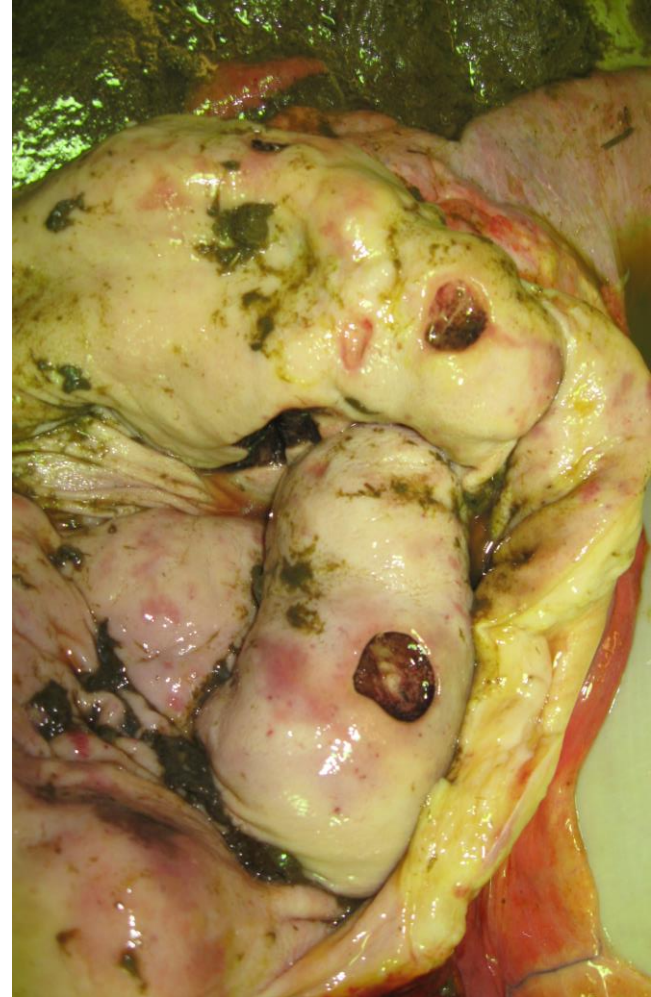


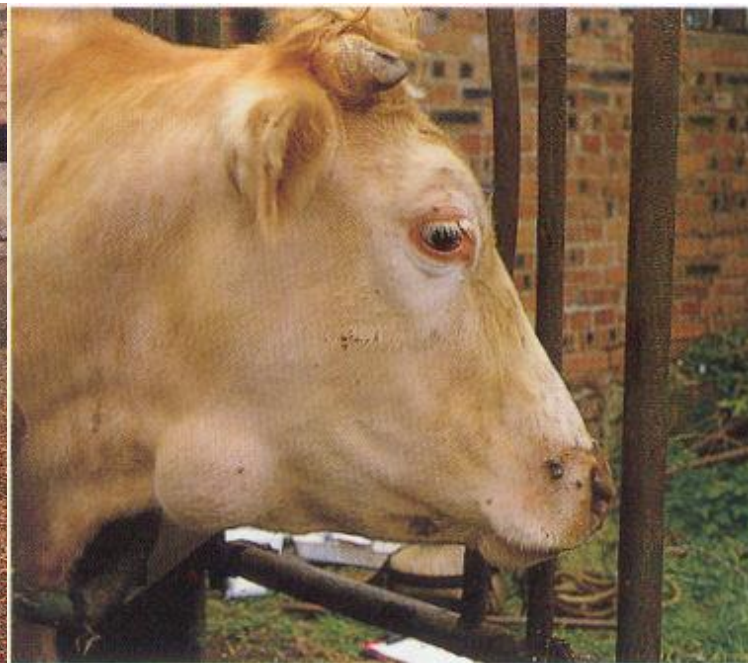
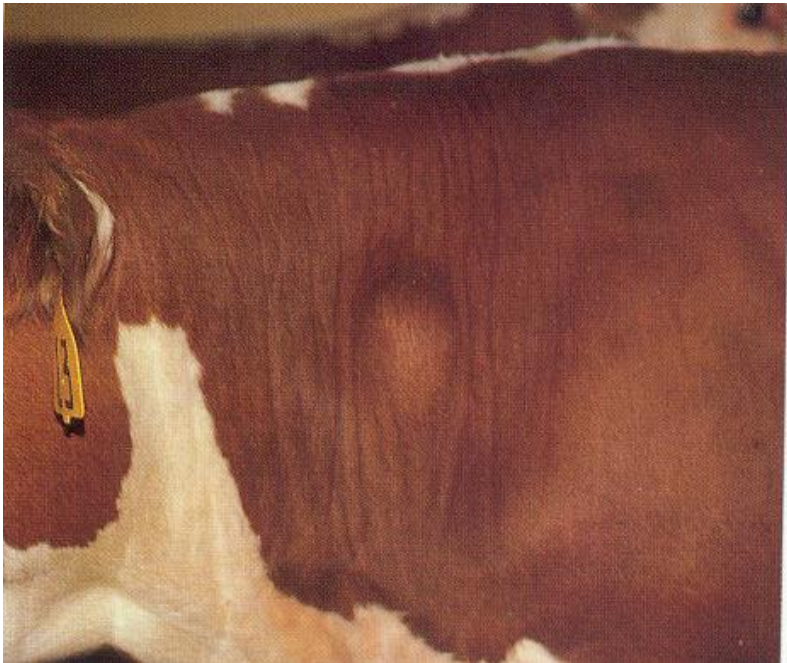
A photograph of four cattle (cows) standing in a field of tall, dry grass. The cattle are white with brown patches. The text "CATTLE PATHOLOGY" is overlaid in large, white, sans-serif capital letters. Two thin white horizontal lines are positioned above and below the text.

CATTLE PATHOLOGY



Abomasal Ulcers

Abscesses at Antemortem



Abscesses at Postmortem

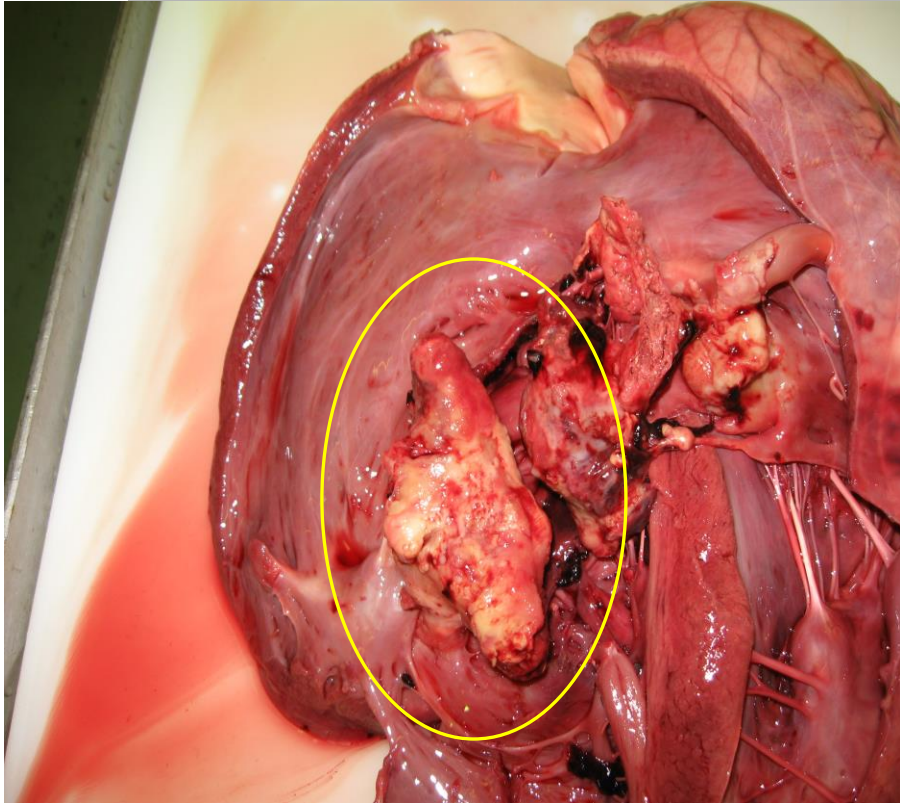


Abscess in the spine.



Abscess in the head.

Abscesses in the Heart



Abscess in the heart.



Cross-section of the abscess in the heart as seen in the photo to the left.



Abscesses in the Liver



ACTINOBACILLOSIS (Wooden Tongue) 9 CFR 311.9

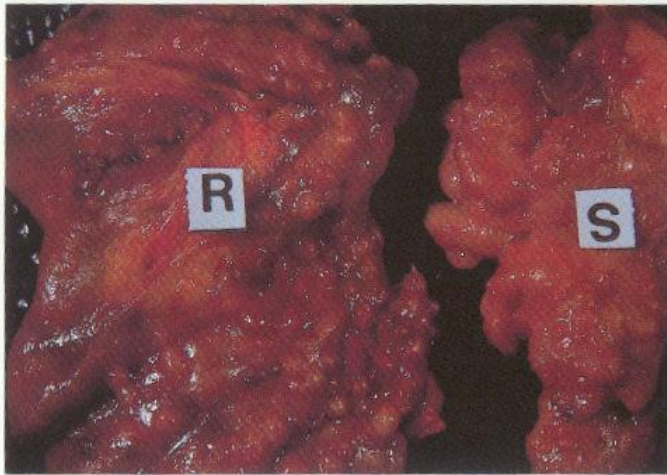
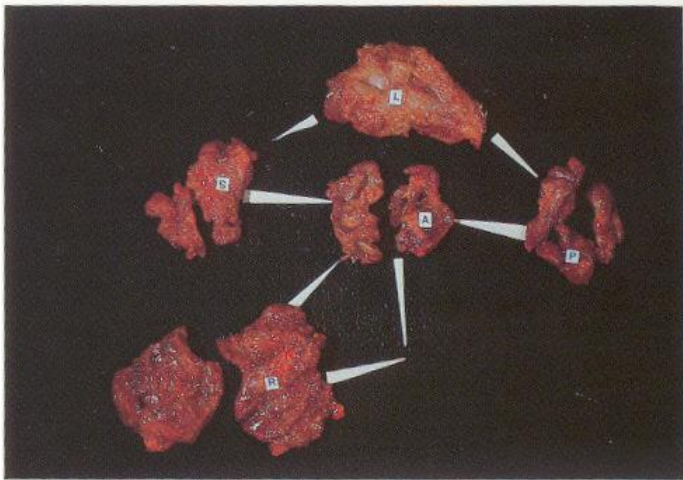
Generally located in the soft tissue of the head, such as the tongue and/or lymph nodes.



If localized, part of the head may be salvaged after the removal of affected tissue.

If this condition is found in the viscera and/or lungs of the animal retain the carcass and parts for veterinary disposition.

Actinobacillosis in Lymph Nodes



Presentation
of Wooden
Tongue as
seen by
NCDA MPID
personnel!

30+ month Holstein-Angus cow

Antemortem: Large, softball
sized swelling in ventral,
intermandibular area

Postmortem: Tongue is stunted,
abnormally firm in texture,
fibrotic with 2-4 mm
pyogranulomatous lesions
embedded within tongue, and
several small granulomatous
nodules in mandibular and
medial retropharyngeal LN

Actinobacillosis

as seen at
Antemortem...

IPP suspected this
animal.





Actinobacillosis as seen at
Postmortem...

TONGUE IS STUNTED AND FIRM IN TEXTURE.



Actinobacillosis seen at Postmortem...

GRANULOMAS IN THE MANDIBULAR AND MEDIAL
RETROPHARYNGEAL LNS.

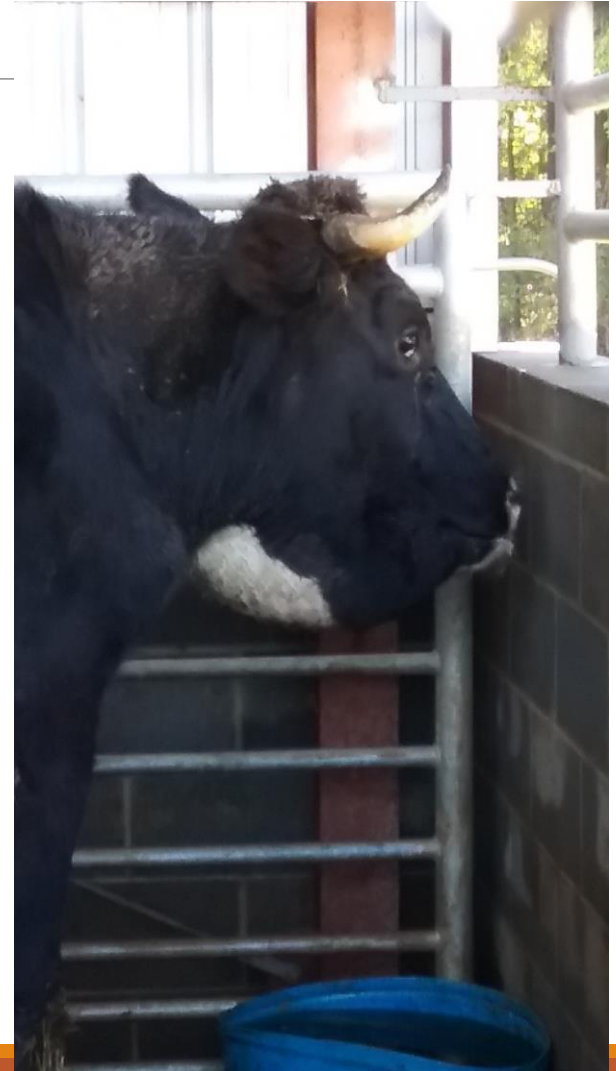
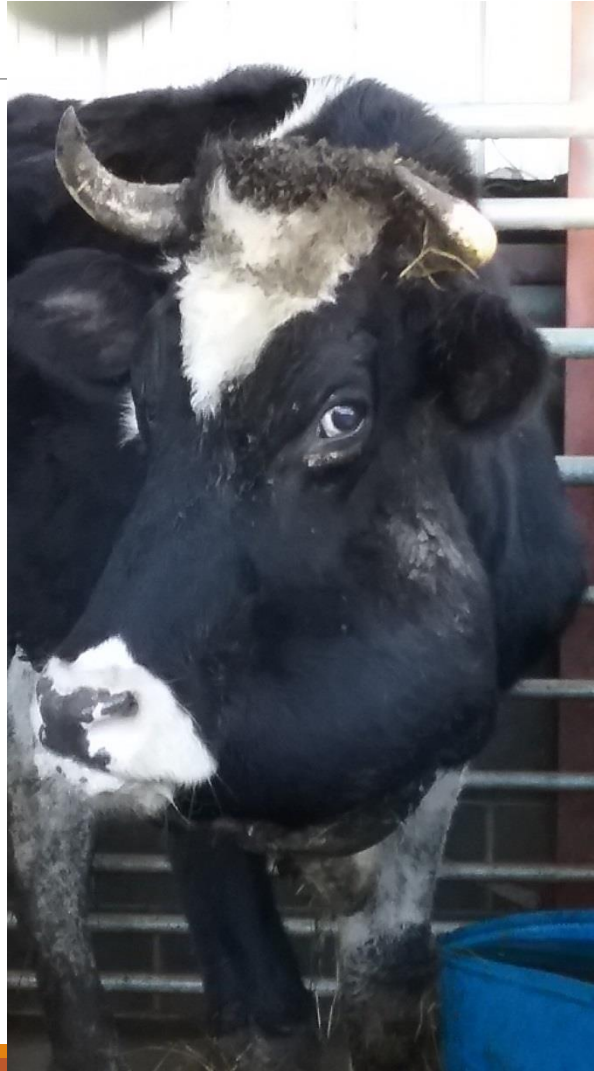
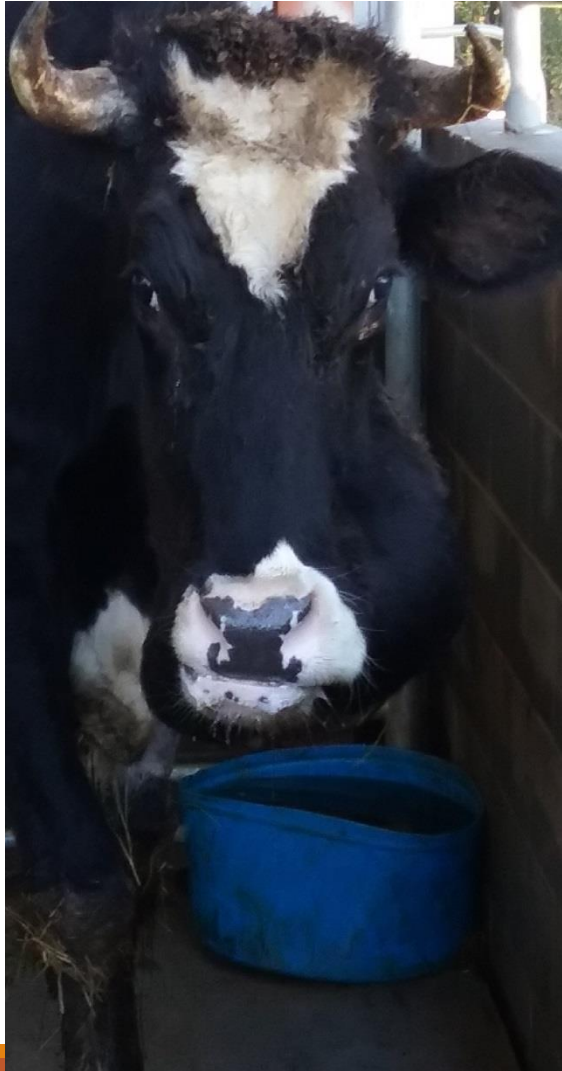
Actinomycosis
(Lumpy Jaw)
9 CFR 311.9

Generally located in the bony structures of the head and jaws.

May be abscessed and is usually characterized by swelling.

If this is seen, Suspect the animal at antemortem. Retain at postmortem if this was not seen at antemortem.

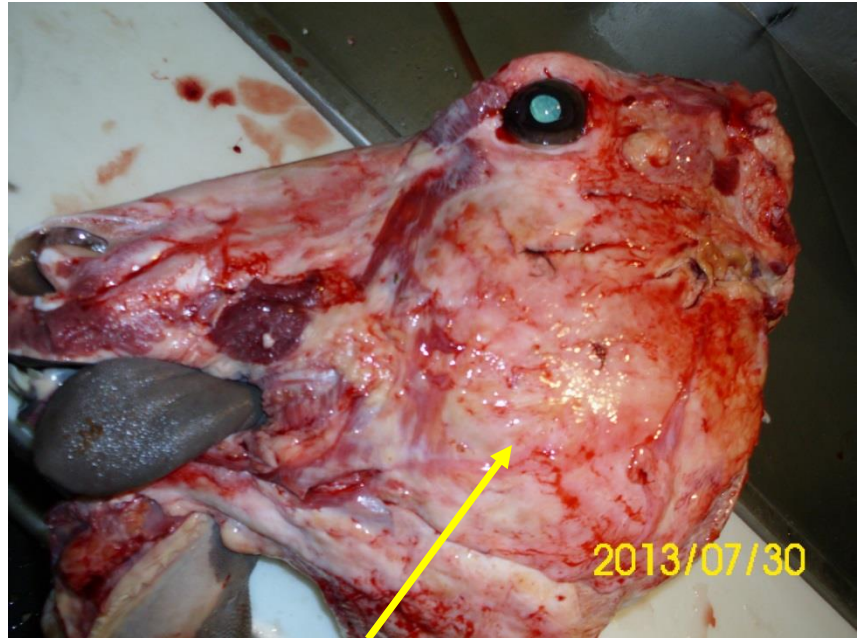
Case of Lumpy Jaw seen by NCDA MPID Personnel!



Actinomycrosis (Lumpy Jaw)

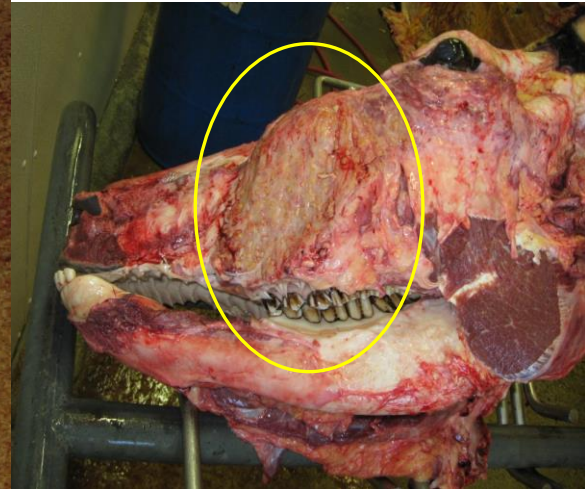
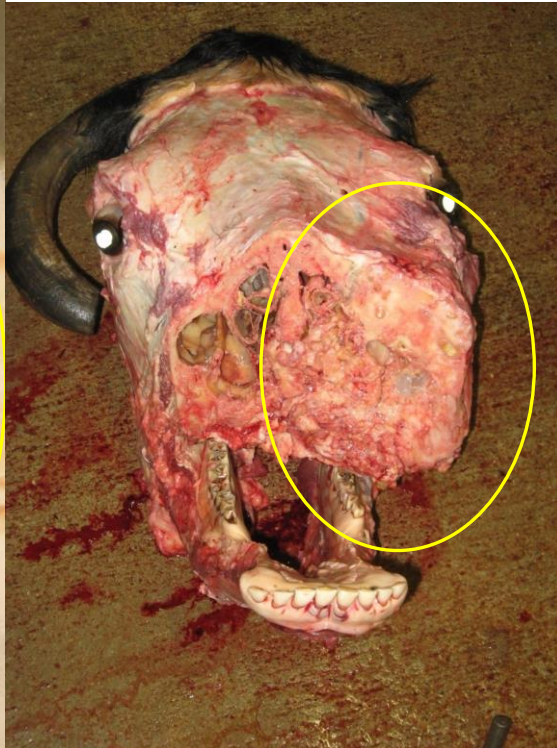
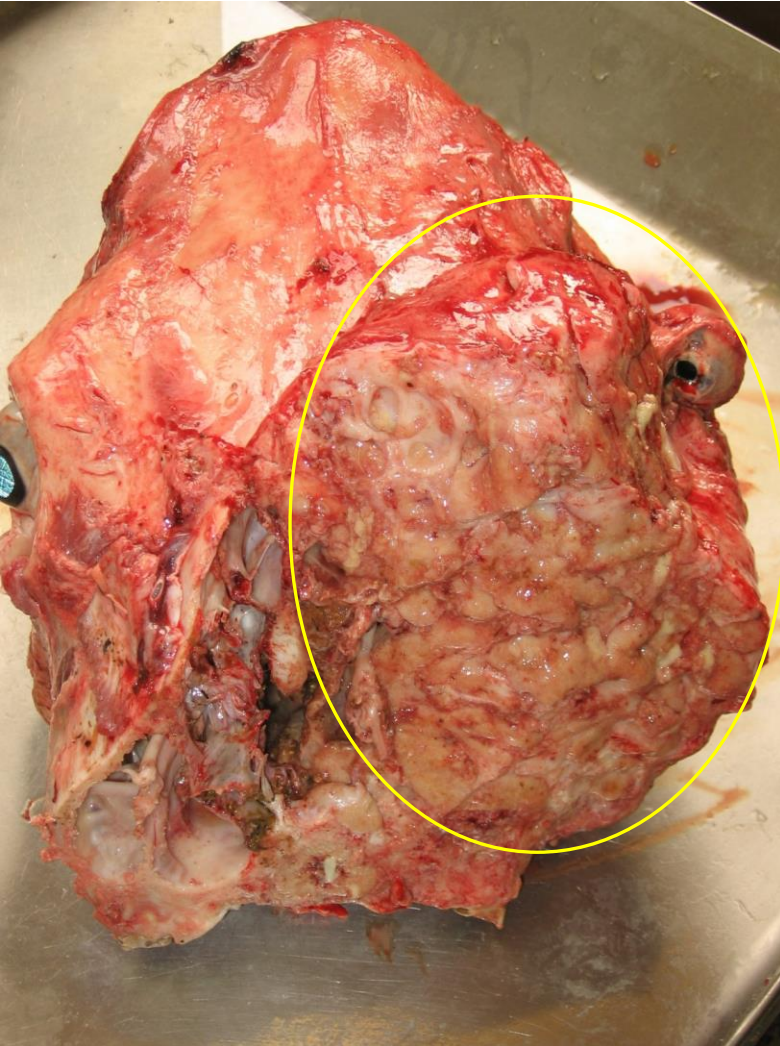


Normal – no swelling seen.

