

Safety Manual for Harvesters of Fish & Wildlife in Nunavut



AN ILLUSTRATIVE GUIDE TO COMMON DISEASES AND PARASITES

These information pages were prepared by the Canadian Cooperative Wildlife Health Centre in association with the Government of Nunavut. They are intended to provide useful information for the residents of Canada's arctic regions who make use of wild animals for food or other purposes. The information pages have been made available in electronic format to facilitate flexible use and distribution at low cost.

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Slide Orientation: Persons making use of the material in Power Point format will find the current format displays each page or slide in "portrait" orientation. If the more usual "landscape" orientation is required, the orientation of the slides can be changed by selecting "Design", the "slide orientation" and then choosing "landscape" instead of the default "portrait" setting.

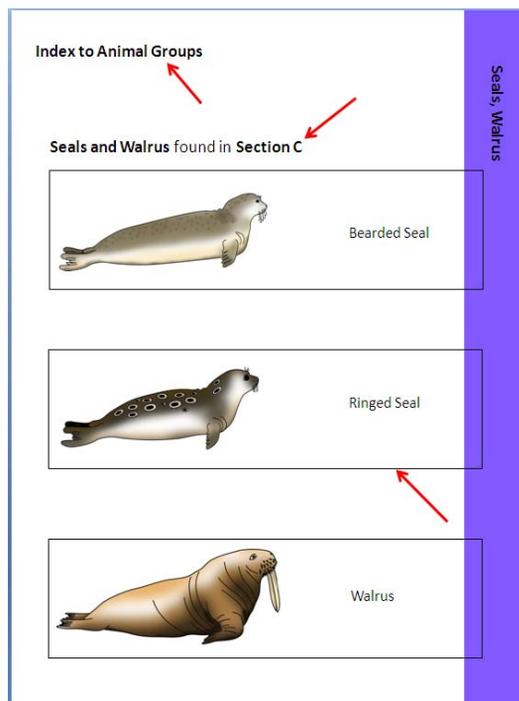
Quick Guide

Steps to Using this Guide:

1. Choose an animal from the “Index to Animal Groups”.
2. Go to the corresponding section and then choose the
 - a) species of animal
 - b) the sickness (by name or photo identification)
 - c) the body part you are interested in.
3. Follow the directions to the correct section in the book to read the fact sheet (A-1.1, A-1.2, etc.).
4. Each fact sheet has symbols to inform you of food safety. For a quick reference for the meaning of the symbols, see page 5.
4. If you would like to learn more, there is additional information in this book. Follow the directions at the bottom of the last page of each fact sheet.

Example: Find - hair loss in ringed seal

1.



2.

Section C

Bearded Seal
Section C-1

Ringed Seal
Section C-2

Walrus
Section C-3

Seals, Walrus

OR

Section C

Diseases and Parasites of Seals and Walrus

Conjunctivitis

Head

Skin

Hair loss

Photo Credit: Dr. J. Geraci

Unreared seal	Section U 1.1
Ringed seal	Section U 2.1
Walrus	Section U 2.2

Photo Credit: Dr. J. Geraci

Unreared seal	Section U 1.2
Ringed seal	Section U 2.2

Seals, Walrus

Fact sheet

3.

C-2.2

Hair Loss

Ringed Seal

- Where on the body ?
 - Hair loss can occur anywhere on the body.
- What is it ?
 - Patchy hair loss in older animals may be caused by bacterial or fungal infections of the skin.
 - Hair loss can occur in animals who fail to properly shed their old hair coat.
 - Rarely, newborn pups will be born with no hair. This is most likely a genetic problem.

Photo Credit: Dr. P.Y. Daoust

Photo Credit: Dr. J. Geraci

- Patchy hair loss from a fungal skin infection.
- Hairless seal pup born dead.

Seals, Walrus

Hair Loss

- Is it safe to skin the seal ?

CAUTION

Wear gloves or plastic bags over hands if seal looks unusually sick.
Wash tools, hands and outer clothing in hot soapy water.
- Is it safe to eat the seal ?

CAUTION

The seal is likely OK to eat, but it is advised to cook the meat first if you are concerned about safety.
Avoid eating sick or weak animals.
- Is it safe to feed to dogs ?

The seal is likely OK to feed to dogs but avoid feeding dogs seals looking sick or weak.

For more information go to H-C.2

Seals, Walrus

4.

5.

Symbols



Safe to touch and/or eat



Safe to feed to dogs



Caution: some restrictions exist. Touching and/or eating the animal may have some risk to human health. Precautions will be listed beside the symbol.



Caution: It is not recommended to be eaten or fed to dogs without first cooking well



Caution: some restrictions for dogs exist. Precautions will be listed beside the symbol.



Warning: possibly harmful when touched and/or eaten. Precautions will be listed beside the symbol.



Warning: possibly harmful to dogs when touched and/or eaten. Precautions will be listed beside the symbol.

Identifying Disease Conditions in Animals

If abnormalities are found that do not match diseases and conditions shown on these information pages, the abnormal parts can be sent to a disease testing laboratory.

For information about sending material to a testing laboratory, contact the office of the regional wildlife biologist in your area.

It is also possible to contact the Canadian Cooperative Wildlife Health Centre directly for information or assistance by calling:

for Nunavut 1-886-673-4781;

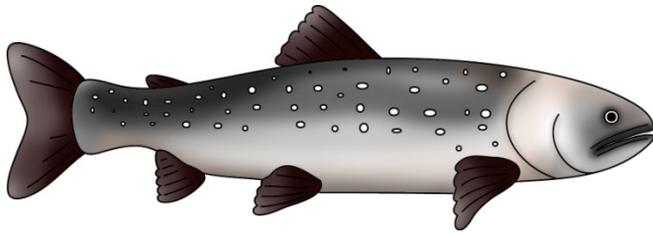
for Quebec/Nunavik 1-877-644-4545;

for Labrador 1-902-628-4314;

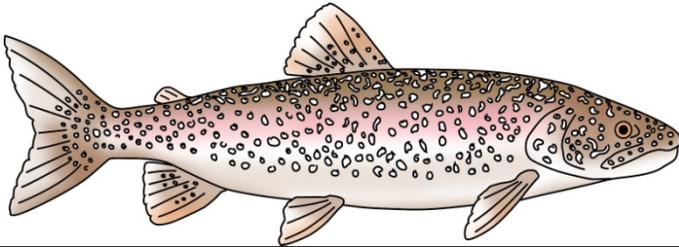
for the Northwest Territories and Yukon
1-800-567-2033.

Index to Animal Groups

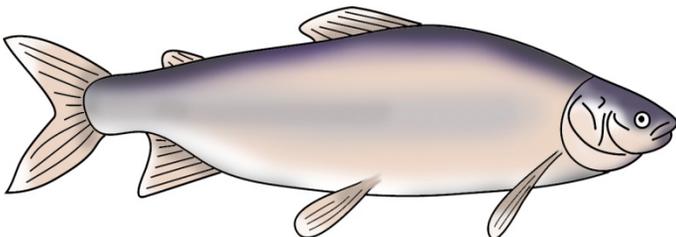
Fish found in Section A



Arctic Charr



Lake Trout



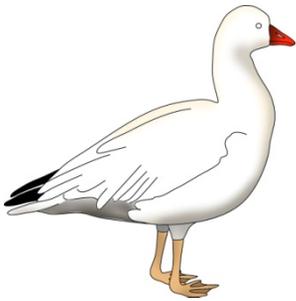
Whitefish

Index to Animal Groups

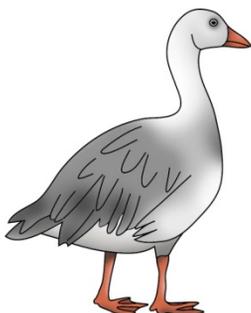
Birds found in Section B



Common Eider



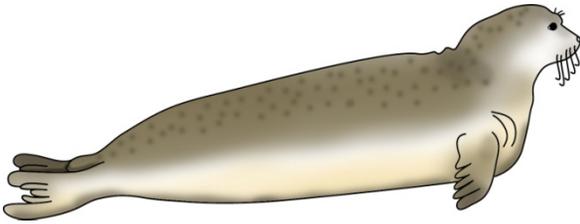
Ross's Goose



Lesser Snow Goose

Index to Animal Groups

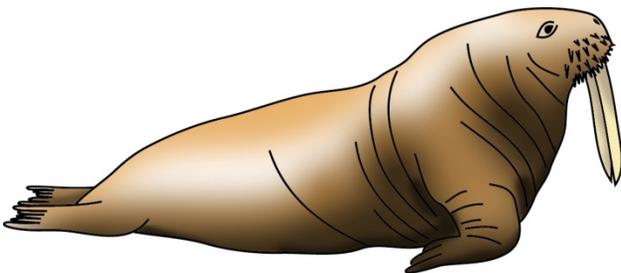
Seals and Walrus found in Section C



Bearded Seal



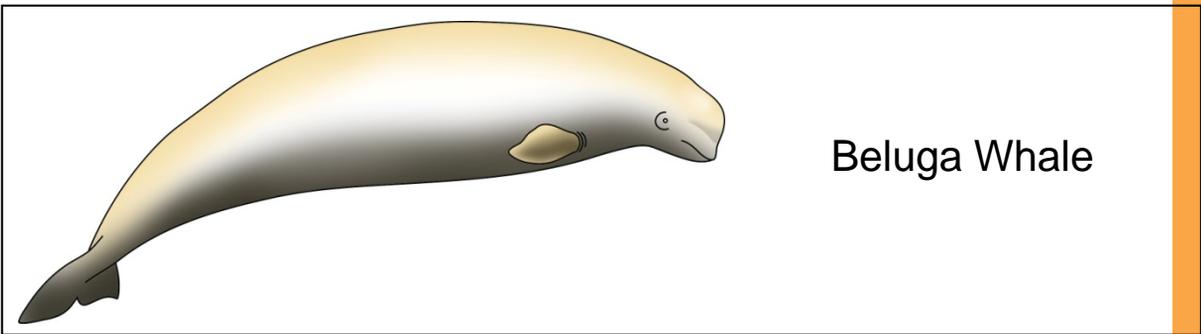
Ringed Seal



Walrus

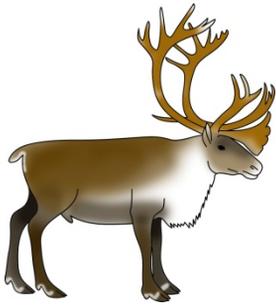
Index to Animal Groups

Beluga Whale found in **Section D**



Index to Animal Groups

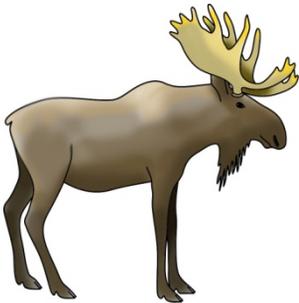
Hoofed animals found in Section E



Caribou



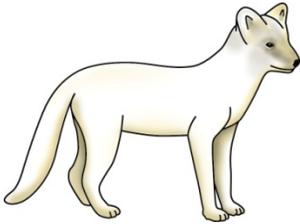
Muskox



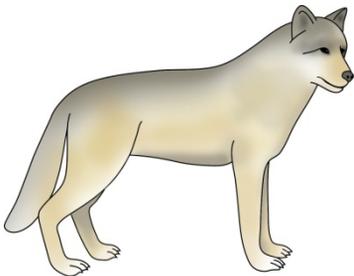
Moose

Index to Animal Groups

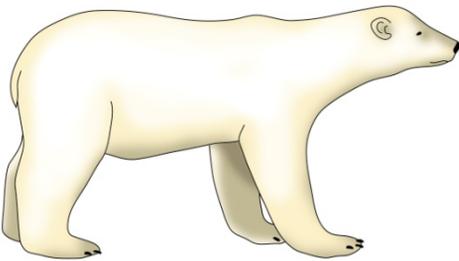
Meat eaters found in Section F



Arctic Fox



Arctic Wolf



Polar Bear

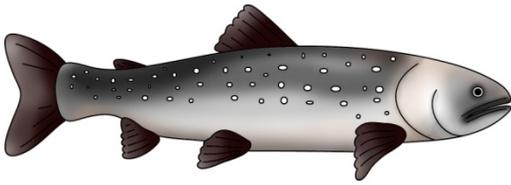
Index to Animal Groups

General conditions found in **section G**

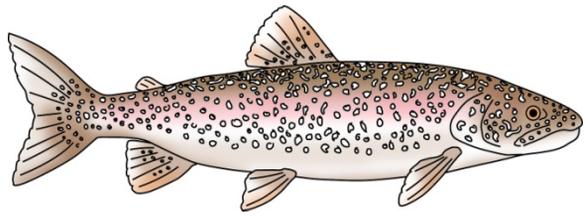
Conditions commonly found in
a wide variety of wildlife

General Conditions
(many different animals)

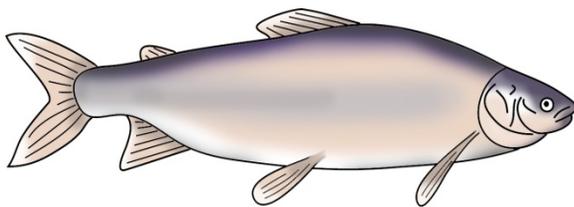
Section A



Arctic Charr
Section A-1



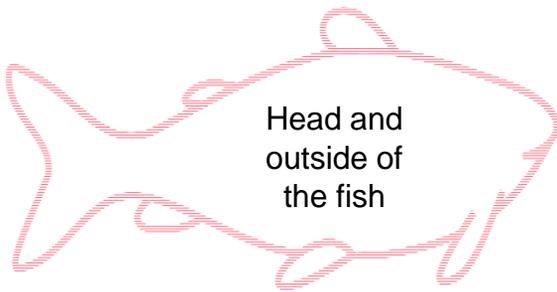
Lake Trout
Section A-2



Whitefish
Section A-3

Section A

Diseases and Parasites of Fish



Cuts, scrapes and scars



Photo Credit: J.D. Reist Photo Credit: D.K. McGowan

Arctic charr	Section A-1.2
Lake trout	Section A-2.2
Whitefish	Section A-3.2

Parasitic copepods



Photo credit:
Manon Simard;
Makivik Corporation

Arctic charr	Section A-1.2
Lake trout	Section A-2.2
Whitefish	Section A-3.2

Fungus in fish (Internal fungal infection)

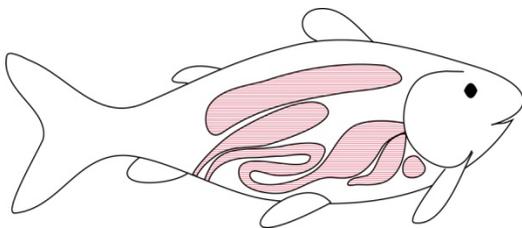


Photo Credit: DFO

Arctic charr	Section A-1.3
Lake trout	Section A-2.3
Whitefish	Section A-3.3

Section A

Diseases and Parasites of Fish



Organs, body cavity

Roundworms

<p>Photo Credit: D.B. Stewart</p>	<p>Photo Credit; Manon Simard; Makivik corporation</p>
Arctic charr	Section A-1.4
Lake trout	Section A-2.4
Whitefish	Section A-3.4

Adult tapeworms

<p>Photo Credit: D.B. Stewart</p>	Arctic charr	Section A-1.5
	Lake trout	Section A-2.5
	Whitefish	Section A-3.5

Tapeworm cysts

<p>Photo Credits: D.B. Stewart</p>	
Lake trout	Section A-2.6
Whitefish	Section A-3.6

Section A

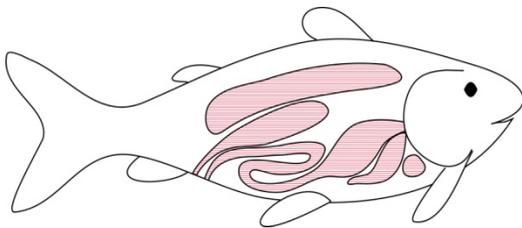
Diseases and Parasites of Fish

Thorny-headed worms



Photo Credit: L.M.J. Bernier

Arctic charr	Section A-1.7
Lake trout	Section A-2.7
Whitefish	Section A-3.7



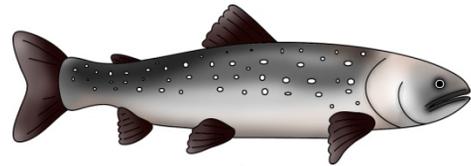
Organs, body cavity

Fungus in fish (Internal fungal infection)



Photo Credit: DFO

Arctic charr	Section A-1.3
Lake trout	Section A-2.3
Whitefish	Section A-3.3



Arctic Charr

Cuts, Scrapes and Scars



1. Where are they found ?

- Cuts, scrapes and scars can occur anywhere on the body.

