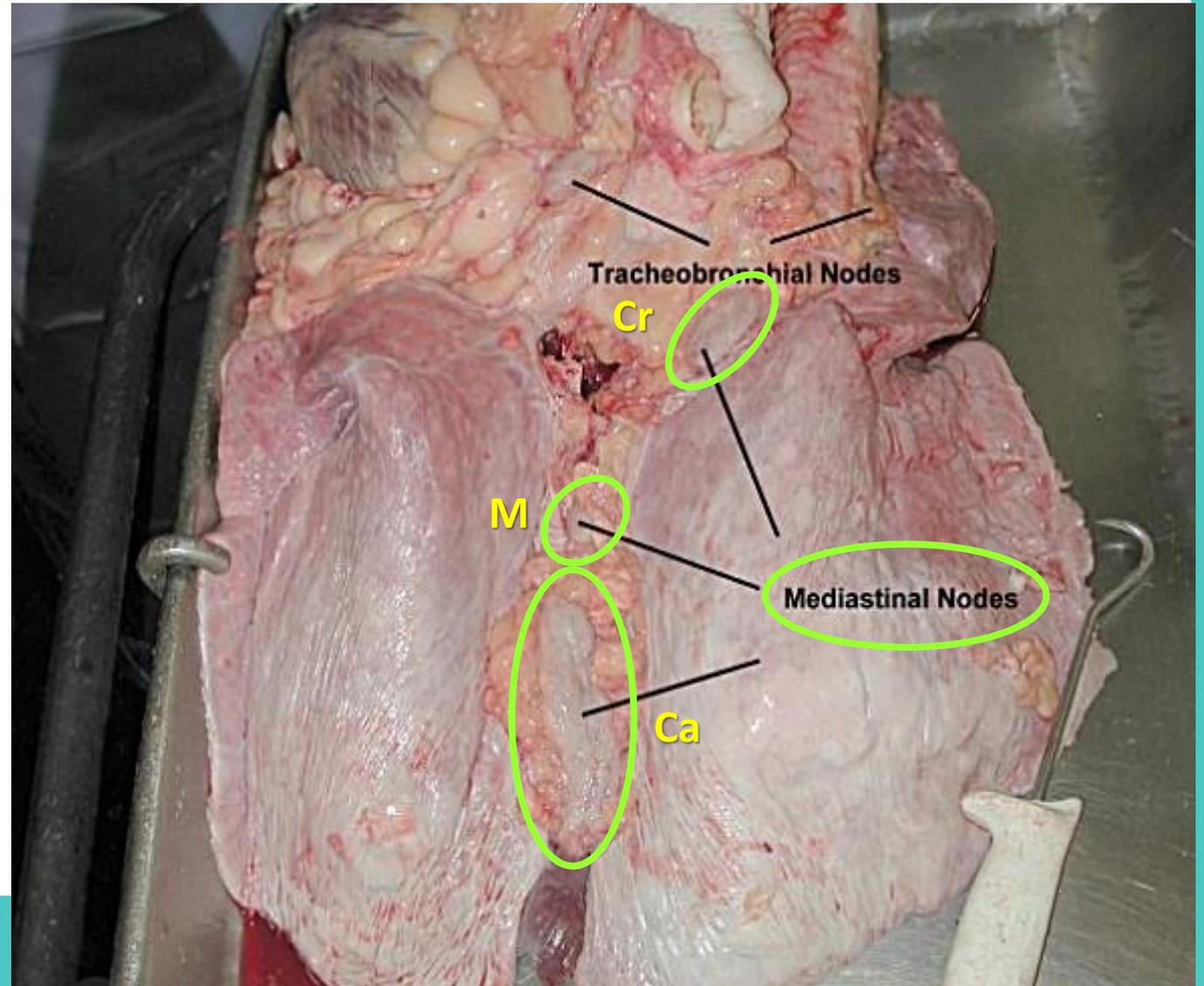
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Mediastinal Lymph Nodes

Viscera Inspection



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**Check thoracic lymph
nodes examining the
cutting surface**