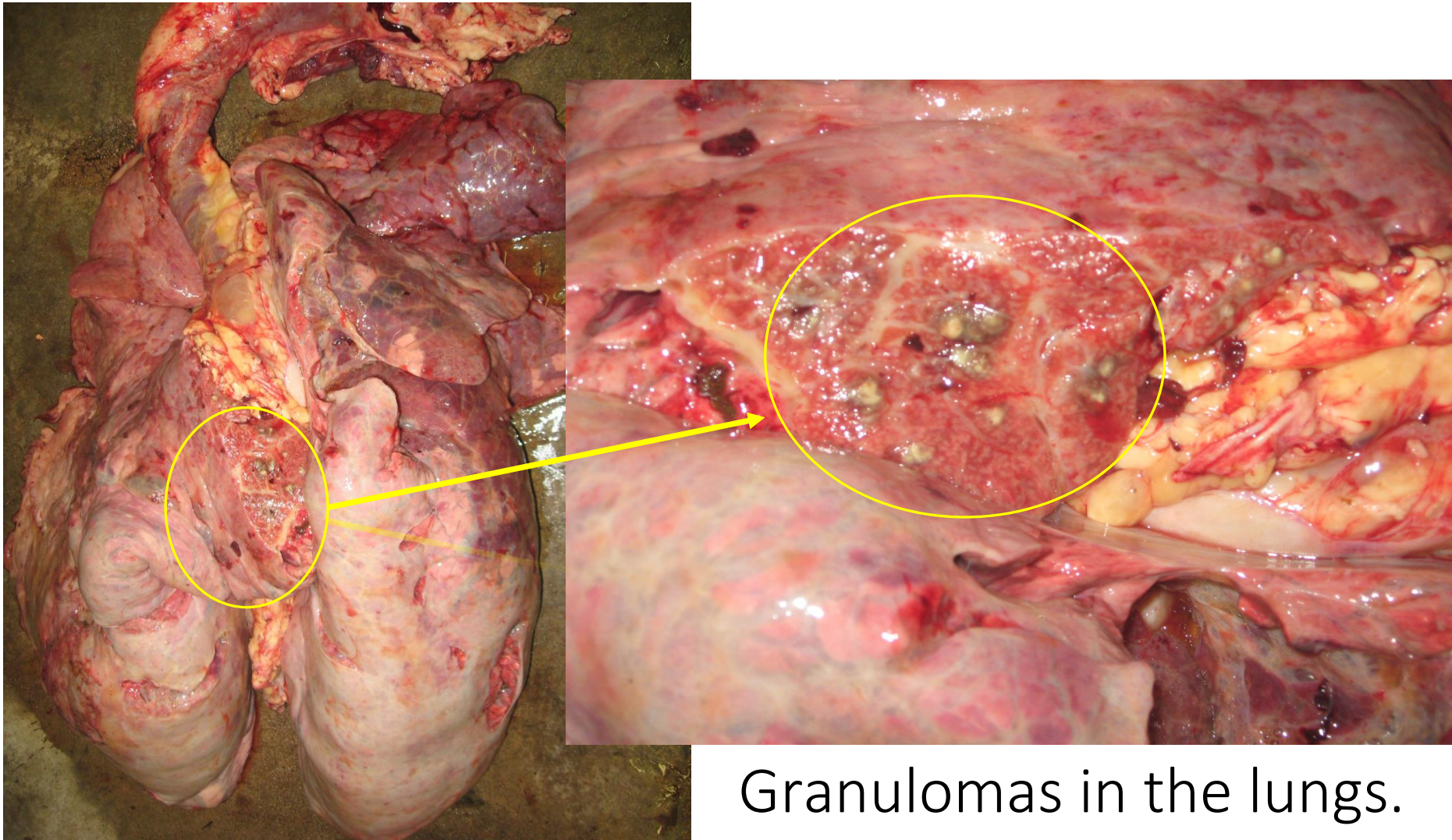


Affected side. Notice the swelling seen here that is not present on the head on the left. Both photos are of the same head, thus why it is important for us to inspect bovines at antemortem on both sides.

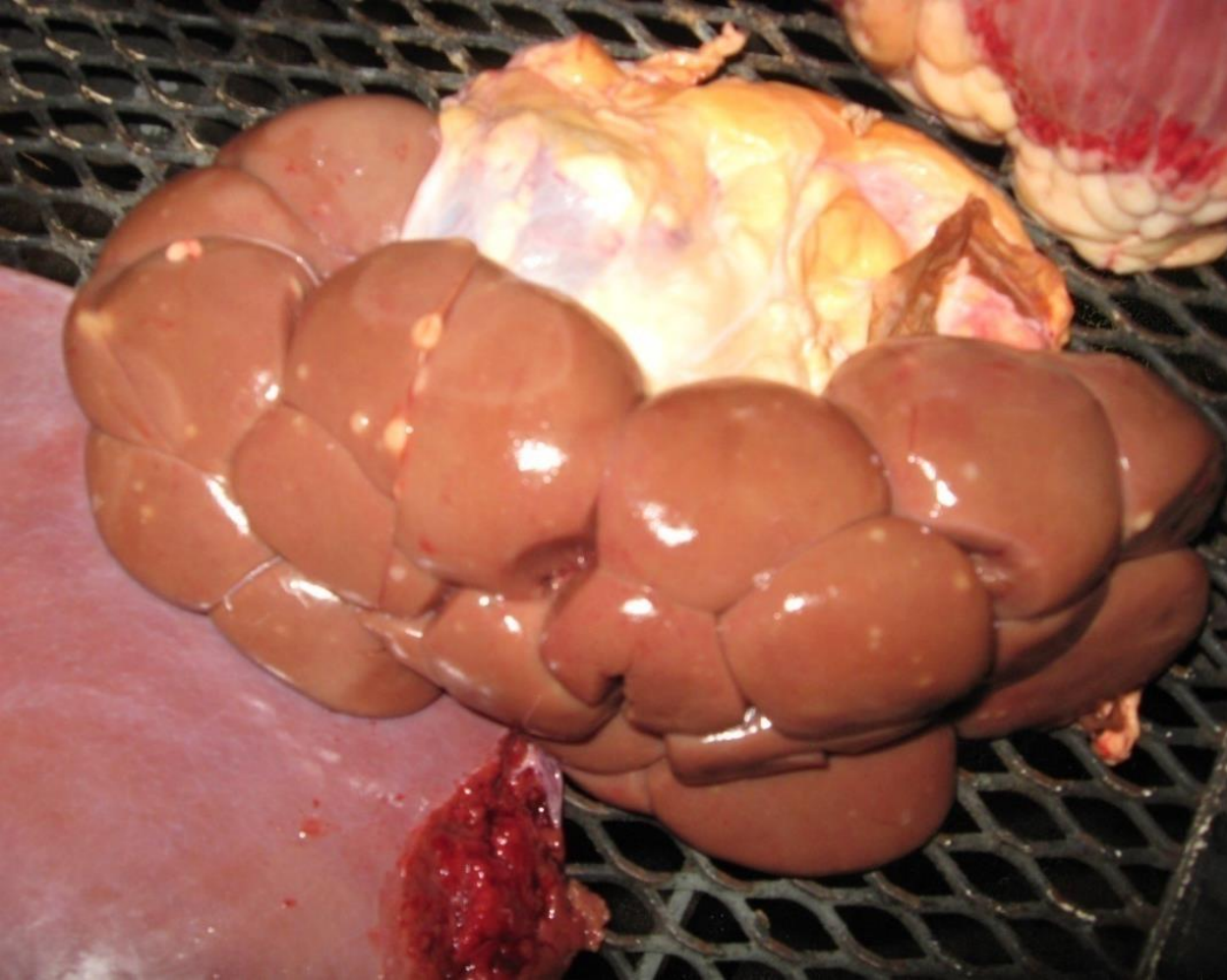
Actinomycosis in the Head



Actinomyces in the Viscera...



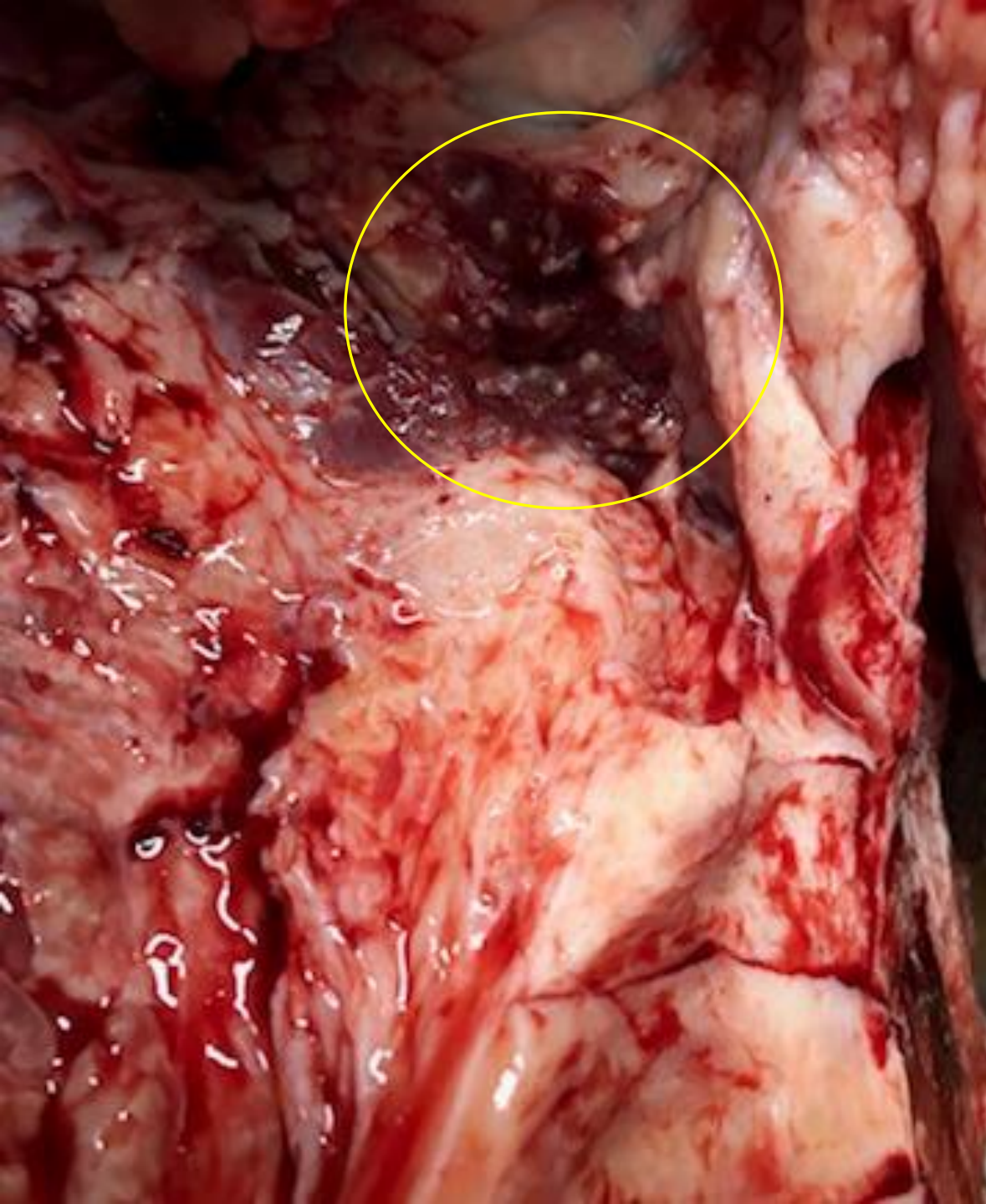
Granulomas in the lungs.



Actinomycosis presenting as Pleuritis in chest cavity and white spots on kidney.

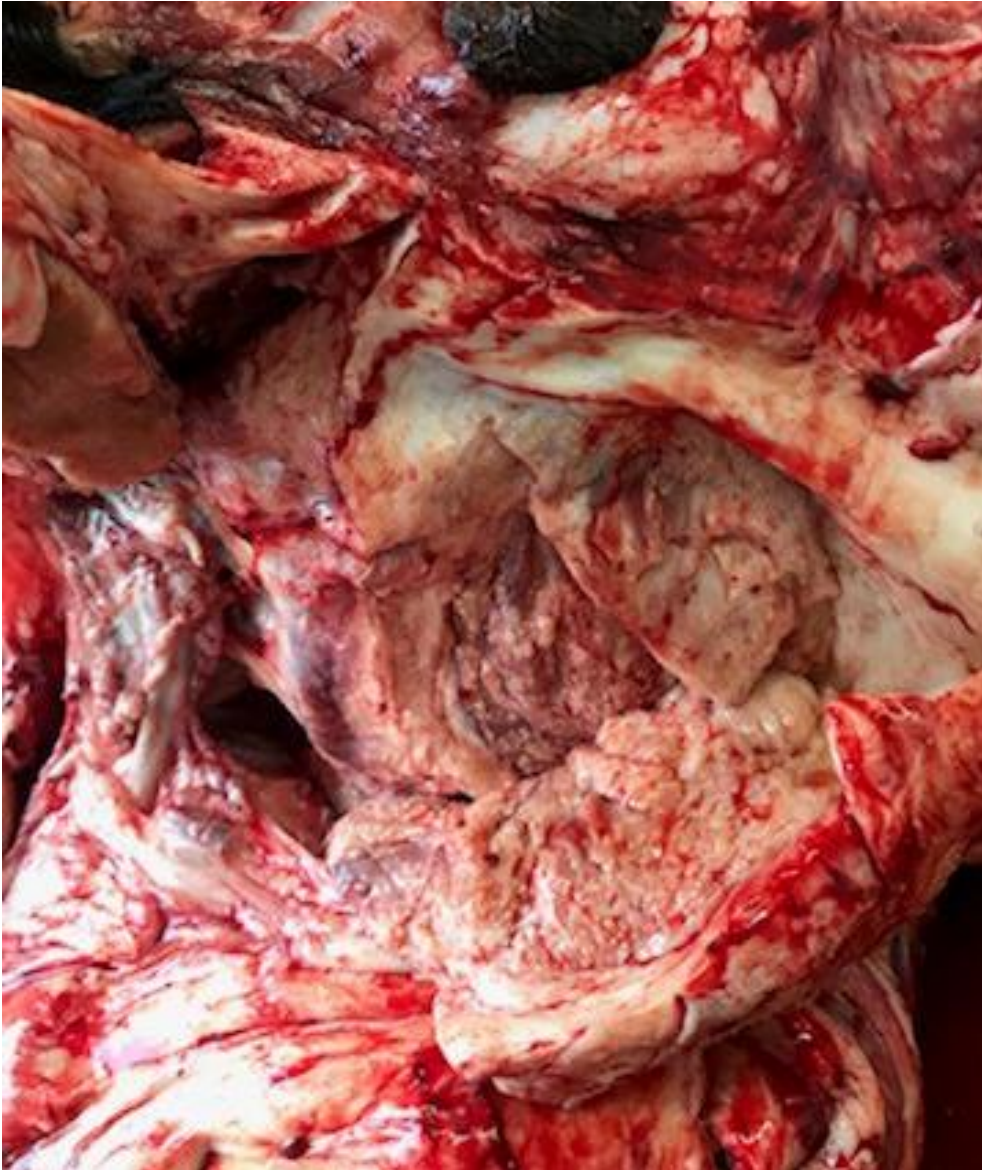
2nd Case of
Lumpy Jaw
as seen by
NCDA
MPID
Personnel!





Actinomycosis in Muscle

CROSS-SECTION OF
PYOGRANULOMATOUS
LESIONS IN THE
MUSCLE.



Actinomycosis in the Head

CROSS-SECTION
OF THE INFECTED
MASS
UNDERNEATH
THE RIGHT EYE.



Actinomyces in Parotid Lymph Nodes...

ENLARGED AND GRANULOMATOUS.



3rd Case
of Lumpy
Jaw as
seen by
NCDA
MPID
Personnel!



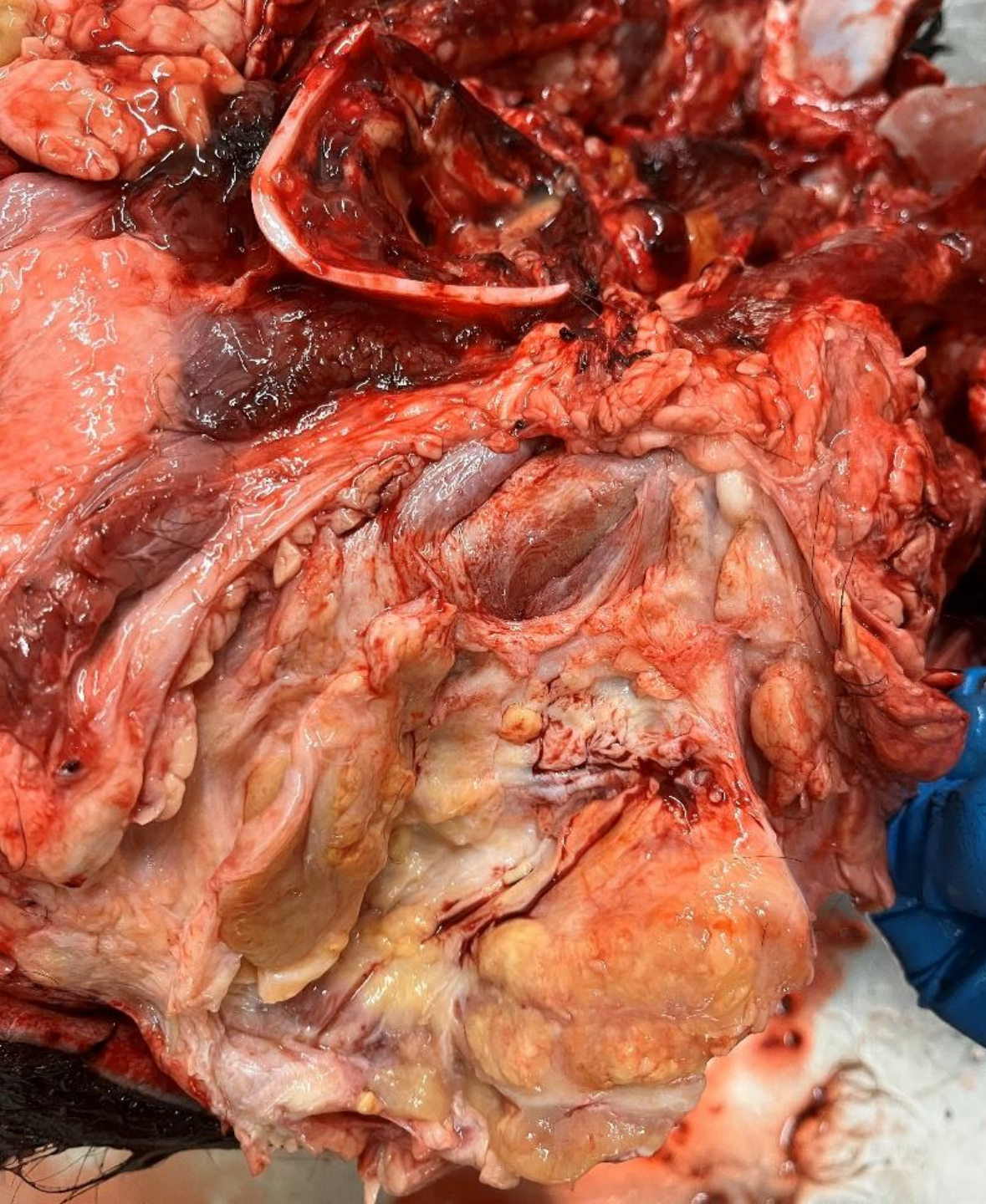
Actinomycosis in the Head

CROSS-SECTION OF
ABSCESSED LESION
IN THE MUSCLE OF
THE JAW.



4th Case of
Lumpy Jaw as
seen by
NCDA MPID
Personnel!

Unusual
Presentation
on the dome
of the head.



Actinomycosis in the Head

CROSS-SECTION
OF THE
MANDIBULAR
LYMPH NODE
(LN). THE LN
WAS THE SIZE OF
A FIST AND HAD
A CHEESY
TEXTURE.

Arthritis 9 CFR 311.7

An inflammatory condition of the joint.

Most arthritis is the result of an injury and only requires that the affected joint and corresponding lymph nodes be removed and condemned.

If during the removal of affected joint(s) the synovial fluid within the joint is released, all tissue in contact with the fluid must also be trimmed away and condemned.

When more than one joint is involved with arthritis (Polyarthritis), you should retain the carcass and parts for veterinary disposition.



Arthritis

Arthritis

The yellow fluid seen on the exterior of the carcass above is synovial fluid from inside an arthritic joint.

Normal synovial fluid is clear.



Bruised Tissue 9 CFR 311.14

Bruised tissue should be trimmed and condemned.

If evidence of infection exists, retain the carcass and parts for veterinary disposition.

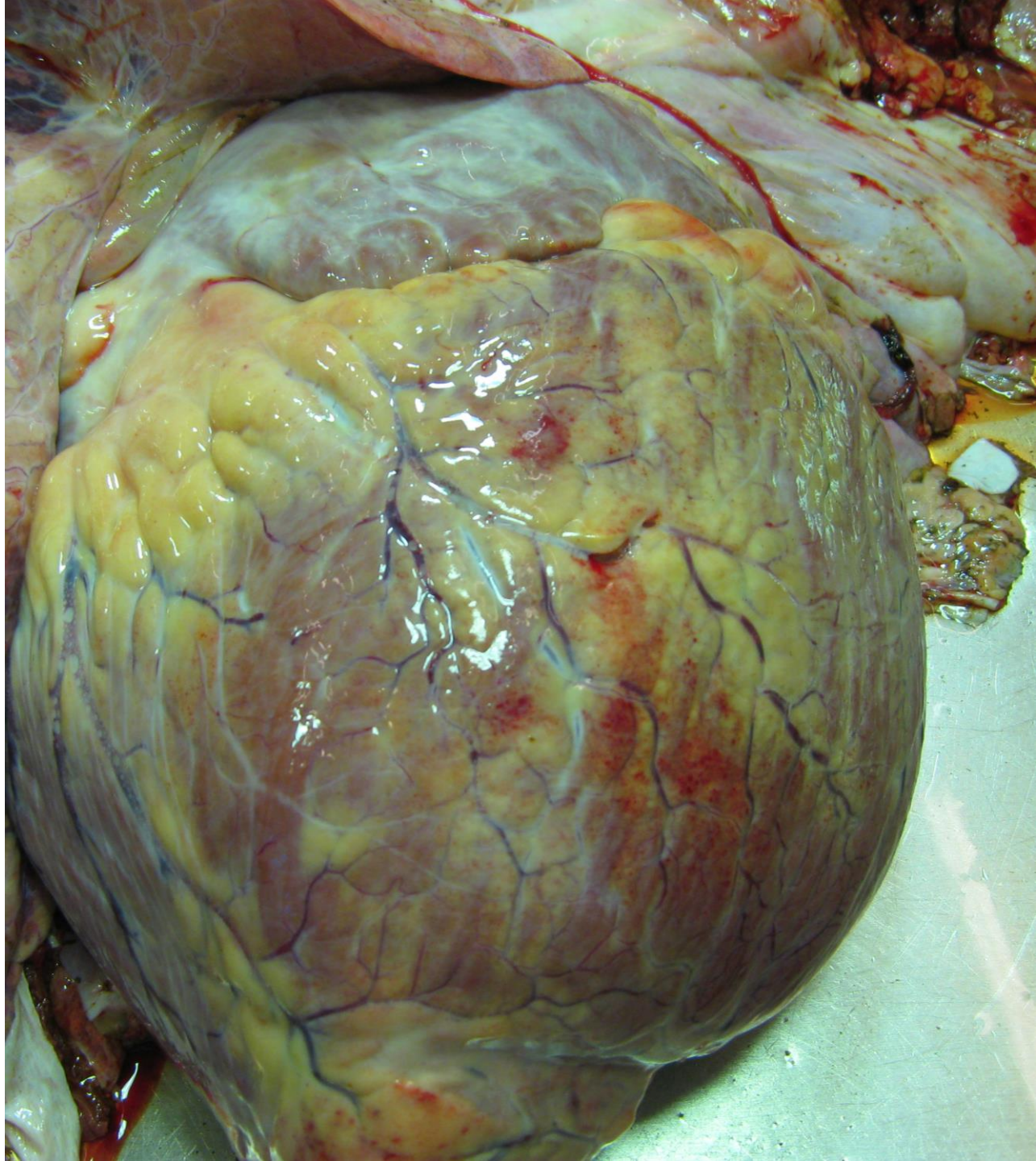
Bruised Tissue



Cadiomegaly

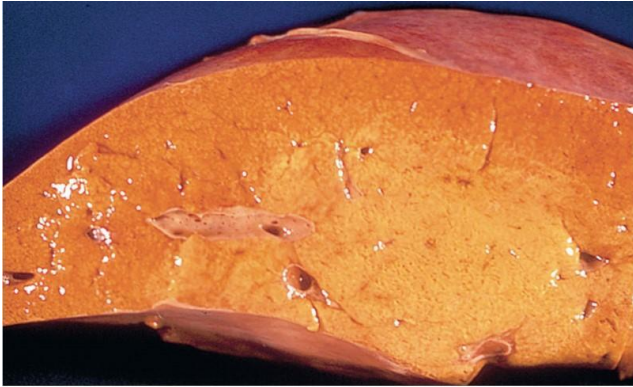
Enlarged heart

Could be the result of short-term stress, such as a pregnancy or medical condition, such as the weakening of the heart muscle, artery disease, heart valve problems, or abnormal heart rhythms.



