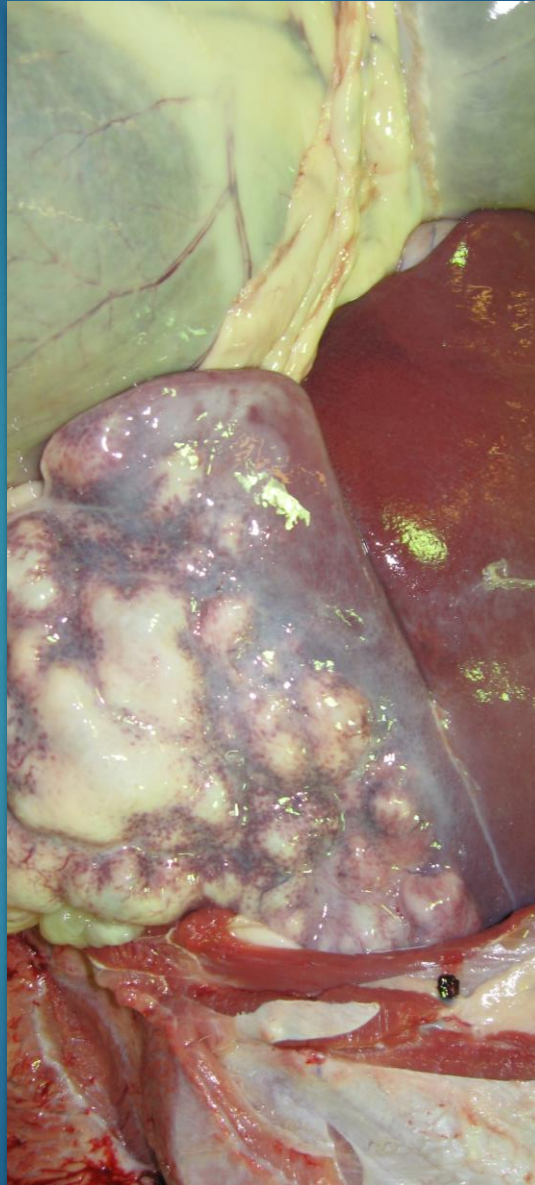


SHEEP & GOAT PATHOLOGY

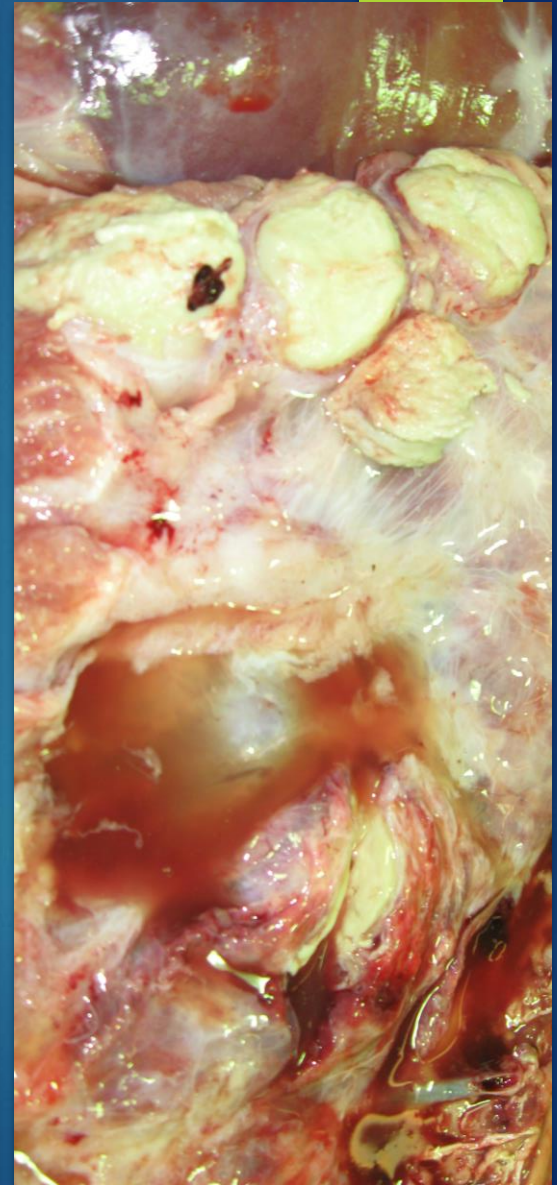
Caseous Lymphadenitis

9 CFR 311.18(e)

- ▶ A bacterial infection results in a disease that produces inflammation and resulting caseous (cheese-like) abscesses in lymph tissue.
- ▶ Retain for veterinary disposition.



CL in the liver



CL in the lungs

Caseous Lymphadenitis

IN THE SPLEEN



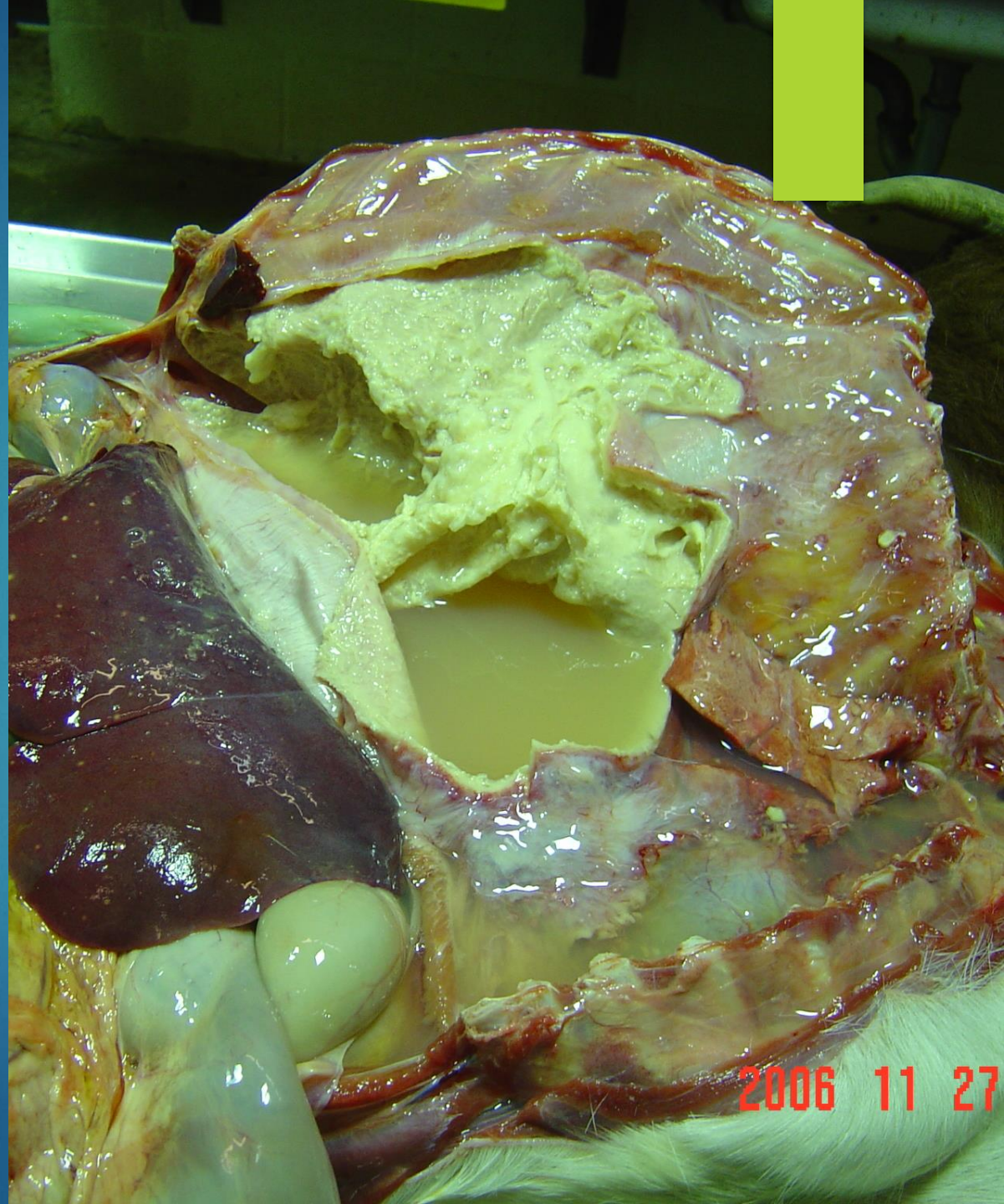
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Caseous Lymphadenitis