2. What are they ?

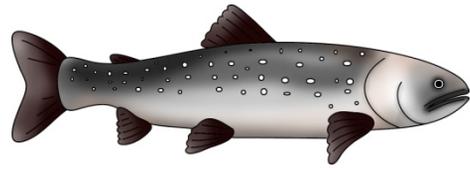
- Cuts, scrapes and scars can be caused by many different things such as gill nets or low water levels in spawning areas.

Photo Credit: J.D. Reist



Photo Credit: D.K. McGowan





Cuts, Scrapes and Scars

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

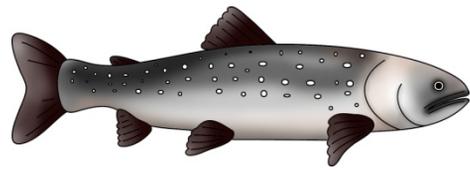
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-A.1

Copepods



Arctic Charr



1. Where are they found ?



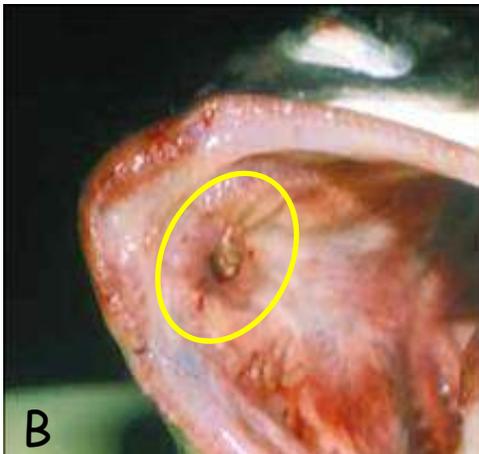
A

Photo Credit: D.B. Stewart

- Copepods are found attached to the gills (Photo A), to skin on the inside of the mouth (Photo B and C) or to the fins.

2. What are they ?

- Copepods are small water-living animals that live on fish.
- Adult copepods attach themselves permanently to the fish.



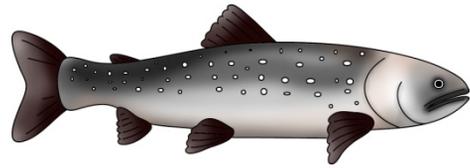
B

Photo Credit: L.M.J. Bernier



C

Photo Credit: Manon Simard; Makivik Corporation



Copepods

3. Is it safe to clean the fish ?

SAFE

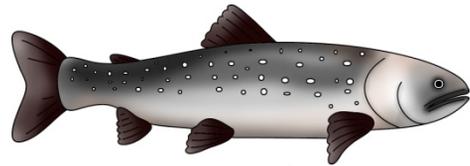
4. Is it safe to eat the fish ?

SAFE

5. Is it safe to feed to dogs ?

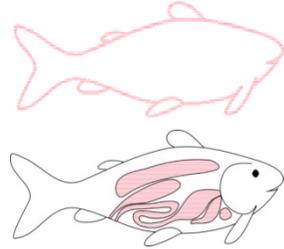


For more information go to H-A.2



Arctic Charr

Fungus in fish (Internal fungal infection)



1. Where is it found ?

- Fungus may be taken into the fish as it fills its swim bladder with air.
- In rare cases, the fungus may grow, spread and infect many areas in the body.

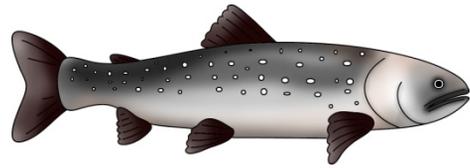
Photo Credit: DFO

- This photo shows patches of fungus (like bread mould) found inside fish.



2. What is it ?

- This is a fungus that is normally found on plants but can get into fish.



Fungus in fish (Internal fungal infection)

3. Is it safe to clean the fish ?



SAFE

4. Is it safe to eat the fish ?



WARNING

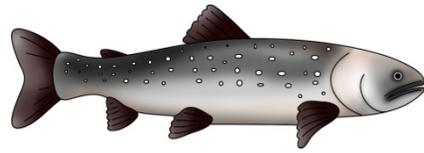
It is not recommended to eat fish that looks unusually sick and has fungus on the inside.

5. Is it safe to feed to dogs ?

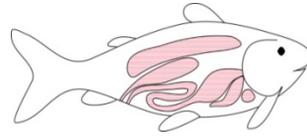


It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-A.3



Arctic Charr



Roundworms

1. Where are they found ?

- Roundworms can be found on any organ of the body and also in the flesh.

Photo Credit: D.B. Stewart

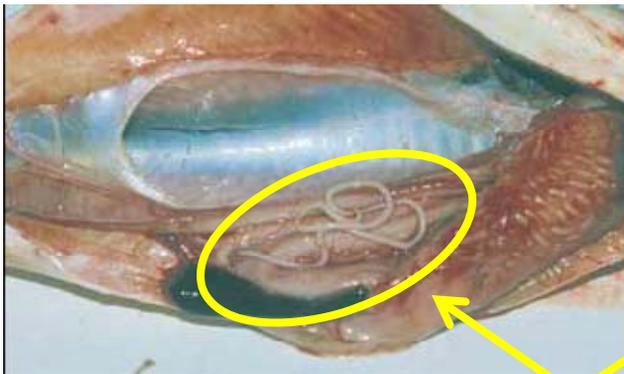


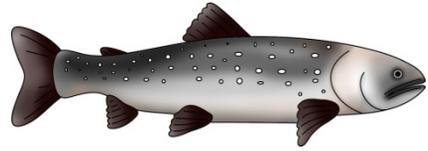
Photo Credit: Manon Simard;
Makivik Corporation



Roundworms in the body cavity.

2. What are they ?

- Roundworms are parasitic worms.
- Adults can be quite large (up to 20 cm in length).
- Immature roundworms are found coiled.
- Roundworms are cream, brown or red in colour.



Roundworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

CAUTION

Human health risks are uncertain.

Please read “Human health concerns” in section H-A.4

5. Is it safe to feed to dogs ?

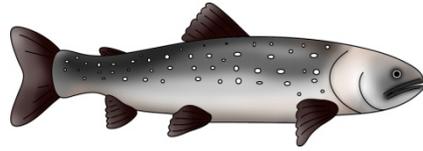


Please read “Safety of the meat for dogs” in section H-A.4

For more information go to H-A.4

A-1.5

Adult Tapeworms



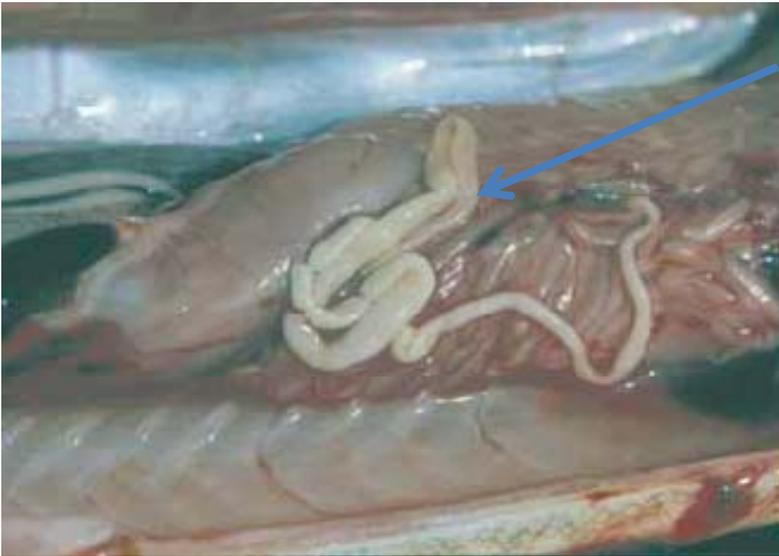
Arctic Charr



1. Where are they found ?

- Adult tapeworms are found in the intestine of fish.

Photo Credit: D.B. Stewart

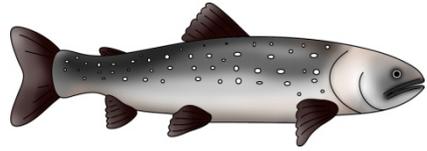


- This photo shows an adult tapeworm from the intestine of a fish.

- Some worms can grow as long as 40 cm.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- They are fairly common.



Adult Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

SAFE

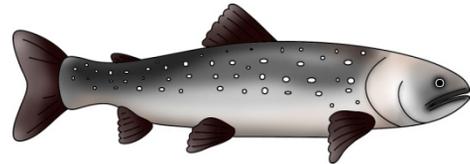
5. Is it safe to feed to dogs ?



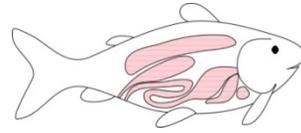
For more information go to H-A.5

A-1.6

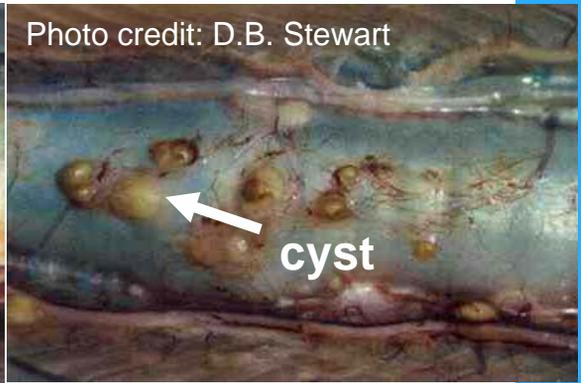
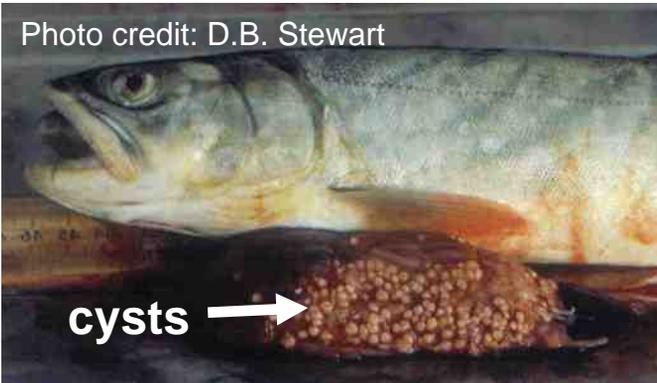
Immature Tapeworms



Arctic Charr



1. Where are they found ?



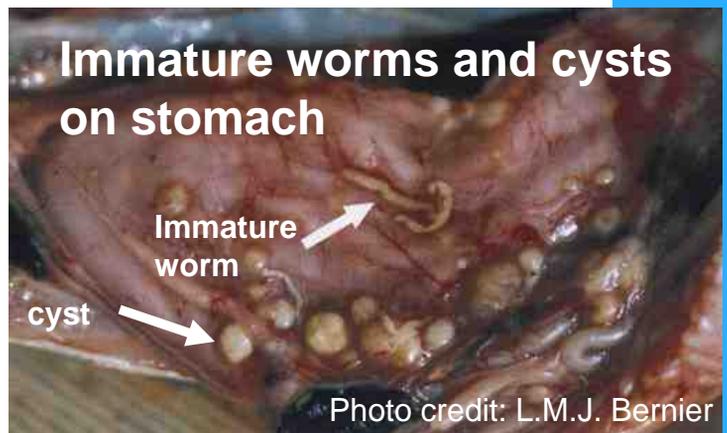
- Within the gut cavity and on the surface of organs.

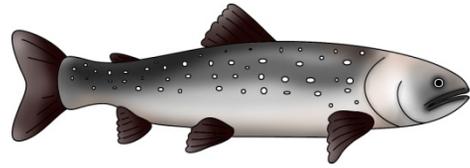
- Attached to the swim bladder.

- Immature tapeworms can live within a sac (cyst) or they may live free (not within a cyst) in the fish.

2. What are they ?

- Immature tapeworms are young worms that mature into adult worms within animals, such as seals (see seal tapeworms in sections C-1.6 and C-2.6), which feed on fish containing these immature worms.





Immature Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

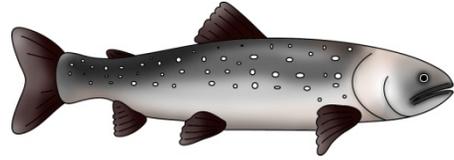
It is recommended to cook* the fish well before eating it.

5. Is it safe to feed to dogs ?

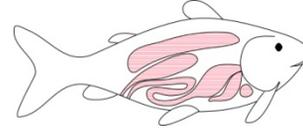
It is recommended to cook* the fish well before feeding to dogs.

- Cooking, as well as freezing, will kill most worms.

For more information go to H-A.5



Arctic Charr



Thorny-headed Worms

1. Where are they found ?

- Thorny-headed worms appear most often in the intestine of the fish, but can sometimes occur in the stomach.

Photo Credit: L.M.J. Bernier

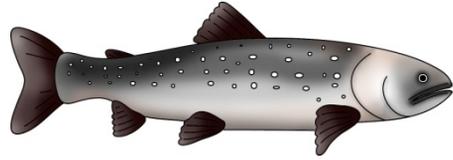
- This photo shows adult thorny-headed worms attached to the intestine of a fish.



- Sores may occur at the point of attachment.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- Worms can grow to be 1 to 3 cm in length.
- They are fairly common.



Thorny-headed Worms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

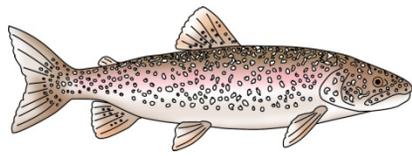
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-A.6

A-2.1



Lake Trout



Cuts, Scrapes and Scars

1. Where are they found ?

- Cuts, scrapes and scars can occur anywhere on the body.

2. What are they ?

- Cuts, scrapes and scars can be caused by many different things such as gill nets and low water levels in spawning areas.

Photo Credit: J.D. Reist

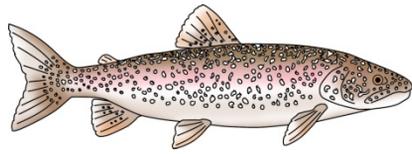


Gill net damage

Photo Credit: D.K. McGowan



A healed scar



Cuts, Scrapes and Scars

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

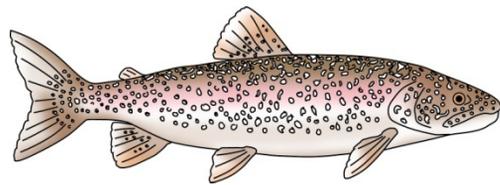
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-A.1

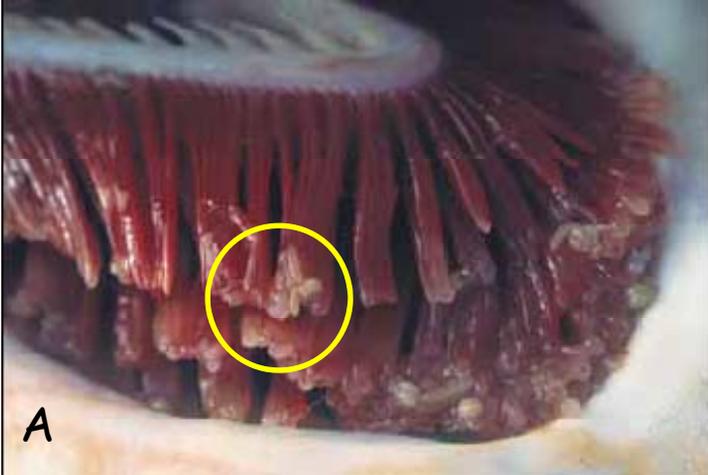
Copepods



Lake Trout



1. Where are they found ?



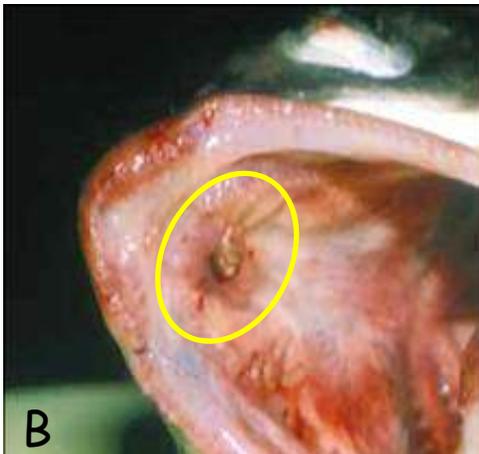
A

Photo Credit: D.B. Stewart

- Copepods are found attached to the gills (Photo A), to skin on the inside of the mouth (Photo B and C) or to the fins.