Viscera Inspection



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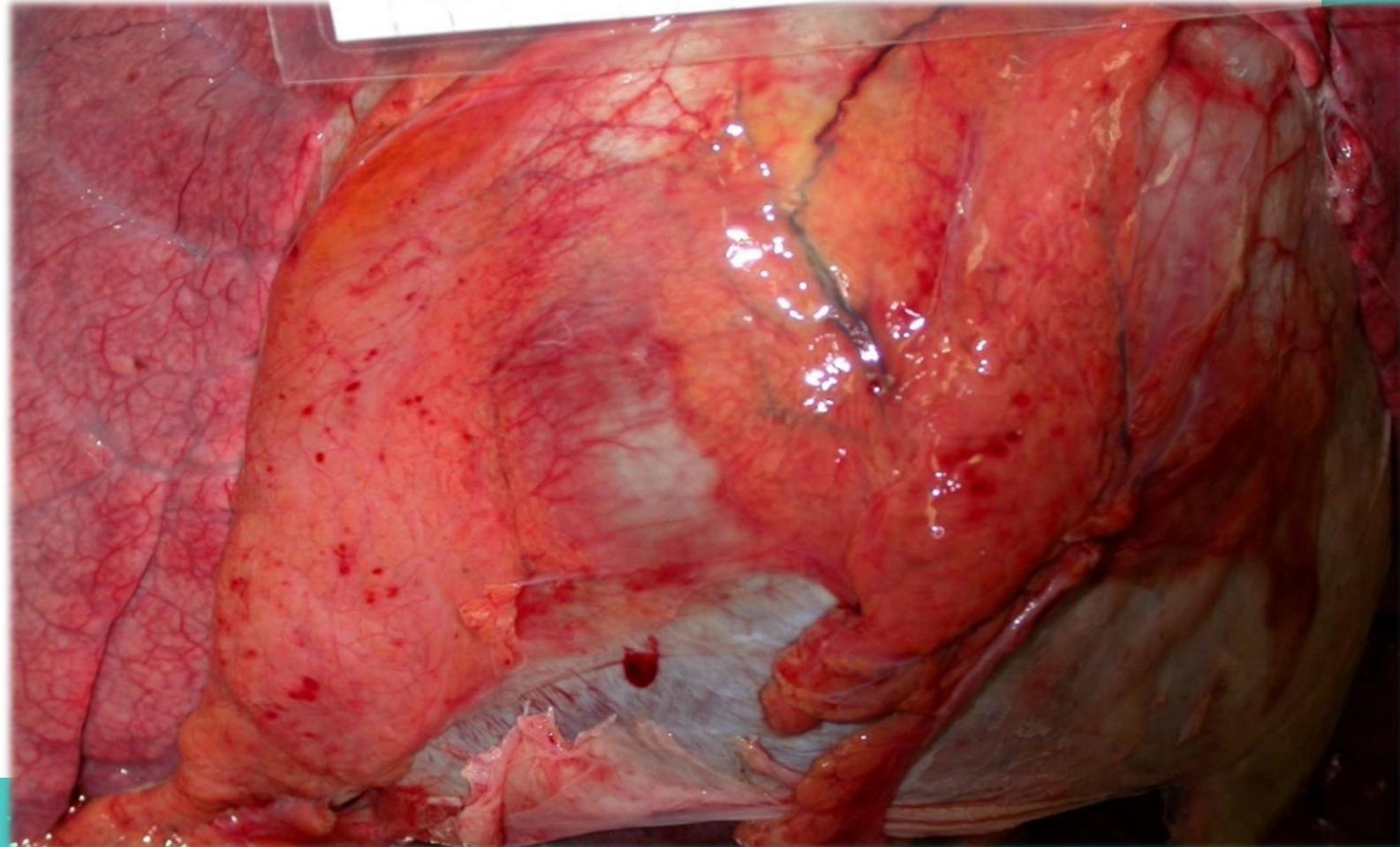


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**Check
Pericardial sac**

Heart: Pericardium



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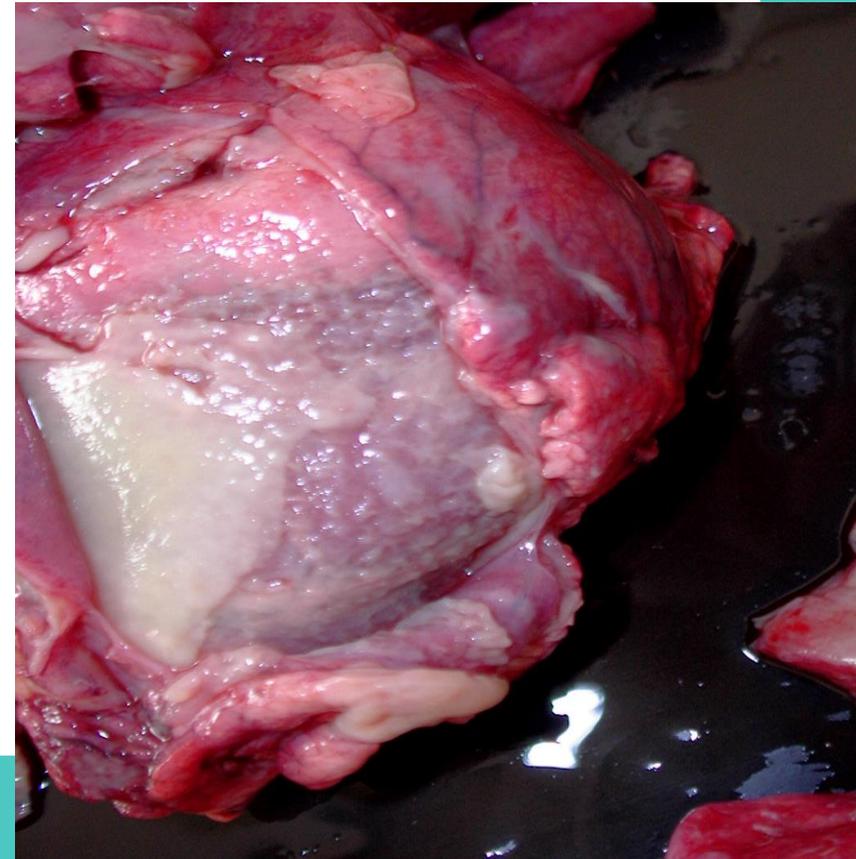
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Heart:

Pericardium and Epicardium



**Open
pericardial sac
taking note
presence:
Liquid and/or
Adhesions**

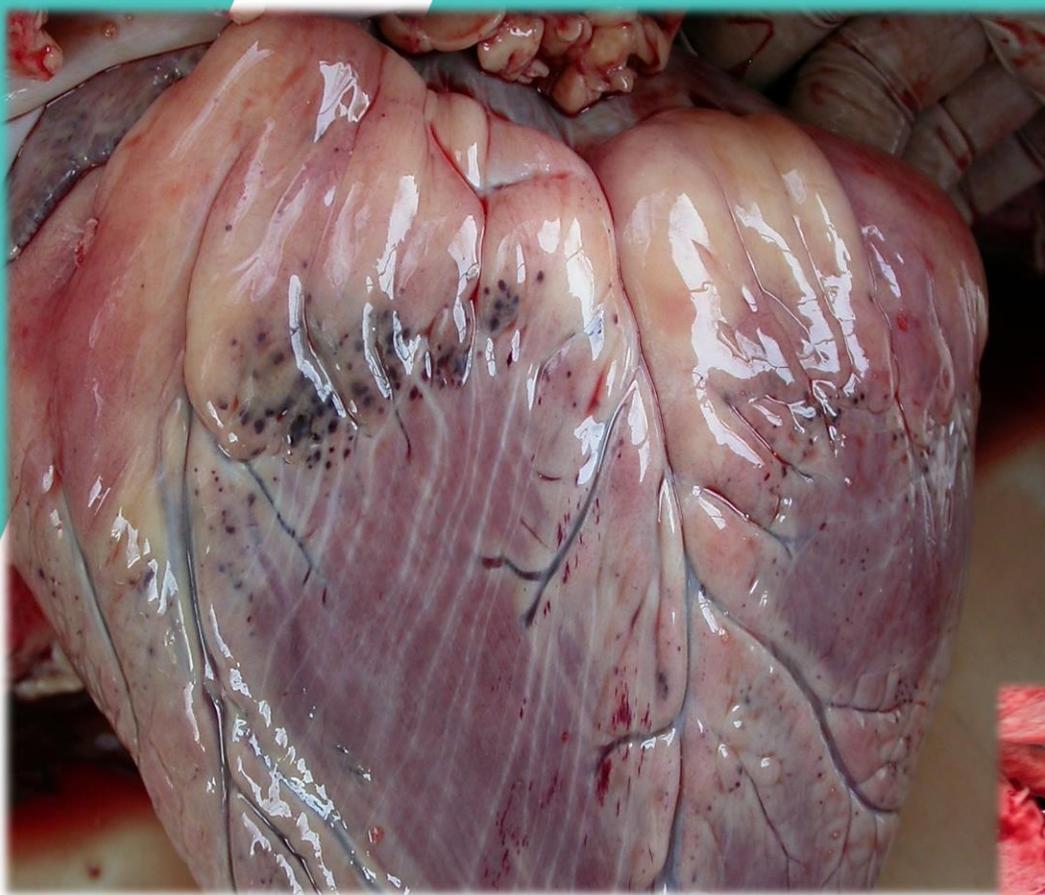


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Heart



Examine Epicardium and Endocardium



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Viscera Inspection

Kidney

Surface



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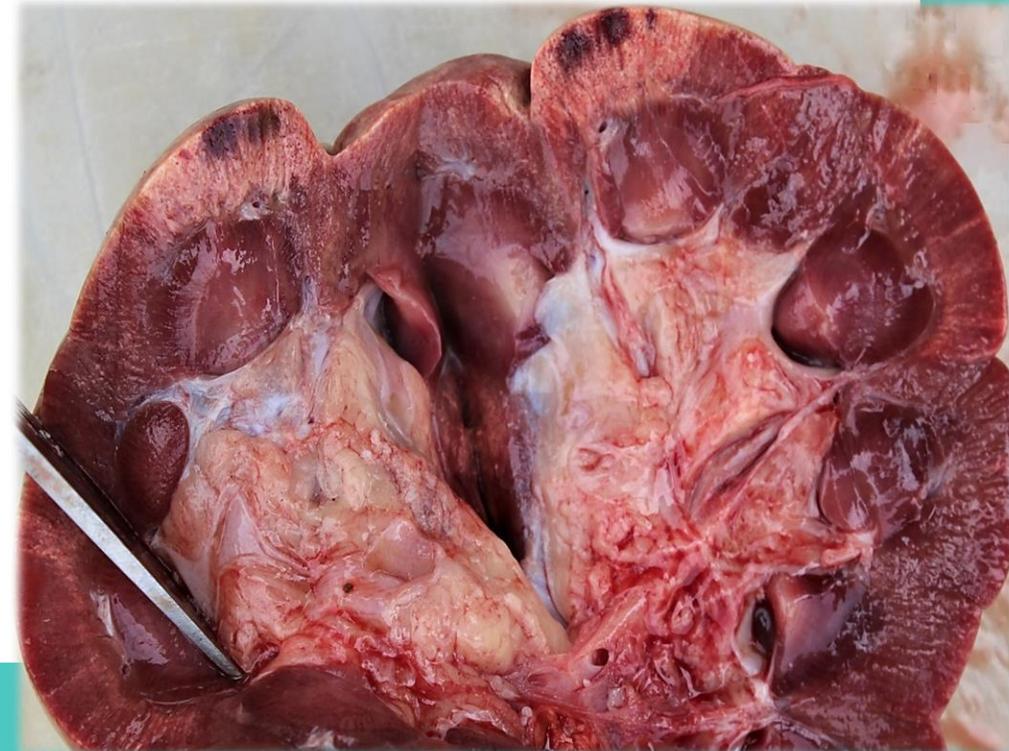
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Viscera Inspection

Kidney

Cutting
surface



**PRACTICAL
POST-MORTEM
INSPECTION
CHECKLIST TAILORED
FOR CBPP**

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PM Checklist

Slaughterhouse Name: _____

Official Veterinarian or Meat Inspector: _____

Date: _____

Time of Inspection: _____

Number of animals inspected: _____

Source farm / Holding ID: _____

Farmer name: _____

Transporter / Vehicle ID: _____

Batch / Lot number: _____

Animal ID number or brand: _____

PM Checklist

Macroscopic Findings

Please also comply with the requirements specified in Appendix 3.