IN THE KIDNEY

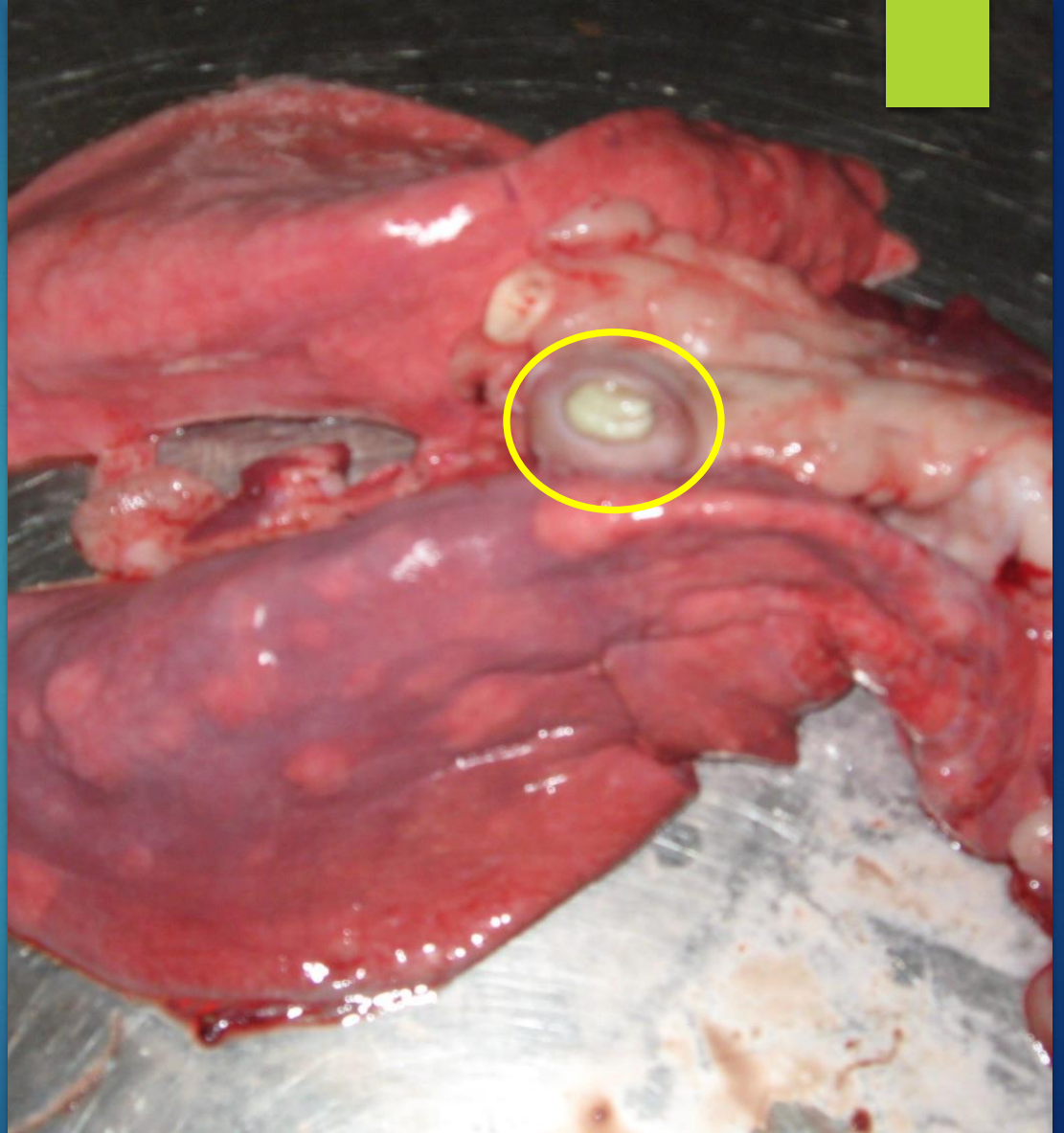


Caseous Lymphadenitis IN THE THORAX

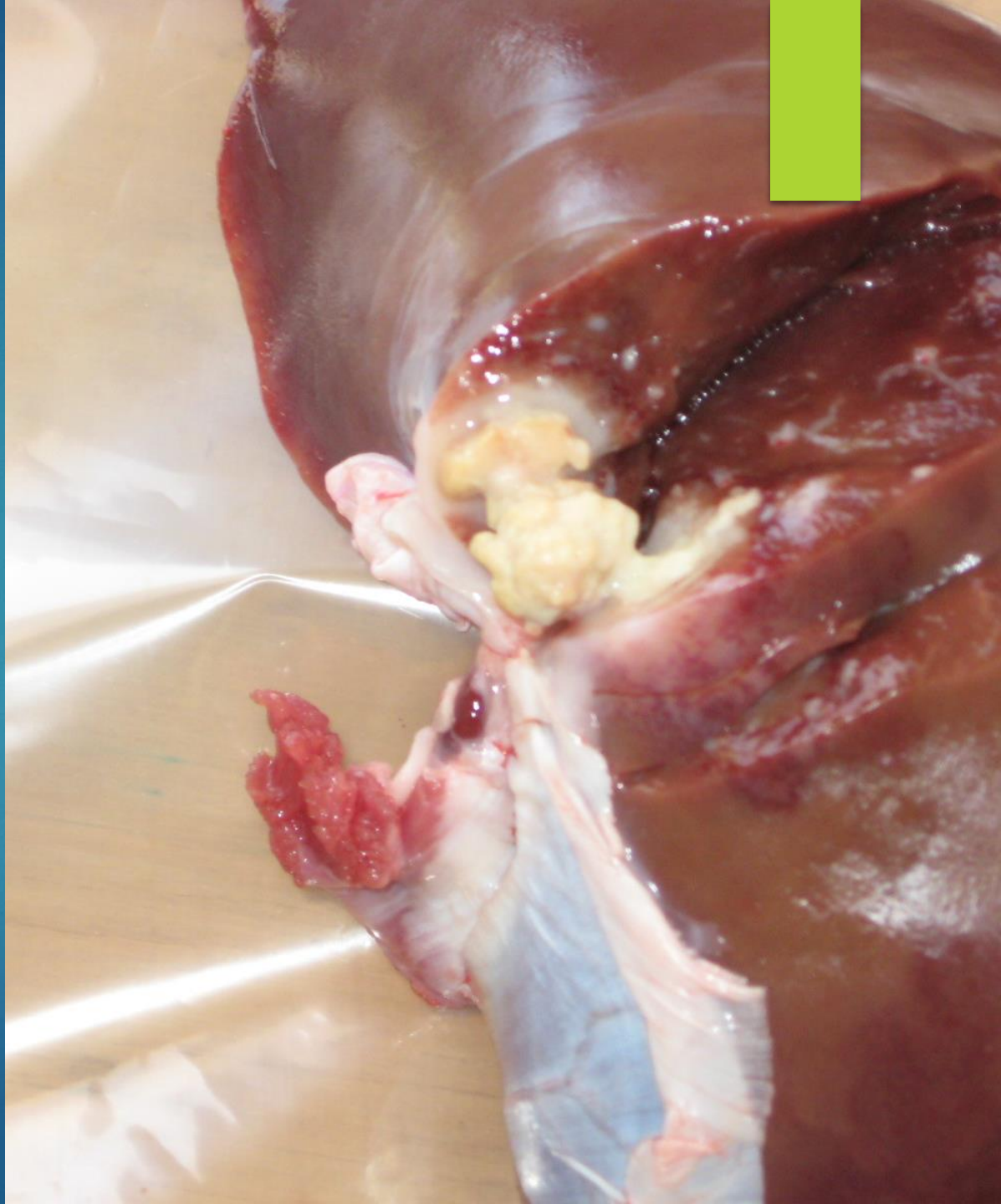


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Caseous Lymphadenitis IN THE LUNGS



Caseous Lymphadenitis IN THE LIVER



Presentation of Caseous Lymphadenitis as seen by MPID Inspection Personnel!