2. What are they ?

- Copepods are small water-living animals that live on fish.
- Adult copepods attach themselves permanently to the fish.



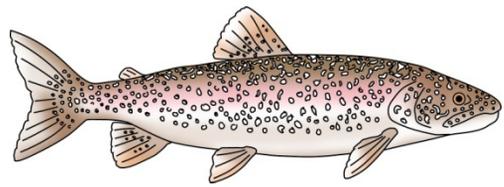
B

Photo Credit: L.M.J. Bernier



C

Photo Credit: Manon Simard; Makivik Corporation



Copepods

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

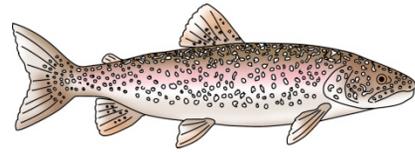
SAFE

5. Is it safe to feed to dogs ?

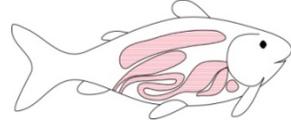
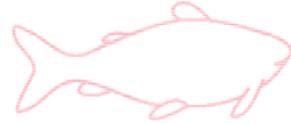


For more information go to H-A.2

Fungus in fish (Internal Fungal Infection)



Lake Trout



1. Where is it found ?

- Fungus may be taken into the fish as it fills its swim bladder with air.
- In rare cases, the fungus may grow, spread and infect many areas in the body.

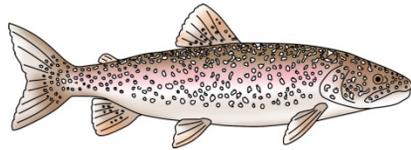
Photo Credit: DFO

- This photo shows patches of fungus (like bread mould) found inside a fish.



2. What is it ?

- This is a fungus that is normally found on plants but can get into fish.



Fungus in fish (Internal Fungal Infection)

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

WARNING

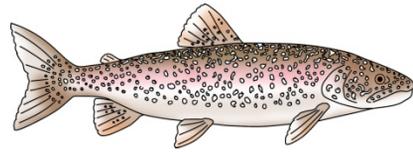
It is not recommended to eat fish that looks unusually sick and has fungus on the inside.

5. Is it safe to feed to dogs ?

It is not recommended to feed dogs anything that is not safe for humans to eat.

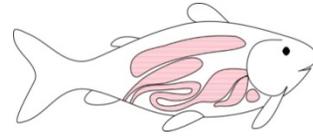


For more information go to H-A.3



Lake Trout

Roundworms

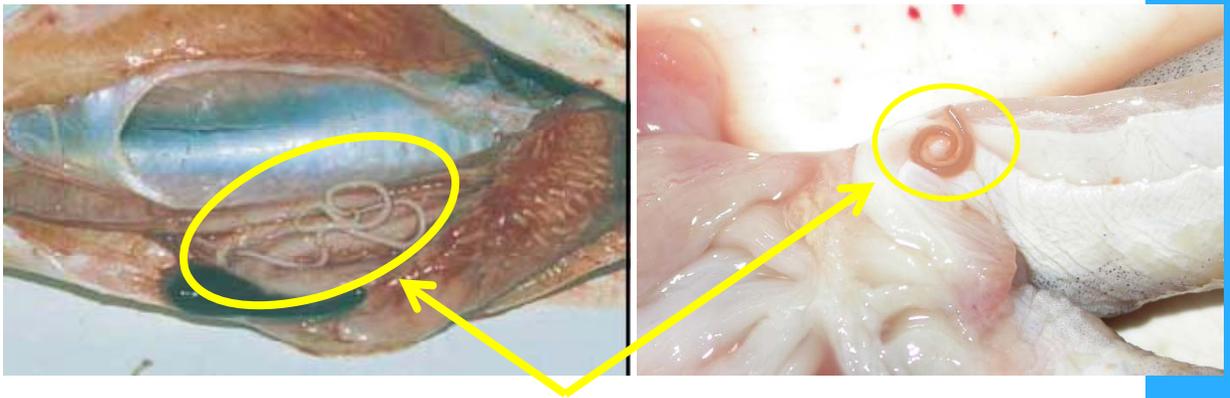


1. Where are they found ?

- Roundworms can be found on any organ in the body cavity and also in the flesh.

Photo Credit: D.B. Stewart

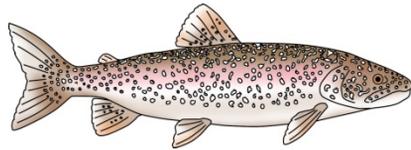
Photo Credit: Manon Simard;
Makivik Corporation



Roundworms in the body cavity.

2. What are they ?

- Roundworms are parasitic worms.
- Adults can be quite large (up to 20 cm in length).
- Immature roundworms are found coiled.
- Roundworms may be cream, brown or red in colour.



Roundworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

CAUTION

Human health risks are uncertain.

Please read “Human health concerns” in section H-A.4

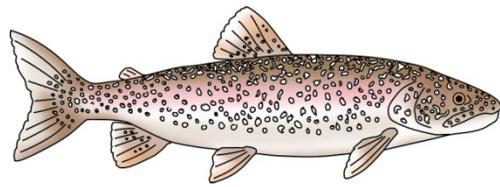
5. Is it safe to feed to dogs ?

Please read “Safety of the meat for dogs” in section H-A.4



For more information go to H-A.4

Adult Tapeworms



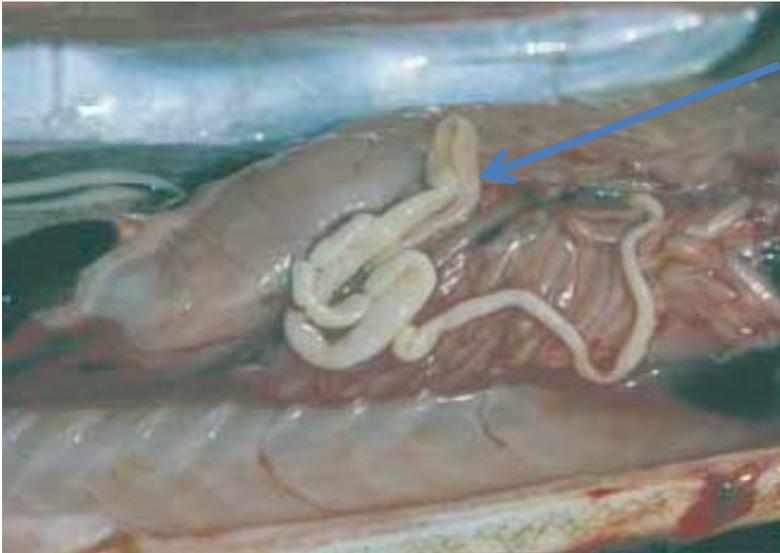
Lake Trout



1. Where are they found ?

- Adult tapeworms are found in the intestine of fish.

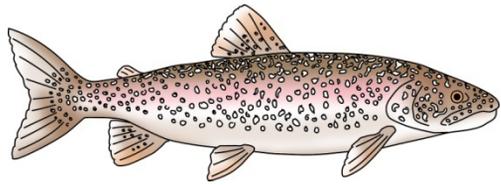
Photo Credit: D.B. Stewart



- This photo shows an adult tapeworm from the intestine of a lake trout.
- Some worms can grow as long as 40 cm.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- They are fairly common.



Adult Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

SAFE

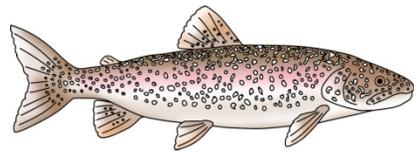
5. Is it safe to feed to dogs ?



For more information go to H-A.5

A-2.6

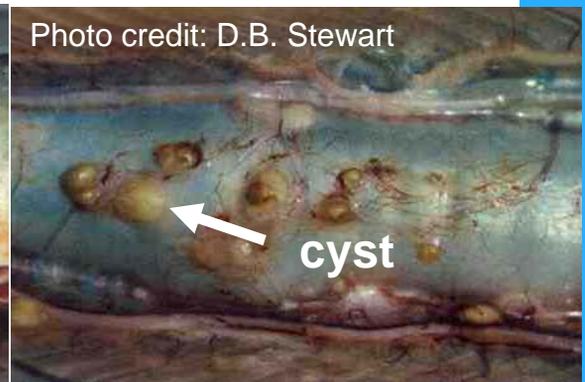
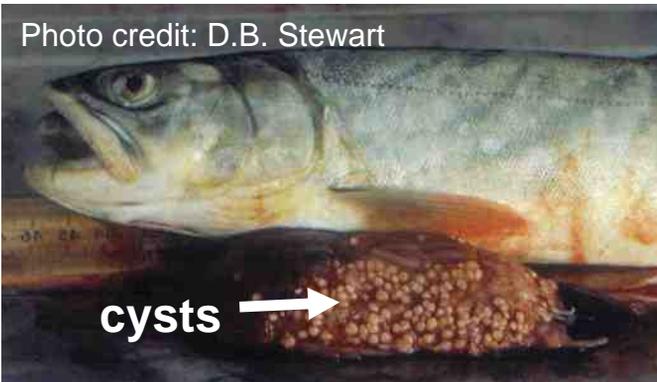
Immature Tapeworms



Lake Trout



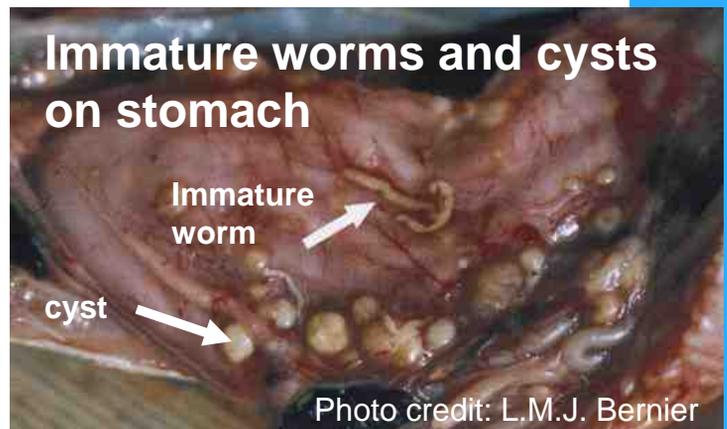
1. Where are they found ?

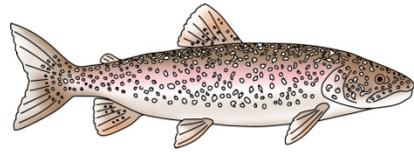


- Within the gut cavity and on the surface of organs.
- Attached to the swim bladder.
- Immature tapeworms can live within a sac (cyst) or they may live free (not within a cyst) in the fish.

2. What are they ?

• Immature tapeworms are young worms that mature into adult worms within animals, such as seals (see seal tapeworms in sections C-1.6 and C-2.6), which feed on fish containing these immature worms.





Immature Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

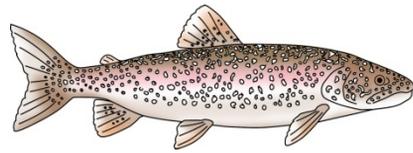
It is recommended to cook*
the fish well before eating it.

5. Is it safe to feed to dogs ?

It is recommended to cook*
the fish well before feeding it
to dogs.

* Cooking, as well as freezing,
will kill most worms.

For more information go to H-A.5



Lake Trout



Thorny-headed Worms

1. Where are they found ?

- Thorny-headed worms appear most often in the intestine of the fish, but can sometimes occur in the stomach.

Photo Credit: L.M.J. Bernier

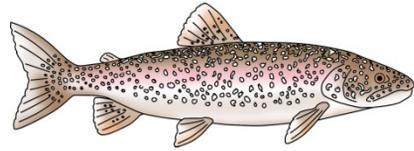
- This photo shows adult thorny-headed worms attached to the intestine of a lake trout.



- Sores may occur at the point of attachment.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- Worms can grow to be 1 to 3 cm in length.
- They are fairly common.



Thorny-headed Worms

3. Is it safe to clean the fish ?

SAFE

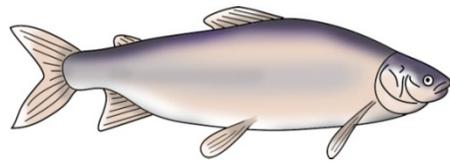
4. Is it safe to eat the fish ?

SAFE

5. Is it safe to feed to dogs ?

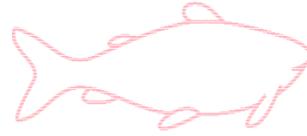


For more information go to H-A.6



Whitefish

Cuts, Scrapes and Scars



1. Where are they found ?

- Cuts, scrapes and scars can occur anywhere on the body.

2. What are they ?

- Cuts, scrapes and scars can be caused by many different things such as gill nets and low water levels in spawning areas.

Photo Credit: J.D. Reist

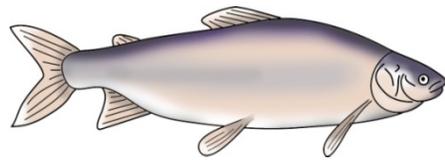


Gill net damage

Photo Credit: D.K. McGowan



A healed scar



Cuts, Scrapes and Scars

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

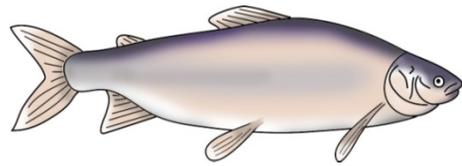
SAFE

5. Is it safe to feed to dogs ?

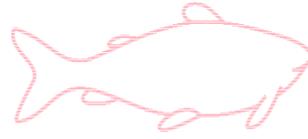


For more information go to H-A.1

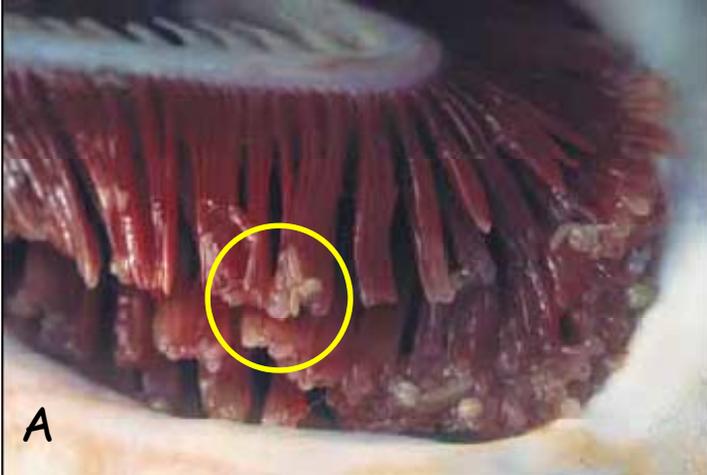
Copepods



Whitefish



1. Where are they found ?



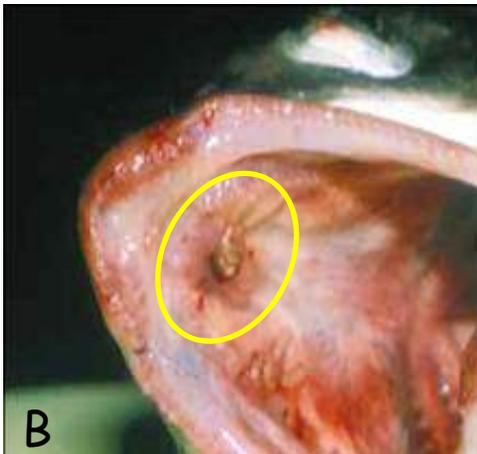
A

Photo Credit: D.B. Stewart

- Copepods are found attached to the gills (Photo A), to skin on the inside of the mouth (Photo B and C) or to the fins.

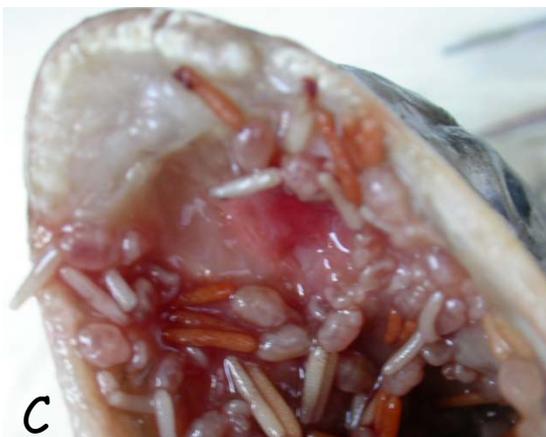
2. What are they ?