Lesion	Present	Absent	Notes
Monolateral lesions	<input type="checkbox"/>	<input type="checkbox"/>	
Fibrinous pleuritis	<input type="checkbox"/>	<input type="checkbox"/>	
Pleural adhesions	<input type="checkbox"/>	<input type="checkbox"/>	
Fibrinous exudate	<input type="checkbox"/>	<input type="checkbox"/>	
Pulmonary consolidation	<input type="checkbox"/>	<input type="checkbox"/>	
Marmorisation	<input type="checkbox"/>	<input type="checkbox"/>	
Interlobular Septa ectasic	<input type="checkbox"/>	<input type="checkbox"/>	
Sequestra	<input type="checkbox"/>	<input type="checkbox"/>	
Emaciation / poor body condition	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Notes / Observations

PM Checklist

Inspection of Injection Sites

<i>Parameter</i>	<i>Yes</i>	<i>No</i>	<i>Notes</i>
Muscular necrotic lesions at typical IM injection sites	<input type="checkbox"/>	<input type="checkbox"/>	
Fibrosis or granuloma at injection site	<input type="checkbox"/>	<input type="checkbox"/>	

PM Checklist

Sampling

<i>Sample Type</i>	<i>Taken</i>	<i>Not Taken</i>	<i>Notes</i>
Lung tissue	<input type="checkbox"/>	<input type="checkbox"/>	
Thoracic lymph nodes	<input type="checkbox"/>	<input type="checkbox"/>	
Pleural exudate	<input type="checkbox"/>	<input type="checkbox"/>	
Suspect muscle tissue (injection sites)	<input type="checkbox"/>	<input type="checkbox"/>	

PM Checklist

Decision

Action

Select

Notes

Carcass approved

Carcass detained
pending lab results

Carcass condemned

Notification to
Competent Authority

Epidemiological follow-
up recommended

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AM AND PM INSPECTION AND AMR

AM and PM Inspection and AMR

Animals that present during *ante-mortem* visit, mild clinical symptoms but on *post-mortem* examination show acute or sub-acute lesions, referable to CBPP, should be considered suspected of having been treated with antibiotics