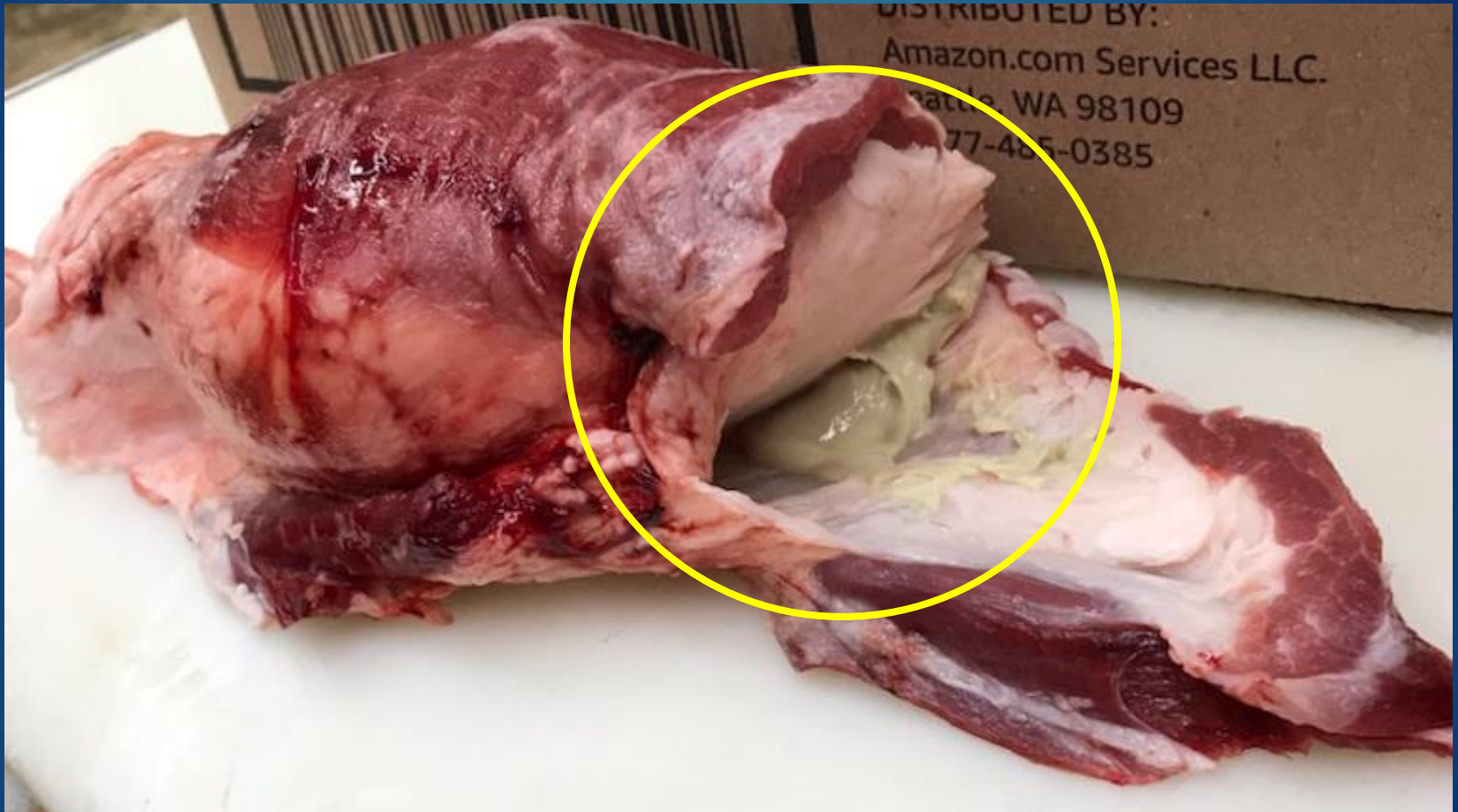
- ▶ Seen in a Ewe
- ▶ Postmortem:
 - ▶ Swollen
prescapular
lymph node on
right shoulder
 - ▶ Enlarged
mediastinal
and mesenteric
lymph nodes

Caseous Lymphadenitis



Enlarged prescapular lymph node.

Caseous Lymphadenitis



Cross-section of the enlarged prescapular lymph node.

Caseous Lymphadenitis

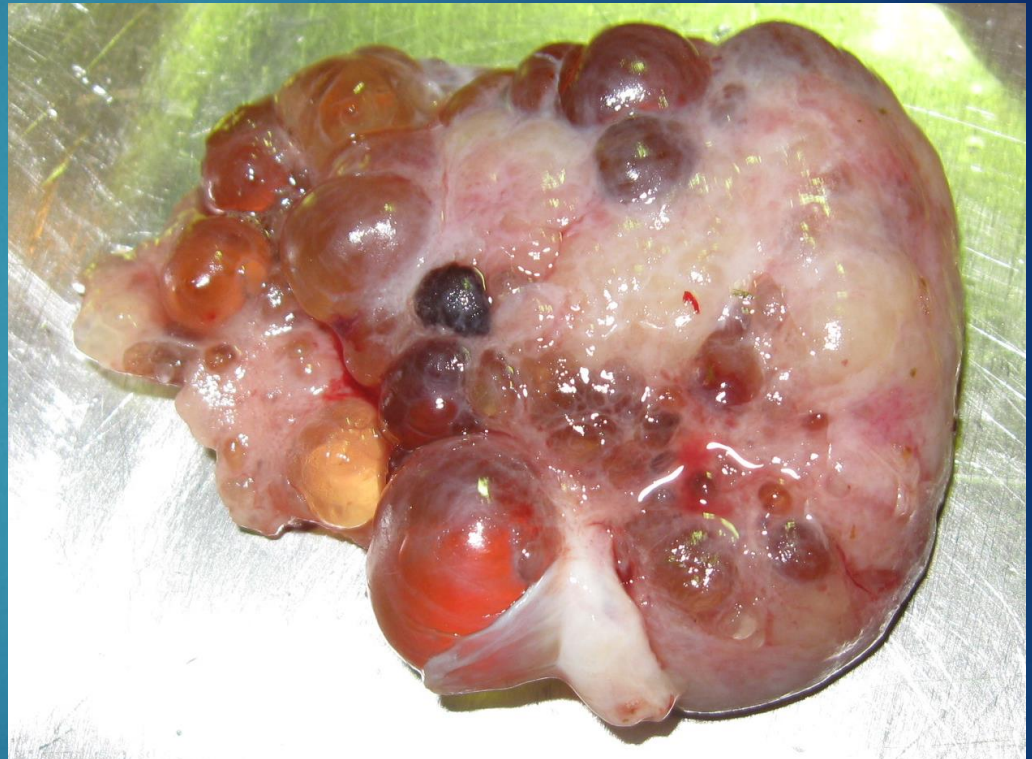
Cross-section
of mediastinal
lymph nodes.



Cystic Kidney

9 CFR 311.16(a)(7)

- ▶ Clear, fluid filled cysts of varying sizes.
- ▶ Condemn the kidneys (unless the condition is slight) and pass the carcass for food.



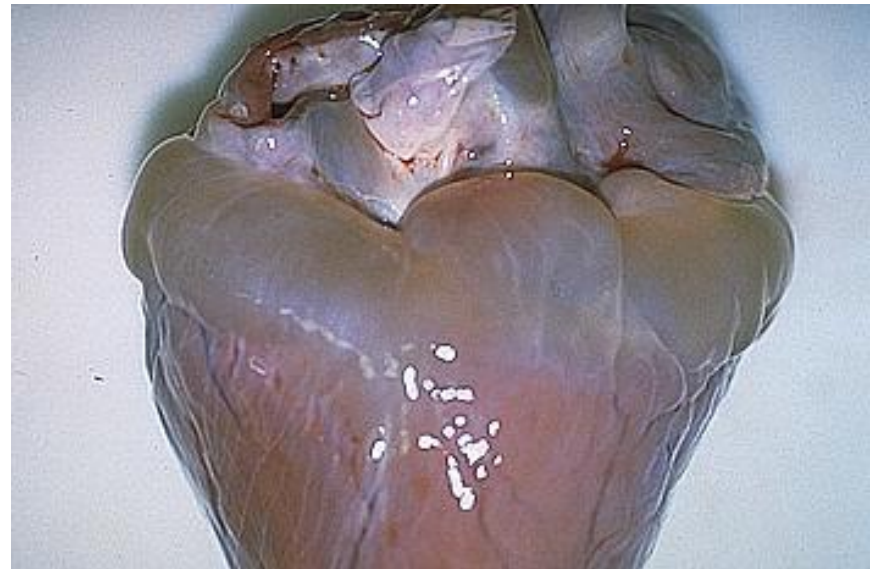
Shown above is a polycystic kidney meaning there is more than one cyst present.