- Copepods are small water-living animals that live on fish.
- Adult copepods attach themselves permanently to the fish.



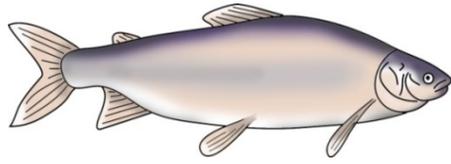
B

Photo Credit: L.M.J. Bernier



C

Photo Credit: Manon Simard; Makivik Corporation



Copepods

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

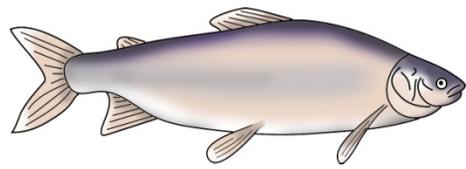
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-A.2

Fungus in fish (Internal Fungal Infection)



Whitefish



1. Where is it found ?

- Fungus may be taken into the fish as it fills its swim bladder with air.
- In rare cases, the fungus may grow, spread and infect many areas in the body.

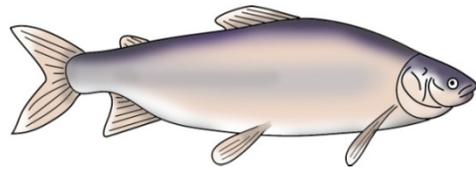
Photo Credit: DFO

- This photo shows patches of fungus (like bread mould) found inside fish.



2. What is it ?

- This is a fungus that is normally found on plants but can get into fish.



Fungus in fish (Internal Fungal Infection)

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

WARNING

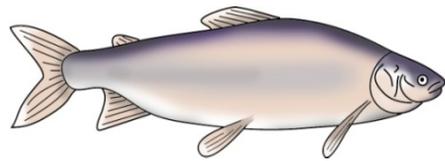
It is not recommended to eat fish that looks unusually sick and has fungus on the inside.

5. Is it safe to feed to dogs ?



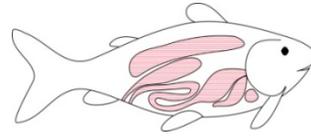
It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-A.3



Whitefish

Roundworms



1. Where are they found ?

- Roundworms can be found on any organ of the body and also in the flesh.

Photo Credit: D.B. Stewart

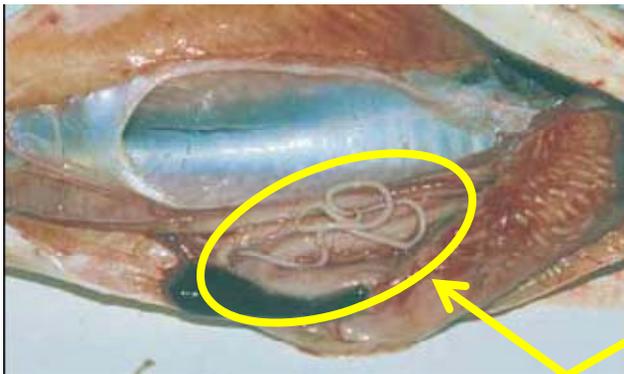


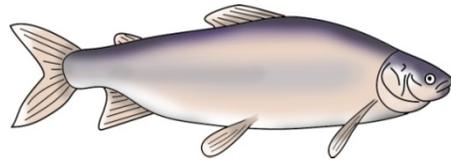
Photo Credit: Manon Simard;
Makivik Corporation



Roundworms in the body cavity.

2. What are they ?

- Roundworms are parasitic worms.
- Adults can be quite large (up to 20 cm in length).
- Immature roundworms are found coiled.
- Roundworms are cream, brown or red in colour.



Roundworms

3. **Is it safe to clean the fish ?**

A green circular icon with the word "SAFE" in black capital letters inside.

SAFE

4. **Is it safe to eat the fish ?**

Human health risks are uncertain.

Please read “Human health concerns” in section H-A.4

A yellow diamond-shaped icon with the word "CAUTION" in black capital letters inside.

CAUTION

5. **Is it safe to feed to dogs ?**

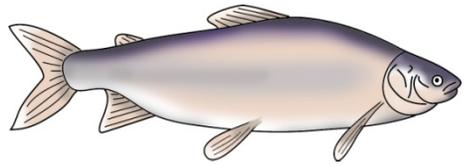
Please read “Safety of the meat for dogs” in section H-A.4



For more information go to H-A.4

A-3.5

Adult Tapeworms



Whitefish



1. Where are they found ?

- Adult tapeworms are found in the intestine of fish.

Photo Credit: D.B. Stewart

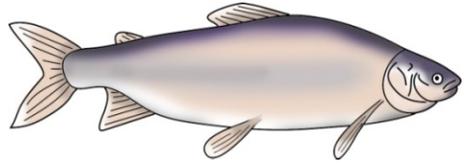
- This photo shows an adult tapeworm from the intestine of a fish.



- Some worms can grow as long as 40 cm.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- They are fairly common.



Adult Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

SAFE

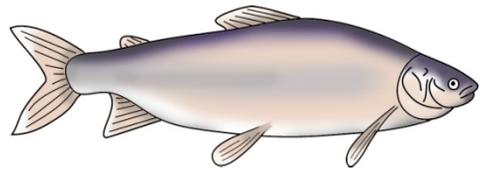
5. Is it safe to feed to dogs ?



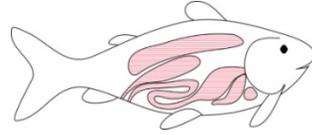
For more information go to H-A.5

A-3.6

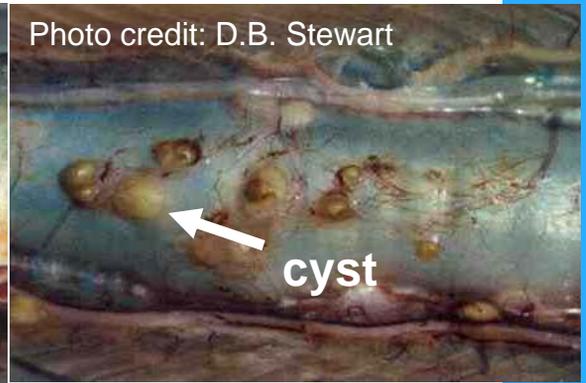
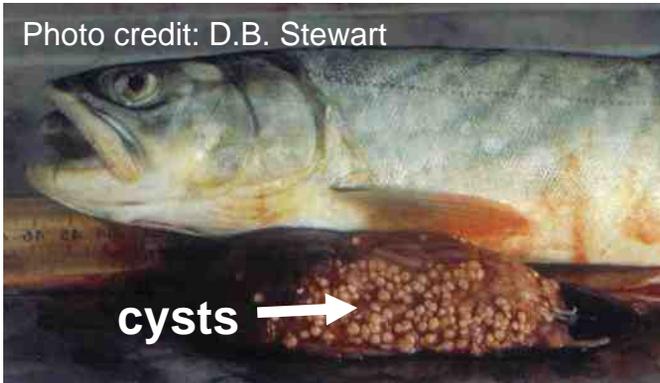
Immature Tapeworms



Whitefish



1. Where are they found ?



- Within the gut cavity and on the surface of organs.
- Attached to the swim bladder.
- Immature tapeworms can live within a sac (cyst) or they may live free (not within a cyst) in the fish.

2. What are they ?

- Immature tapeworms are young worms that mature into adult worms within animals, such as seals (see seal tapeworms in sections C-1.6 and C-2.6), which feed on fish containing these immature worms.

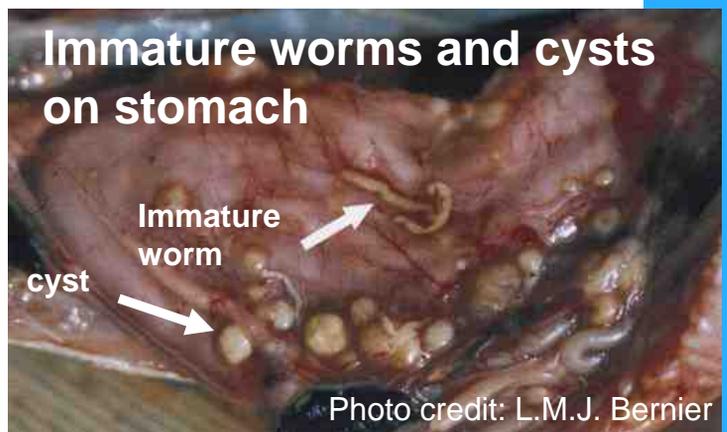
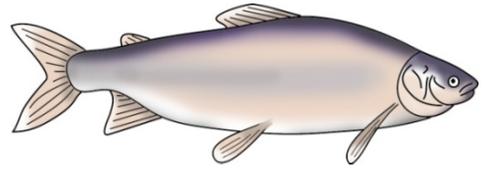


Photo credit: L.M.J. Bernier



Immature Tapeworms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

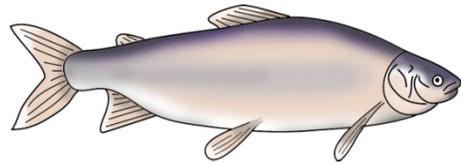
It is recommended to cook* the fish well before eating it.

5. Is it safe to feed to dogs ?

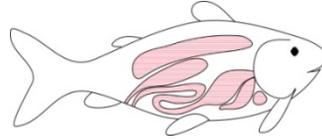
It is recommended to cook* the fish well before feeding it to dogs.

* Cooking, as well as freezing, will kill most worms.

For more information go to H-A.5



Whitefish



Thorny-headed Worms

1. Where are they found ?

- Thorny-headed worms appear most often in the intestine of the fish, but can sometimes occur in the stomach.

Photo Credit: L.M.J. Bernier

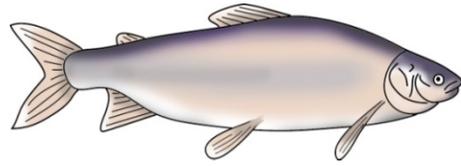
- This photo shows adult thorny-headed worms attached to the intestine of a fish.



- Sores may occur at the point of attachment.

2. What are they ?

- These are parasitic worms that live in the intestine of fish.
- Worms can grow to be 1 to 3 cm in length.
- They are fairly common.



Thorny-headed Worms

3. Is it safe to clean the fish ?

SAFE

4. Is it safe to eat the fish ?

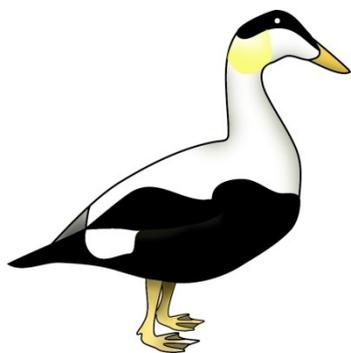
SAFE

5. Is it safe to feed to dogs ?

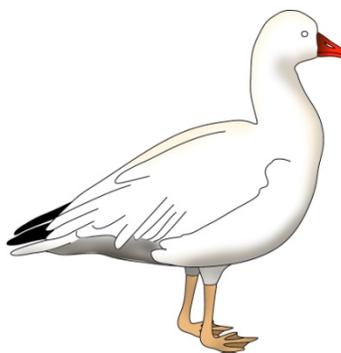


For more information go to H-A.6

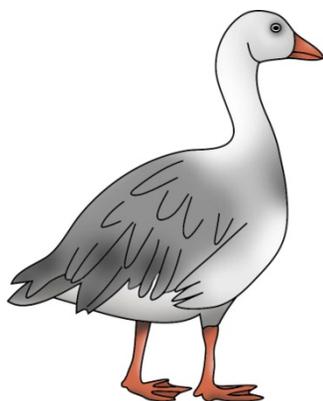
Section B



Common Eider
Section B-1



Ross's Goose
Section B-2



Lesser Snow Goose
Section B-3

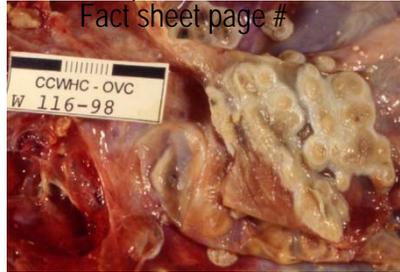
Section B

Diseases and Parasites of Birds

Aspergillosis

Photo Credit: D. Campbell

Fact sheet page #



Common Eider

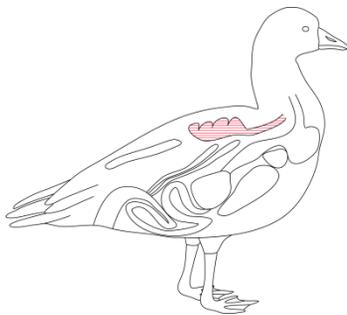
Section B-1.1

Ross's Goose

Section B-2.1

Lesser Snow Goose

Section B-3.1



Lung

Avian Cholera

Photo Credit: WCVM



Common Eider

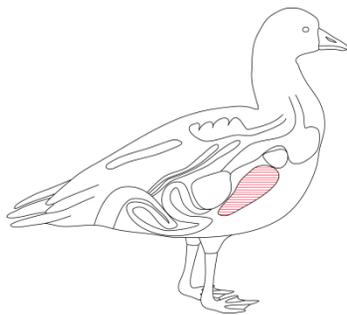
Section B-1.2

Ross's Goose

Section B-2.2

Lesser Snow Goose

Section B-3.2

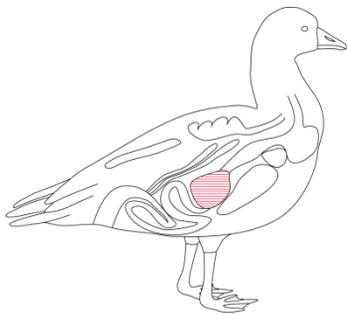


Liver

Section B

Diseases and Parasites of Birds

Gizzard Worm



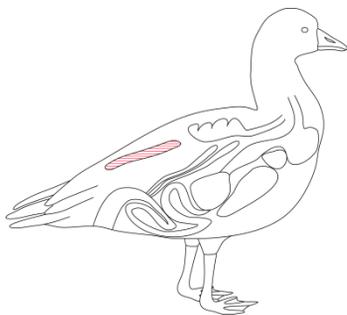
Gizzard



Photo Credits: James Runningen

Common Eider	Section B-1.3
Ross's Goose	Section B-2.3
Lesser Snow Goose	Section B-3.3

Renal Coccidiosis



Kidney



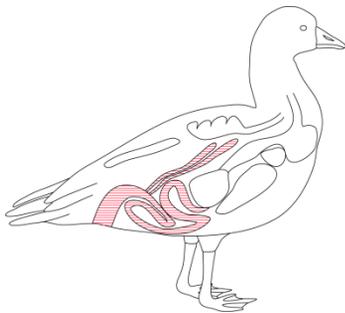
Photo credit: WCVM

Common Eider	Section B-1.4
Ross's Goose	Section B-2.4
Lesser Snow Goose	Section B-3.4

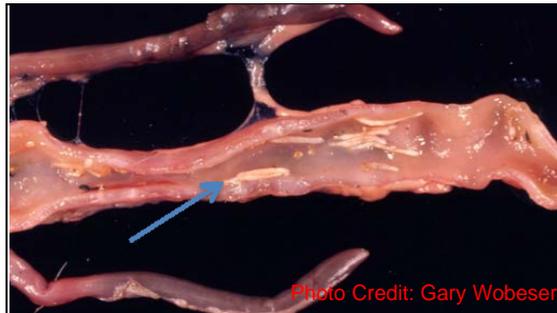
Section B

Diseases and Parasites of Birds

Thorny-headed Worm

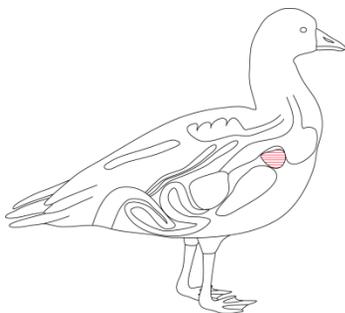


Intestine



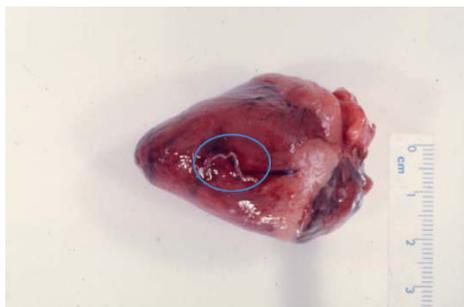
Common Eider	Section B-1.5
Ross's goose	Section B-2.5
Lesser Snow Goose	Section B-3.5