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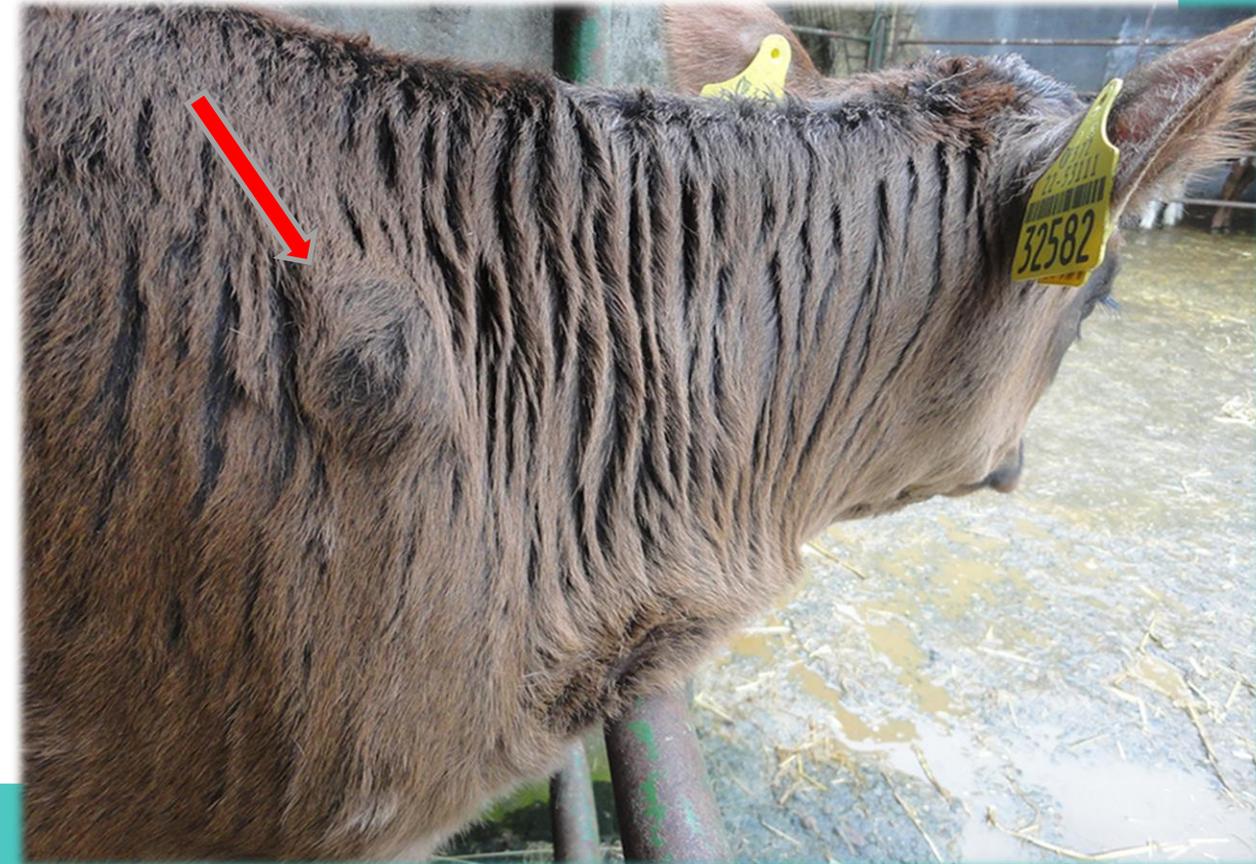
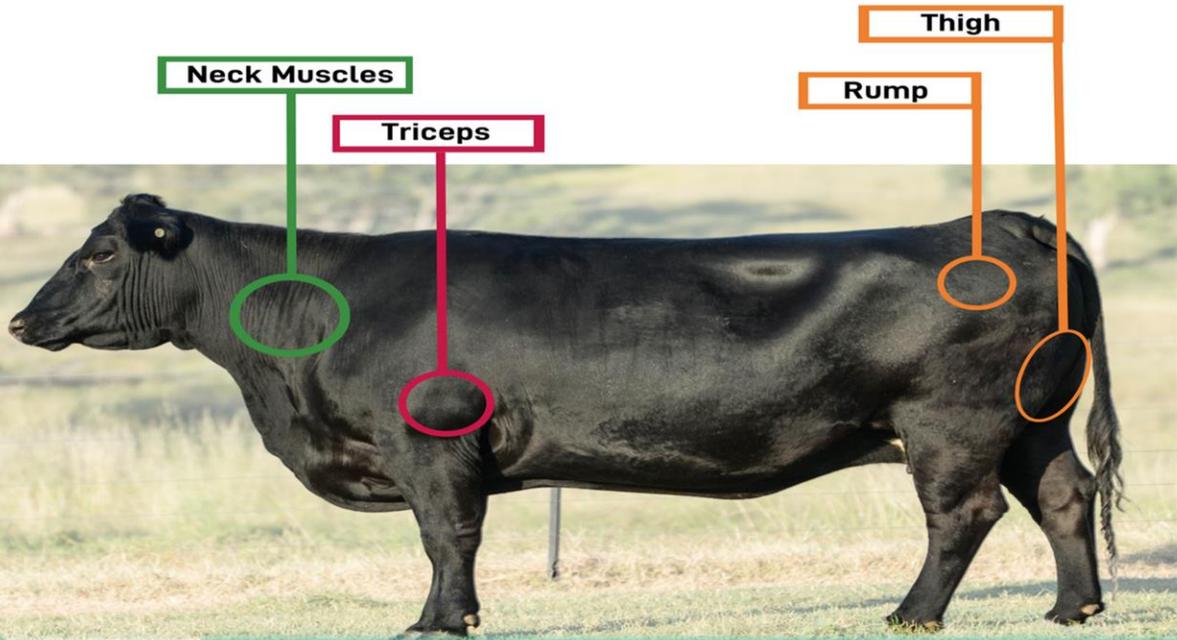
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AM Inspection and AMR