Emaciation

- ▶ Fat tissue loses its normal white color and semi-firm consistency. It becomes a darker color (almost brown), with a jelly-like to fluid-like consistency.
- ▶ Fat around the heart is typically the first area affected.
- ▶ Condemn the heart if it is the only organ affected.
- ▶ Retain for veterinary disposition if more than the heart is affected.



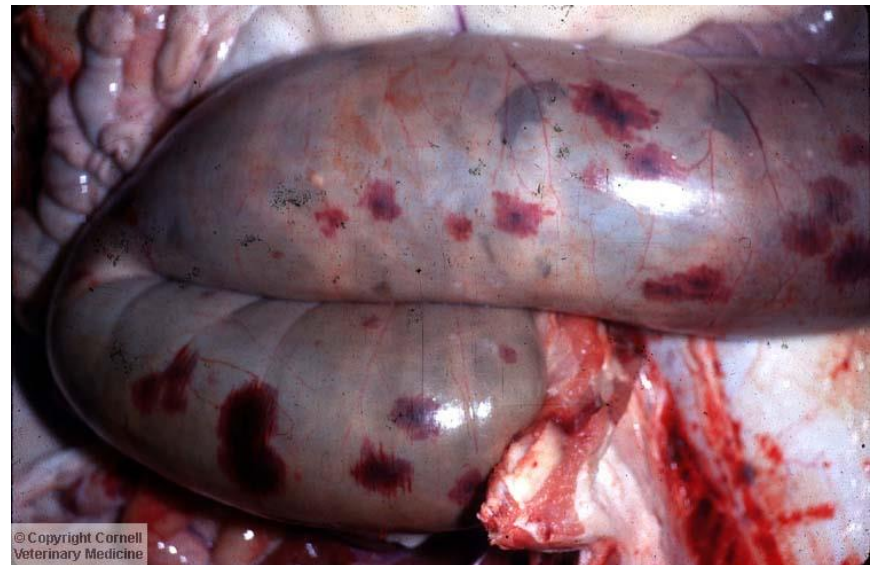
Above: Heart with normal fat tissue.



Heart with abnormal fat tissue.

Enterotoxemia (Overeating Disease)

- ▶ A problem especially in sheep.
- ▶ Caused by clostridium bacteria.
- ▶ Animals become lethargic, go down with some CNS signs.
- ▶ Sudden death is sometimes only symptom.
- ▶ Retain for veterinary disposition.



Eye Conditions



Sequela-a condition which results from a previous disease or injury.



Chronic Pink Eye

Hydronephrosis (Water Kidney)

- ▶ One or both kidneys literally become a "bag of water". Normal kidney tissue is replaced by fluid.
- ▶ There is generally no effect upon the carcass.
- ▶ Affected kidneys are removed and condemned.



Icterus / “Yellow Lamb Disease”

- ▶ A rare form of acute enterotoxemia in lambs.
- ▶ Most associated with *Clostridium perfringens* type A.
- ▶ Animals could be depressed, anemic, icteric, and show signs of hemoglobinuria (blood in urine).
- ▶ Retain for veterinary disposition.



Icterus



Icterus

ICTERIC ANIMAL
SHOWING A
CONGESTED LIVER.
NOTE THE VERY
DARK COLOR OF
THE LIVER.



Icterus

ICTERIC ANIMAL
SHOWING
CONGESTED
KIDNEYS. NOTE THE
VERY DARK
COLOR OF THE
KIDNEY SHOWN.



Icterus

ICTERUS
PRESENTING
THROUGH
YELLOWING OF
THE SCLERA OF THE
EYE.

Intestinal Neoplasia (Tumors)

- ▶ Growths that can be bizarre or subtle changes of size and/or color of tissues and organs.
- ▶ Retain the carcass and parts for veterinary disposition.



Liver Flukes

- ▶ Flat, elongated, and oval
- ▶ Typically found more commonly in animals with access to water as eggs need moisture for development
- ▶ Snails are intermediate hosts
- ▶ The liver should be condemned.



Liver Fluke Excrement



Liver Fluke Excrement



The excrement should be effectively trimmed prior to the carcass being passed.



Liver Fluke Migration

AS EVIDENCED BY
MIGRATION SCARS
THROUGH THE
LIVER.

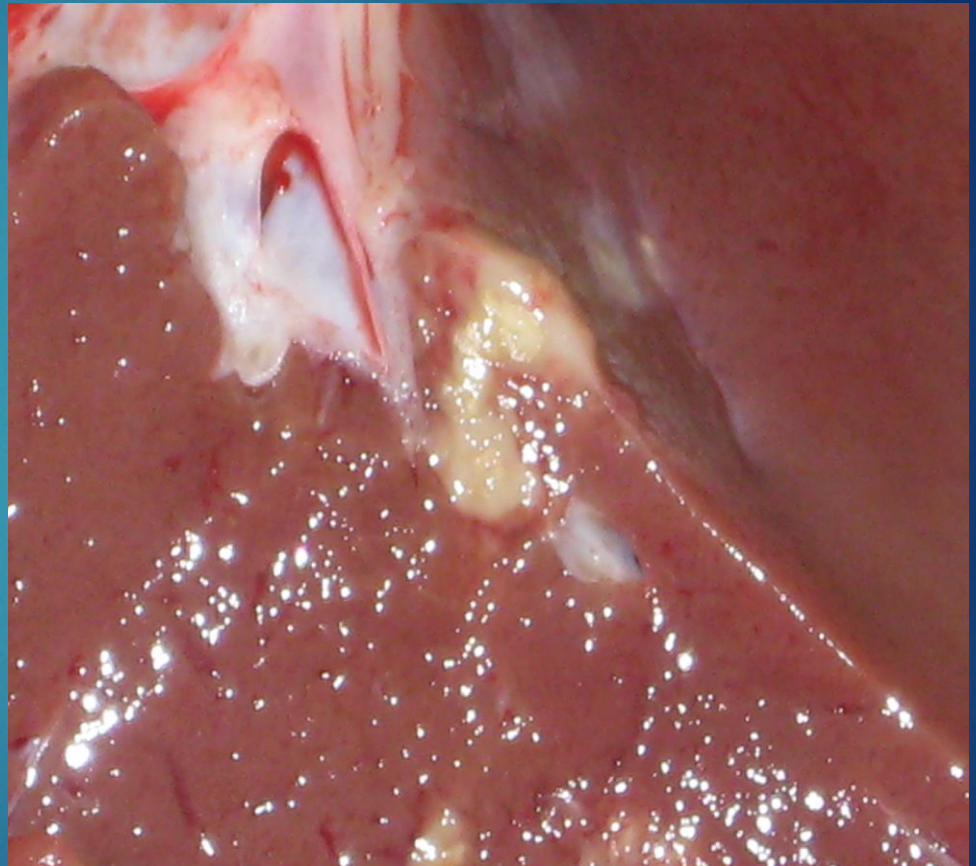


Liver Fluke Migration

DAMAGE TO
VESSELS DURING
MIGRATION -
POTENTIAL CAUSE
OF MULTIFOCAL
HEMORRHAGES
ON THE LUNGS.

Hepatic Granuloma

Small, abnormal clumps of cells that form in the liver when certain disorders are present.



Presentation of Malignant Lymphoma in a sheep seen by NCDA MPID Personnel!

- ▶ Over conditioned mature ewe (4+ years old)
- ▶ IPP appropriately retained the animal for veterinary disposition.
- ▶ Kidneys
 - ▶ bilaterally enlarged and pale with an irregular, bumpy surface
 - ▶ Upon cut surface, cortex is pale tan and renal medulla is dark red/purple
- ▶ Liver
 - ▶ enlarged, firm on palpation, infiltrated with 1-5 mm pale, tan nodules
- ▶ Inguinal and mandibular LN
 - ▶ enlarged, slightly hemorrhagic



Malignant Lymphoma

KIDNEY IS
BILATERALLY
ENLARGED AND
PALE WITH AN
IRREGULAR,
BUMPY SURFACE.