Heartworm



Heart

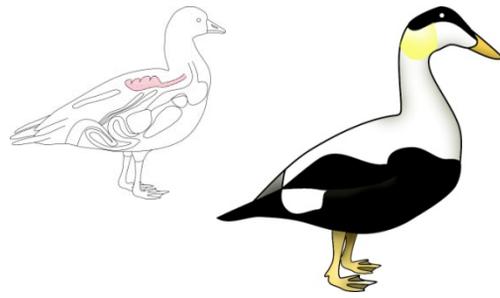
Photo Credit: G. Wobeser



Ross's Goose	Section B-2.6
Lesser Snow Goose	Section B-3.6

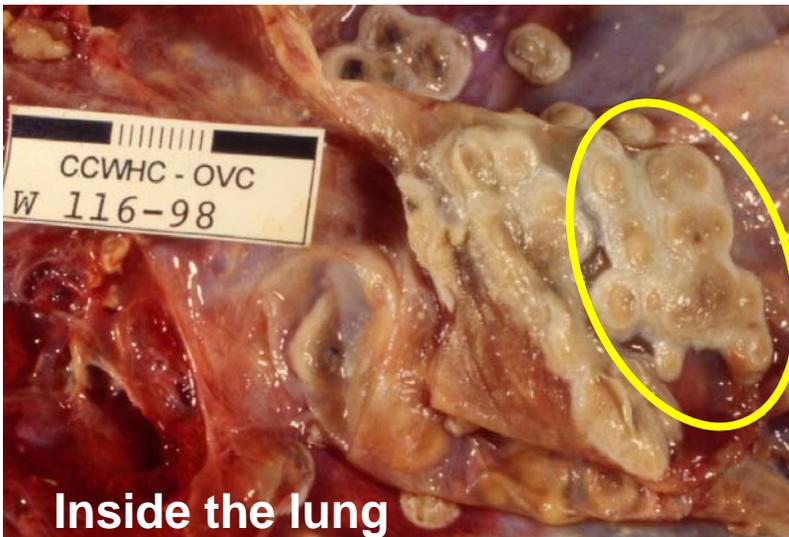
B-1.1

Aspergillosis



Common Eider

1. Where is it found ?



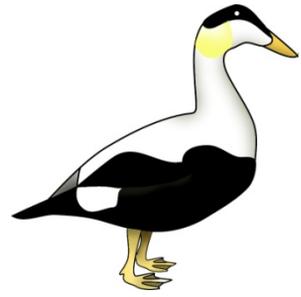
Inside the lung

Photo Credit: D. Campbell

- Thick fungal areas may be found in the lungs, covering the air sacs or on other surfaces in the body.

2. What is it ?

- Aspergillosis is a disease of the lung caused by the growth of a fungus. Fungus is similar to mould found on bread.
- The fungus grows in the air sacs, the lung or other surfaces in the body.
- This fungus is picked up by the birds from the ground or from mouldy grain.



Aspergillosis

3. **Is it safe to handle the eider ?**

Throw away infected lungs and other infected body parts.



4. **Is it safe to eat the eider ?**

It is recommended to cook the bird well.



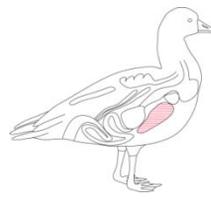
5. **Is it safe to feed to dogs ?**

It is not recommended to feed dogs any infected parts.



B-1.2

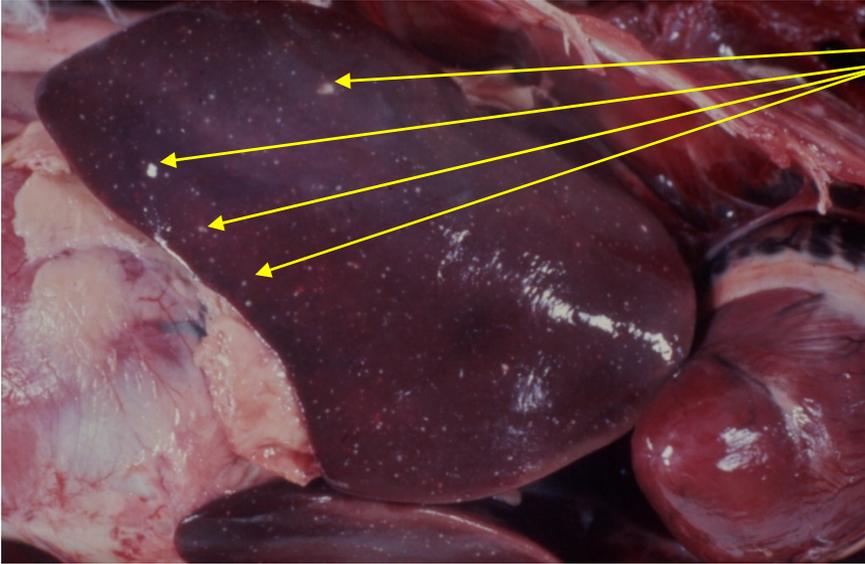
Avian Cholera



Common Eider

1. Where is it found ?

Photo Credit: WCVN

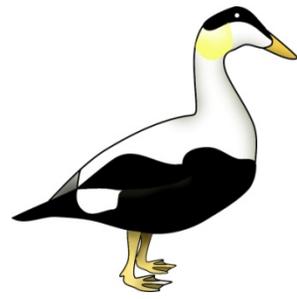


• Cholera is most clearly seen in the liver.

• Small white or yellowish spots scattered throughout the liver is the most common evidence of this disease.

2. What is it ?

- Avian cholera is a disease caused by a bacteria which is picked up from the water.
- Birds die a short time after being infected.
- Birds often appear tame prior to death.
- Massive die-offs will occur.



Avian Cholera

3. **Is it safe to handle the eider ?**

Wear gloves (or plastic bags) over your hands when handling birds suspected to have avian cholera.

Wash tools, hands and outer clothing in hot soapy water.



4. **Is it safe to eat the eider ?**

It is not recommended to eat the bird if many small white spots are seen throughout the liver as in photo on the previous page.



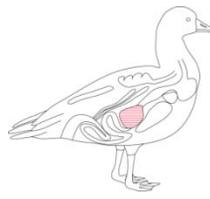
5. **Is it safe to feed to dogs ?**

It is not recommended to feed dogs anything that is not safe for humans to eat.



For more information go to H-B.2

B-1.3



Common Eider

Gizzard Worms

1. Where are they found ?

- Gizzard worms are found in the gizzard of birds.

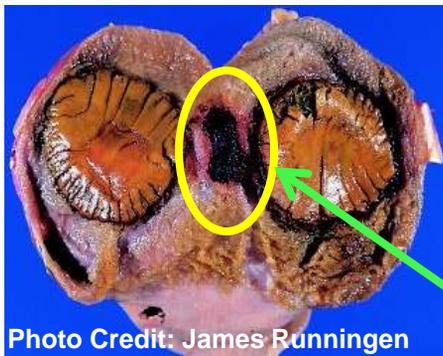


Photo Credit: James Runnigen



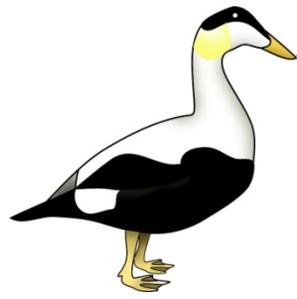
Photo Credit: James Runnigen

damage

- Worms move through the gizzard causing damage.

2. What are they ?

- Gizzard worms are small, parasitic, thread-like roundworms (1-3 cm long) often found coiled.



Gizzard Worms

3. **Is it safe to handle the eider ?**



4. **Is it safe to eat the eider ?**



It is safe to eat the eider.
If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before eating it.

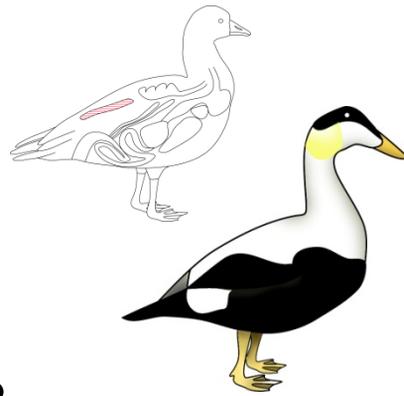
5. **Is it safe to feed to dogs ?**



If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before feeding it to dogs.
The rest of the bird is OK to feed
to dogs.

B-1.4

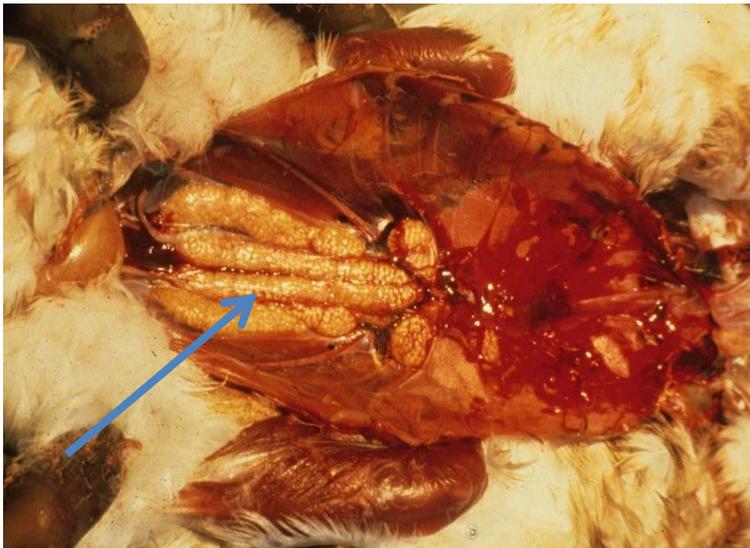
Renal Coccidiosis



Common Eider

1. What does it look like ?

Photo credit: WCVN

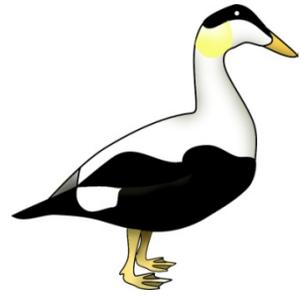


- Normal kidneys can become enlarged when infected.

- Kidneys often contain small white or yellowish spots scattered throughout.

2. What is it ?

- Renal coccidiosis is an infection of the kidneys with a tiny, invisible parasite.
- Parasite eggs leave the bird in the bird's droppings; another bird can pick up the infection while grazing.



Renal Coccidiosis

3. Is it safe to handle the eider ?

SAFE

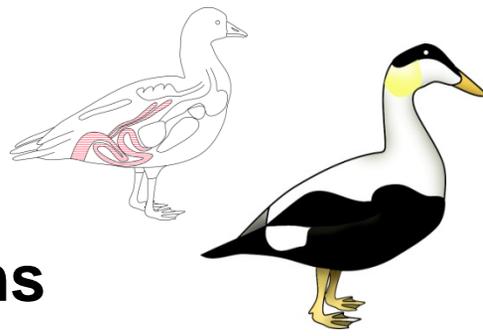
4. Is it safe to eat the eider ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.4



Common Eider

Thorny-headed Worms

1. Where are they found ?

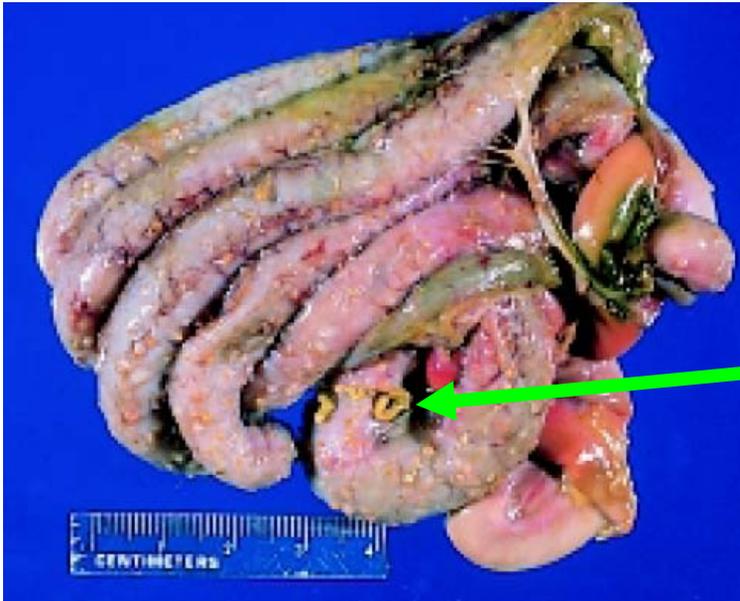


Photo Credit: J. Christian Franson

- Thorny-headed worms live in the intestine of birds.
- Sometimes they can be seen poking through the intestine.

2. What are they ?

- Thorny-headed worms are short and fat and attach themselves to the intestine of the eider using a set of hooks on their heads.

- Thorny-headed worms attached to the inside of the intestine.

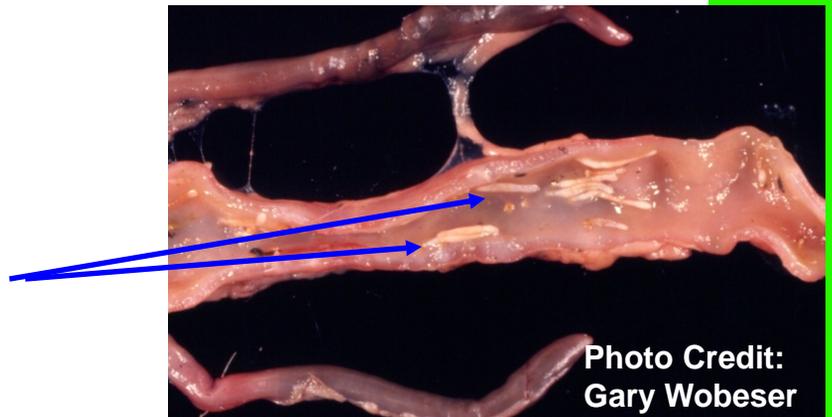
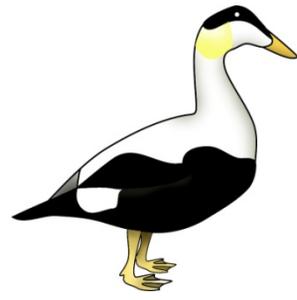


Photo Credit: Gary Wobeser



Thorny-headed Worms

3. Is it safe to handle the eider ?

SAFE

4. Is it safe to eat the eider ?

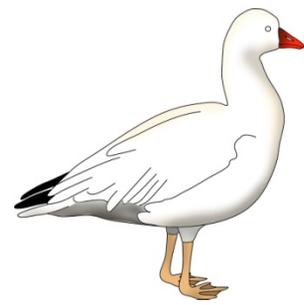
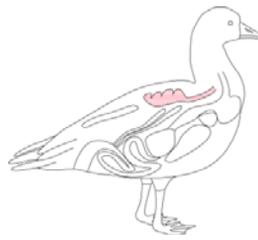
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.5

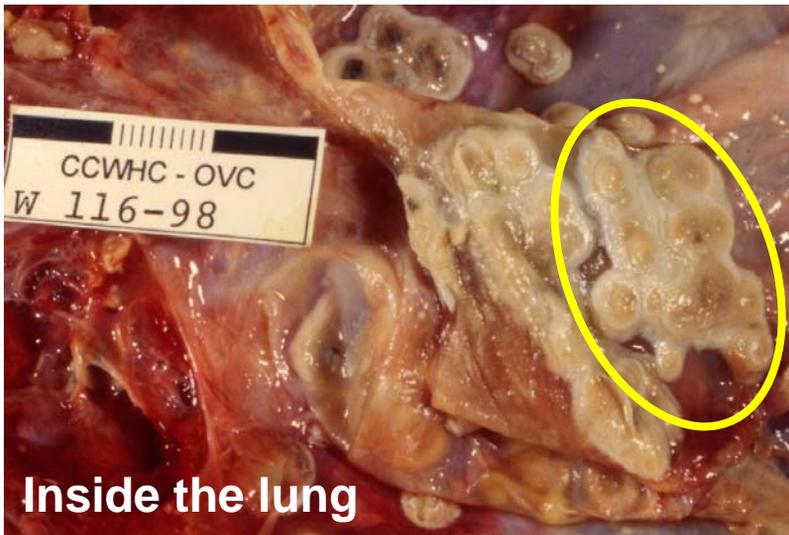
B-2.1



Ross's Goose

Aspergillosis

1. Where is it found ?



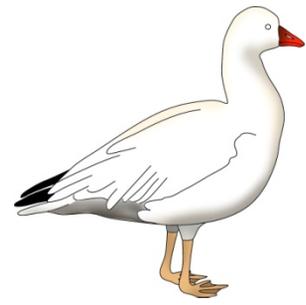
Inside the lung

Photo Credit: D. Campbell

- Thick fungal areas may be found in the lungs, covering the air sacs or on other surfaces in the body.