Carotenosis of the Liver

9 CFR 311.13



Liver is characterized by a highly colored yellow-orange color or pigmentation. This condition may cause the liver to become enlarged, soft, and friable (easily crumbled).



A practical test to assure the correct recognition of carotenosis is made by placing a white paper towel or napkin on the cut surface of a liver suspected of being affected with carotene discoloration. An orange-bronze stain would be indicative of carotenosis.

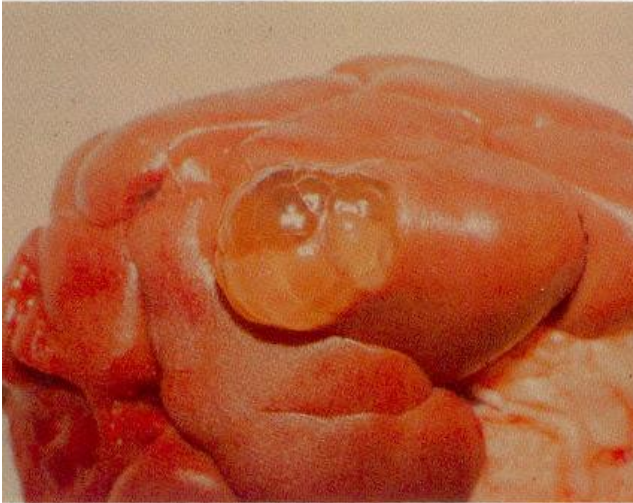
A liver affected with carotenosis is to be condemned and not eligible for use as human food but *may* be salvaged for animal food uses.

Cirrhosis of the Liver



Degeneration of liver tissue with a replacement by hard, tough, fibrous connective tissue.

Condemn these livers, but the establishment may save them for animal food.

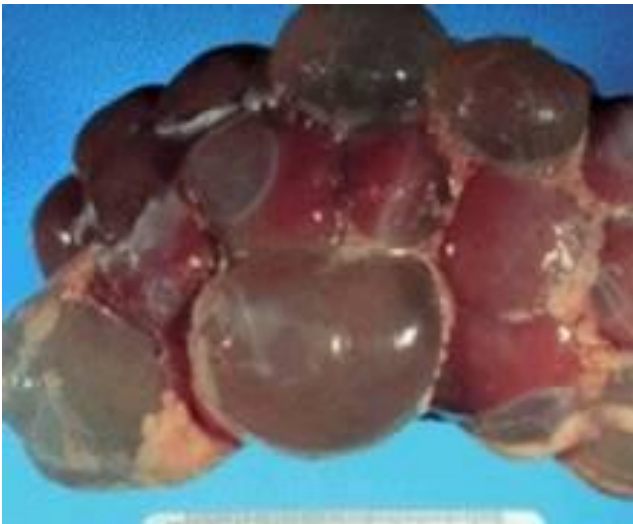


Cystic Kidney

Fluid-filled cysts visible on the surface of the kidney or occasionally embedded inside.

Slight cystic conditions may be trimmed and passed.

When the cystic condition is more than slight, the affected kidney(s) are condemned.



Cysticercosis
(Beef Measles)
9 CFR 311.23

Infective form of the human tapeworm.

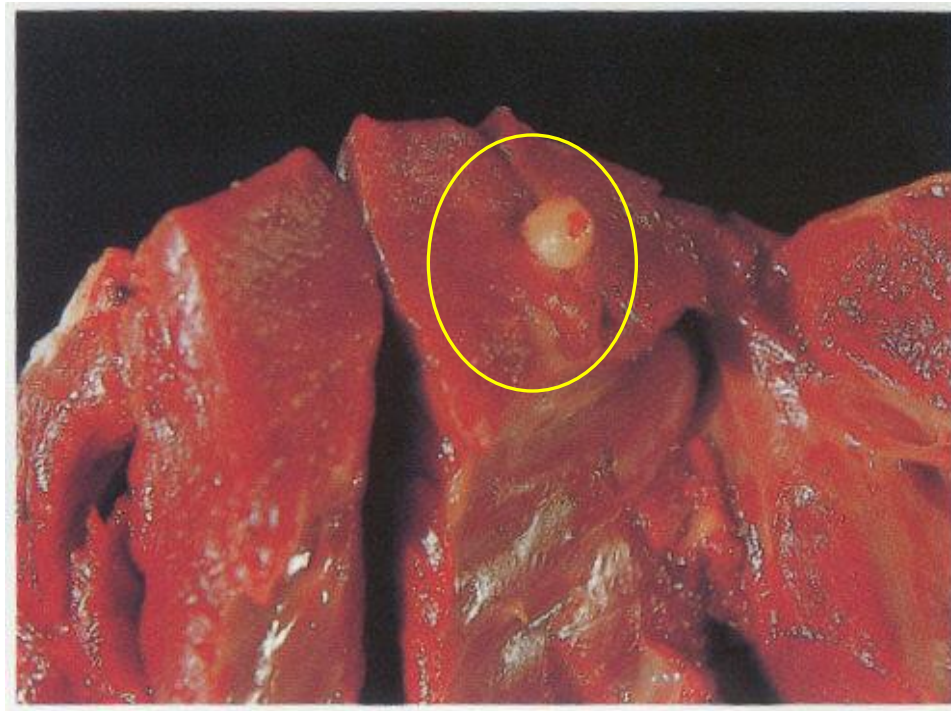
Cysts appear as ¼ to ½ inch sized “blisters” in the meat.

Larvae are inside the cysts.

Usually located in the muscles with best circulation (cheeks, skirt, round, heart, etc.).

Retain carcass and parts for veterinary disposition.

Cysticercosis (Beef Measles)





Degenerative Kidney

Retain for veterinary disposition when other pathologies are present.

Condemn kidney(s) affected if no other pathologies are present.

Degenerative Liver (Blue Liver)

Presence of large
amounts of blood
in the liver with
resulting
degenerative
changes.

Condemn these
livers, but the
establishment
may save them for
animal food.



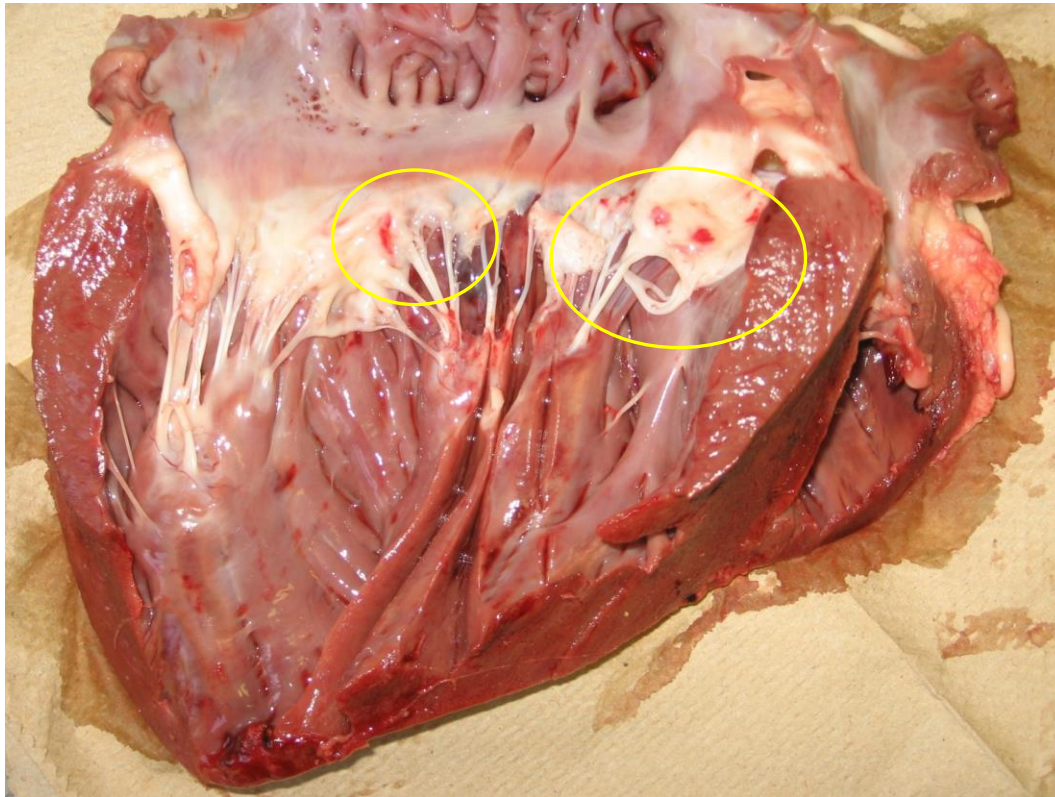
Endocarditis

Inflammation of the endocardium or inner lining of the heart.

Any other changes in the carcass or viscera would require the carcass and parts to be retained for the veterinarian.



Endocarditis



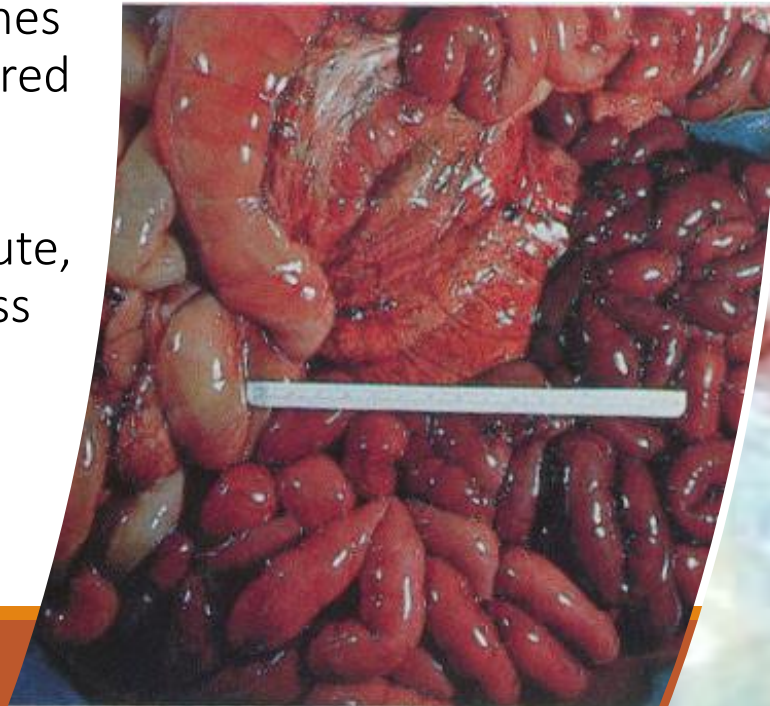
Enteritis

9 CFR 311.16(a)(3)

Intestinal tract is hemorrhagic in appearance.

The small intestines may appear dark red to purple.

If extensive, or acute, retain the carcass and parts for veterinary disposition.



Eosinophilic Myositis (EM) 9 CFR 311.35

Inflammatory condition where eosinophils impart a yellow to green color onto the affected tissue.

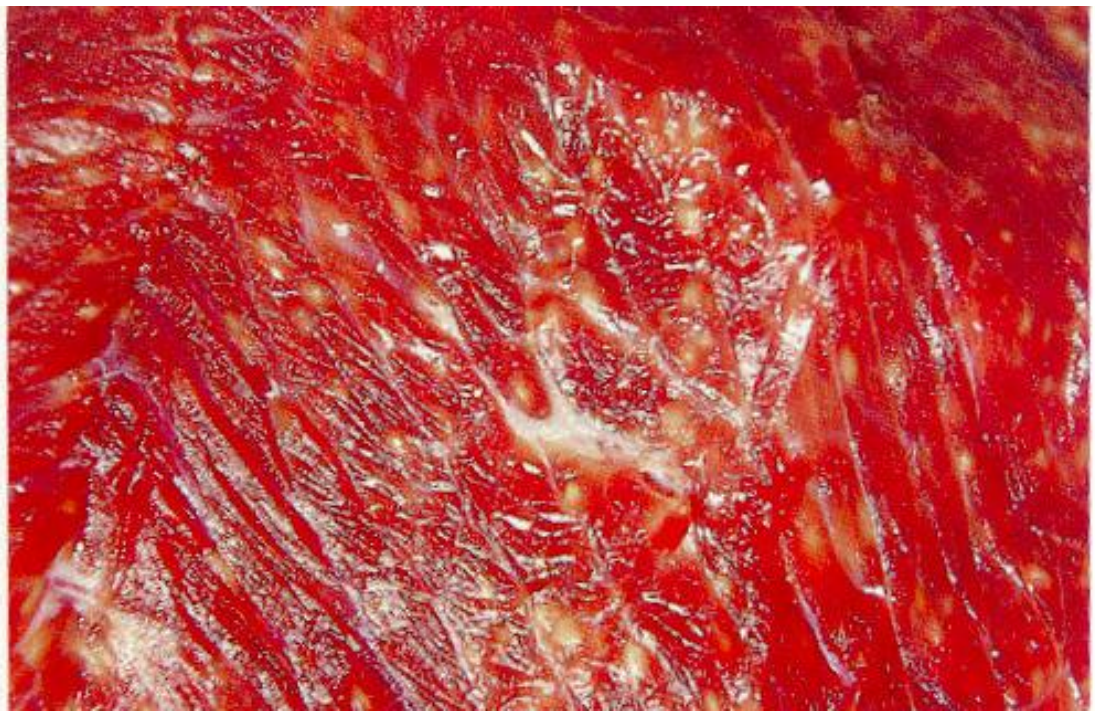
The most common lesions are small, irregularly distributed, yellowish-green, yellowish, or greyish-white pin-head shaped spots.

Also appear as larger bright green to greenish-grey areas that vary in size from that of a dime to the size of the palm of the hand.

Most commonly found in active muscles such as: hanging tenders, diaphragm, cheeks, and heart.

Retain the carcass and parts for veterinary disposition.

Eosinophilic Myositis (EM)



Epithelioma (Cancer Eye) 9 CFR 311.12

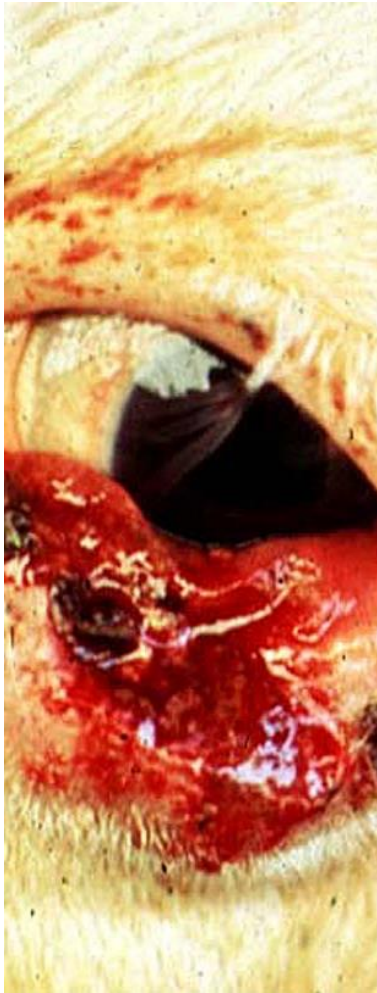
Lesion may appear as a small growth on the cornea or eyelid or there may be no lesion at all. In some cases, the eye may be missing after having been surgically removed prior to slaughter.

Most common in cattle with a white faces but can be found in all breeds.

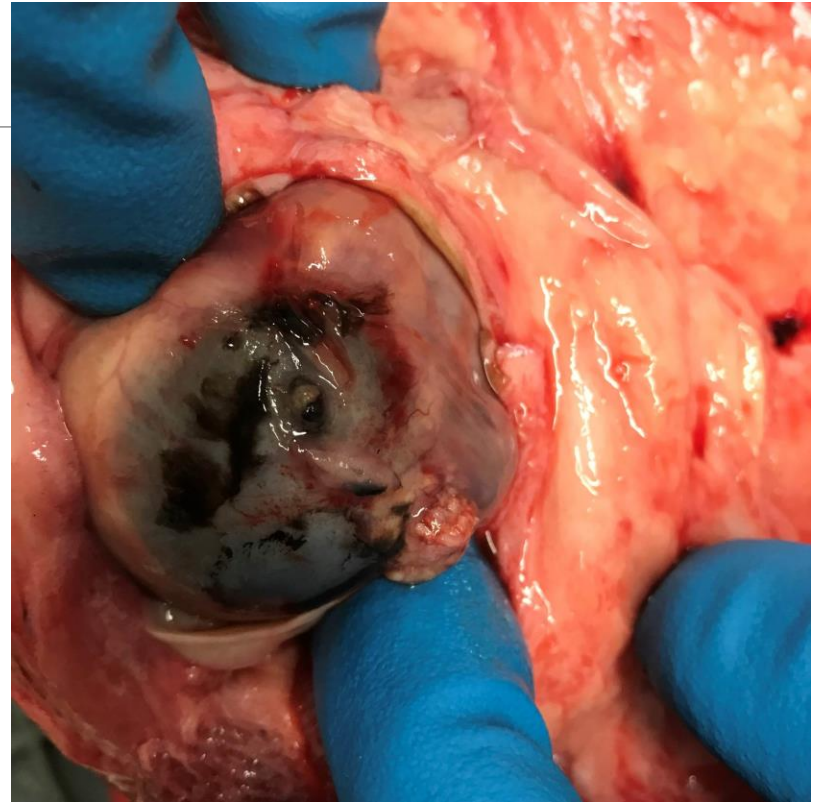
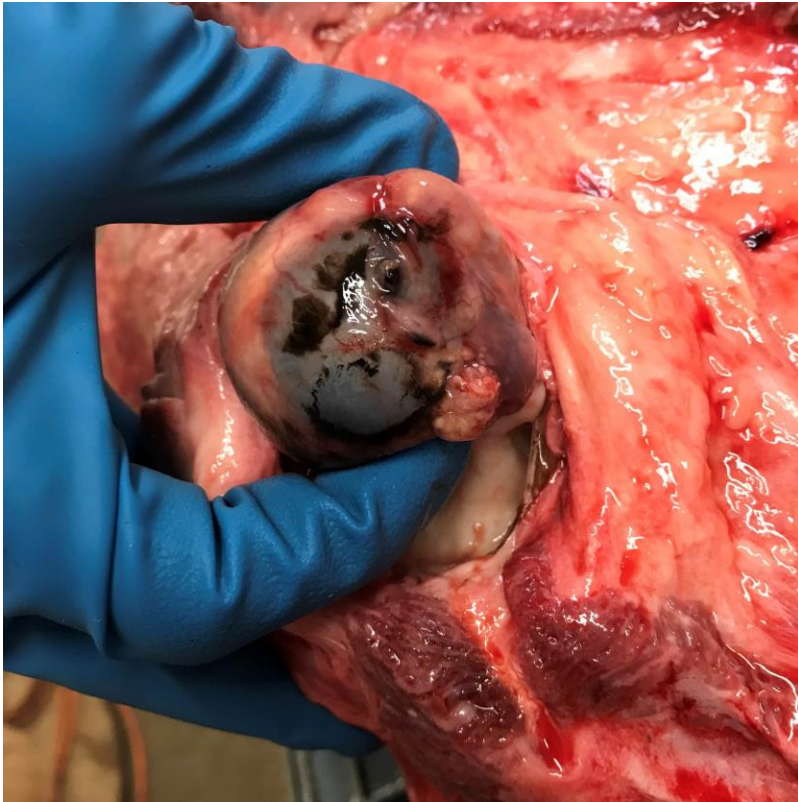
Can metastasize and spread to lymph nodes and organs.

Retain carcass and parts for veterinary disposition.

Epithelioma



Epithelioma



Shown above is chronic inflammation and hyperpigmentation of the eye.



Epithelioma

Both images show a cow missing an eyeball. Cancer eye can be so destructive that it eats away at the eyeball or leads to the eye needing to be removed.



Shown to the left is cancer eye presenting with multiple lesions surrounding the eye.

Presentation
of
Epithelioma
as seen by
NCDA MPID
personnel!

30+ month Hereford cow

Antemortem: Right eye -
erythematous and bulging with
conical shape; Left eye – mass
near lateral canthus

Postmortem: Right eye –
Chronic, keratitis with ruptured
corneal ulcer; Left eye – Chronic
corneal ulceration, small mass
adhered to lateral canthus

Pathology report: SCC with
metastases



Epithelioma seen at Antemortem Inspection

RIGHT EYE –
ERYTHEMATOUS
(INFLAMED) AND
BULGING WITH
CONICAL SHAPE.



Epithelioma seen at Antemortem Inspection

LEFT EYE: MASS
NEAR THE
LATERAL
CANTHUS.

Epithelioma in lymph nodes



Cancer eye has metastasized and is shown by yellowing of the lymph nodes.





Other Eye-Related Conditions

“Bulging Eye”
(This cow should be Suspected on antemortem. There could be lymphoma behind the eye.)



Other Eye-Related Conditions

Uveitis – chronic case

(This does not need to be Suspected on antemortem unless other pathologies are seen.)

Other Eye-Related Conditions

“Resolving Corneal Ulcer”



- White lesions seen on the cornea of the eye.
- Can result from a healing pink eye infection, which can be spread by flies.
- This does not need to be Suspected on antemortem unless other pathologies are seen.

Other Eye-Related Condition

“Microphthalmia”



- Smaller than normal eyeball
- Seen in cattle that were infected with Bovine Viral Diarrhea (BVD) in-utero
- Central Nervous System (CNS) signs can be associated with Microphthalmia
- If this is seen, Suspect the animal at antemortem a and call for veterinary disposition.

Fat Necrosis (Calcified Fat)



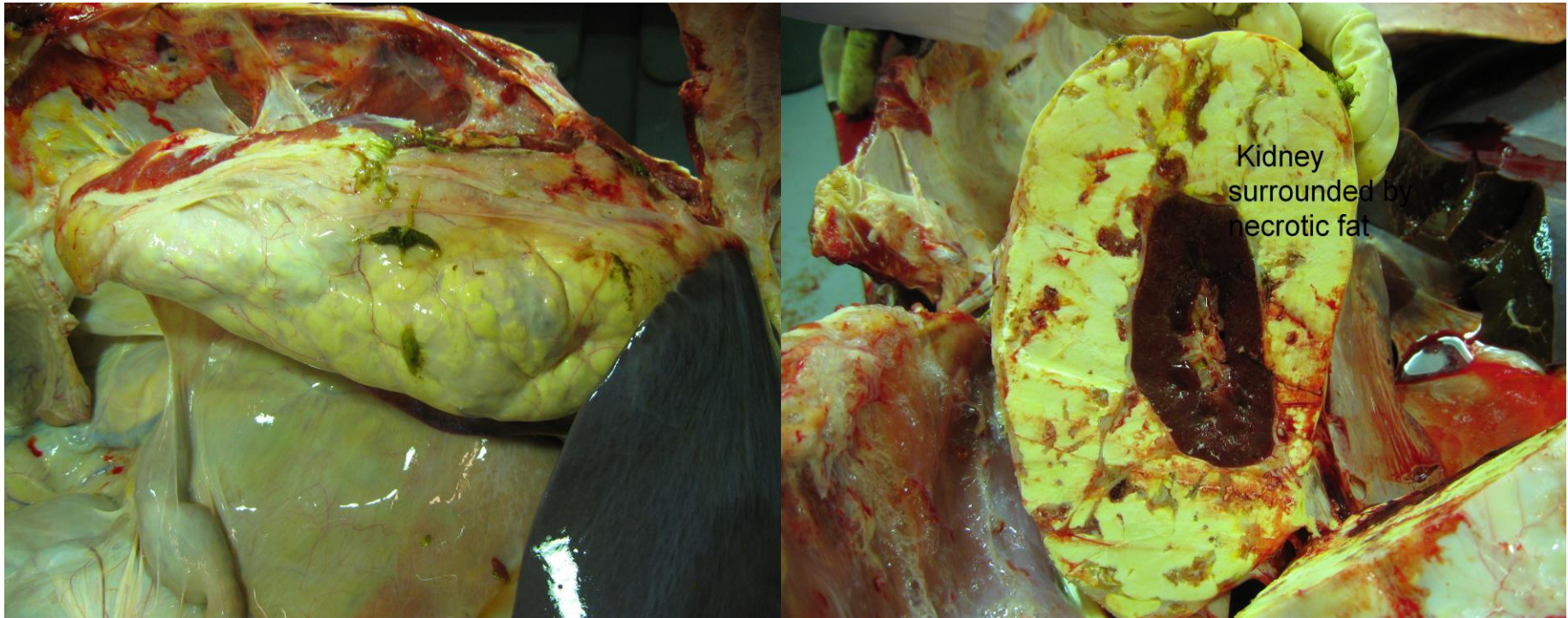
A condition that at times may appear to be serious but actually is not.