Recommended Intramuscular (IM) Injection Sites in Beef Cattle

**Injection sites shown are approximate*



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PM Inspection and AMR

**Necrotic muscle lesions potentially associated
with long-acting antibiotic administration**



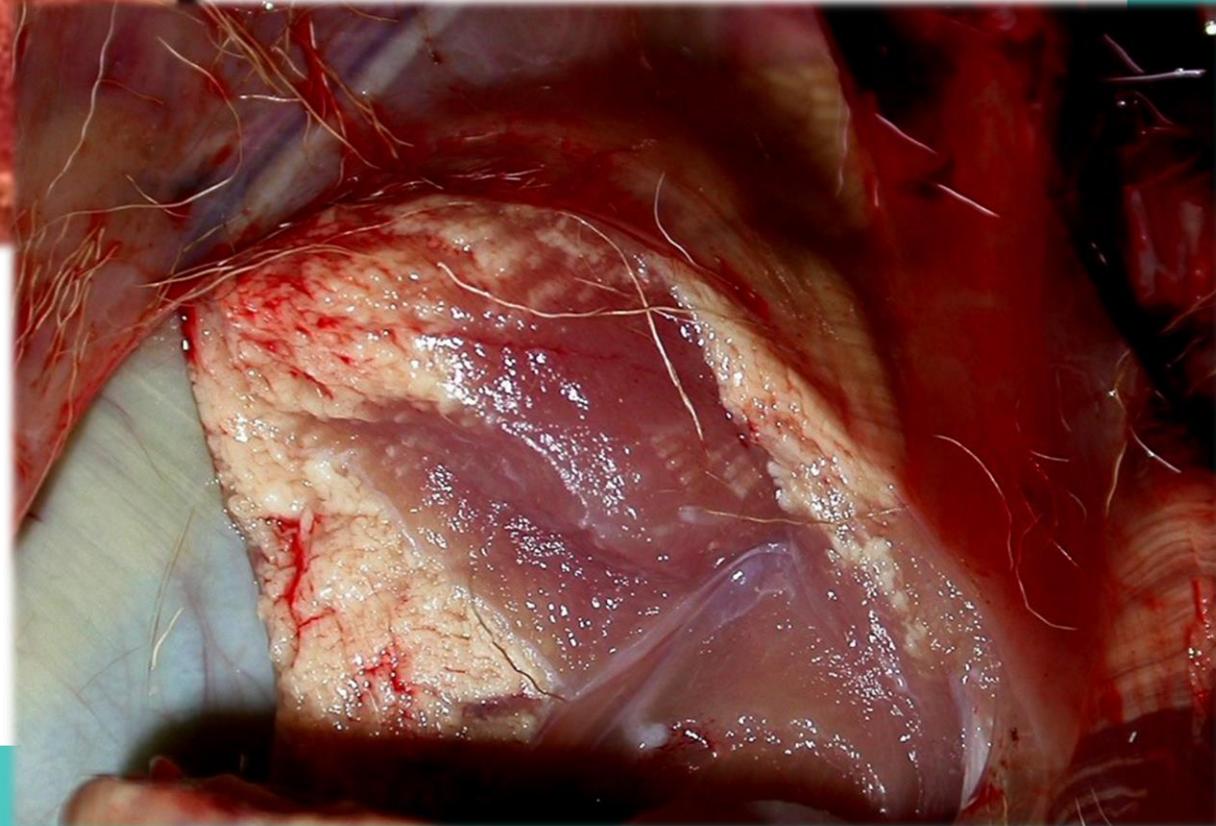
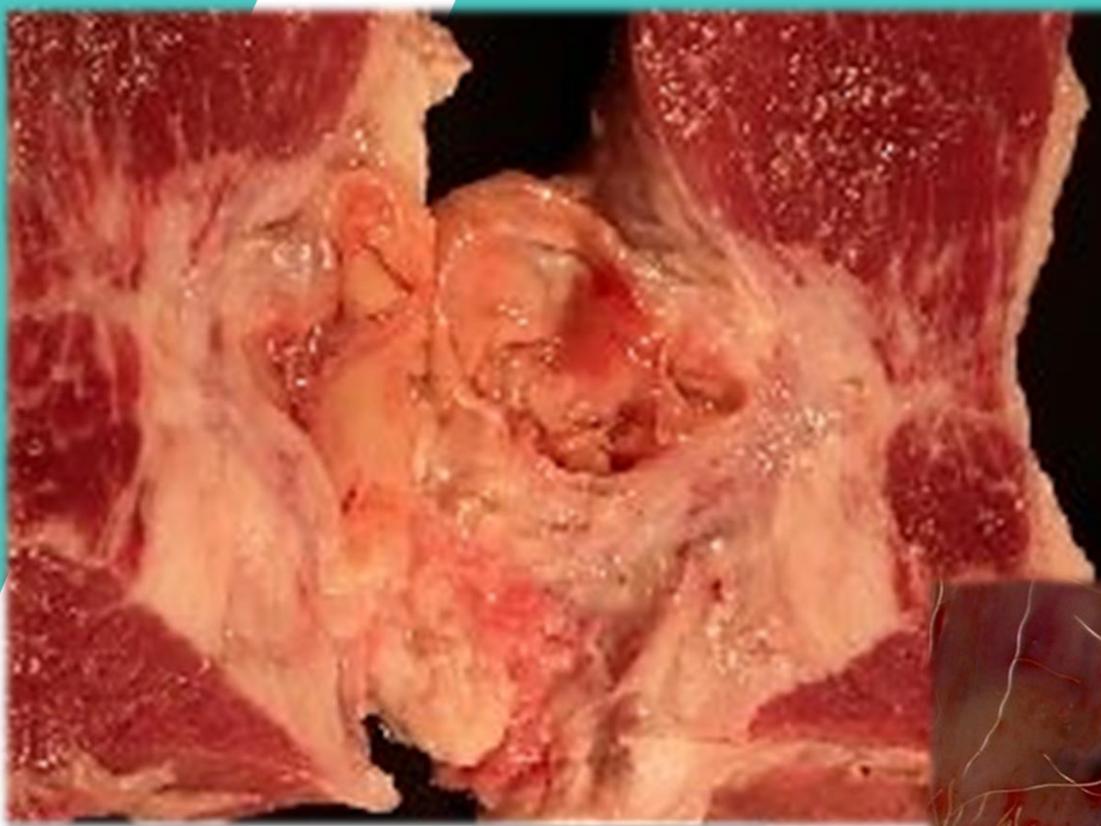
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PM Inspection and AMR