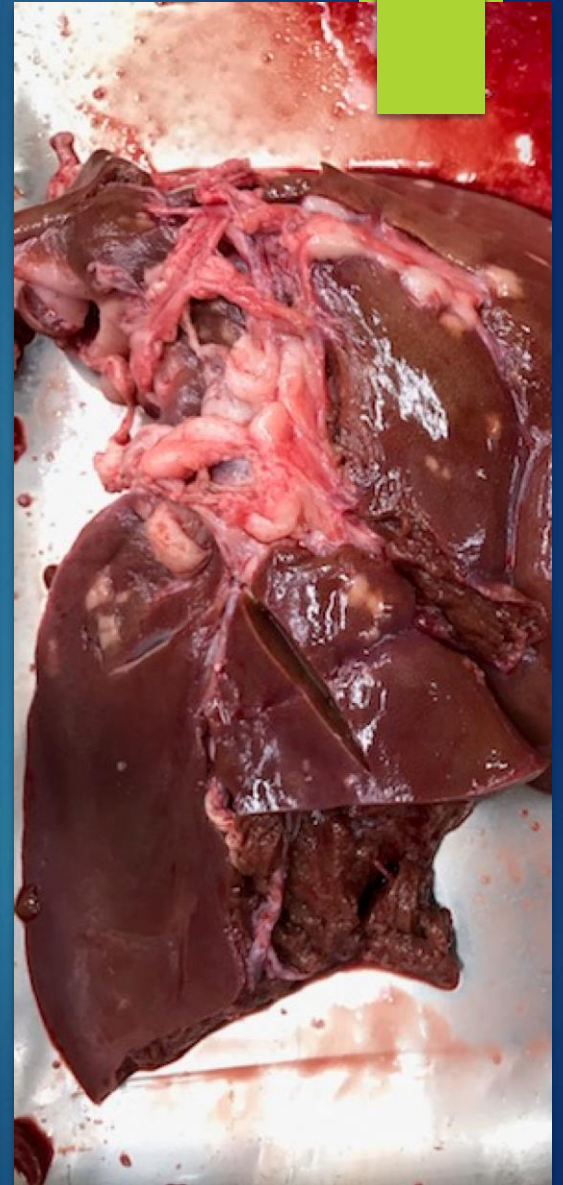
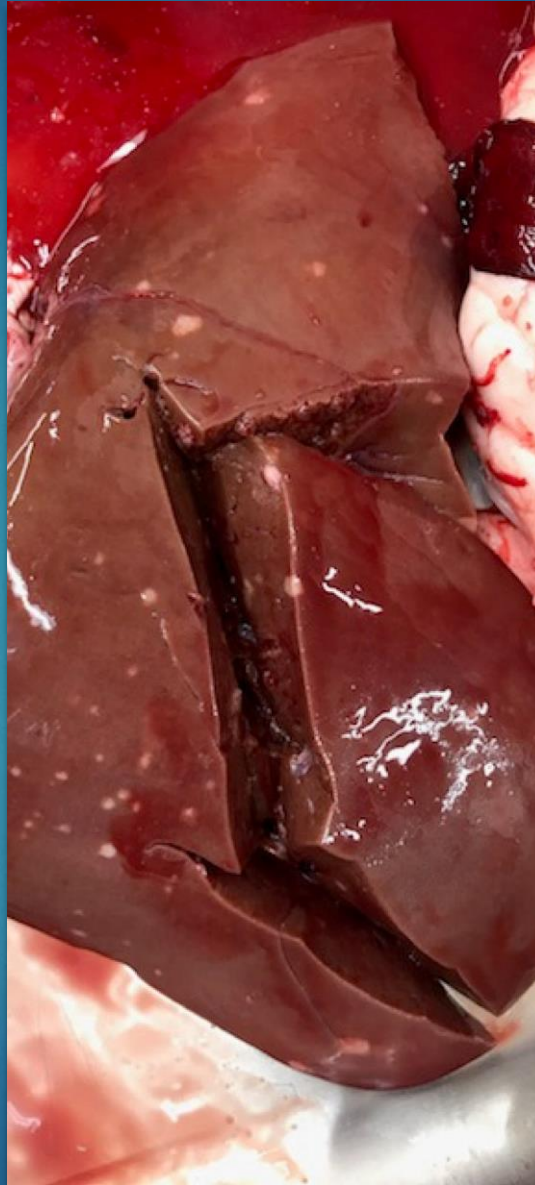


Malignant Lymphoma

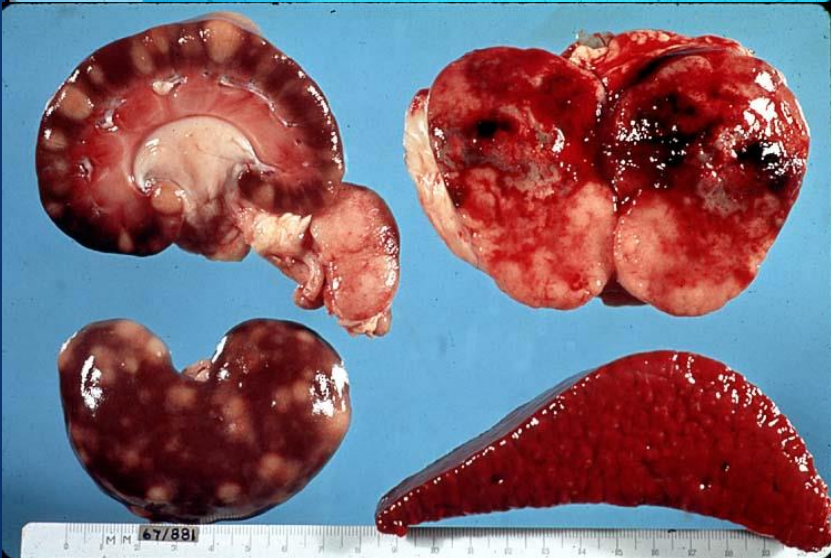
CUT SURFACE
OF THE KIDNEY;
CORTEX IS PALE
TAN, AND THE
RENAL MEDULLA
IS DARK
RED/PURPLE.

Malignant Lymphoma

Liver was enlarged, firm on palpation, and was infiltrated with 1-5 mm pale, tan nodules.



Other Lymphoma Lesions



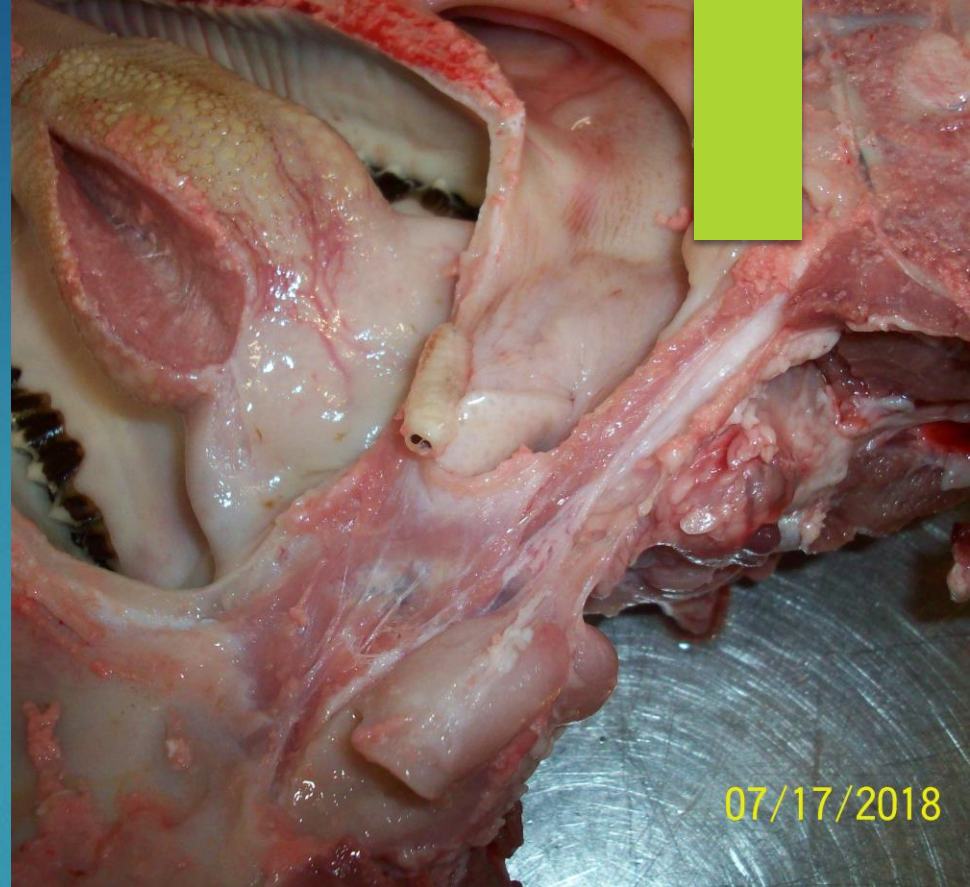
Mineralization of the Kidneys

Renal tubular mineralization and fibrosis from chronic bacteria and over-feeding of vitamin D.