2. What is it ?

- Aspergillosis is a disease of the lung caused by the growth of a fungus. Fungus is similar to mould found on bread.
- The fungus grows in the air sacs, the lung and other surfaces in the body.
- This fungus is picked up by the birds from the ground or from mouldy grain.



Aspergillosis

3. **Is it safe to handle the goose ?**

Throw away infected lungs and other infected body parts.



4. **Is it safe to eat the goose ?**

It is recommended to cook the bird well.



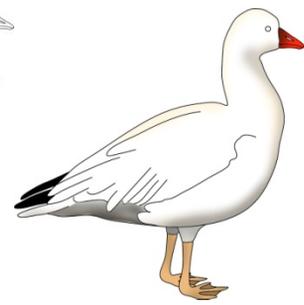
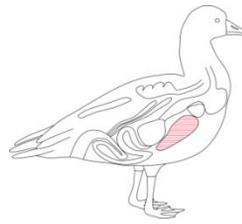
5. **Is it safe to feed to dogs ?**

It is not recommended to feed dogs any infected parts.



B-2.2

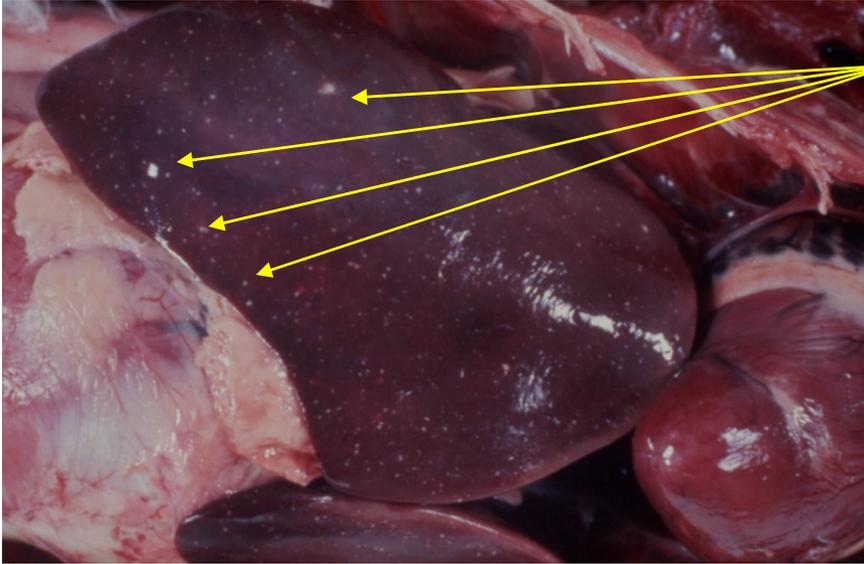
Avian Cholera



Ross's Goose

1. Where is it found ?

Photo Credit: WCVN

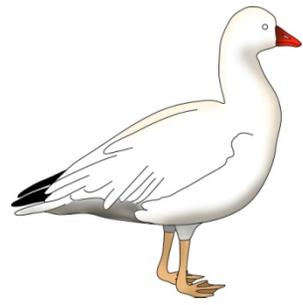


- Cholera is most clearly seen in the liver.

- Small white or yellowish spots scattered throughout the liver is the most common evidence of this disease.

2. What is it ?

- Avian cholera is a disease caused by a bacteria which is picked up from the water.
- Birds die a short time after being infected.
- Birds often appear tame prior to death.
- Massive die-offs will occur.



Avian Cholera

3. **Is it safe to handle the goose ?**



Wear gloves (or plastic bags) over your hands when handling birds suspected to have avian cholera. Wash tools, hands and outer clothing in hot soapy water.

4. **Is it safe to eat the goose ?**



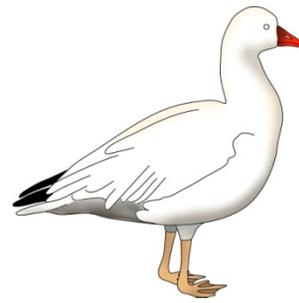
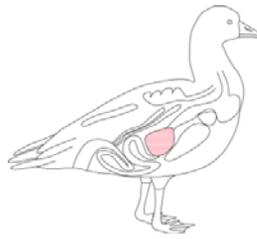
It is not recommended to eat the bird if many small white spots are seen throughout the liver as in photo on the previous page.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-B.2

B-2.3

Ross's Goose

Gizzard Worms**1. Where are they found ?**

- Gizzard worms are found in the gizzard of birds.

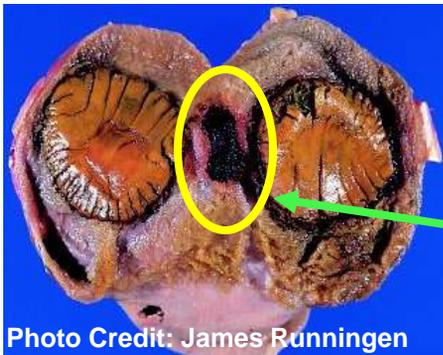


Photo Credit: James Runnigen



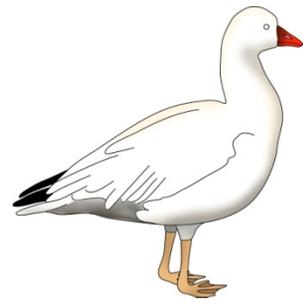
Photo Credit: James Runnigen

worm**damage**

- Worms move through the gizzard causing damage.

2. What are they ?

- Gizzard worms are small, parasitic, thread-like roundworms (1-3 cm long) often found coiled.



Gizzard Worms

3. **Is it safe to handle the goose ?**



4. **Is it safe to eat the goose ?**

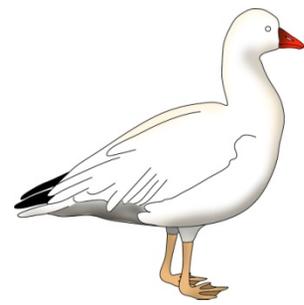
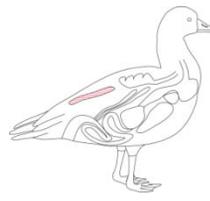


It is safe to eat the goose.
If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before eating it.

5. **Is it safe to feed to dogs ?**



If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before feeding it to dogs.
The rest of the bird is OK to feed
to dogs.



Ross's Goose

Renal Coccidiosis

1. What does it look like ?

Photo Credit: WCVN

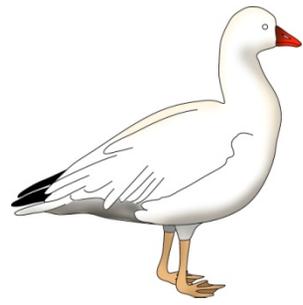


- Normal kidneys can become enlarged when infected.

- Kidneys often contain small white or yellowish spots scattered throughout.

2. What is it ?

- Renal coccidiosis is an infection of the kidneys with a tiny, invisible parasite.
- Parasite eggs leave the bird in the bird's droppings; another bird can pick up the infection while grazing.



Renal Coccidiosis

3. Is it safe to handle the goose ?

SAFE

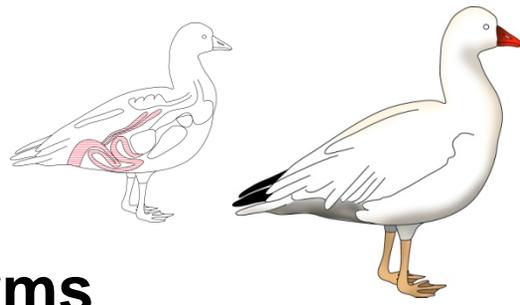
4. Is it safe to eat the goose ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.4

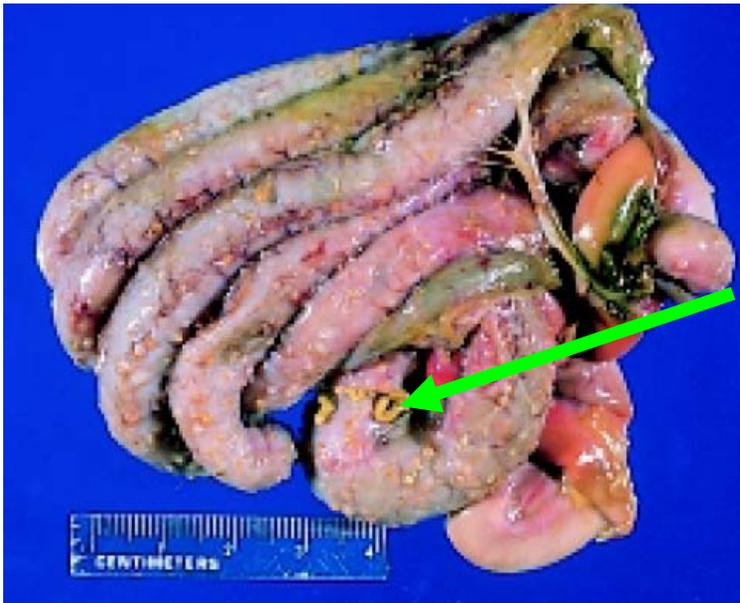


Ross's Goose

Thorny-headed Worms

1. Where are they found ?

Photo Credit: J. Christian Franson



- Thorny-headed worms live in the intestine of birds.
- Sometimes they can be seen poking through the intestine.

2. What are they ?

• Thorny-headed worms are short and fat and attach themselves to the intestine of the goose using a set of hooks on their heads.

• Thorny-headed worms attached to the inside of the intestine.

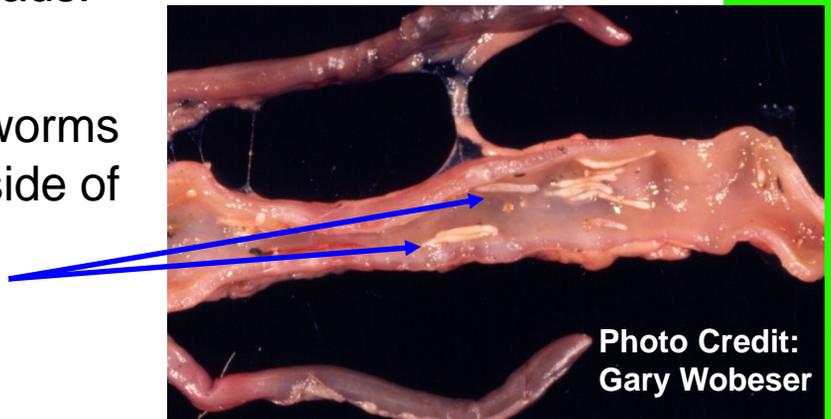
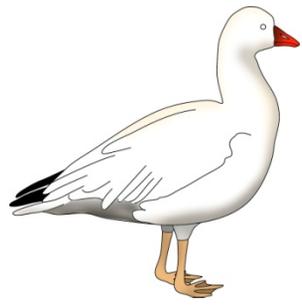


Photo Credit: Gary Wobeser



Thorny-headed Worms

3. Is it safe to handle the goose ?

SAFE

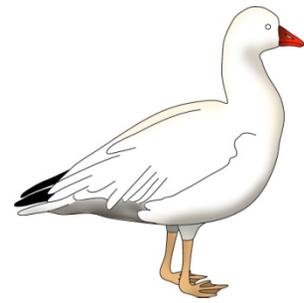
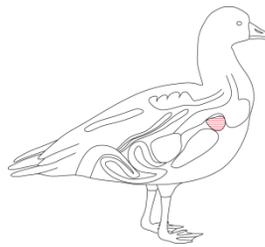
4. Is it safe to eat the goose ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.5

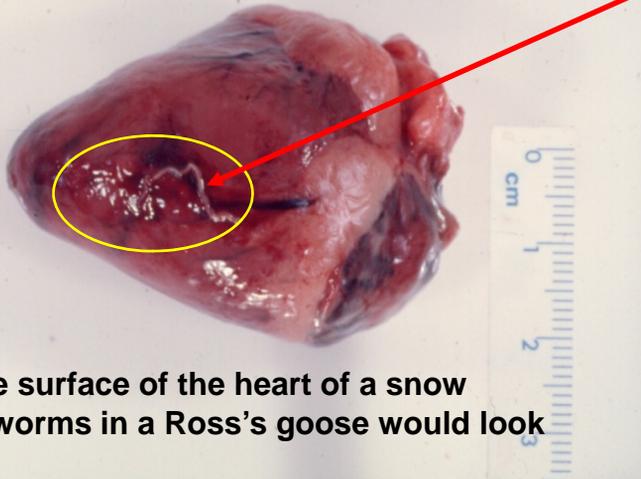


Ross's Goose

Heartworm

1. Where are they found ?

Photo Credit: G. Wobeser

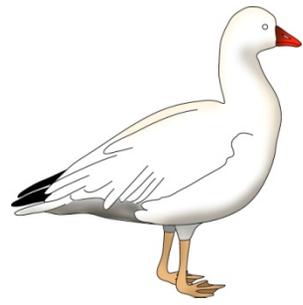


Worms on the surface of the heart of a snow goose. Heartworms in a Ross's goose would look similar.

- Worms are found in the heart and may cause damage as they move.

2. What are they ?

- Heartworms are small (1-3 cm), parasitic, thread-like roundworms, often found coiled.

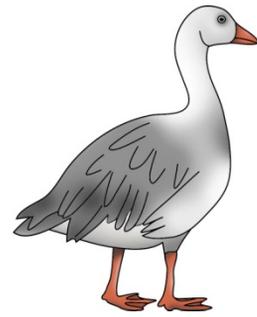
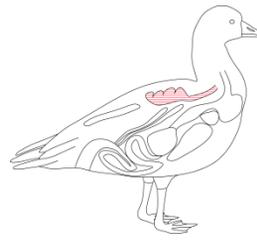


Heartworm

3. Is it safe to handle the goose ?
4. Is it safe to eat the goose ?
5. Is it safe to feed to dogs ?



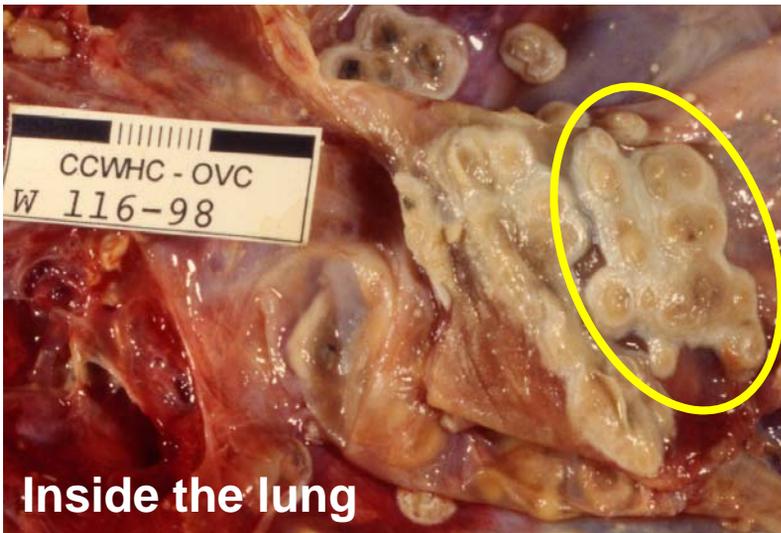
For more information go to H-B.6



Lesser Snow Goose

Aspergillosis

1. Where is it found ?



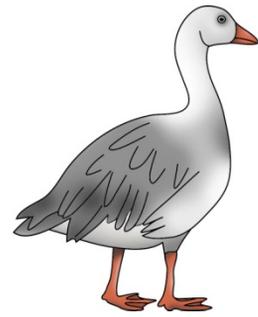
- Thick fungal areas may be found in the lungs, covering the air sacs or on other surfaces in the body.

Inside the lung

Photo Credit: D. Campbell

2. What is it ?

- Aspergillosis is a disease of the lung caused by the growth of a fungus. Fungus is similar to mould found on bread.
- The fungus grows in the air sacs, the lung and other surfaces in the body.
- This fungus is picked up by the birds from the ground or in mouldy grain.



Aspergillosis

3. **Is it safe to handle the goose ?**



Throw away infected lungs and other infected body parts.

4. **Is it safe to eat the goose ?**



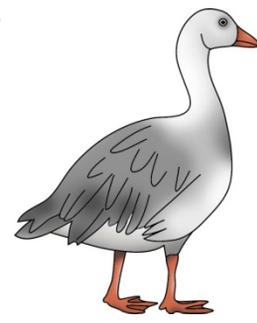
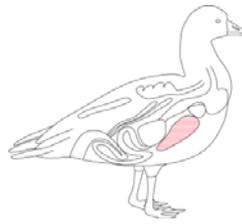
It is recommended to cook the bird well.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs any infected parts.