There may be a chalky white substance throughout the kidney fat and on up through the renal area. There are times when the necrosis may appear imbedded or inside the fat.

A related condition is —cheesy brisket. This condition called pre-sternal calcification is usually caused by the rubbing or bumping of the animal's breast against the feed bunk.

The condition would be removed by trimming, and unless other conditions are present, the carcass passed without restriction.

Fat Necrosis



Renal capsule with evidence of necrosis.

Cross-section of photo on the left of a kidney surrounded by necrotic fat.

Hepatic Lipidosis



Healthy liver shown above.



Liver affected with lipidosis shown above.

Seen mostly in pregnant cows because of fatty deposition in the liver.

The liver will be pale in appearance; may vary from tan to yellow to grey. They may also be enlarged.

These livers may be passed for food.

This may resemble carotenosis. For this reason, you must be sure of your diagnosis.

Hydatid
Tapeworm
Cysts
(Echinococcus)
9 CFR
310.14(a)

Human form of the tapeworm which is a serious human health concern.

Dog is the definitive host, but sheep, cattle, and pigs can serve as an intermediate host.

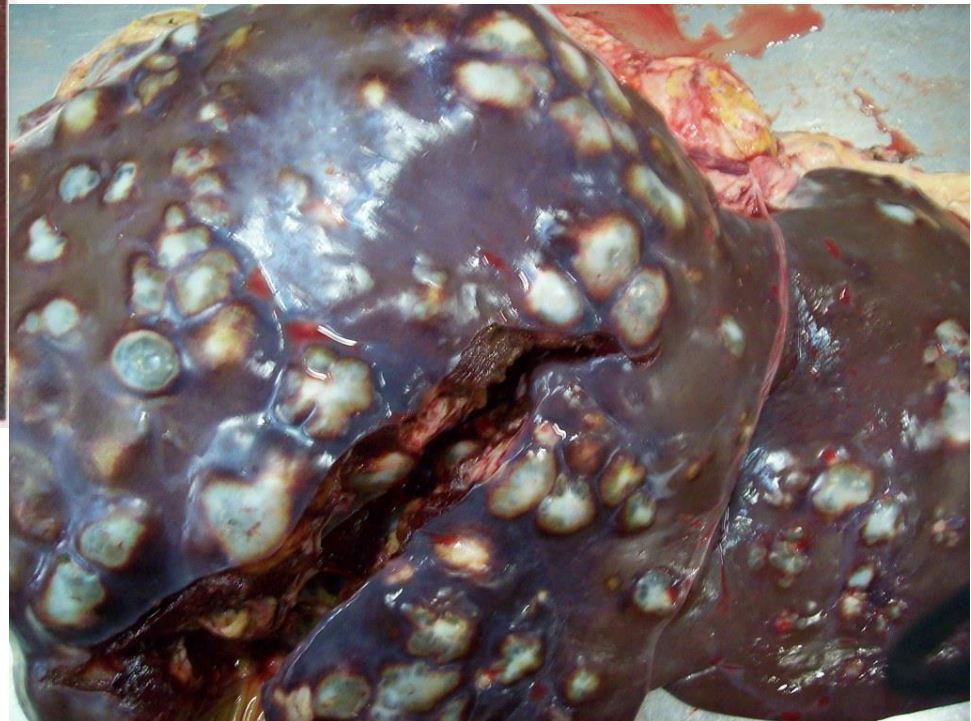
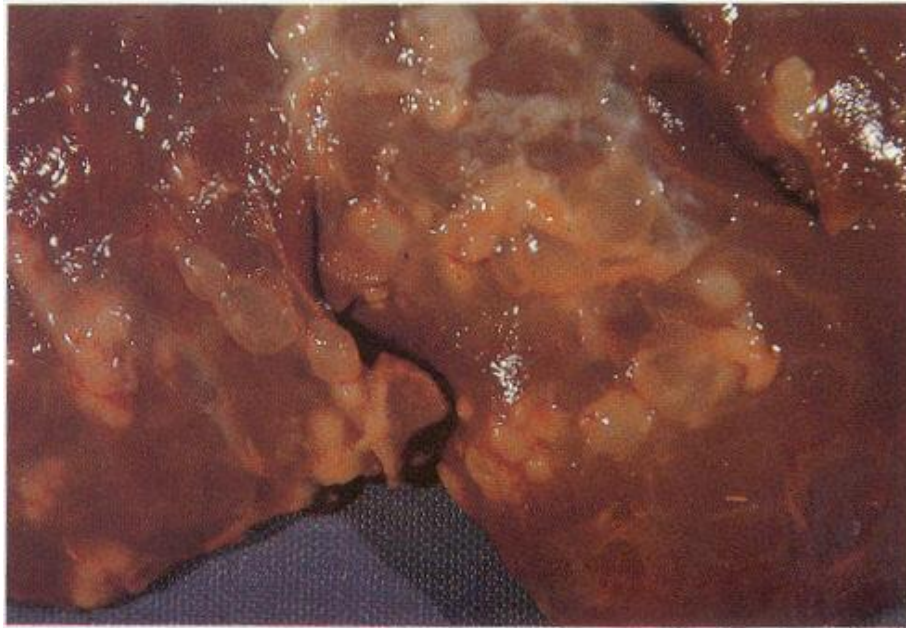
Humans become infected by ingestion of food or water contaminated by dog feces.

Cysts are approximately 2-4 inches (5-10 cm) in diameter and may be multi-compartmented, with a white, thick-walled cyst membrane that contains an amber, clear fluid that may contain sand-like granules.

The cysts are most often seen in the lungs and/or the liver.

The affected tissues must be condemned to tankage and never allowed for use in pet foods.

Hydatid Tapeworm Cysts





Icterus caused by tapeworm cysts.

Hydrocephaly

Caused by a genetic defect.

Cranium: Markedly enlarged and skull bones are malformed.

Cranial cavity: Usually filled with fluid, with little to no recognizable brain tissue evident.

Usually see in conjunction with CNS signs.

If this is seen, Suspect the animal at antemortem and call for veterinary disposition.

Hydrocephaly



Normal cattle heads.



Domed shaped cattle head consistent with Hydrocephaly.

Hydrocephaly



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.



Hypoderma Larvae (Grubs) 9 CFR 311.25

Late spring/summer female flies lay eggs in hair

Eggs hatch in 3-7 days → Larva penetrate skin and migrate through connective tissues for next 4-6 months

Winter: Larva may cluster near esophagus or spine to stay warm

Spring – Larva move to animal's back so they can pierce through the skin in order to breathe

- Not every grub makes it to the back; some end up in other tissues, dead and degenerated.

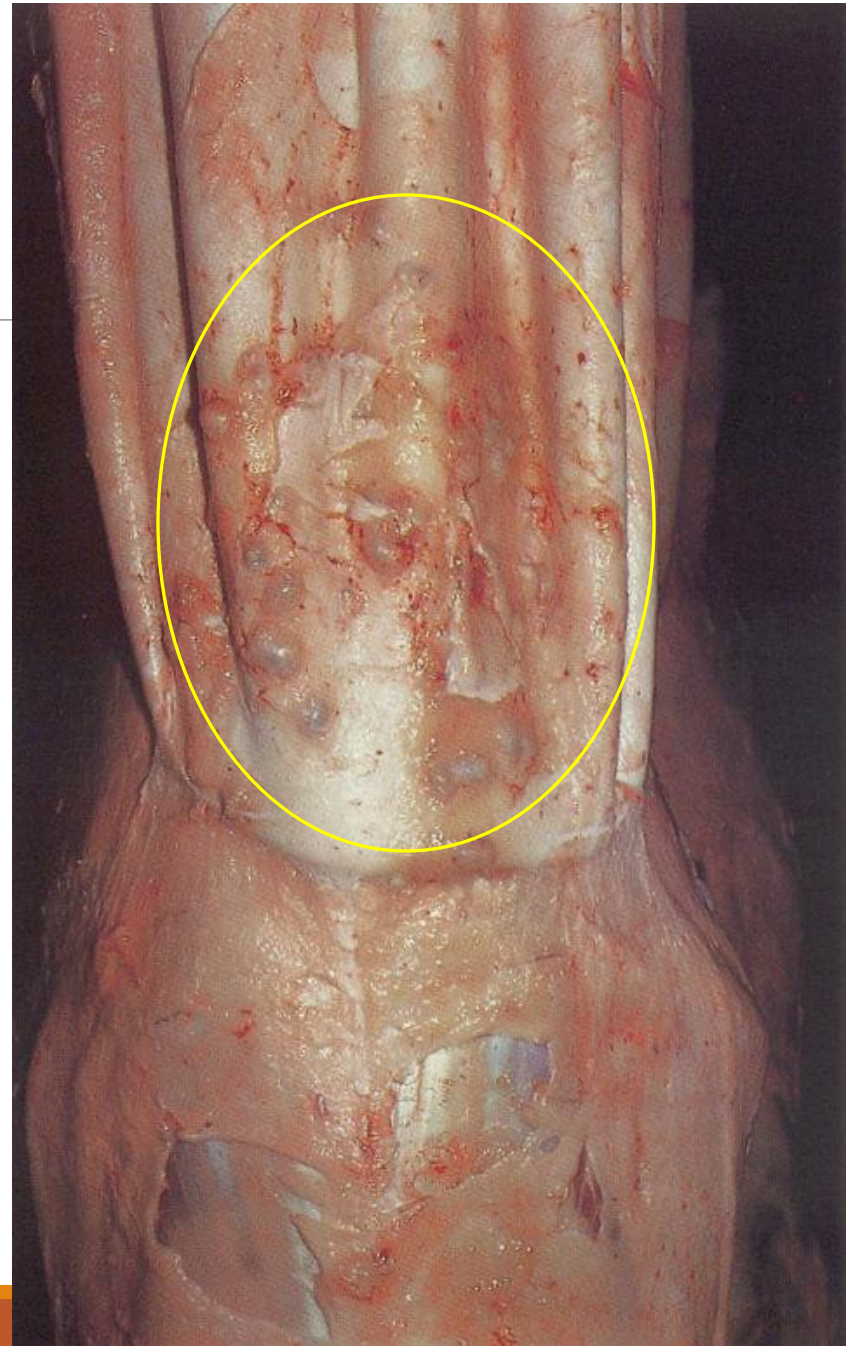
Remain at this location until larval development complete → Drop to ground, transform into adult fly

Cycle repeats itself

Retain for veterinary disposition.

- All grubs and/or the evidence of grubs must be trimmed, leaving only normal tissue.

Hypoderma Larvae (Grubs)



Icterus

9 CFR 311.19

Icterus, or jaundice is the yellowing of tissues due to the buildup of bile pigment (bilirubin) in the body.

The buildup is always secondary to some other condition.

The yellowing of a carcass due to icterus is usually more intense in the interior surfaces of the carcass and the viscera.

In true icterus, normally white tissues (such as the tendons and sclera of the eye) are affected.

Carcasses and parts suspected of being icteric should always be retained for veterinary disposition.



Icterus

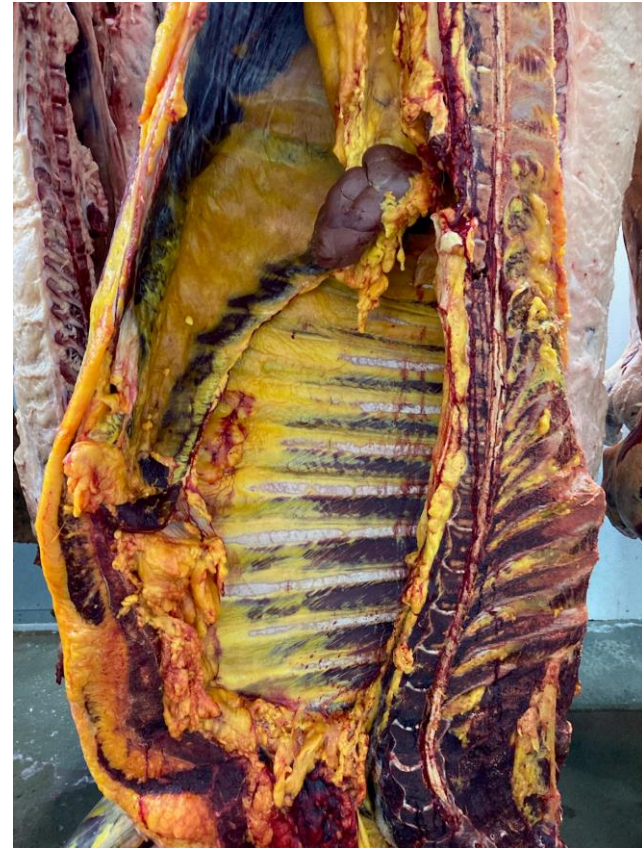


Icterus



SHOWN INSIDE THE CARCASS
AND IN ASSOCIATED VISCERA.

Icterus vs. Pigmentary change???



Injection Sites/Lesions

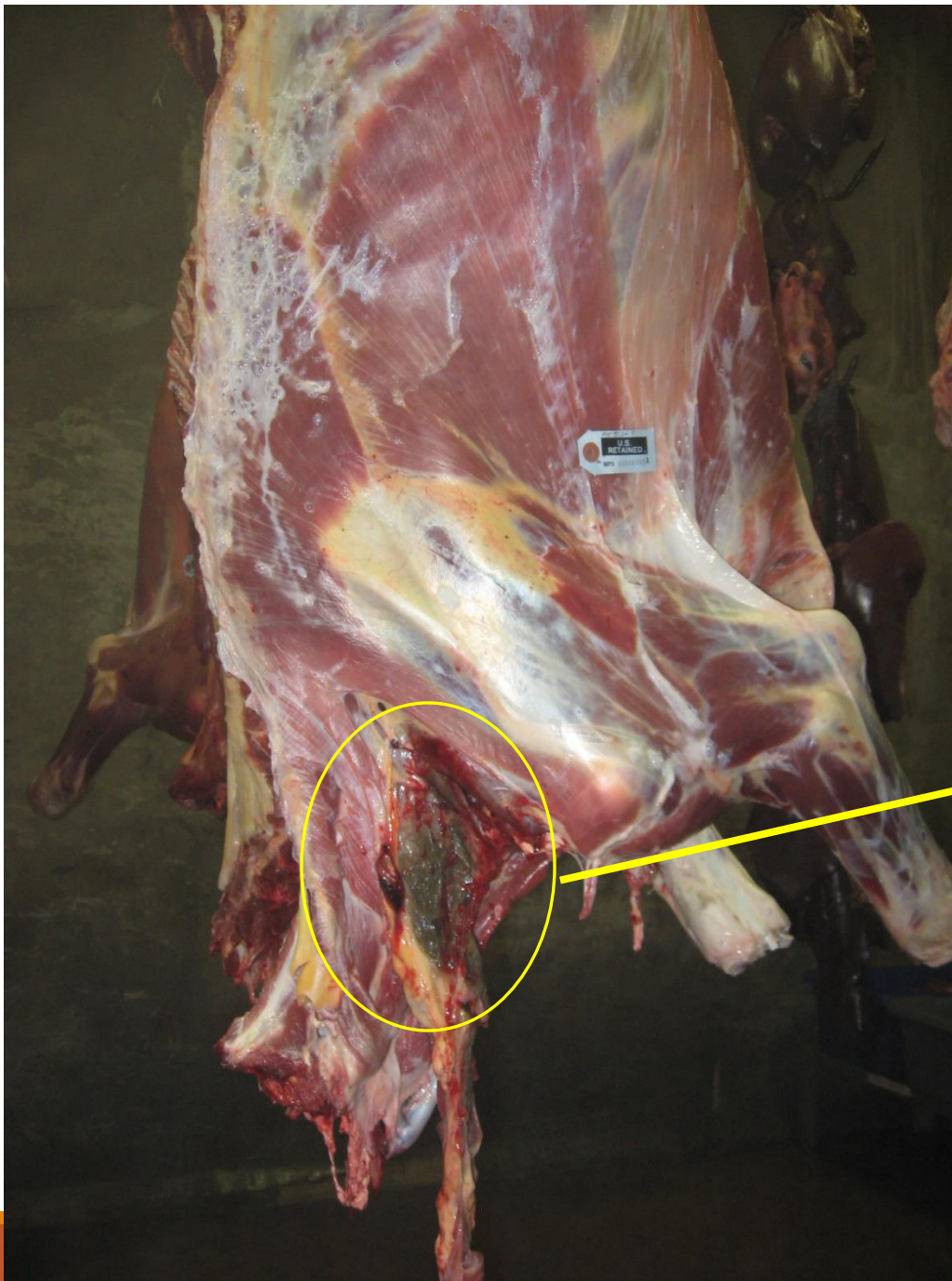
Carcasses with lesions associated with injections.

Injection sites may be found in a variety of locations including the neck, shoulder, thorax, axilla, ventral abdomen (along the subcutaneous abdominal vein), flank, hindquarter, pelvic area (perirectal), and tail.

If lesions have the appearance of being recent, retain the carcass and parts for residue testing.

See FSIS Directive 10,800.1 for more information.

Injection Sites



Injection Sites



Cross-section of the abscess shown to the left. Oxytetracycline (LA 200) is an easily accessible antibiotic sold at many farm supply stores that is commonly used in cattle. This antibiotic is yellow in color and typically imparts a yellowish appearance to injection sites.

Injection Sites



Injection sites



An injection site that was seen and was pulled off with the removal of the hide.



Kidney Stones

Liver Flukes

9 CFR 311.25

The primary purpose in opening the bile duct during liver inspection is to detect flukes.

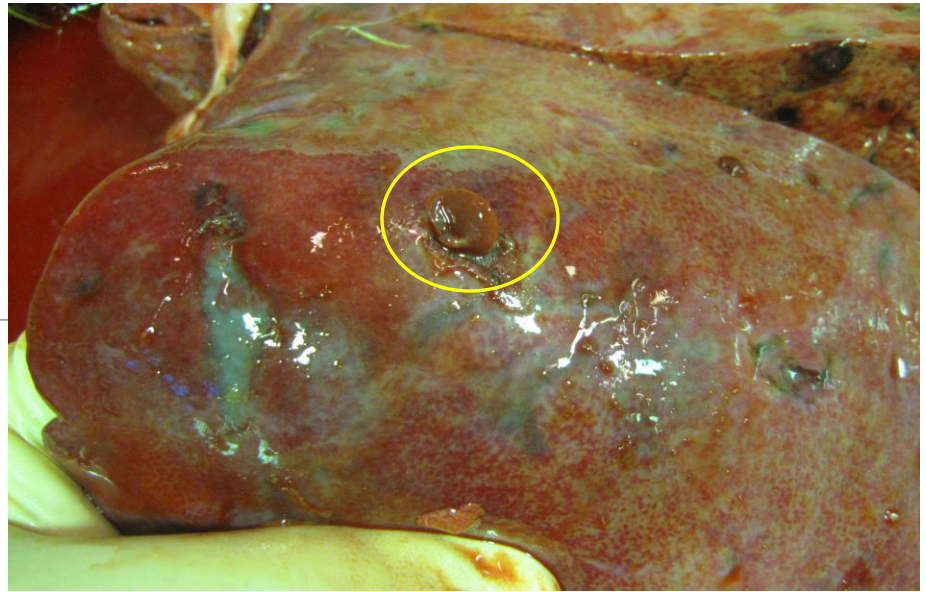
The appearance of a fluke infested liver depends a great deal on the amount of fluke infestation.

A slight infestation will probably not affect the liver tissue as such.

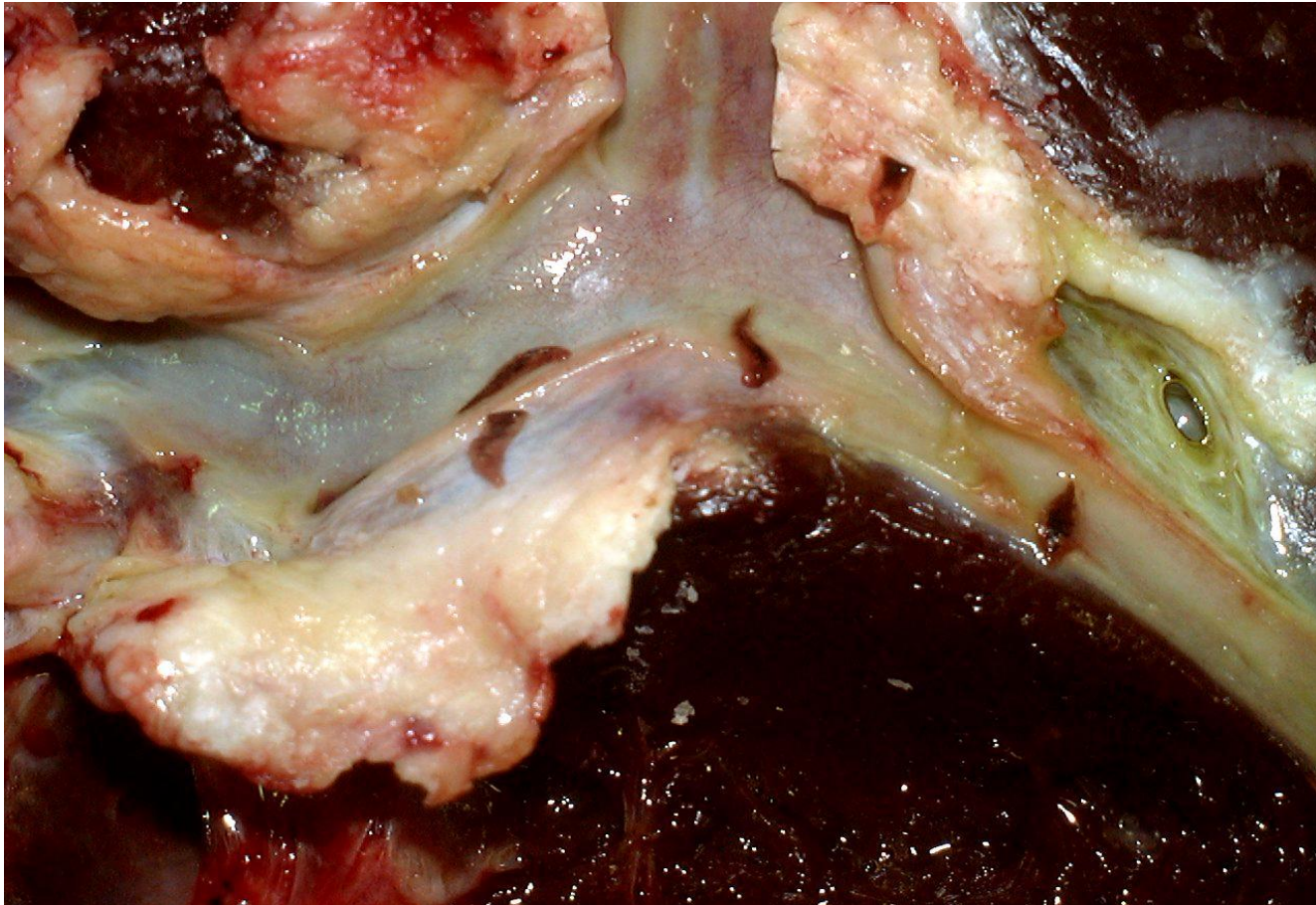
A heavy infestation may cause a cirrhotic effect on the organ, with the surface becoming scarred. Many times, there are bumpy, raised and/or depressed areas, and sometimes a discoloration showing dark blue to black sections on and within the tissue. The liver may take on a "hobnail appearance."