Nasal Bots

Cross-section of head showing nasal bots in the nasal cavity.



Nasal Bots



Retain carcass and parts for veterinary disposition if these are seen.

Nephritis

9 CFR 311.16.(a)(7)

- ▶ Kidneys appear enlarged (swollen) or may be partially shrunk with a gristle-type scar tissue in the kidney tissue.
- ▶ Abscesses may be present.
- ▶ Petechiation, a hemorrhage from a small blood vessel, may be observed.
- ▶ Color change may vary from the kidney's normal color to pink, blood red, brick-red, yellow or amber, to dark brown, or almost black. Various-colored streaks can sometimes be seen on the kidney's surface.
- ▶ Retain for veterinary disposition.



Nodular Worm

- ▶ A parasite that produces pea-sized firm nodules on the surface of the small and large intestine, may be associated deterioration of the carcass (thinness, a poor carcass, or an otherwise run-down condition).
- ▶ Retain for veterinary disposition.



Orf

- ▶ Sore and scabby mouth caused by a viral infection.
- ▶ Do not touch because it is a zoonotic disease.
- ▶ Humans usually develop ulcerative lesions or nodules on hands by broken skin coming into contact with virus through bites or bottle feeding.
- ▶ Suspect for veterinary disposition.



Pneumonia

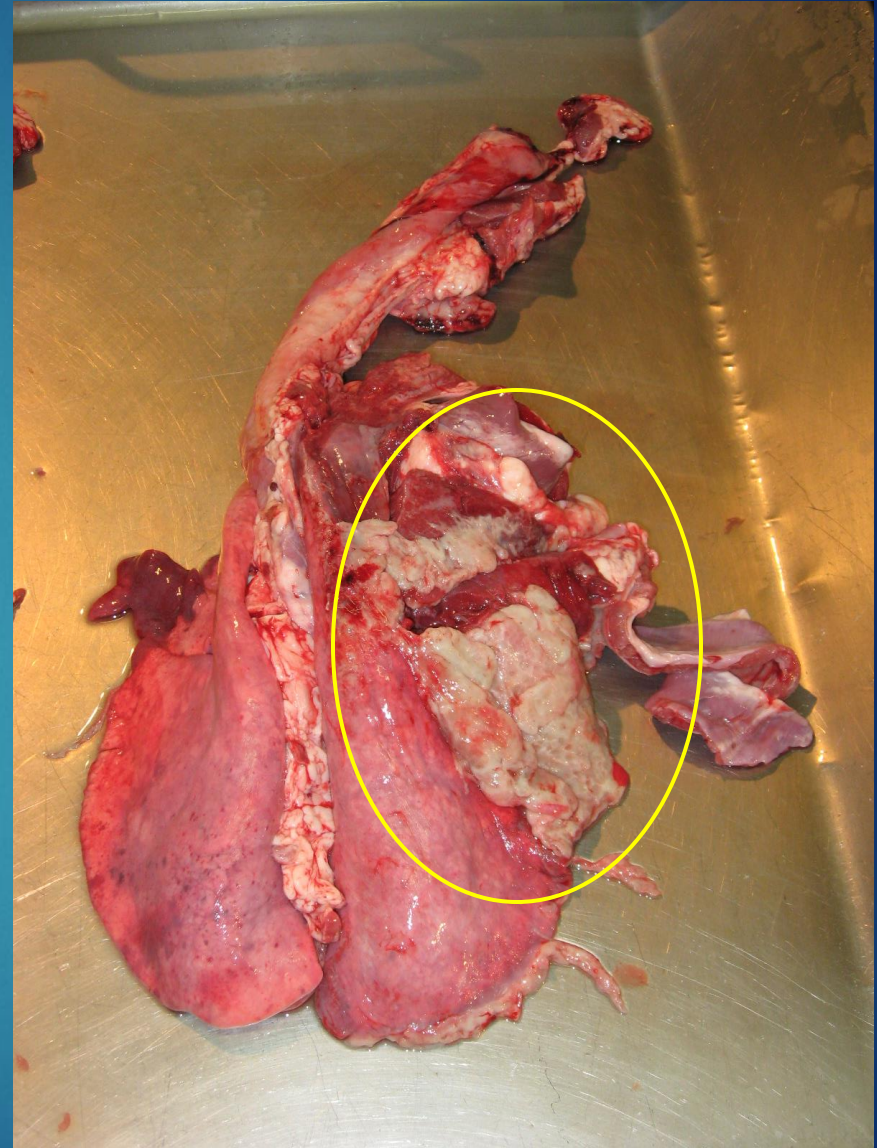
9 CFR 311.16(a)(1)

- ▶ An inflammatory disease in which the normal soft "foamy consistency" feel of the lungs and their normal "light-pinkish" color are changed. The color change may vary from a bright red, to reddish-brown, to brown, to gray, to white.
- ▶ The change in the consistency or feel of the lung may vary from the normal "foamy feeling" to firm.
- ▶ These changes may be accompanied by the occurrence of abscesses in the lung tissue itself or in the lung's lymph nodes.

Pneumonia

9 CFR 311.16(a)(1)

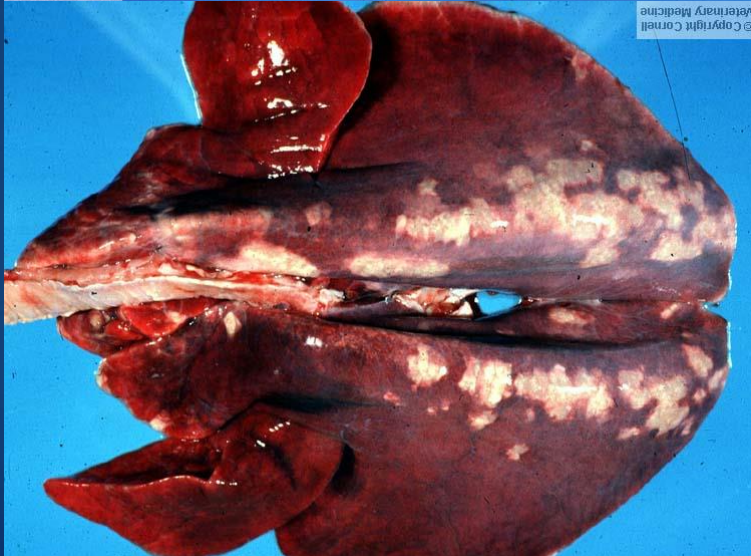
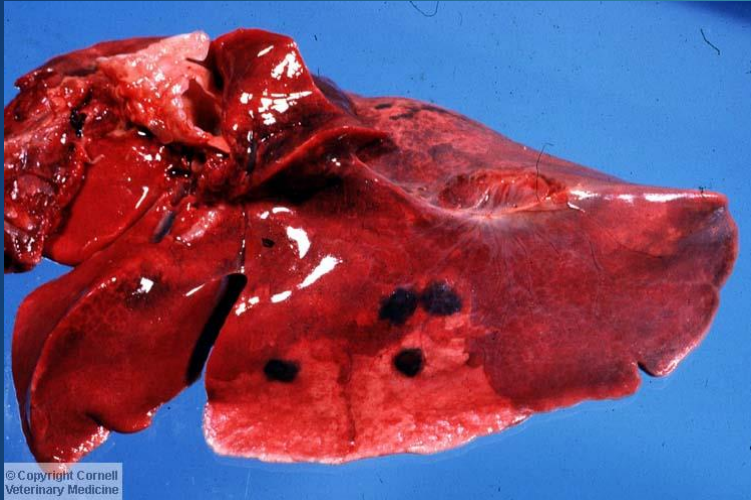
- ▶ Retain the carcass and all parts upon detecting a generalized condition.
- ▶ When the condition is strictly localized, the lungs would be condemned and any adhesions to the carcass should be removed.