For more information go to H-B.1

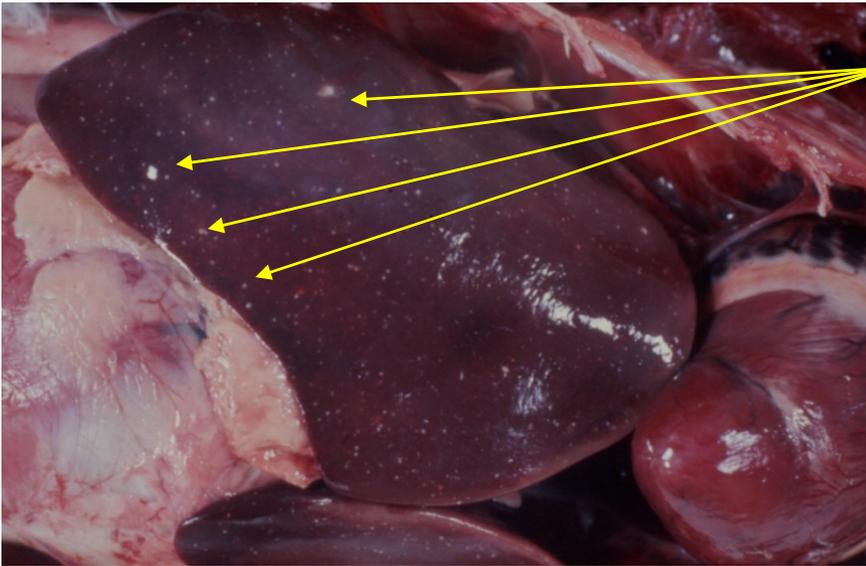


Lesser Snow Goose

Avian Cholera

1. Where is it found ?

Photo Credit: WCVN

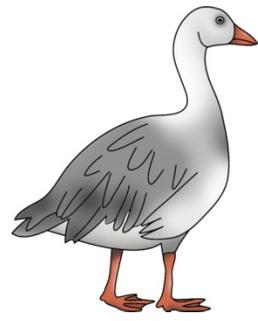


• Cholera is most clearly seen in the liver.

• Small white or yellowish spots scattered throughout the liver is the most common evidence of this disease.

2. What is it ?

- Avian cholera is a disease caused by a bacteria which is picked up from the water.
- Birds die a short time after being infected.
- Birds often appear tame prior to death.
- Massive die-offs will occur.



Avian Cholera

3. **Is it safe to handle the goose ?**



Wear gloves or plastic bags over your hands when handling birds suspected to have avian cholera. Wash tools, hands and outer clothing in hot soapy water.

4. **Is it safe to eat the goose ?**



It is not recommended to eat the bird if many small white spots are seen throughout the liver as in photo on the previous page.

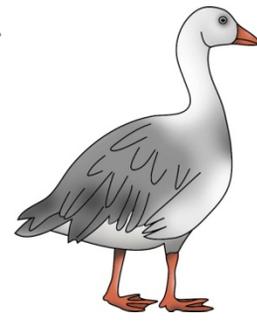
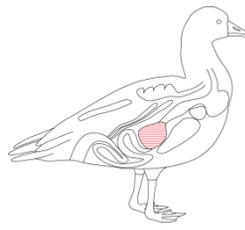
5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-B.2

B-3.3



Lesser Snow Goose

Gizzard Worms

1. Where are they found ?

- Gizzard worms are found in the gizzard of birds.

worm

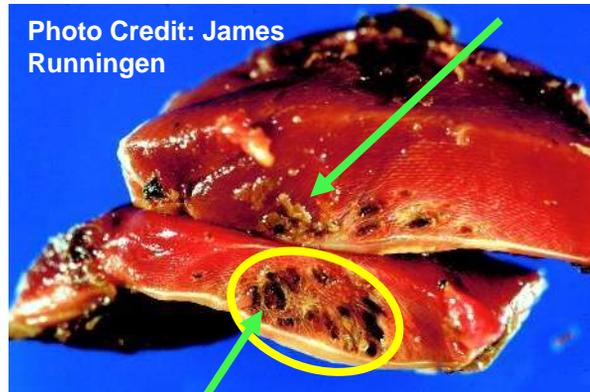


Photo Credit: James Runnigen



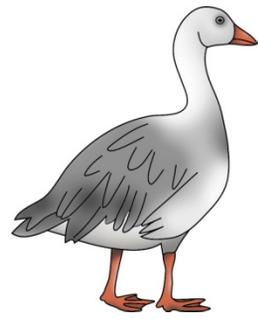
Photo Credit: James Runnigen

damage

- Worms move through the gizzard causing damage.

2. What are they ?

- Gizzard worms are small, parasitic, thread-like roundworms (1-3 cm long) often found coiled.



Gizzard Worms

3. **Is it safe to handle the goose ?**



4. **Is it safe to eat the goose ?**

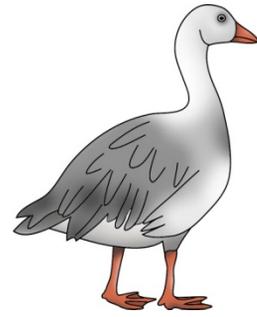
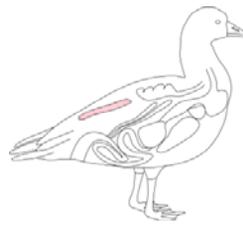


It is safe to eat the goose.
If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before eating it.

5. **Is it safe to feed to dogs ?**



If the gizzard looks unhealthy,
throw it away. Otherwise, it is
advised to cook the gizzard
before feeding it to dogs.
The rest of the bird is OK to feed
to dogs.



Lesser Snow Goose

Renal Coccidiosis

1. Where is it found ?

Photo credit: WCVN

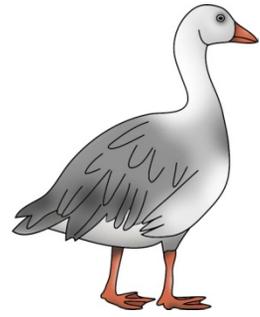


- Normal kidneys can become enlarged when infected.

- Kidneys often contain small white or yellowish spots scattered throughout.

2. What is it ?

- Renal coccidiosis is an infection of the kidneys with a tiny, invisible parasite.
- Parasite eggs leave birds in the bird's droppings; another bird can pick up the infection while grazing.



Renal Coccidiosis

3. Is it safe to handle the goose ?

SAFE

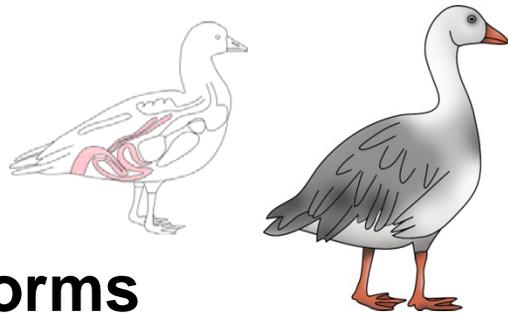
4. Is it safe to eat the goose ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.4

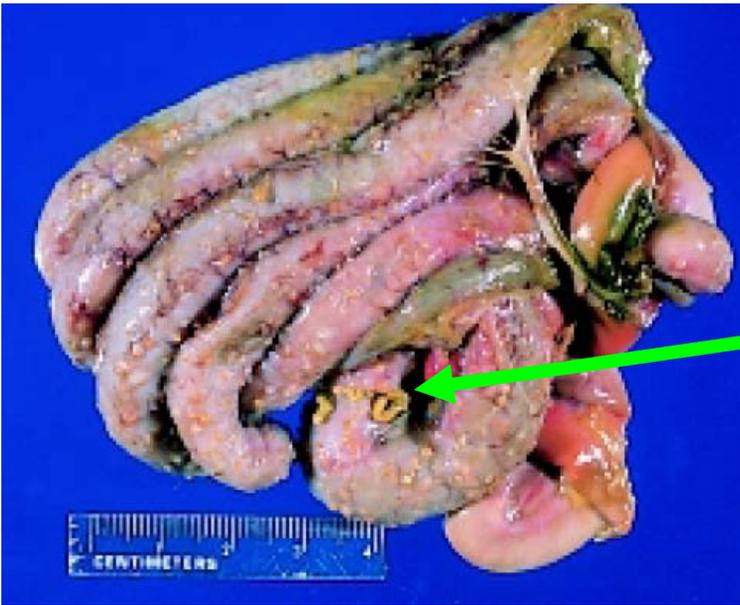


Lesser Snow Goose

Thorny-headed Worms

1. Where are they found ?

Photo Credit: J. Christian Franson



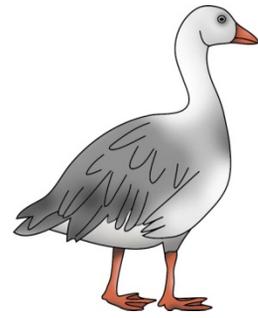
- Thorny-headed worms live in the intestine of birds.
- Sometimes they can be seen poking through the intestine.

2. What are they ?

- Thorny-headed worms are short and fat and attach themselves to the intestine of the goose using a set of hooks on their heads.
- Thorny-headed worms attached to the inside of the intestine.



Photo Credit: Gary Wobeser



Thorny-headed Worms

3. Is it safe to handle the bird ?

SAFE

4. Is it safe to eat the bird ?

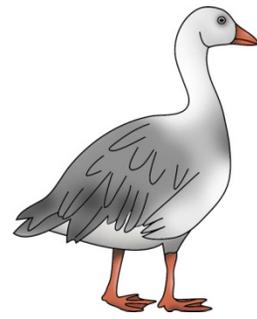
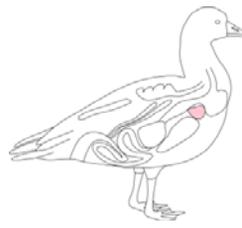
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-B.5

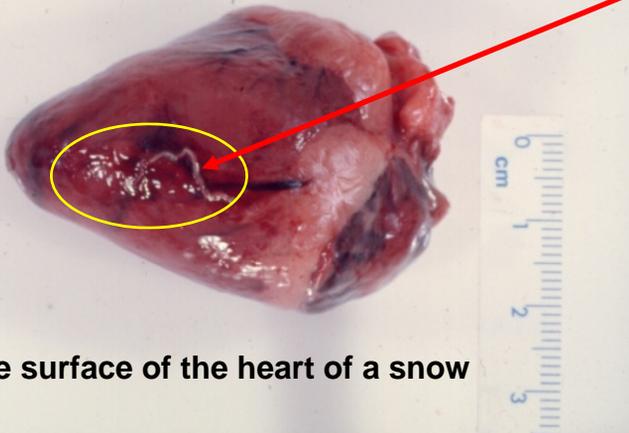
Heartworm



Lesser Snow Goose

1. Where are they found ?

Photo Credit: G. Wobeser

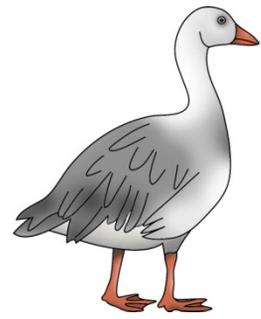


Worms on the surface of the heart of a snow goose.

- Worms are found in the heart and may cause damage as they move.

2. What are they ?

- Heartworms are small (1-3 cm), parasitic, thread-like roundworms, often found coiled .



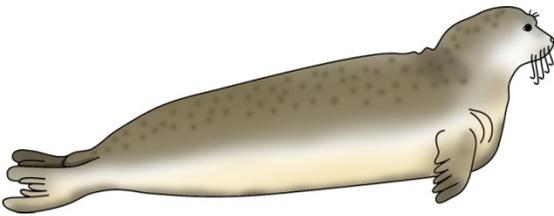
Heartworm

3. Is it safe to handle the goose ?
4. Is it safe to eat the goose ?
5. Is it safe to feed to dogs ?



For more information go to H-B.6

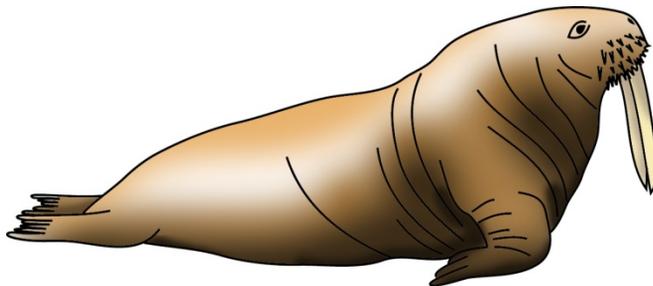
Section C



Bearded Seal
Section C-1



Ringed Seal
Section C-2



Walrus
Section C-3

Section C

Diseases and Parasites of Seals and Walrus

Conjunctivitis

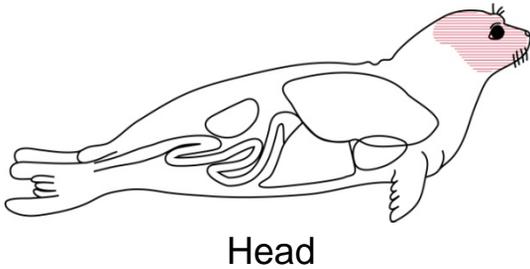


Photo Credit: <i>Dr. J. Geraci</i>	
	Photo Credit: <i>Dr. P-Y. Daoust</i>
Bearded seal	Section C-1.1
Ringed seal	Section C-2.1
Walrus	Section C-3.2

Hair loss

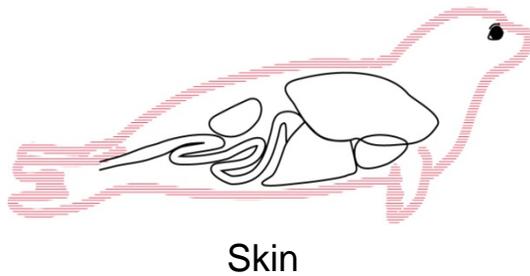
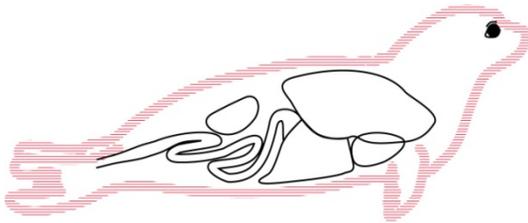


	Photo Credit: <i>Dr. P-Y Daoust</i>
Photo Credit: <i>Dr. J. Geraci</i>	
Bearded seal	Section C-1.2
Ringed seal	Section C-2.2

Section C

Diseases and Parasites of Seals and Walrus



Skin

Seal lice

		Photo Credit: Dr. J. Geraci
Bearded seal	Section C-1.3	
Ringed seal	Section C-2.3	

Seal Pox

Photo Credit: Dr. J. Geraci 	
Photo Credit: Dr. P-Y. Daoust 	
Bearded seal	Section C-1.4
Ringed seal	Section C-2.4