In all cases of liver fluke infestation, the liver is condemned and not eligible for human consumption. The liver *may* be salvaged and used for animal food.

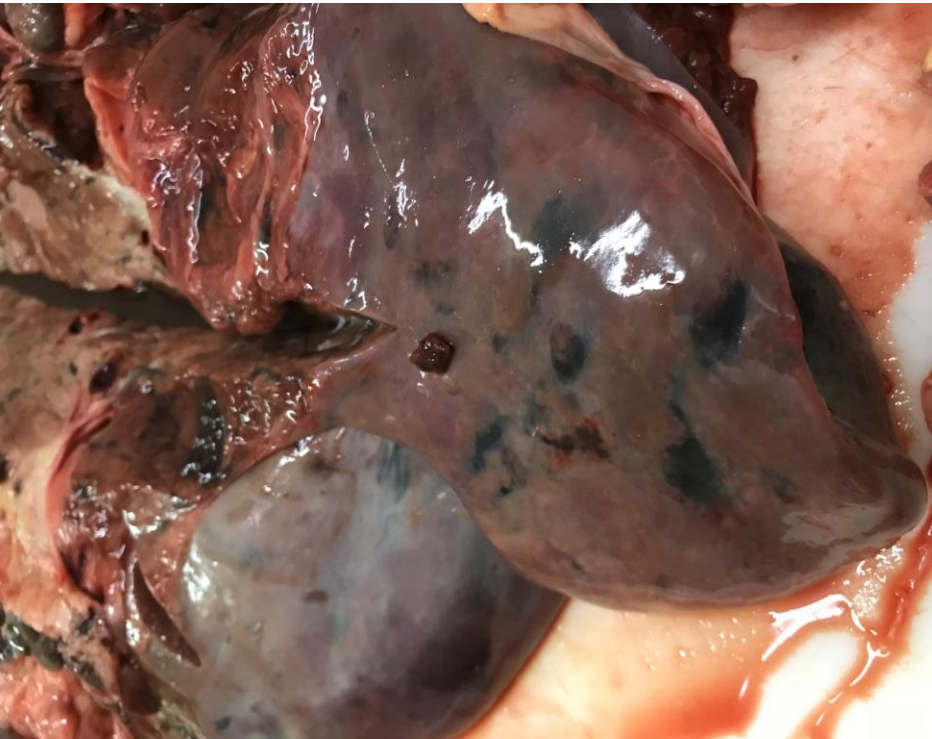
Liver Flukes



Liver Flukes in the Bile Duct



Liver Fluke Migration



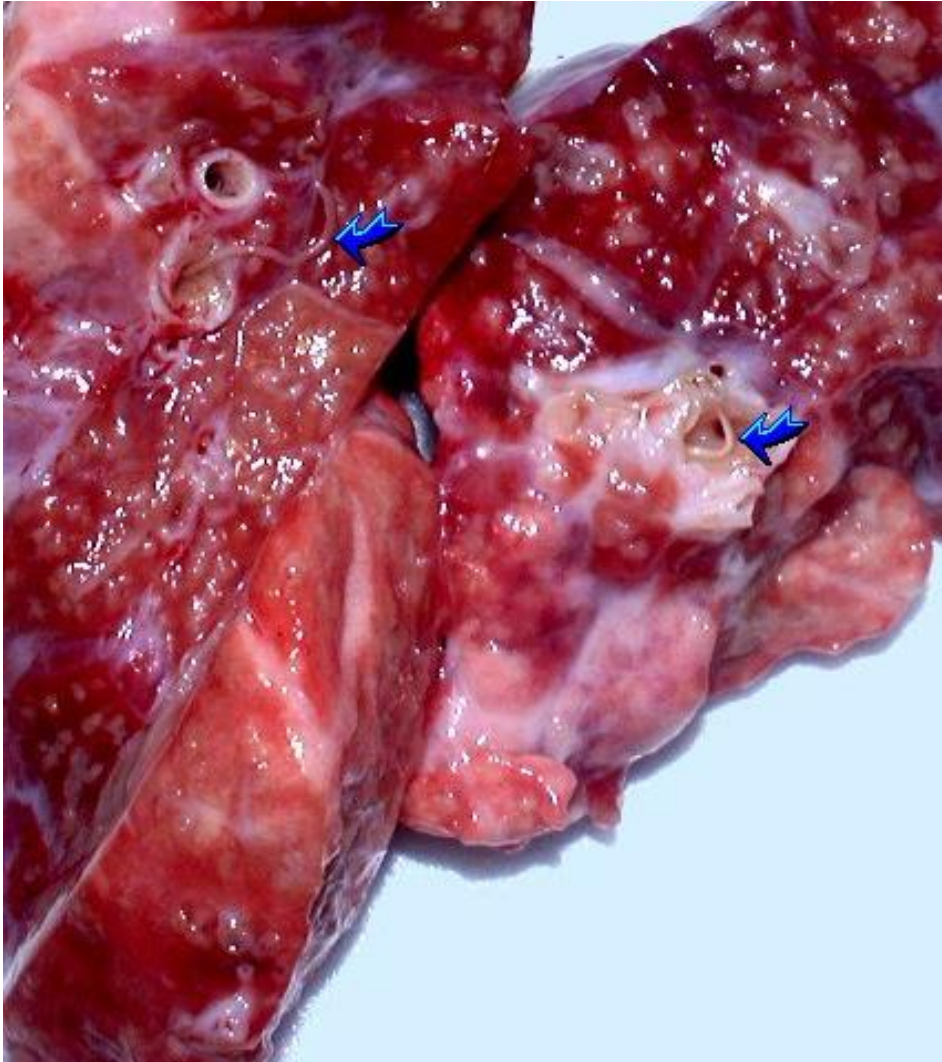
Evidence of migration through the liver.



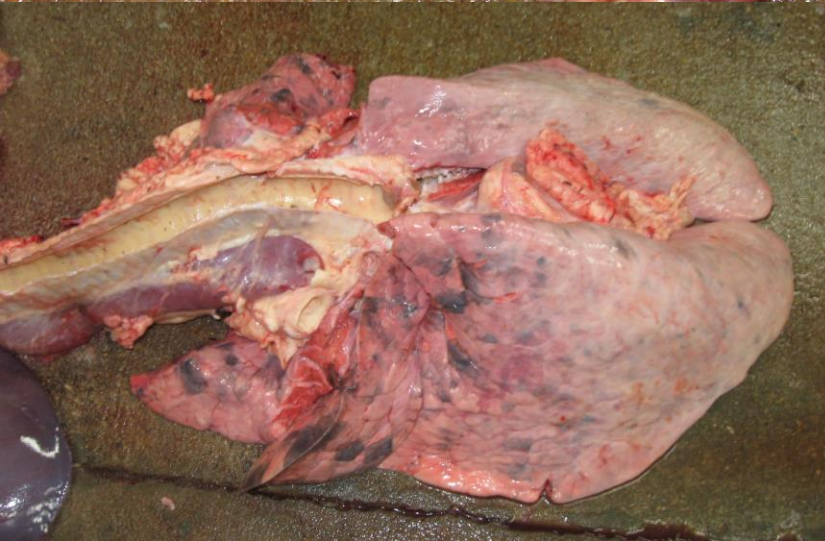
Fluke excrement on the lining of the pleura.



Liver with the associated liver fluke beside of it. Note the bluish-colored migration sites on the surface of the liver.



Lung Worms

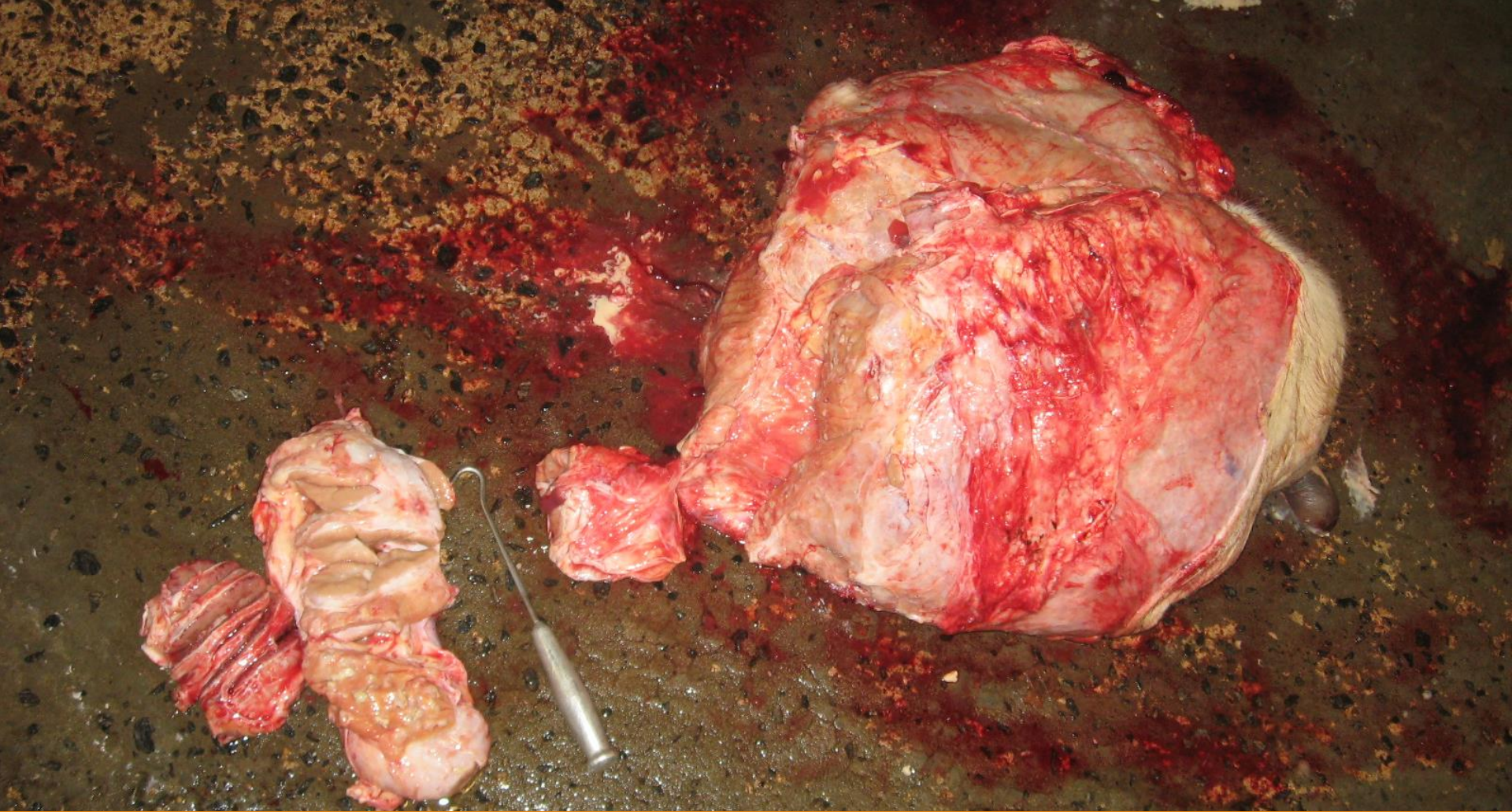


Lung Lesion – Smoke Inhalation

Mastitis

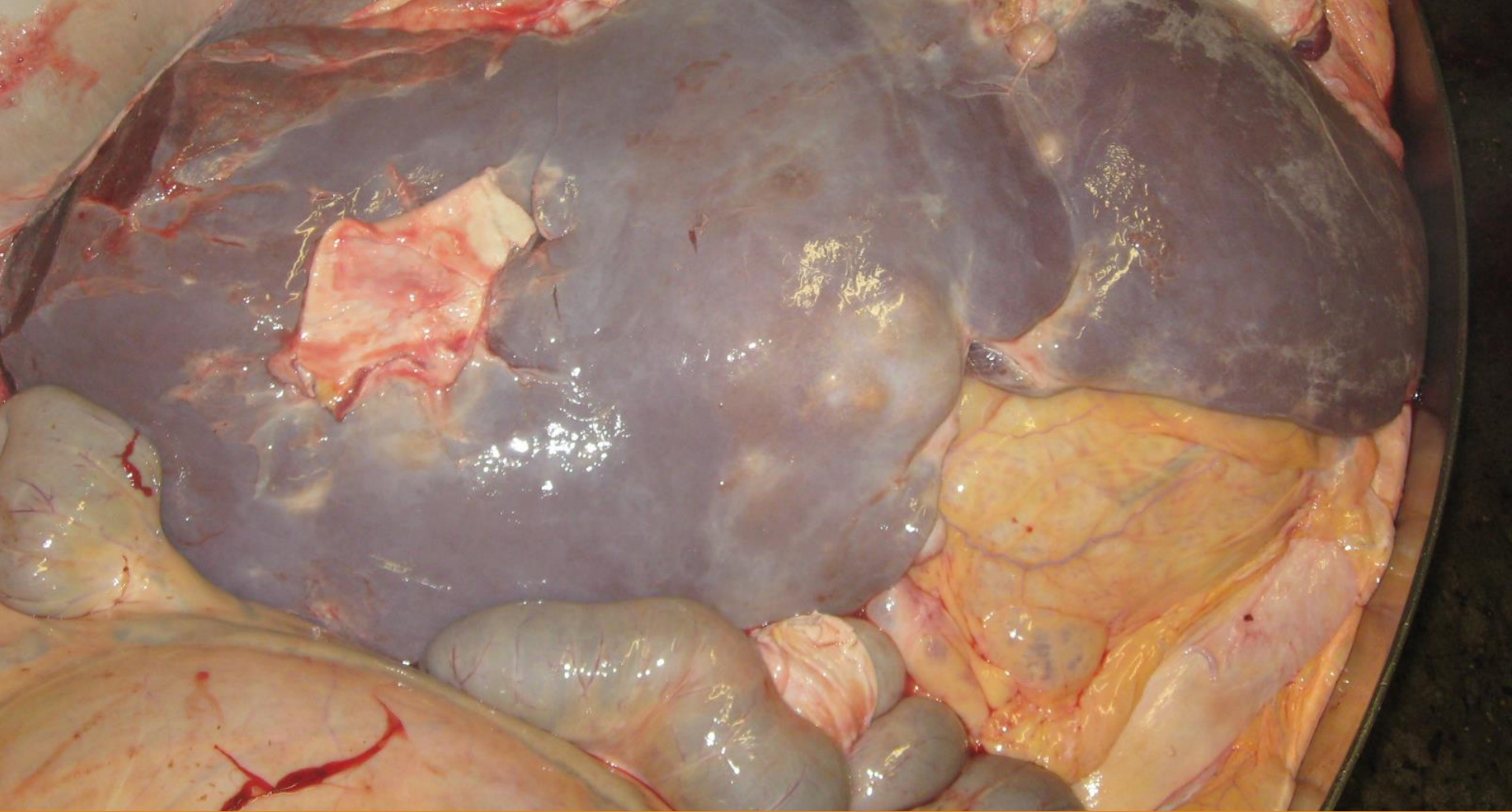
Inflammation of the udder tissue usually associated with a bacterial infection.

Suspect the affected animal and call for veterinary disposition.



Mastitis

INFLAMED UDDER TISSUE AND ASSOCIATED
ENLARGED MAMMARY LYMPH NODE.



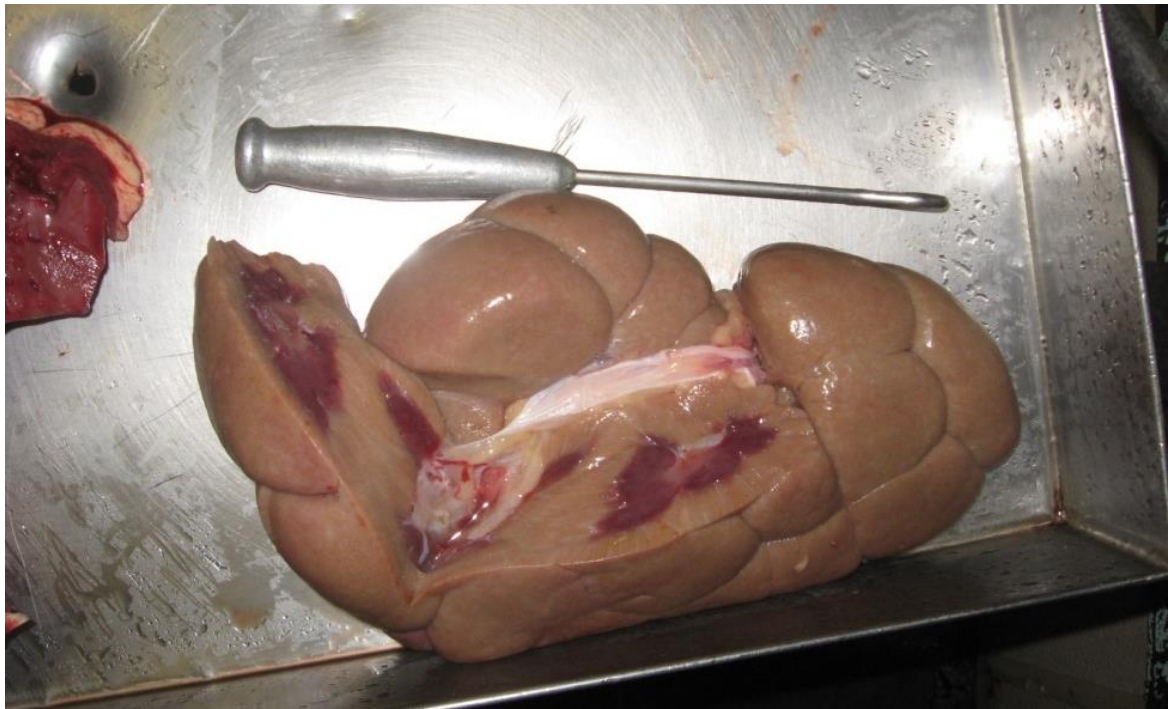
Mastitis

DEGENERATIVE CHANGES IN THE LIVER
CAUSED BY MASTITIS.

Mastitis

PHOTO ON THE
TOP: PLEURITIS

PHOTO ON THE
RIGHT:
HYPEREMIA
(INCREASED
AMOUNT OF
BLOOD) IN THE
KIDNEY.



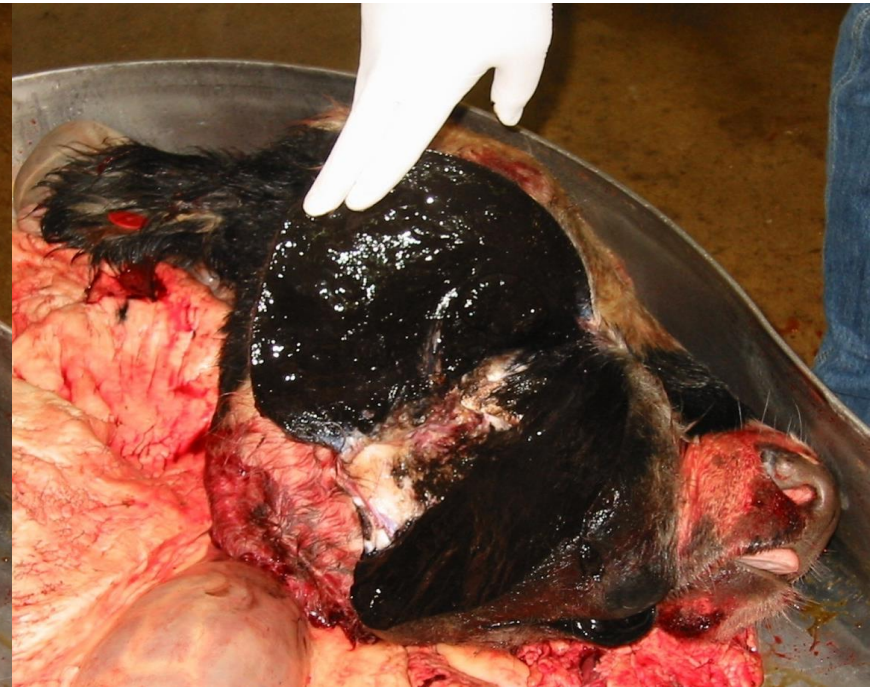
Melanoma

9 CFR 311.11(a)

Tumors that contain black pigment (melanin).

Retain carcass and associated parts for veterinary disposition.

Melanoma

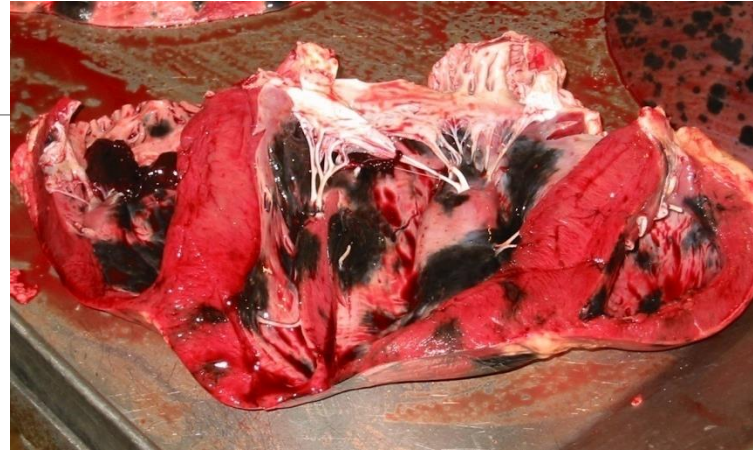


Melanoma

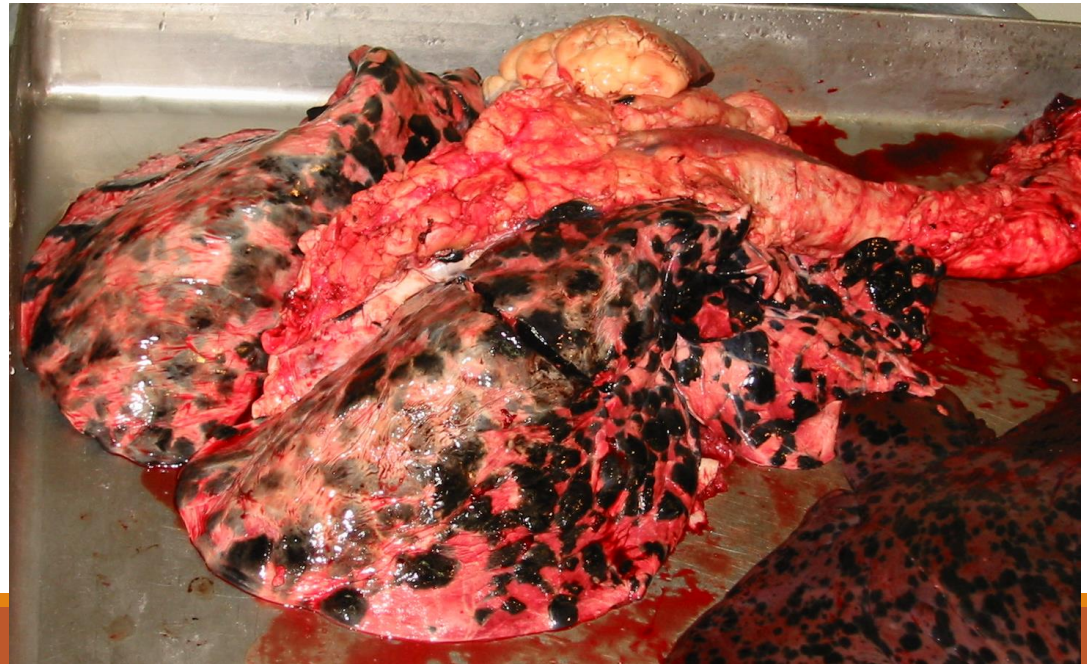


Tumors containing melanin pigment in the muscle and fat.

Melanoma



Tumors containing melanin pigment in the liver, heart and lungs.



Melanosis

Created by the abnormal deposition of the melanin pigment in various tissues.

It is most commonly found in the lungs and liver.

Often difficult to differentiate between melanoma and melanosis without histopathology.

Retain carcass and parts and for veterinary disposition.



Melanosis

MELANIN DEPOSITS THE LUNGS (LEFT) AND IN LEFT VENTRICLE OF THE HEART (RIGHT).