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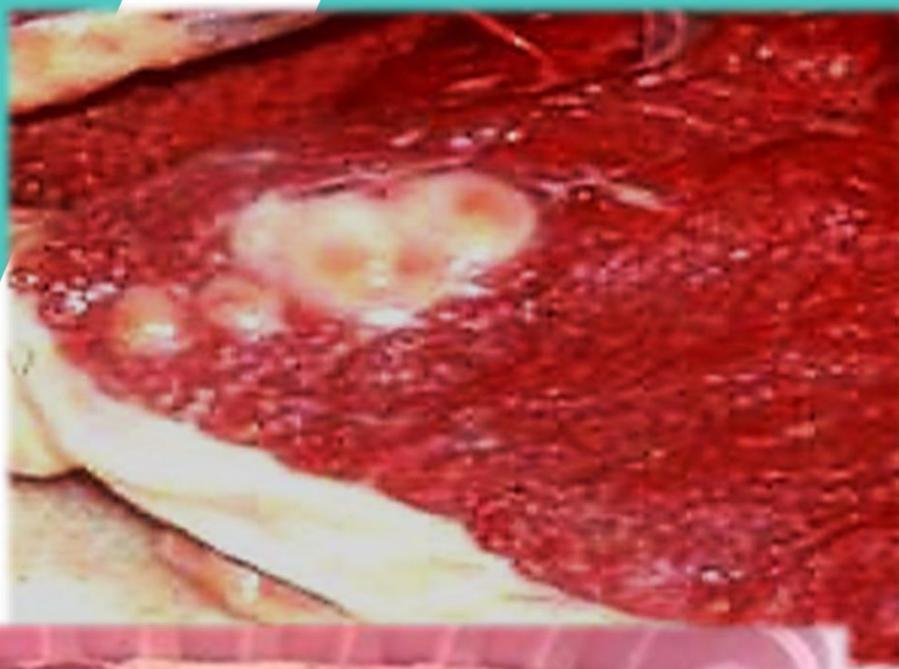
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Pleuropneumonia

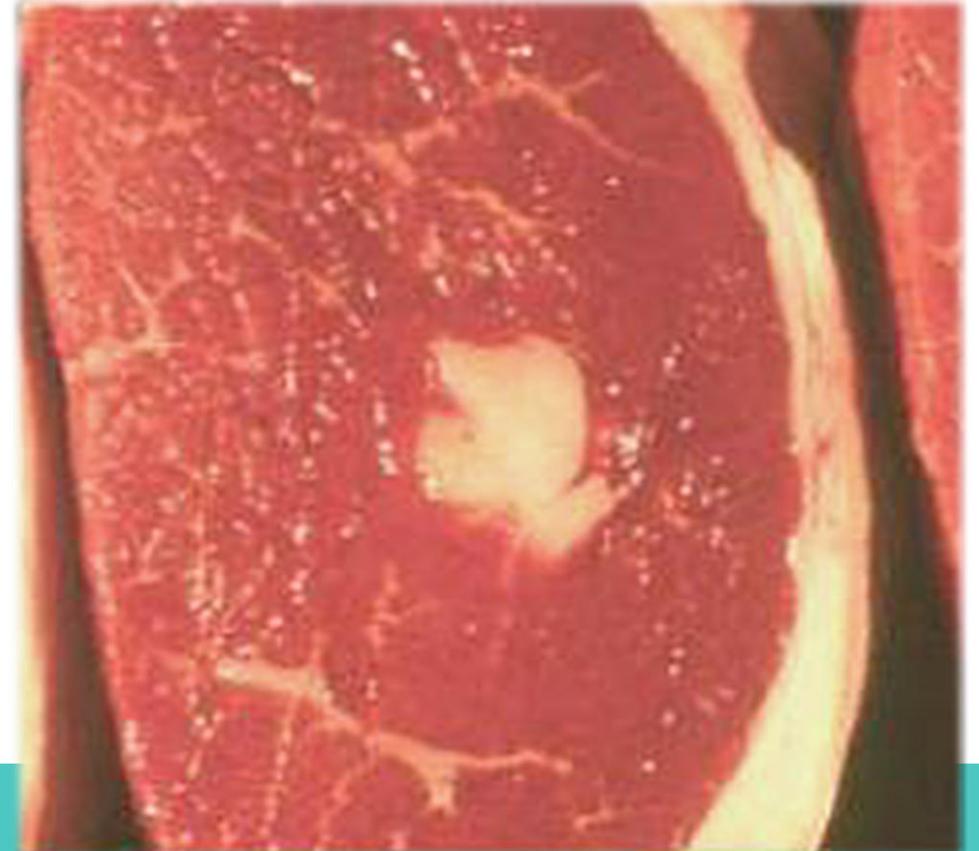
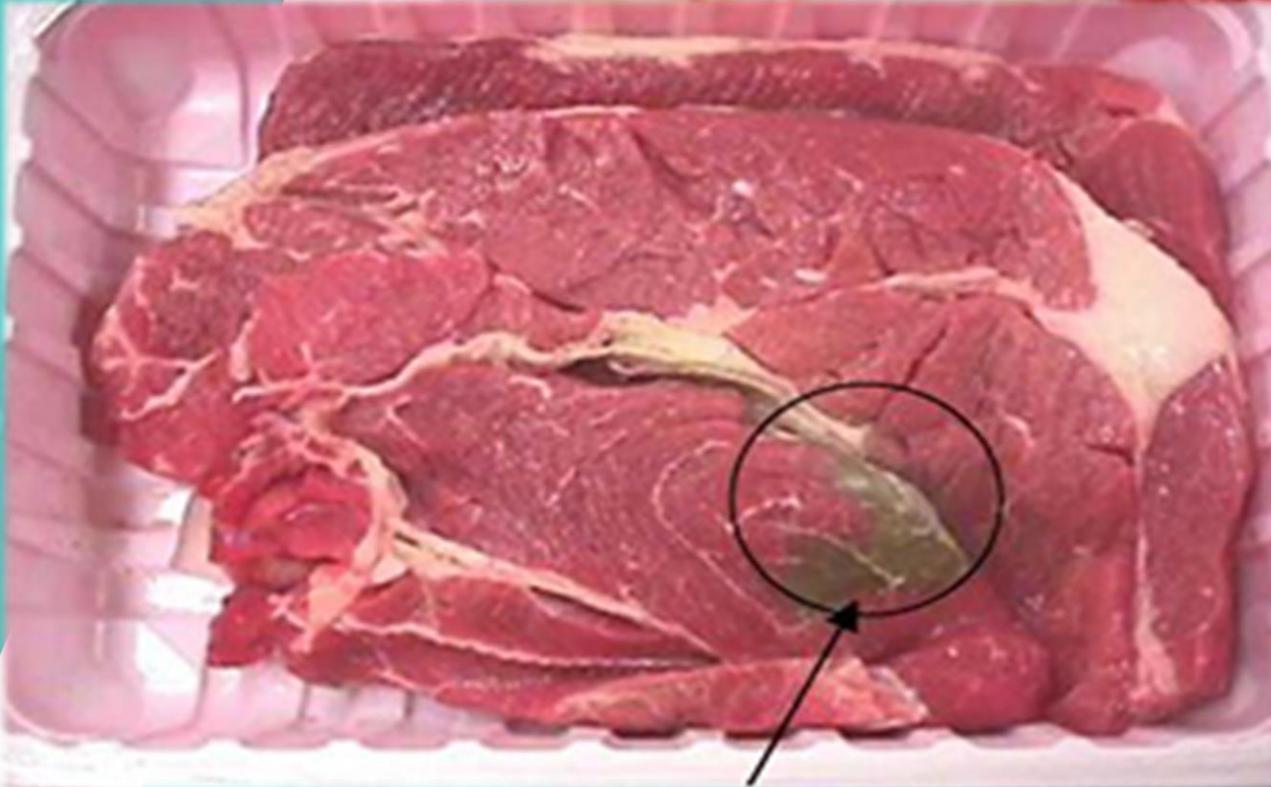
Reference Centre