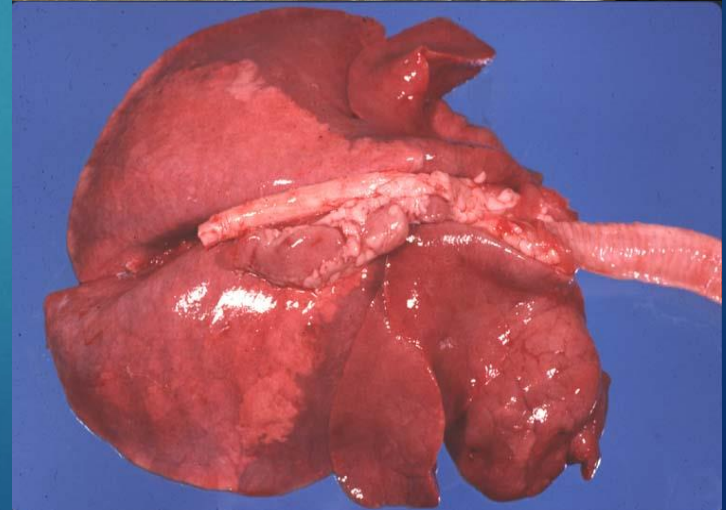
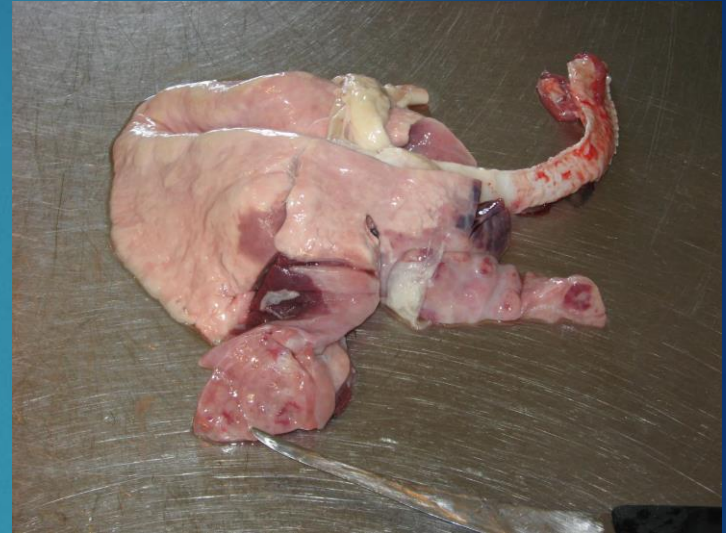
Notice the necrotic tan-colored tissue on the left lobe.

Pneumonia

Acute



Chronic



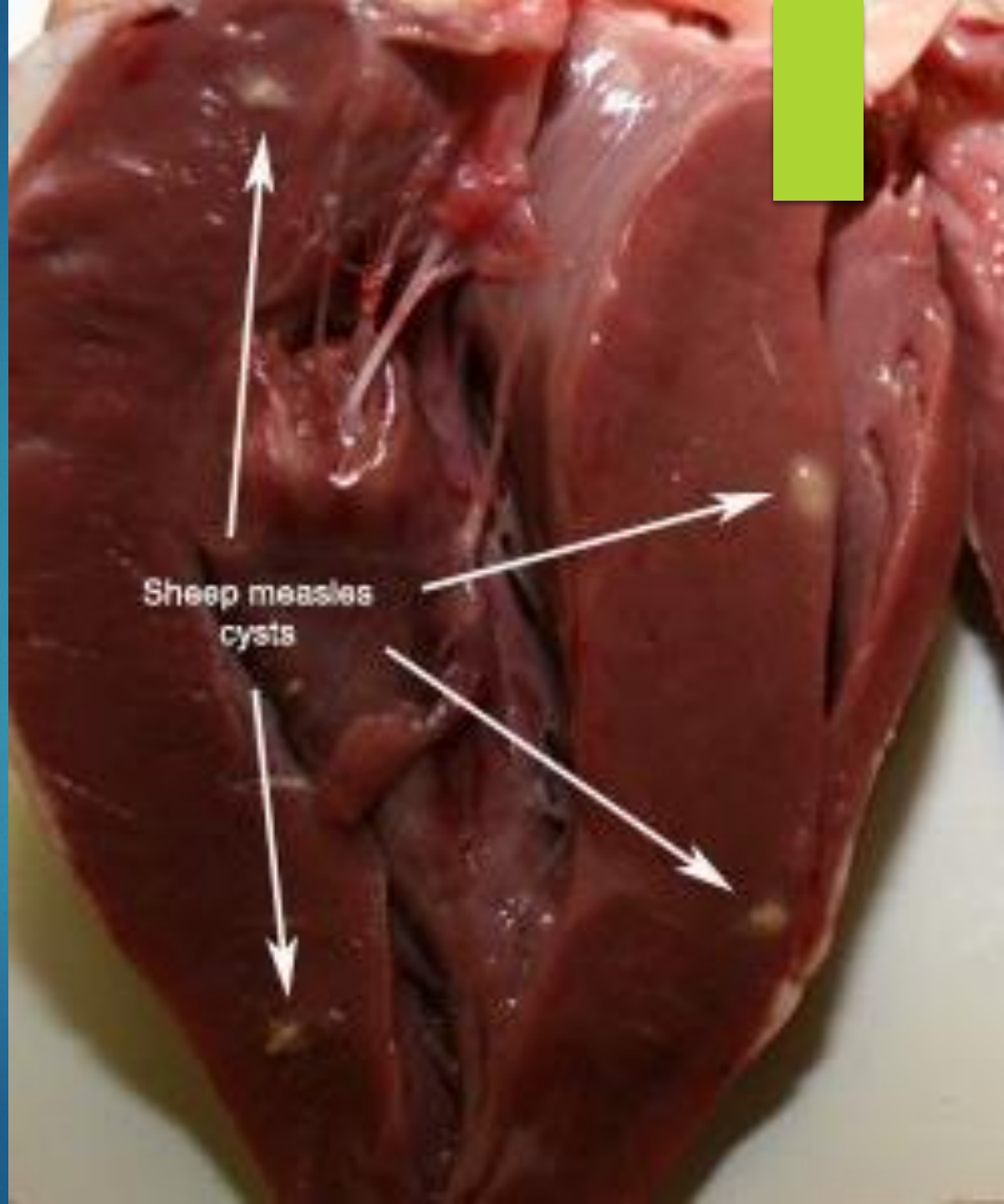
“Sarco” (Sarcosporidiosis sp.)

- ▶ Flat, white parasitic cysts are imbedded in muscle tissue (esophagus, heart, carcass, etc.)
- ▶ The cysts have a "rice grain" appearance and "cigar-shaped bodies" about 1/4 inch (0.5 cm) long.
- ▶ Retain for veterinary disposition.



Sheep Measles

- ▶ Typically found in muscle tissue such as the heart, diaphragm, esophagus, or carcass.
- ▶ The cysts are small (about 1/4 inch or 0.6 cm) and may appear as active, clear fluid-filled or degenerated firm nodules.
- ▶ Retain for veterinary disposition.



Splenic Torsion

- ▶ A twisting, folding, and unfolding of the spleen.
- ▶ This prevents proper blood drainage, therefore swelling of the spleen can be seen.
- ▶ If condition is localized, condemn spleen and pass carcass and other parts.