Melanosis

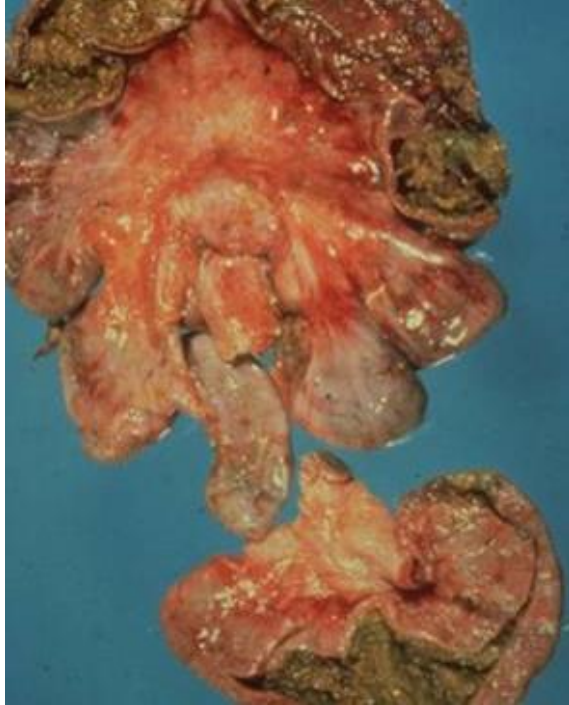
MELANIN DEPOSITS IN THE SPINAL CORD (TOP)
AND MESENTERIC LYMPH NODE (BOTTOM).

Metritis

Inflammation of the uterus

- Pyometra
 - Uterus full of pus
- Retained placenta or fetus
 - Uterus will appear to have something in it, accompanied by inflammation, pus, etc.
- If degree of involvement is excessive, retain for veterinary disposition.

Metritis



Neoplasia
(Malignant
Lymphoma)
9 CFR
311.11(b)

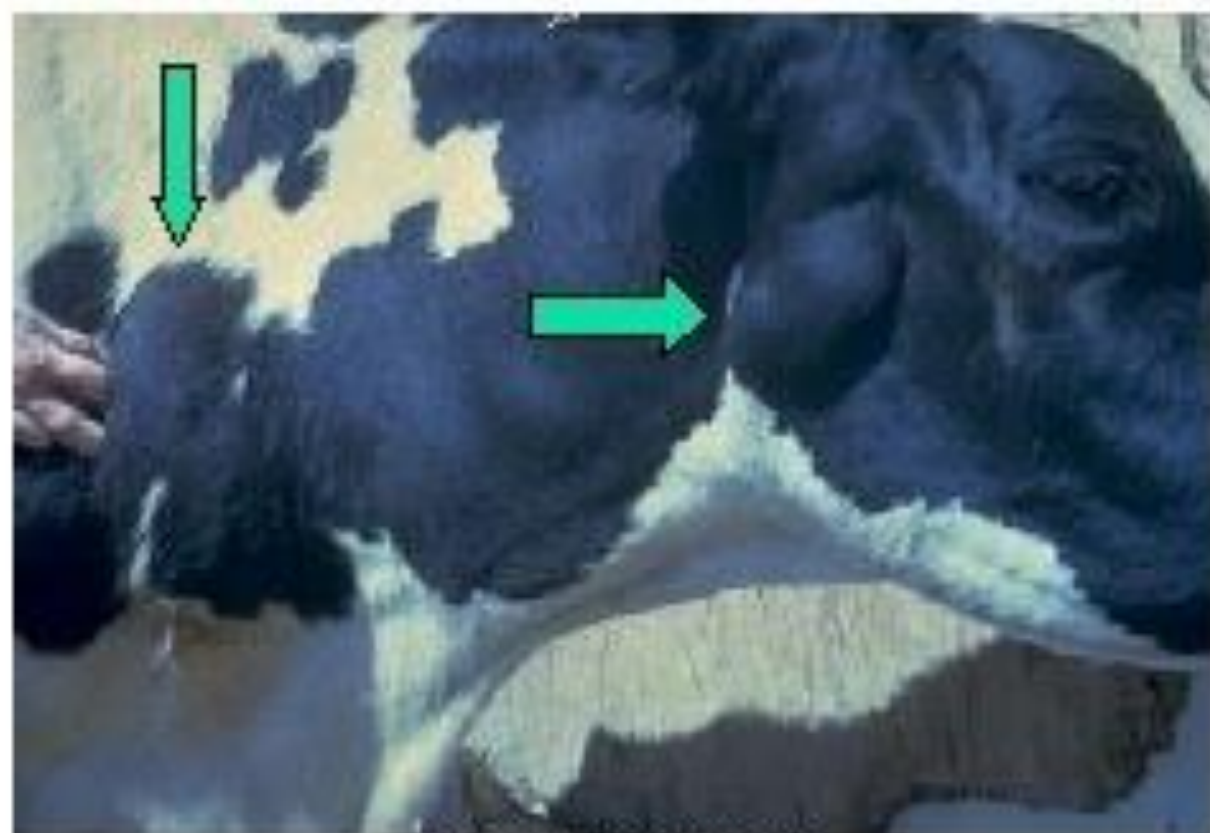
A cancerous disease of the lymph nodes.

Characterized by lymph nodes 5 times or more normal size.

Lymphoma can also be seen in the right atrium of the heart, abomasum, and uterus.

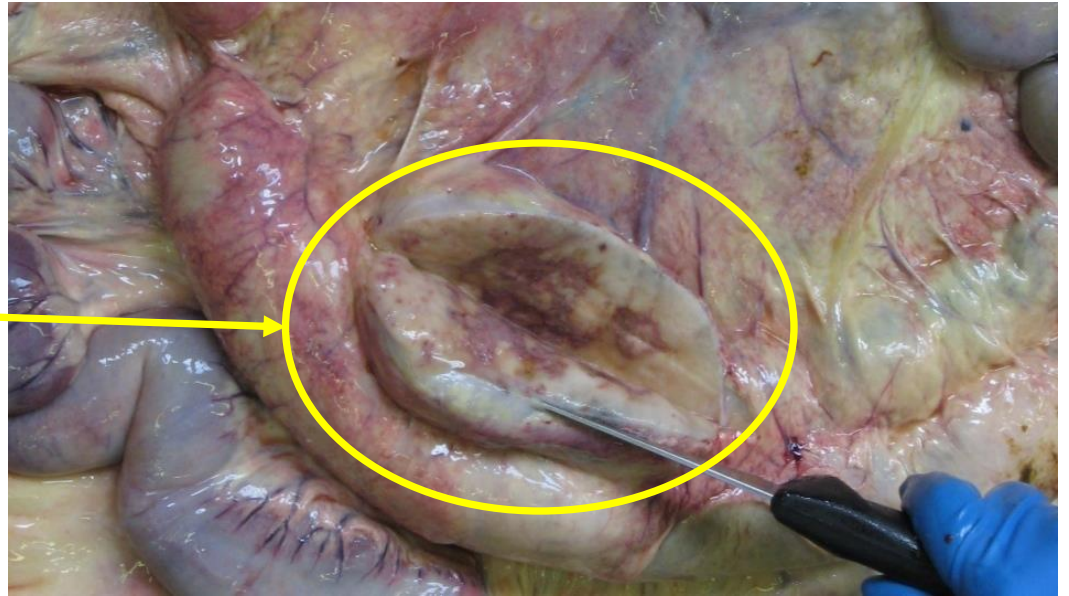
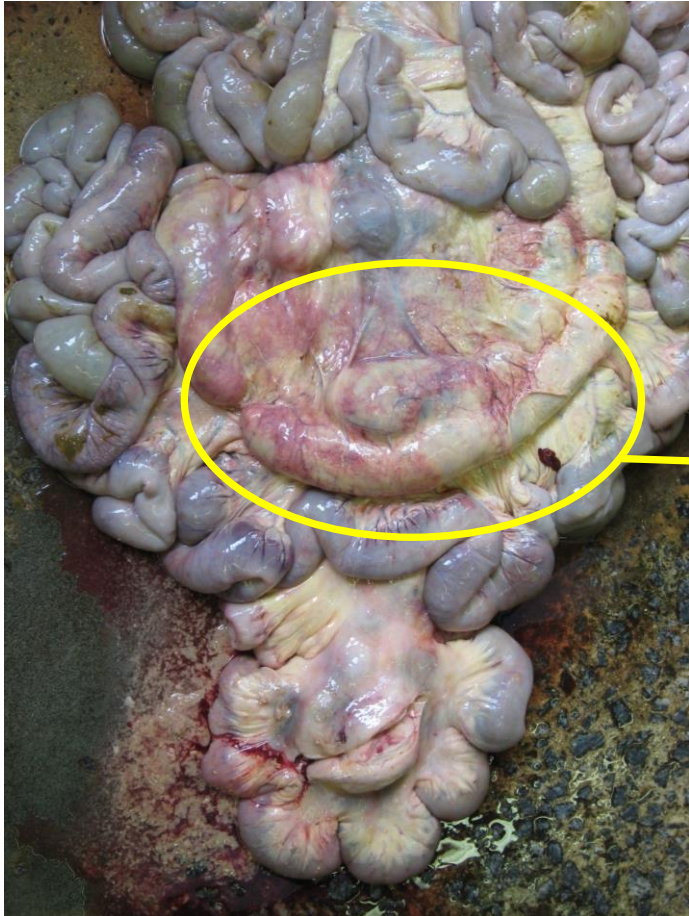
If lymphoma is suspected, always retain the carcass and parts for veterinary disposition.

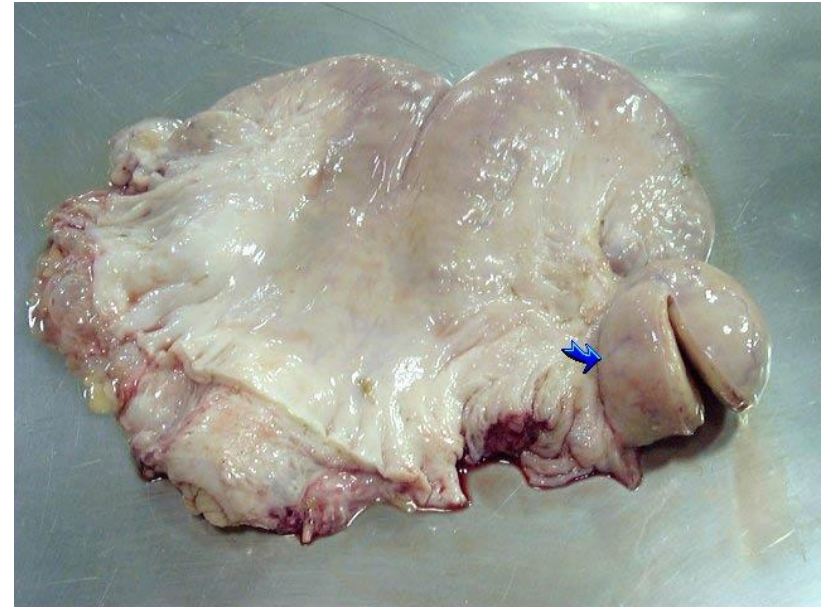
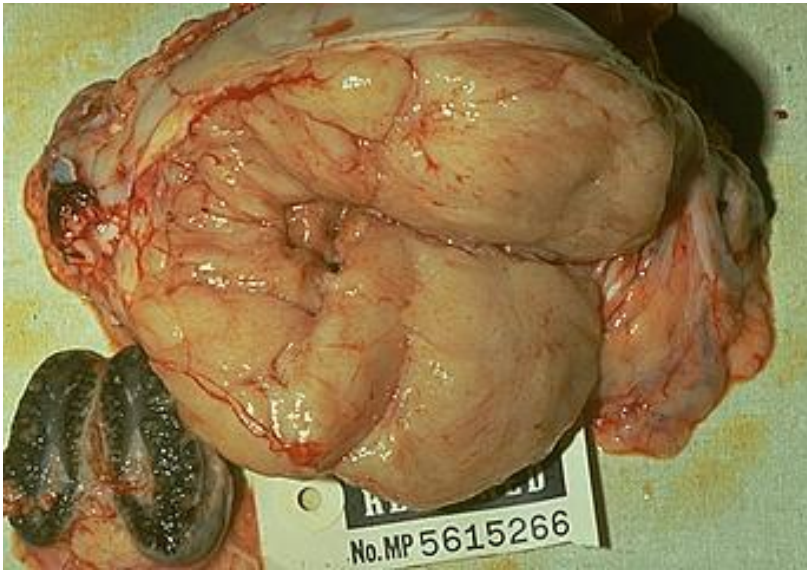
Malignant Lymphoma



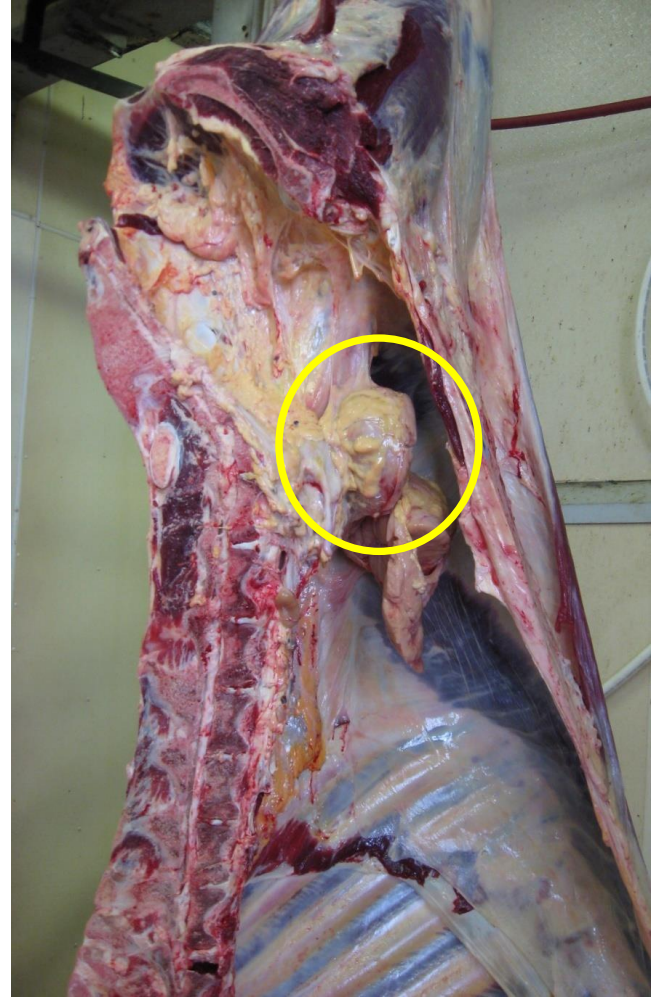
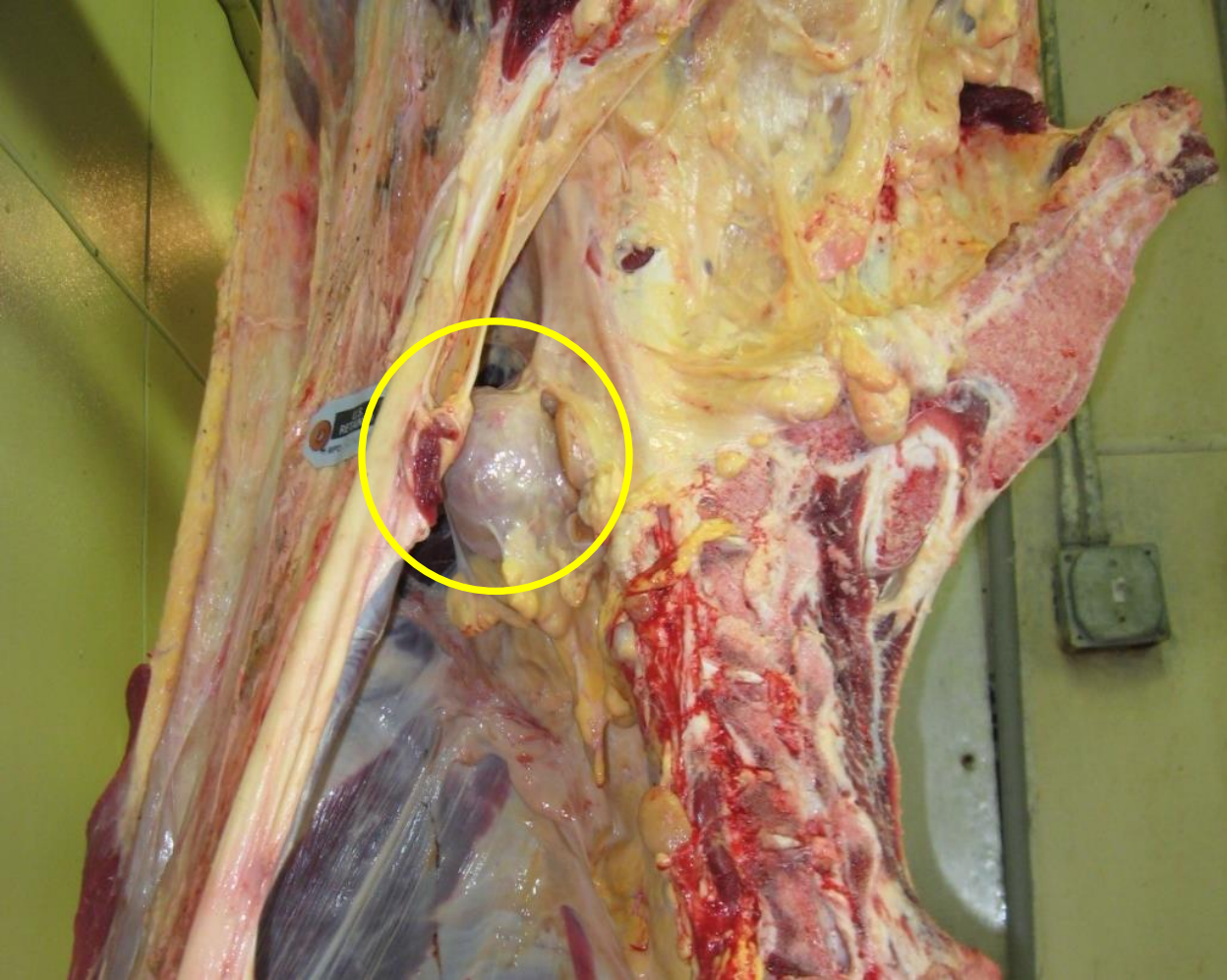
CADQA, CDPA, USDA, PS 15

Lymphoma presenting as enlarged lymph nodes...





Lymphoma presenting as enlarged lymph nodes...



Lymphoma

EXTREMELY SWOLLEN INTERNAL ILIAC LYMPH NODES.



Lymphoma

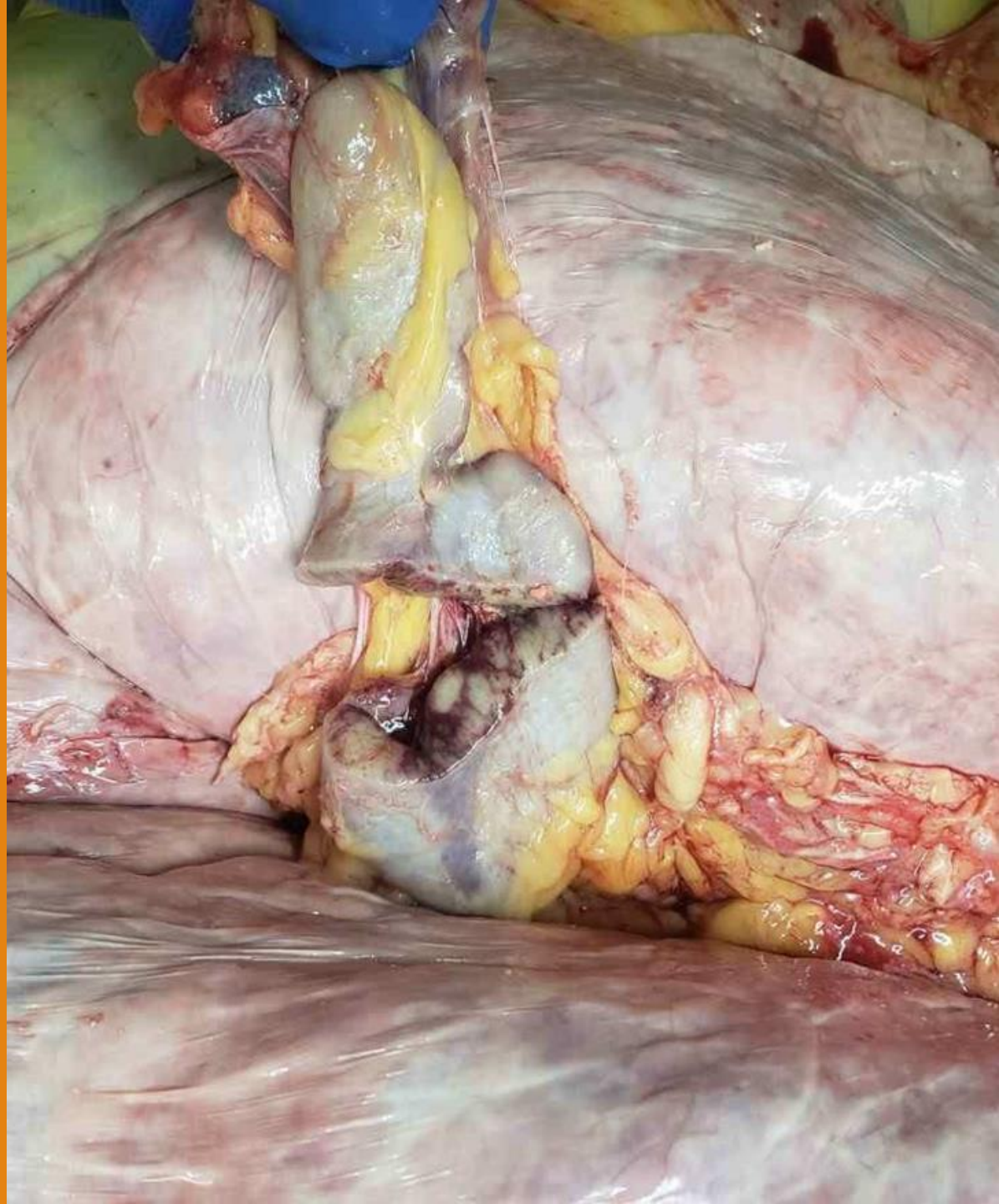
CROSS-SECTION
OF A LYMPH
NODE. NOTICE
THE UNUSUAL
CHEESY-LIKE
TEXTURE.

Lymphoma

Cross-section of lymph nodes. Notice the unusual texture; necrotic centers that may resemble calcified fat.



Lymphoma as
shown in the
lungs' lymph
nodes...





Lymphoma as shown in the kidneys...

Neoplasms

9 CFR 311.11

These tumors typically would appear as nodules or lumps in or on visceral parts.

Many of these neoplasms have the capability of spreading to other parts of the carcass and parts.