World Organisation
for Animal Health
Founded as OIE



PM Inspection and AMR



IZS

T E R A M O

WOAH Reference Laboratory
for Contagious Bovine
Pleuropneumonia

Reference Centre



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PM Inspection and AMR



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Pleur pneumonia

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AM and PM Inspection and AMR

**In such cases, antibiotic residues
must always be searched for!**

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Echinococcus granulosus



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Cysticercus in Masseteric muscle



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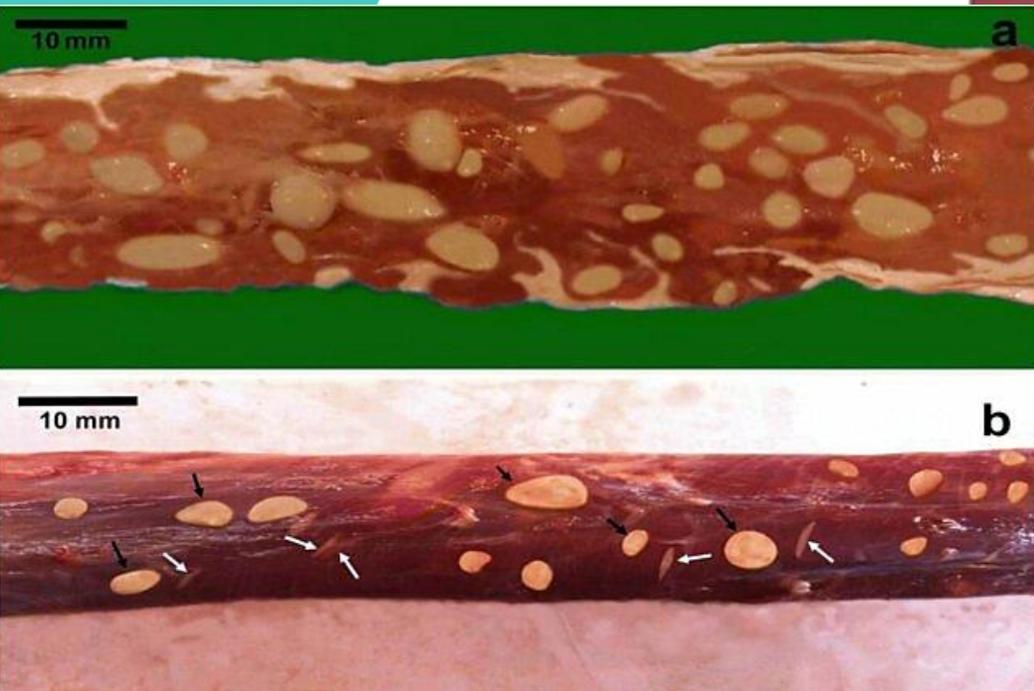
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Sarcocystosis

In cow's diaphragm and oesophagus



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Fascioliasis



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Bovine Tuberculosis Lung



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Bovine Tuberculosis Lymph nodes



Key Message

- **Post-mortem inspection combines diagnostic, epidemiological, and pharmacological insight.**
- **Each carcass inspected strengthens national CBPP surveillance.**
- **Detecting both CBPP lesions and suspect antibiotic-related damage improves Public Health control.**
- **Abattoirs act as strategic surveillance points for zoonosis and drugs monitoring.**

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Thank you!

m.scacchia@izs.it