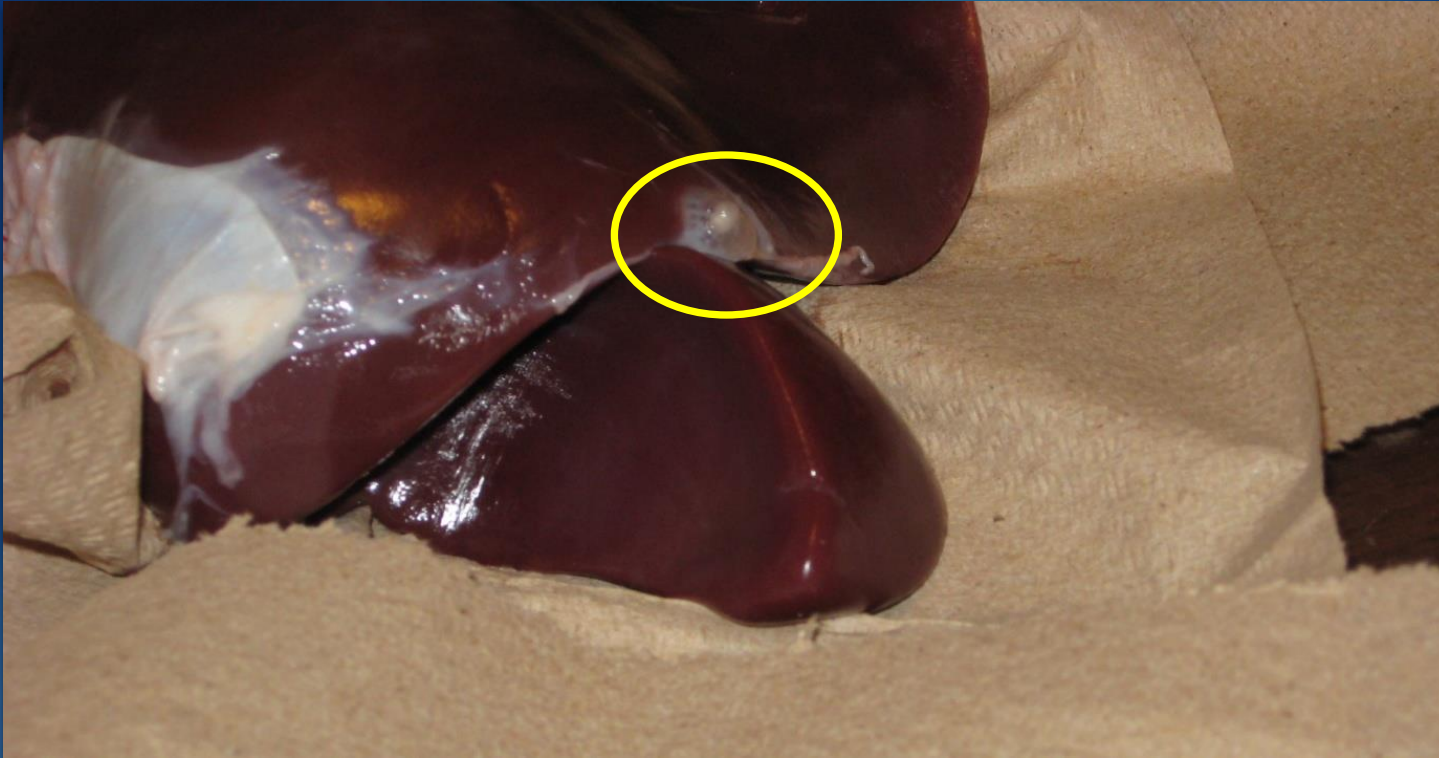


Tapeworms

- Hydatid Cysts

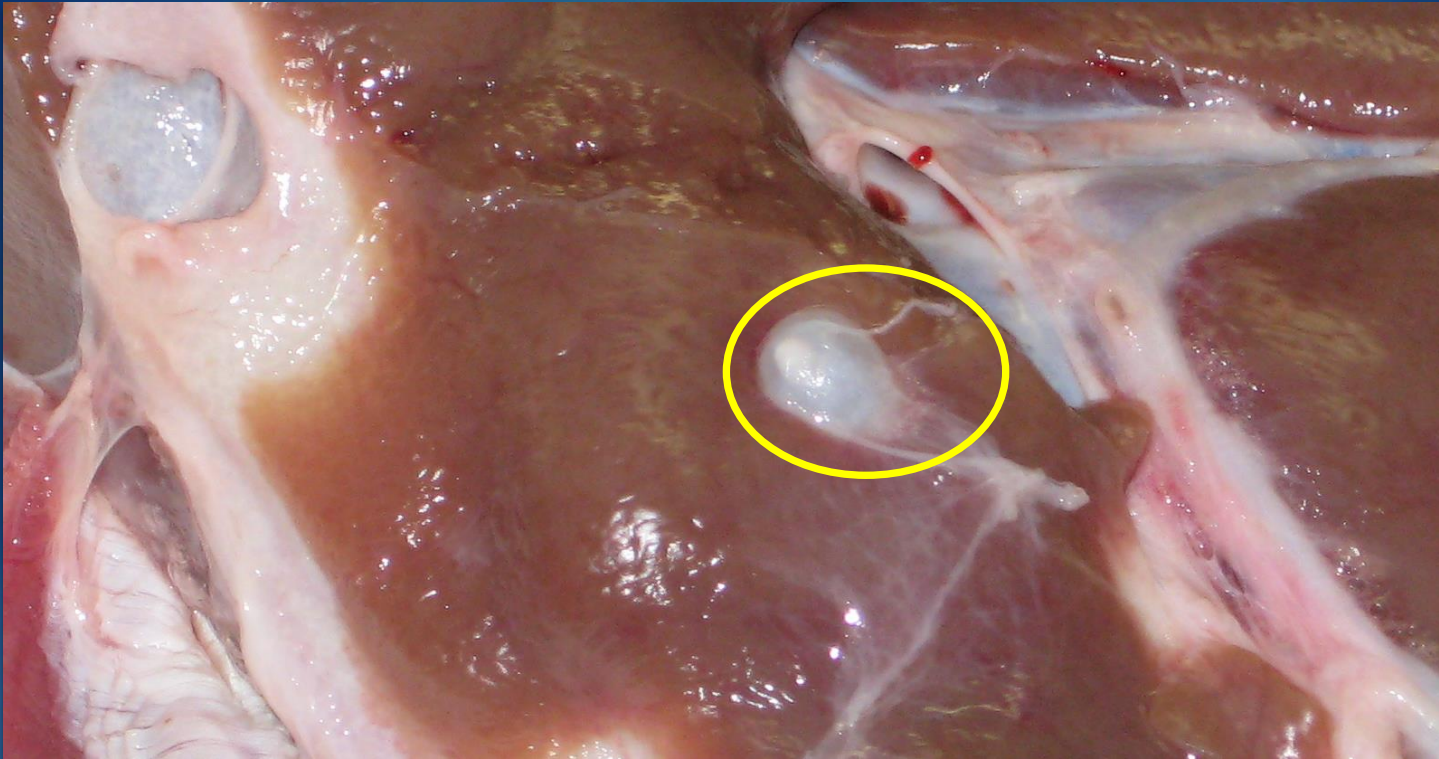
- ▶ Tapeworms are a parasite found in the gall bladder and bile ducts (and occasionally pancreatic ducts).
- ▶ Hydatid Cysts are caused by parasitism with tapeworms.
- ▶ Sheep ingest the eggs which hatch in the intestines and then travel to the liver where the cysts develop.
- ▶ Livers affected with this parasite are condemned for human food; may be salvaged for pet food as an inedible product, provided they are properly handled.





Tapeworms - Hydatid Cysts

WHEN YOU SEE THIS LESION, LOOK CAREFULLY AT THE PERITONEAL LINING OF THE ABDOMINAL CAVITY FOR OTHER CYSTS.



Tapeworms - Hydatid Cysts

WHEN YOU SEE THIS LESION, LOOK CAREFULLY AT THE PERITONEAL LINING OF THE ABDOMINAL CAVITY FOR OTHER CYSTS.

White Muscle Disease

- ▶ White streaks on heart – often caused by nutritional deficiencies
- ▶ Can often see white muscle disease affecting skeletal muscles in sheep/goats



Wry Neck

- ▶ There are many possible causes of wry neck including genetics, vitamin deficiency or head injury.
- ▶ Always Suspect at antemortem for veterinary disposition.