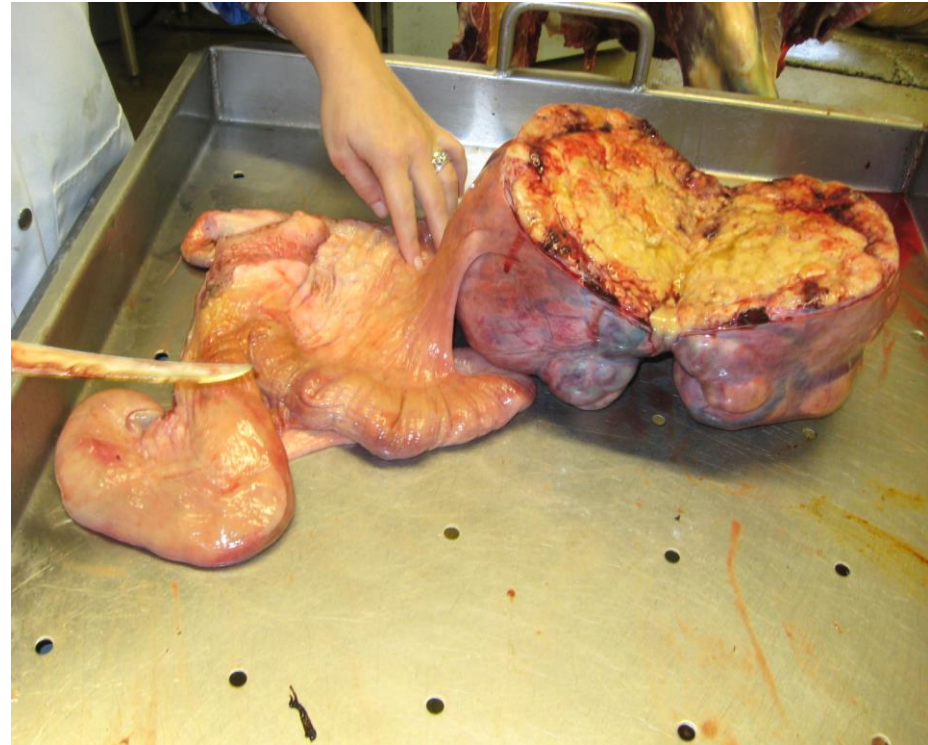
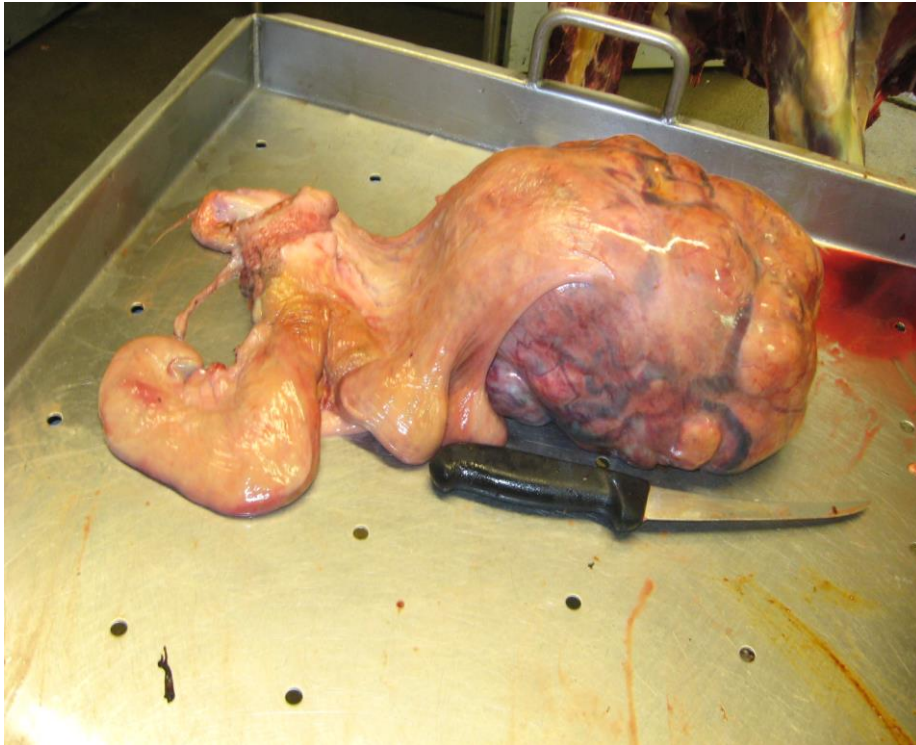
Whenever you see a neoplasm, the carcass and all parts would be retained for veterinary disposition.

Neoplasm (Tumor) in the spleen...

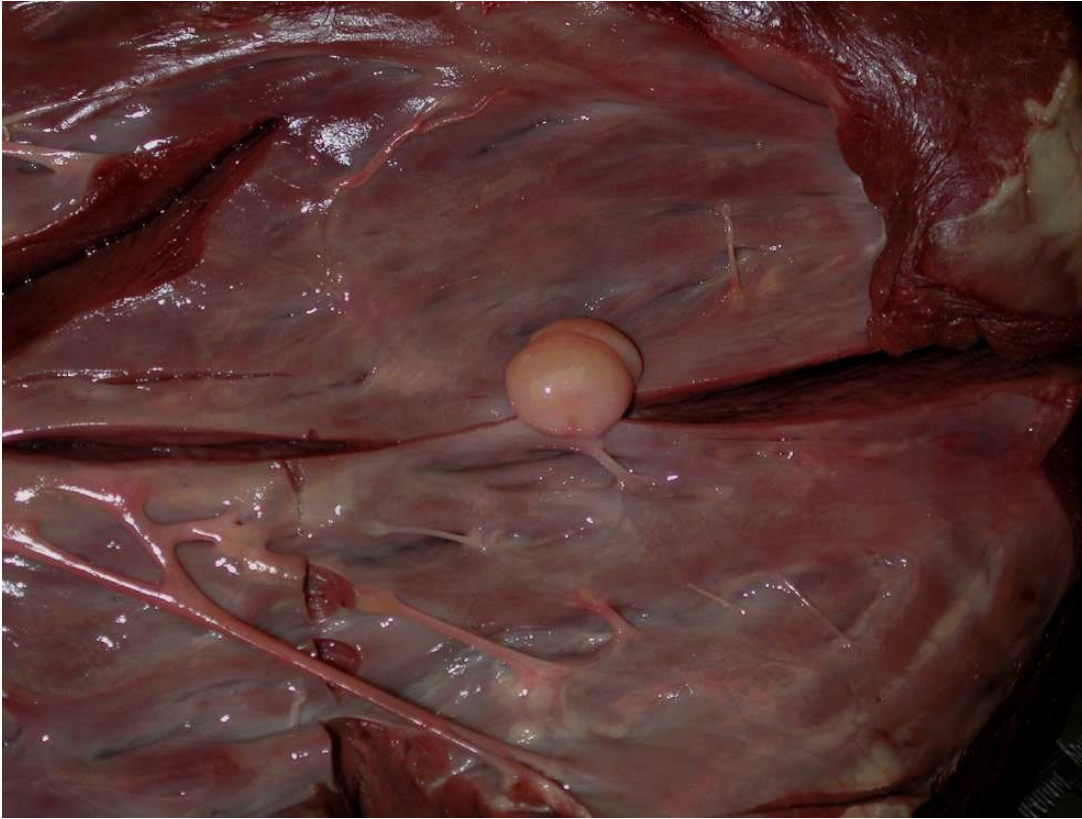
Abnormal cells
grow
uncontrollably in
the spleen.



Neoplasm (Ovarian Tumor)



Fairly common in old cattle. They usually present as variably sized masses growing in or on the ovaries or uterus.



Neoplasm (Neurofibroma)

Usually presents itself as small, firm, pearl-like nodules on the heart and along the nerves in the chest cavity, particularly between the ribs.

Nephritis
9 CFR
311.16(a)(7)

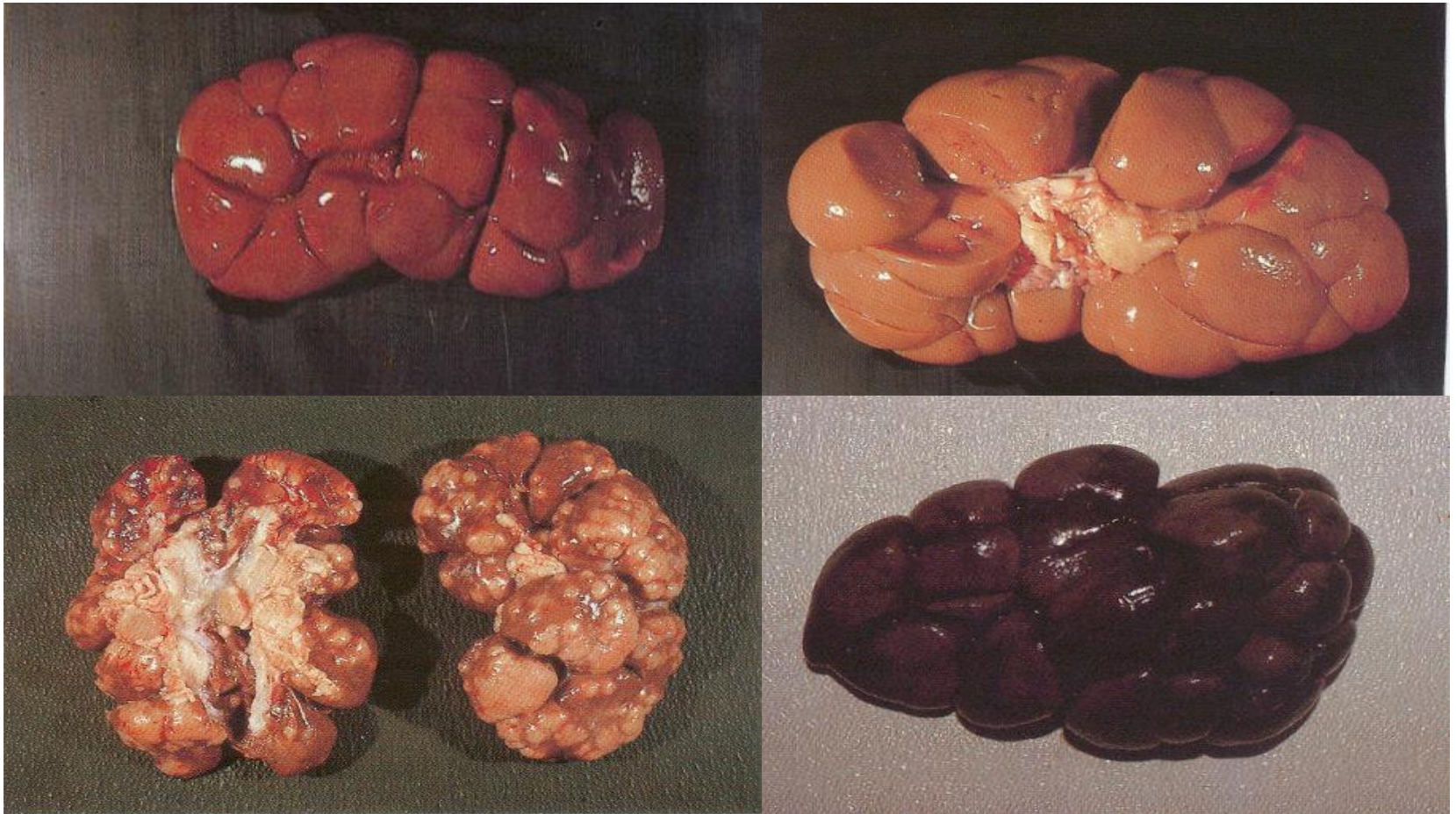
An inflammation of the kidney and is usually characterized by swelling, off-color, or abscess.

Generally, nephritis is a secondary cause resulting from other disease conditions within the animal.

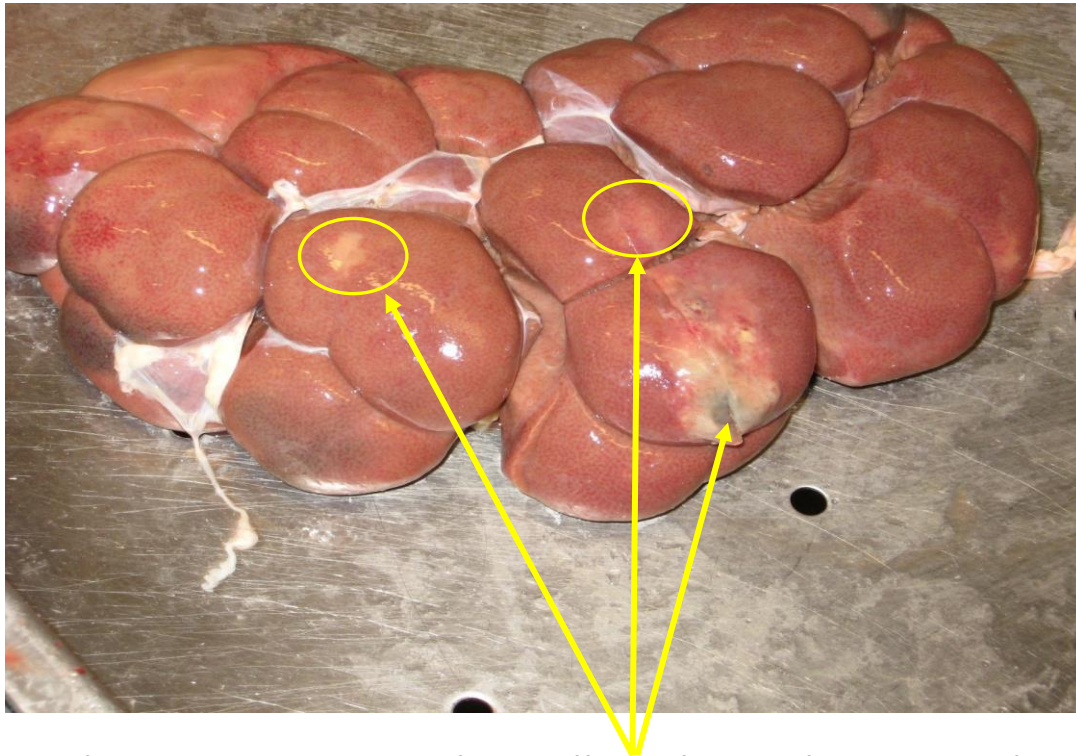
When the urinary tract, bladder, and other organs show signs of involvement, the carcass and parts should be retained for veterinary disposition.

If the nephritic condition is considered localized or chronic, the kidney is removed and condemned, and the carcass passed.

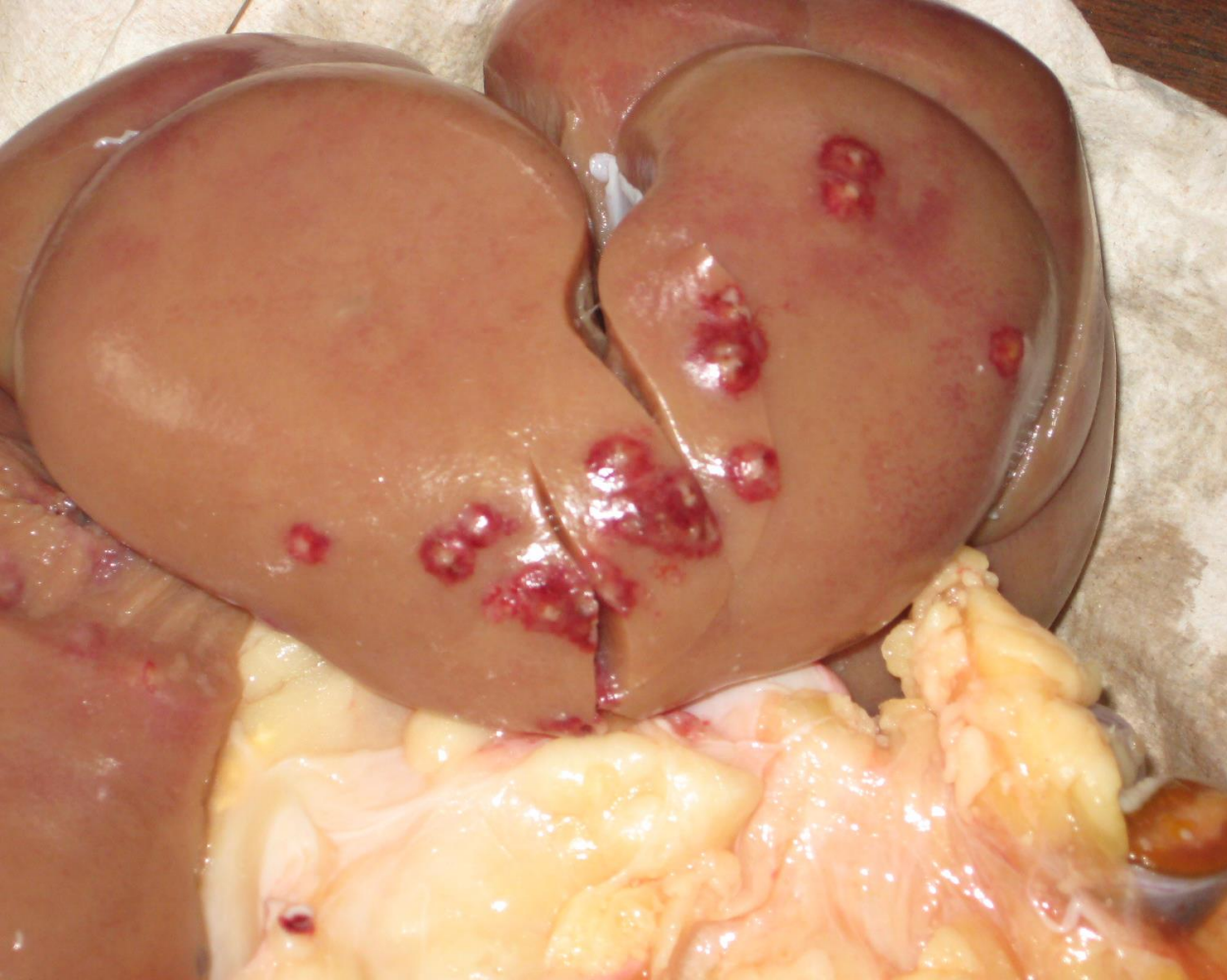
Nephritis (Top left picture is a normal kidney)



Nephritis



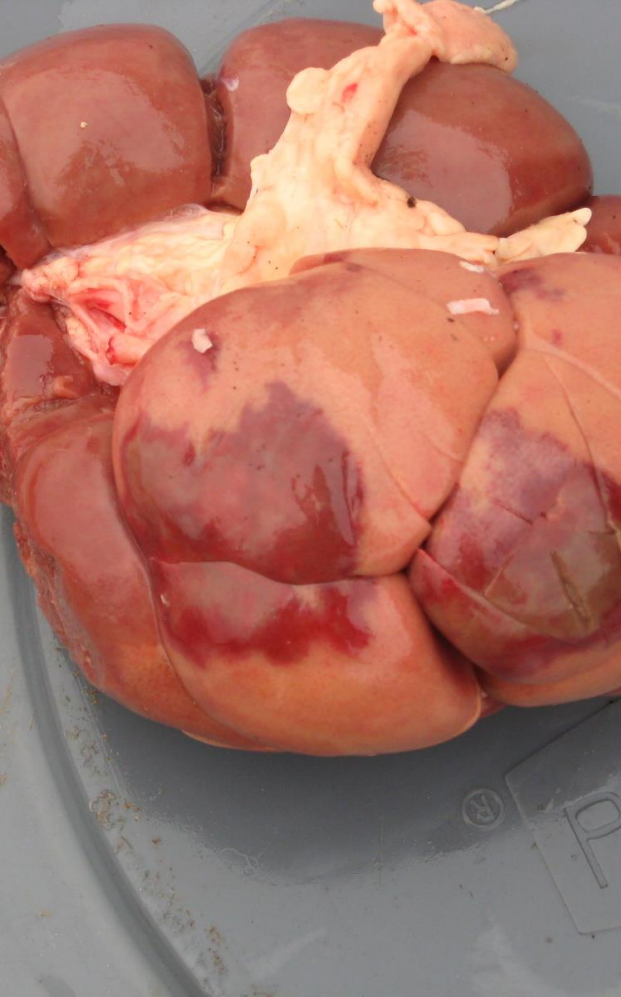
Kidney presenting with small nephrotic lesions and a cyst.



Nephritis with microabscesses

Nephritis





Nephritis with acute infarcts

THE RED SPLOTCHES ON THE SURFACE OF THE KIDNEYS ABOVE NOTATE AN ACUTE INFECTION.

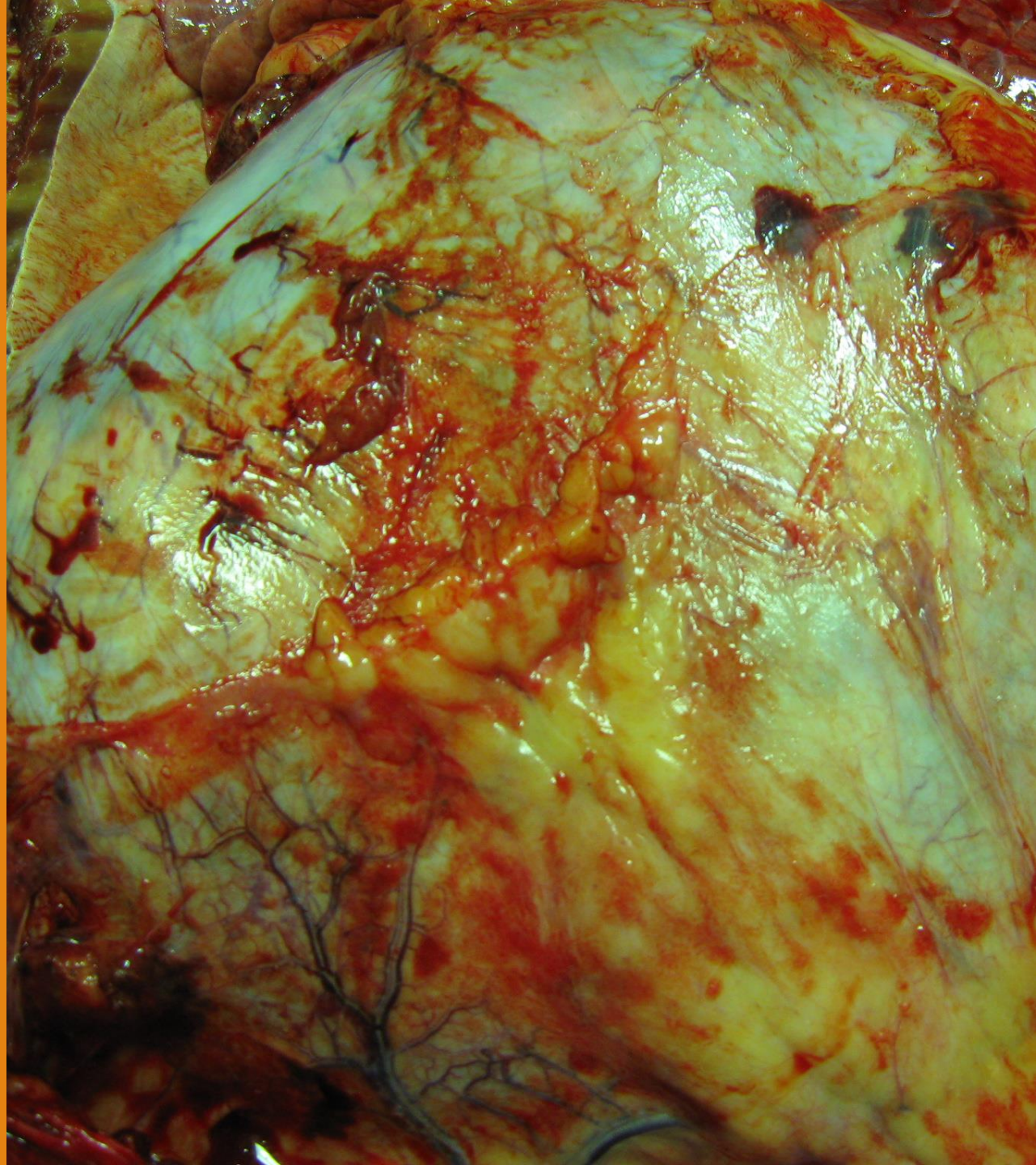
Pericarditis
9 CFR 311.16(a)

Inflammation of the pericardium or heart sac.

If the condition is acute, or there are secondary changes to the carcass and other organs, the carcass and parts must be retained for the veterinarian.

Pericarditis

The heart
encased by the
inflamed
pericardium.



Pericarditis

Pericardial sac
pulled away
from the
myocardium.



Inflammation of the lining of the abdominal cavity.

If acute, extensive, or there are secondary changes, the carcass and parts must be retained for the veterinarian.

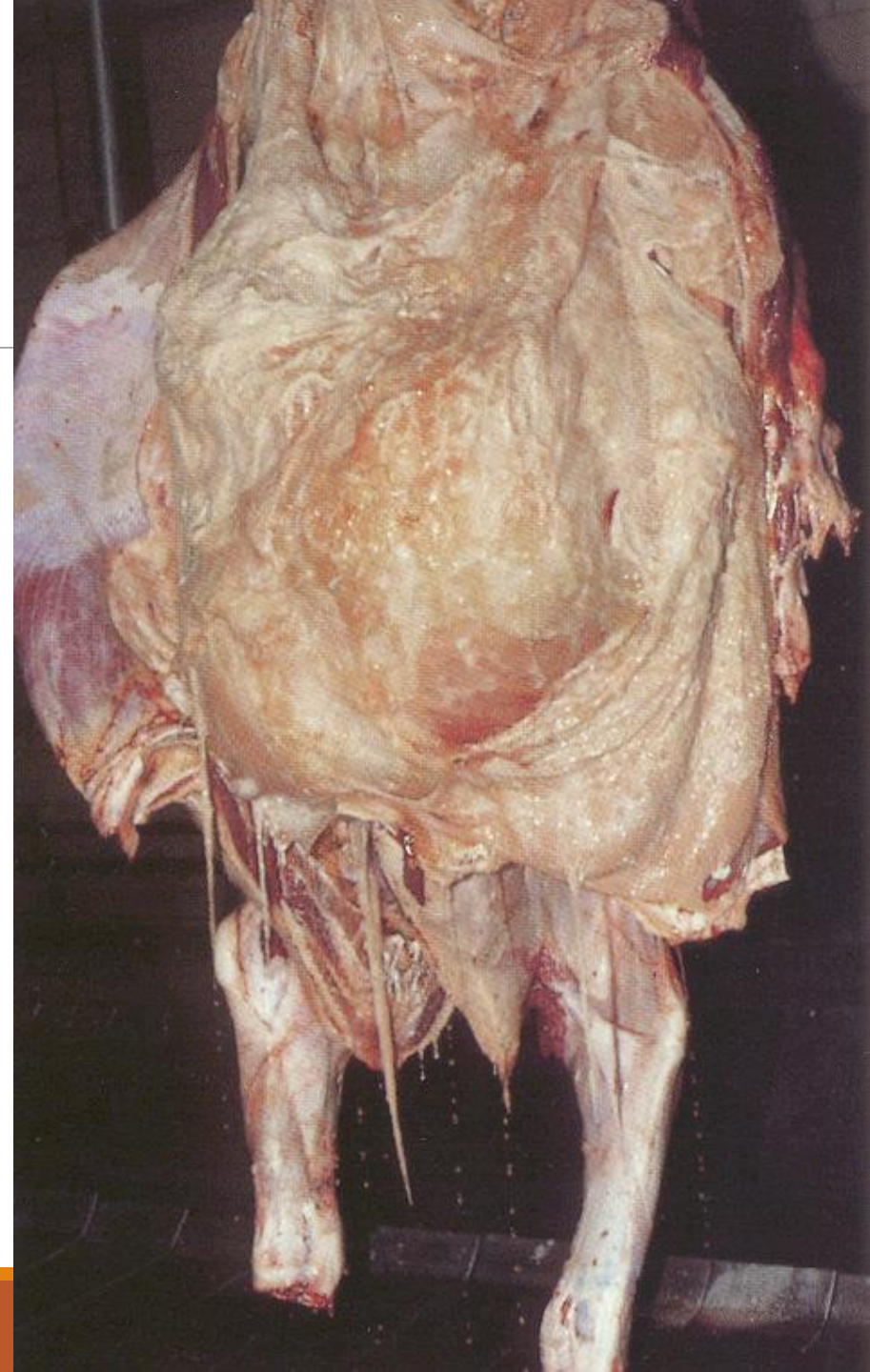
Localized, chronic inflammatory processes with adhesions may be "peeled out" with the remainder of the carcass passed for food

Adhesions represent a chronic situation in which the pleuritis or peritonitis has been resolved by the formation of fibrous connective tissue.

Peritonitis
9 CFR
311.16(a)(1)

Peritonitis

A very chronic, but extensive case. It takes the body a long time to create all the fibrin seen in the photo to the right.





Peritonitis shown as fibrin tags on surface of the liver...



Peritonitis

AS SEEN IN THE CARCASS
WITH NOTICEABLE
REDNESS OF THE
PERITONEAL LINING.

Petichiated Kidney

Small pinpoint blood vessel hemorrhages.

Can be associated with an animal that is septic/has Septicemia.

Retain for veterinary disposition when other pathologies are present.

Condemn kidney(s) affected if no other pathologies are present.



Inflammatory condition affecting the pleural lining.

If the inflammation is not acute and extensive and there is no generalized effect on the carcass, you would have the affected tissues removed and the carcass passed.

If acute, extensive, or other associated pathology is present, the carcass and its parts should be retained for veterinary examination

Adhesions represent a chronic situation in which the pleuritis or peritonitis has been resolved by the formation of fibrous connective tissue.

Pleuritis

9 CFR 311.16



Pleuritis

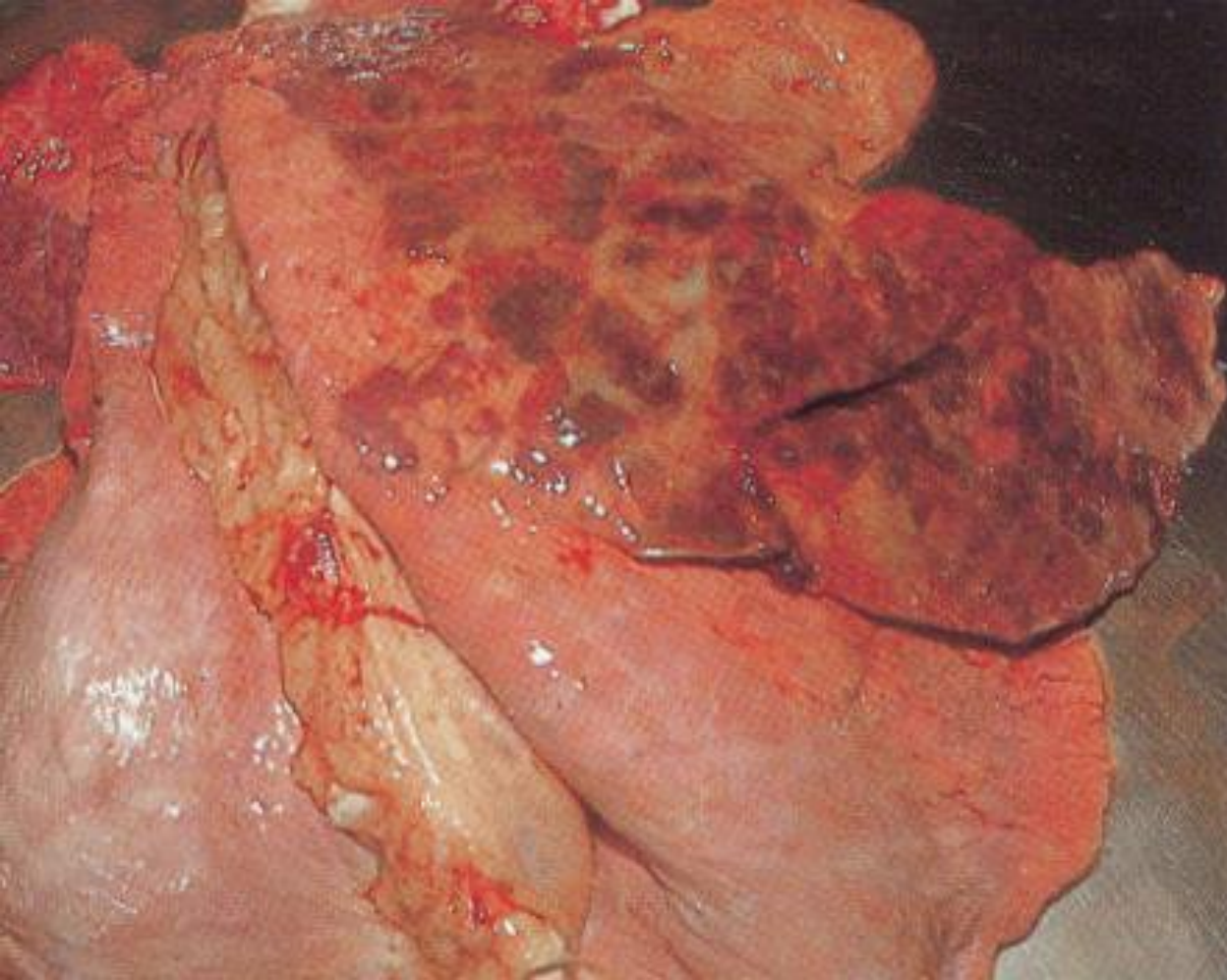
Pneumonia
9 CFR
311.16(a)(1)

Acute pneumonia is characterized by enlarged, edematous (wet) lymph nodes and/or dark red to purple sections or spots in the lung tissue.

You will retain the carcass and all parts upon detecting a generalized condition.

When the condition is strictly localized, the lungs would be condemned, as well as any contaminated organs, and the carcass retained for removal of any adhesions that may be present.

A chronic pneumonia may be characterized by a localized abscess within the lungs, or many times evidence that the lung has become adhered to the pleura (lining of the thoracic cavity), frequently called pleuritis.

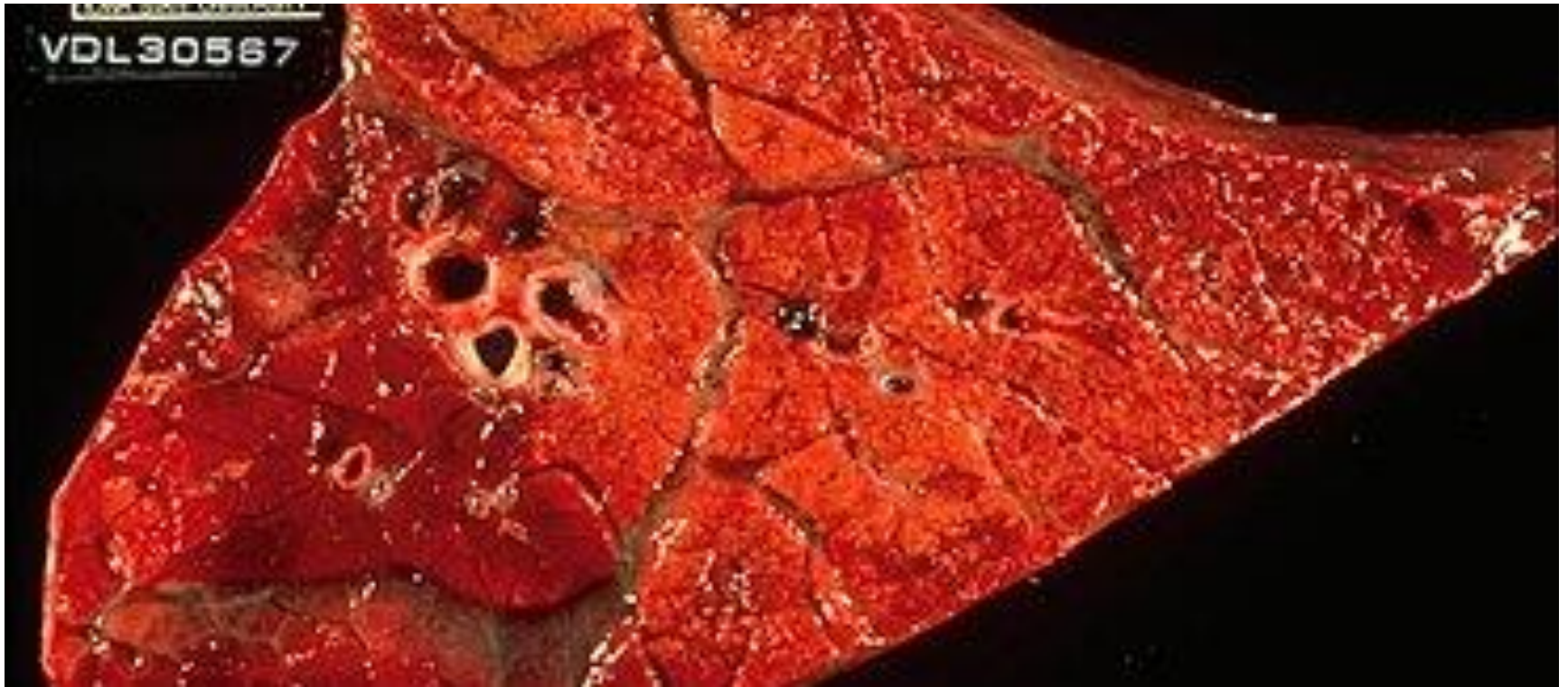


Pneumonia



Stage 1- Acute Pneumonia

NOTICE THE REDNESS AND WETNESS.



Stage 2 – Acute & Chronic Pneumonia

COMBINATION OF PURPLE (CHRONIC) AND RED (ACUTE) COLORATION.



Stage 3 – Chronic Pneumonia

PURPLE COLORATION OF LOBE, PROBABLY VERY FIRM TO THE TOUCH.



Pneumonia

ENLARGED AND HEMORRHAGED LOBE.

Pneumonia

ENLARGED
LEFT LUNG
LOBE.



Pneumonia

GRANULOMAS
SEEN IN THE
INTERIOR OF
THE LOBES.





Pneumonia

LUNGS OOZING PUS; FULL OF INFECTION.

Presentation
of Renal
(Kidney)
Failure seen
by MPID
Inspection
Personnel!

Under 30-month black angus
steer presents for veterinary
postmortem disposition.

Carcass and parts were
condemned due to nephritis
associated with
generalized/systemic disease
processes.

Renal (Kidney) Failure

Kidney was pale
and severely
enlarged
(approximate size
of football).



Renal (Kidney) Failure

Too numerous to count (TNTC) large, grape sized calculi (i.e., kidney stones) within renal pelvis and medulla.



Renal (Kidney) Failure

Bladder mucosa
severely inflamed
and thickened.



Renal (Kidney) Failure

Hemorrhagic
spleen with
attached fibrins.



Renal (Kidney) Failure

Generalized peritonitis
with multiple
adhesions throughout
the abdominal cavity.

Petechial hemorrhage
observed on the
interior abdominal
musculature.



Spotted Livers Sawdust and Telangiectasis (Telgang)

The condition in which a liver has pinkish-white to yellow- gray necrotic (dead) spots that make the liver appear as if sawdust had been sprinkled or scattered through it is called "sawdust."

The area around the spots appears normal and the liver's surface over the spots is usually smooth.

The condition in which a liver has purple-red to bluish-black spots present both on the surface as well as throughout the organ is called telangiectasis and is referred to as "telang." Usually, the surface of the liver is slightly depressed when affected with telang.

Spotted Livers Sawdust and Telangiectasis (Telgang)

To determine the disposition of sawdust and telang conditions, *three* degrees of involvement are used:

1. Slight: Where the lesions are small in size and slight in number. A liver meeting the “slight” criteria is passed for food without restriction.
2. More severe than slight but involves *less* than one-half of the organ: The portion of the liver that is *not* affected or only slightly involved may be passed for food without restriction, while the remainder of the liver is condemned.
3. More severe than slight and involves *more* than one-half of the organ: The entire organ is condemned. (It may be salvaged for animal food).



Sawdust Liver

There are more than a slight number of lesions and it appears the lesions cover more than half the surface of the liver. This liver would be condemned.



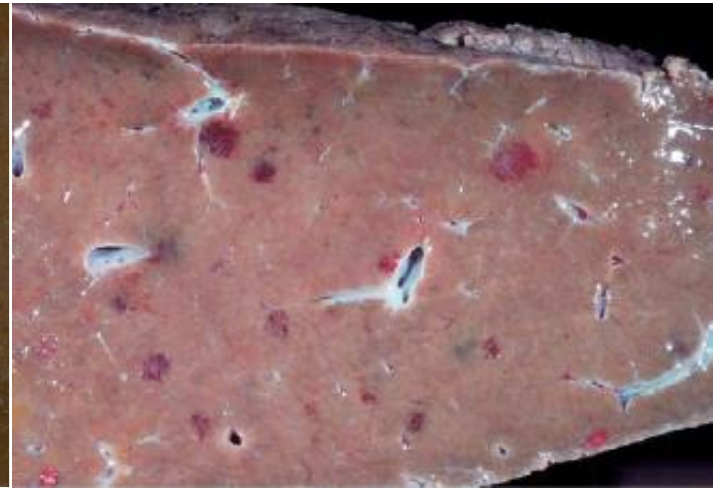
Sawdust Liver

There are more than a slight number of lesions and the lesions cover more than half the surface of the liver. This liver would be condemned.

Telangiectasis (Telang)



Cross-section of a
normal liver.



Cross-section of a liver
affected with telang.
Notice the purple-red
spots throughout.



Telangiectasis (Telang)

Note the multiple petechiae (small blue spots) covering the liver above. There are more than a slight number of lesions and the lesions cover more than half the surface of the liver. This liver would be condemned.

Steatosis

9 CFR 311.35

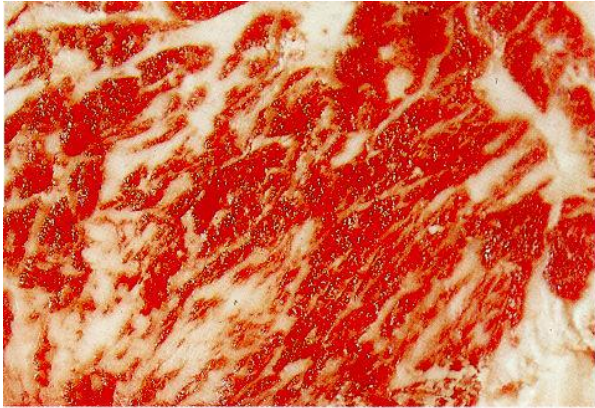
This muscular condition principally affects cattle in feedlots and is characterized by a replacement of the muscle fibers by fat tissue.

There is no inflammation involved.

It usually occurs in the heavier muscles of the back and shoulders.

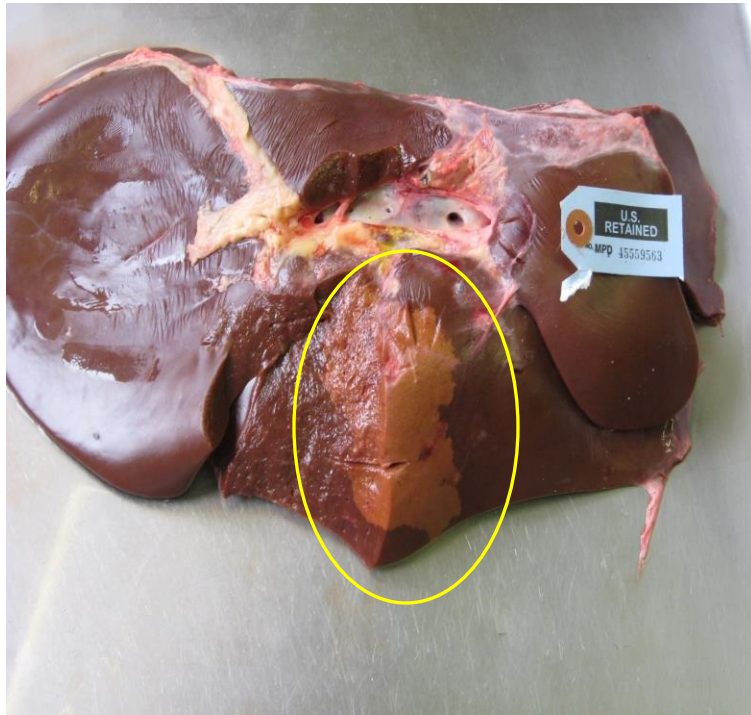
The condition does not affect the carcass in any other way, so after removal of the affected area, the carcass is passed for food.

Steatosis



Muscular steatosis in ribeyes.

Tension Lipidosis



Fatty infiltration and commonly seen near mesenteric and gall bladder attachments.

Sometimes, seen in pregnant females.

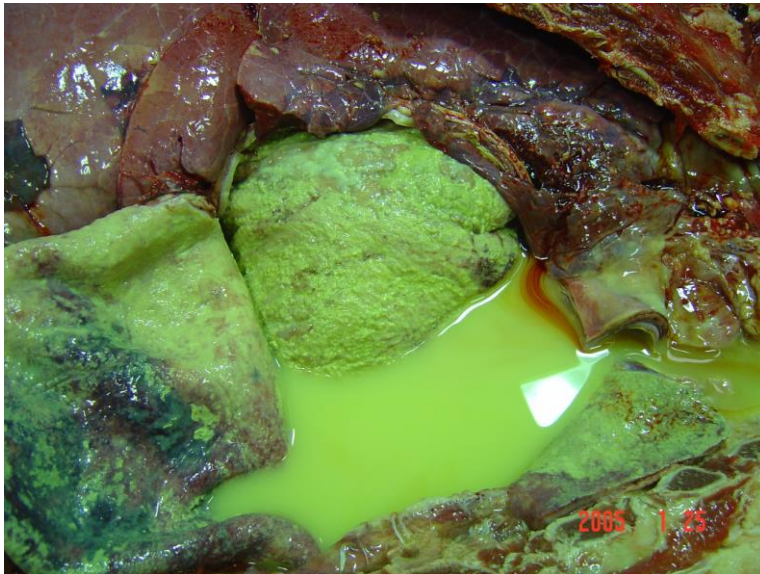
Liver may be passed for food.

Traumatic Reticulitis (Hardware Disease)

Caused by the migration of ingested metallic objects through the reticulum, diaphragm and can eventually reach the heart.

Often the liver, diaphragm and lung lobes are adhered together.

Severe case of Traumatic Reticulitis



Piece of metal found and that caused the Traumatic Reticulitis as seen in the photo on the left.

Tuberculosis

9 CFR 311.2

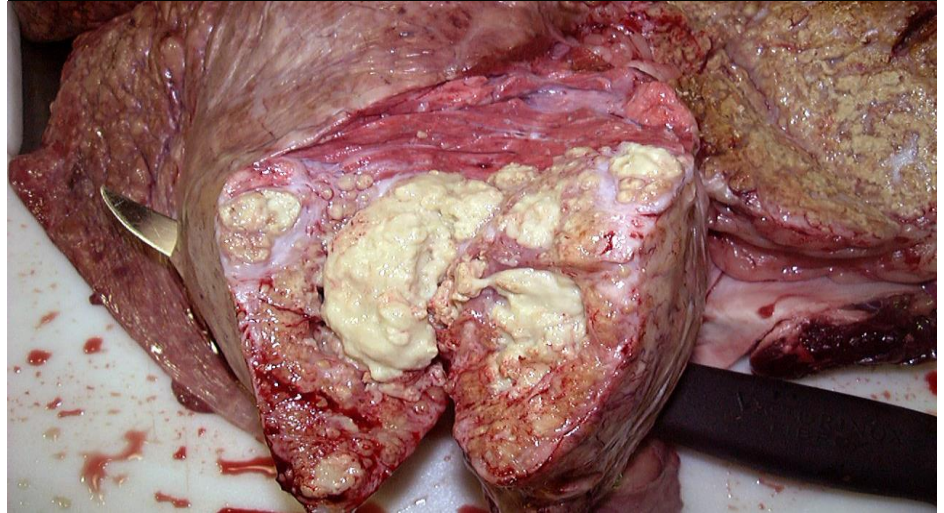
One of the primary reasons you incise lymph nodes is to detect TB. Evidence can be found during head and viscera inspection (when slicing the lungs' LNs).

The affected lymph node involvement will vary from slightly involved to totally involved.

When incised, the node affected usually exhibits a yellowish semi-liquid to caseous (cheese-like) mass of tissue interspersed with some normal tissue, greyish in color, and often showing signs of inflammation.

When you detect what you suspect is TB, you must retain the carcass and parts for veterinary disposition.

Tuberculosis – As seen in lymph nodes and lungs...





Urine
Leakage due
to a broken
penis





Torticollis (Wry Neck)

Can be genetically dispositioned, vitamin deficiency or associated with a CNS disorder.

Always Suspect at Antemortem.

Xanthosis

9 CFR 311.13

Brown atrophy of the musculature.

This brownish discoloration of the skeletal and heart muscles is the result of excessive quantities of waste pigment being deposited in the muscles.

Usually found in older cattle and those cattle suffering from chronic wasting disease.

The masseter (cheek) muscle, tongue, and heart are most often affected.

When there is extensive discoloration of the musculature of the carcass, it is unfit for food. Retain the carcass and parts for veterinary disposition.

When the condition is slight and localized, the carcass is passed for food after the localized condition has been removed by trimming. If you have any doubt about how extensive the condition is, you should retain the carcass and parts for veterinary disposition.



Xanthosis
9 CFR 311.13

Other
interesting
things you
could see at
antemortem...



Congenital cleft lip and oronasal
fistula

Hoof Malformation - double hoof on one leg



Muffin Top in an Obese Cow





Onset of Parturition

9 CFR 309.10 - Any livestock showing signs of the onset of parturition shall be withheld from slaughter until after parturition and passage of the placenta. Slaughter or other disposition may then be permitted if the animal is otherwise acceptable.



Papillomatosis (Warts)

Presentation
of Sarcoma as
seen by
NCDA MPID
personnel!

30+ month old Steer

Antemortem: Football-sized mass about 1" from the left eye. No CNS signs, good body condition, alert and responsive.

Postmortem: Mass was light yellow in color and firm. There was slight deterioration of osseous structure in the head around the mass. This area did not show signs of infection. No other significant findings in the carcass or viscera.



Sarcoma as seen at
Antemortem...

IPP suspected this animal.

Unusual Growths

Pathology is undetermined, but based on looks could be a tumor or deformed horn tissue.

If seen at antemortem this should be suspected.