Pelt Discolouration

Photo Credit: D. White 	
Bearded seal	Section C-1.5
Ringed seal	Section C-2.5

Section C

Diseases and Parasites of Seals and Walrus

Tapeworm

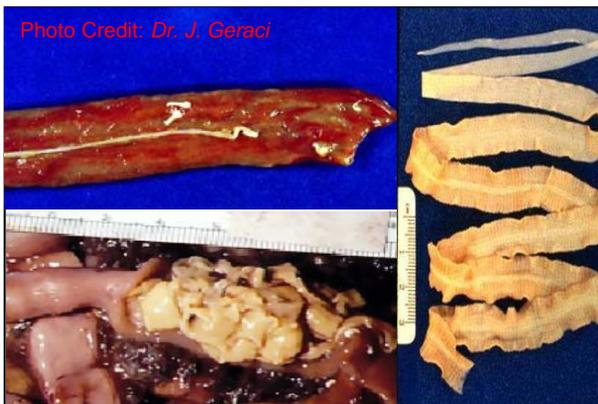


Photo Credit: *Dr. L. Measures*

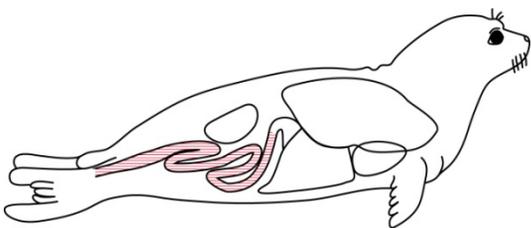
Photo Credit: *S. Kutz*

Bearded seal

Section C-1.6

Ringed seal

Section C-2.6



Intestine

Thorny-headed Worm



Photo Credit: *Dr. J. Geraci*

Bearded seal

Section C-1.7

Ringed seal

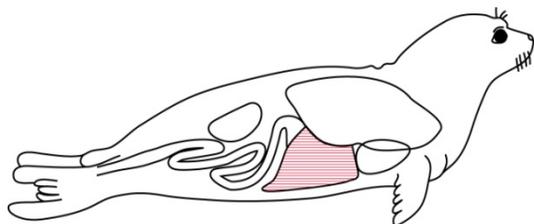
Section C-2.7

Section C

Diseases and Parasites of Seals and Walrus

Liver Fluke

Photo Credit: *Dr. L Measures*



Liver



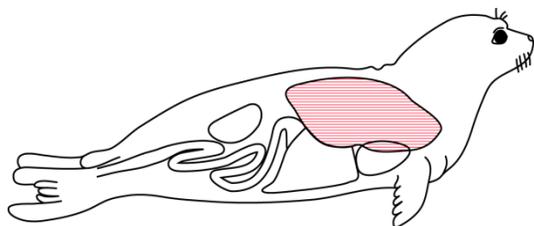
Bearded seal

Section C-1.8

Ringed seal

Section C-2.8

Lungworms



Lung



Photo Credit: *Dr. J. Geraci*

Bearded seal

Section C-1.9

Ringed seal

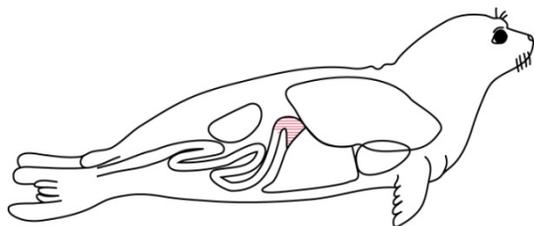
Section C-2.9

Section C

Diseases and Parasites of Seals and Walrus

Stomach Worm

Photo Credit: *Dr. J. Geraci*



Stomach

Bearded seal

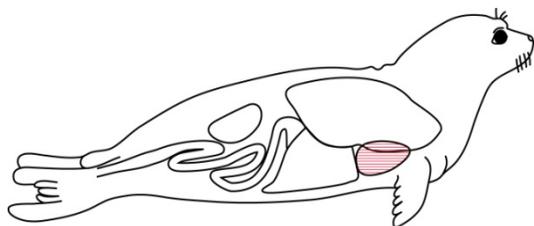
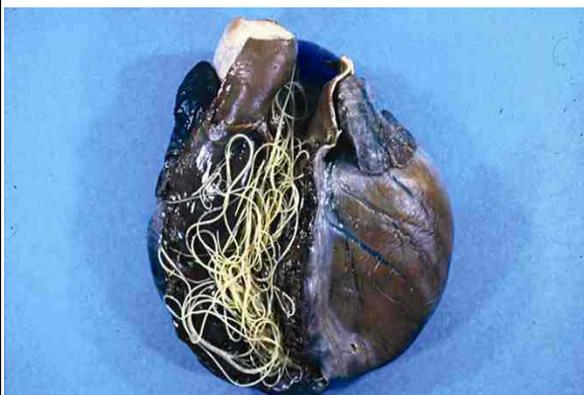
Section C-1.10

Ringed seal

Section C-2.10

Heartworm

Photo Credit: *Dr. J. Geraci*



Heart

Ringed seal

Section C-2.11

Section C

Diseases and Parasites of Seals and Walrus

Trichinellosis

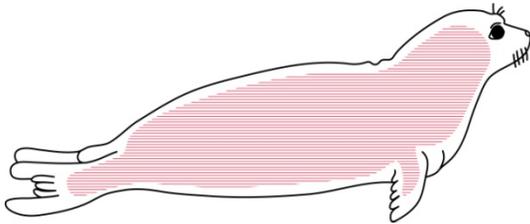
The meat will look normal.
Trichinella can not be seen with the naked eye.

This is a close-up picture of Trichinella through a microscope.



Walrus

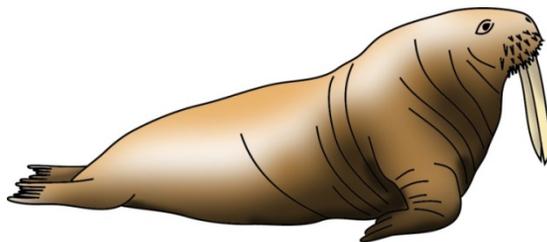
Section C-3.2



Muscle

Botulism

The meat will look normal.
Botulism can not be seen with the naked eye.

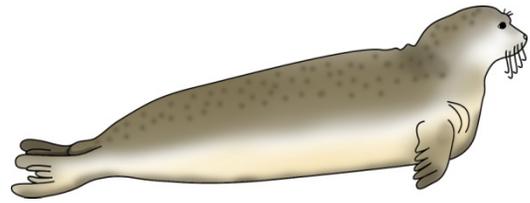


Walrus

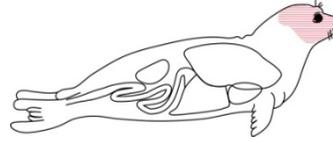
Section C-3.3

C-1.1

Eye infections (conjunctivitis)



Bearded Seal



1. Where are they found ?

- Eye infections are often seen in eyes which appear to be slightly cloudy and partly shut.
- There may also be a discharge from the corners of the eyes.
- Eye infections may be associated with other sicknesses such as sick-looking lungs (see pneumonia in section G-1.7).

2. What are they ?

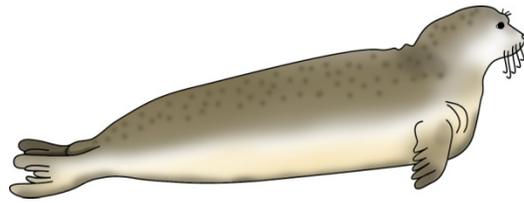
- Eye infections are seen as swelling and redness of the lining of the eyelids, similar to pinkeye in humans.
- They can be caused by viruses or by bacteria. We do not know a lot about the types of viruses that a seal can get, or if they can cause sickness in humans.

Photo Credit: Dr. J. Geraci

Photo Credit: Dr. P-Y. Daoust



Eye infections (conjunctivitis)



3. Is it safe to skin the seal ?



Wear gloves when handling animals that look sick.

Wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the seal ?



Animals with only an eye infection are likely OK to eat. It is not recommended to eat seals that look sick overall.

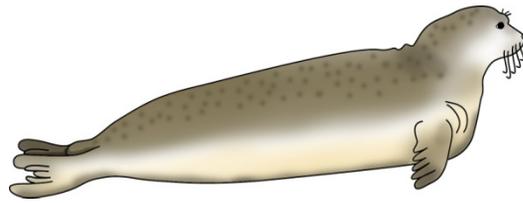
5. Is it safe to feed to dogs ?



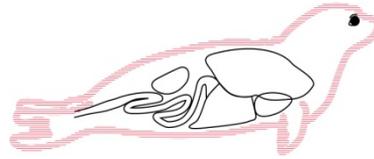
Animals with only an eye infection are likely OK to feed to dogs. It is not recommended to feed to dogs seals that look sick overall.

For more information go to H-C.1

Hair Loss



Bearded Seal



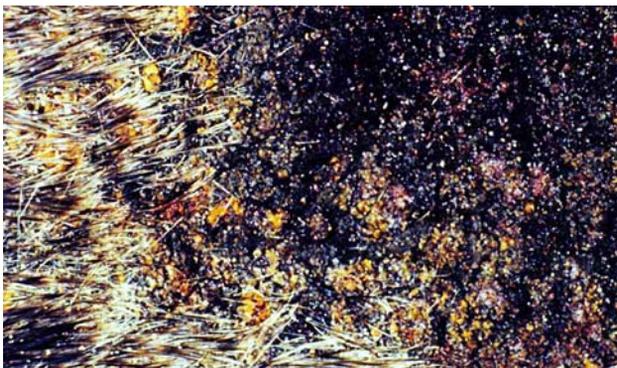
1. Where on the body ?

- Hair loss can occur anywhere on the body.

2. What is it ?

- Patchy hair loss in older animals may be caused by bacterial or fungal infections of the skin.
- Hair loss can occur in animals who fail to properly shed their old hair coat.
- Rarely, newborn pups will be born with no hair. This is most likely a genetic problem.

Photo Credit: Dr. P-Y Daoust

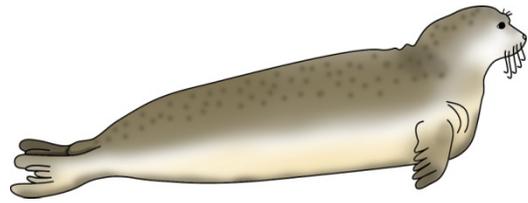


- Patchy hair loss from a fungal skin infection.

Photo Credit: Dr. J. Geraci



- Hairless seal pup born dead.



Hair Loss

3. Is it safe to skin the seal ?



Wear gloves or plastic bags over hands if the seal looks sick.

Wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the seal ?



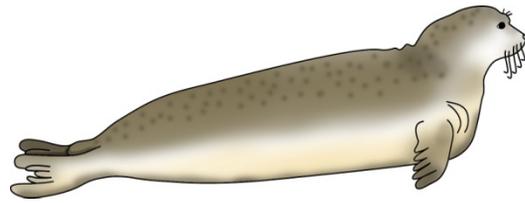
The seal is likely OK to eat, but it is advised to cook the meat first if you are concerned about safety. Avoid eating sick or weak animals.

5. Is it safe to feed to dogs ?



The seal is likely OK to feed to dogs but avoid feeding dogs seals looking sick or weak.

Seal Lice



Bearded Seal



1. Where are they found ?

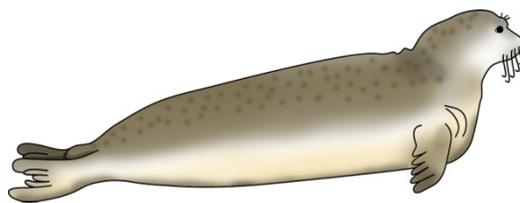
- Lice can be found anywhere on the body.
- Lice are most often seen on the head and hind flippers.

Photo Credit: J. Geraci



2. What are they ?

- Seal lice are small marine insects.
- They suck the blood and from holes they make in the skin.



Seal Lice

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

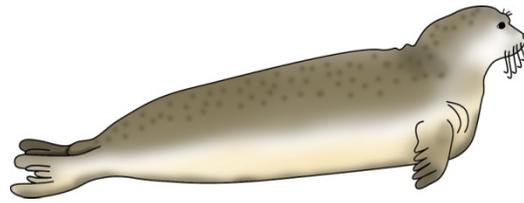
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-C.3

Sealpox



Bearded Seal



1. Where is it found ?

- Sealpox lumps are more common on the head and neck, but can be found anywhere on the animal.
- These lumps may occur singly or in groups.

2. What is it ?

- Sealpox is caused by a virus.
- It is seen as firm lumps on the skin.
- The small lumps (2-3 cm) can break open, ooze and eventually heal often leaving a greyish, slightly raised scar without fur.

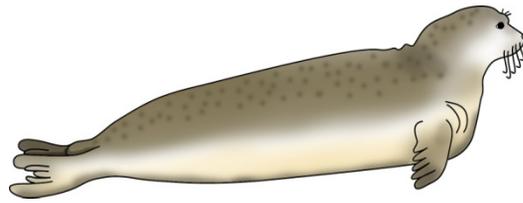
Photo Credit: Dr. P-Y. Daoust



Photo Credit: Dr. J. Geraci



Sealpox



3. Is it safe to skin the seal ?



Wear gloves or use plastic bags over hands.

Wash tools, hands and outer clothing in hot soapy water.

The virus causing the sealpox may cause sores in people.



4. Is it safe to eat the seal ?



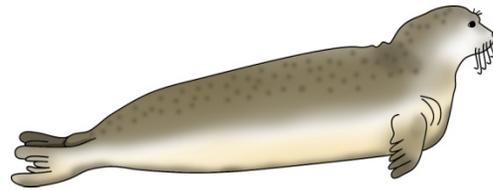
Human health concerns are uncertain.

It is not recommended to eat these animals.

5. Is it safe to feed to dogs ?

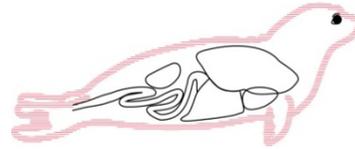


It is not recommended to feed dogs anything you would not eat.



Bearded Seal

Pelt Discolouration



1. Where on the body ?

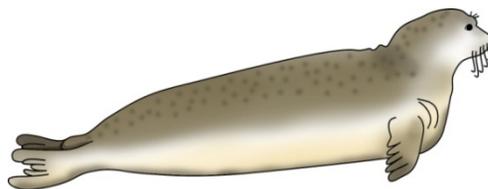
- Pelt discolouration can occur anywhere on the body.



Photo Credit: D. White

2. What is it ?

- In affected areas the skin may be darker than usual, and there may be hair loss, reddening, thickening, and flaking of the skin.
- Pelt discolouration is often caused by a fungal infection.



Pelt Discolouration

3. Is it safe to skin the seal ?

Wear gloves, or use plastic bags to cover hands.



4. Is it safe to eat the seal ?

The meat should be OK to eat if cooked well.

It is not recommended to eat the seal if it looks unusually sick or weak.



5. Is it safe to feed to dogs ?

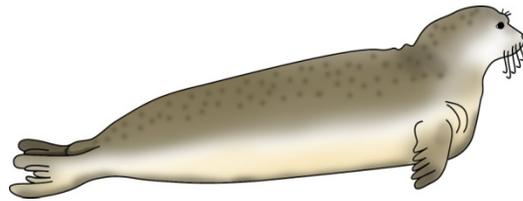
It is not recommended to feed dogs any parts of the seal if it looks unusually sick or if you would not eat it.



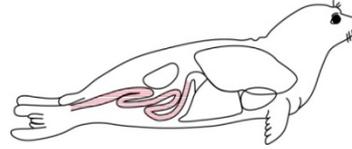
For more information go to H-C.5

C-1.6

Tapeworms



Bearded Seal



1. Where are they found ?

Photo Credit: *Dr. J. Geraci*



Photo Credit: *Dr. L Measures*



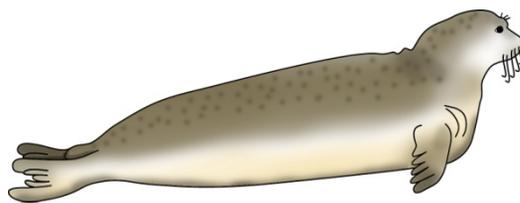
- Tapeworms are most often found in the intestines of the animal.
- Seals get tapeworms from eating fish infected with immature tapeworms (see Immature tapeworms of fish in sections A-1.6, A-2.6, A-3.6).

2. What are they ?

- Tapeworms are small flat, segmented worm-like parasites.
- Tapeworm size and length varies on the species and age of the worm.



Photo Credit: *S. Kutz*



Tapeworms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

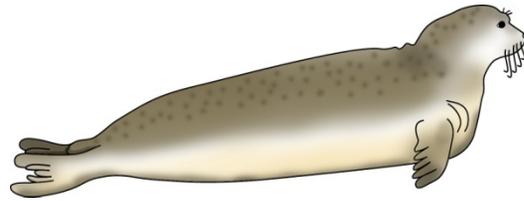
5. Is it safe to feed to dogs ?



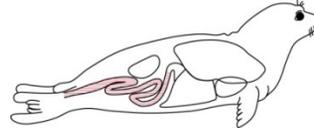
For more information go to H-C.6

C-1.7

Thorny-headed Worms



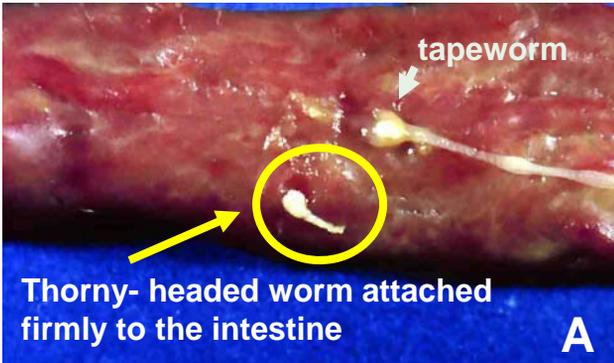
Bearded Seal



1. Where are they found ?

Photo Credit: Dr. J. Geraci

Photo Credit: Dr. J. Geraci

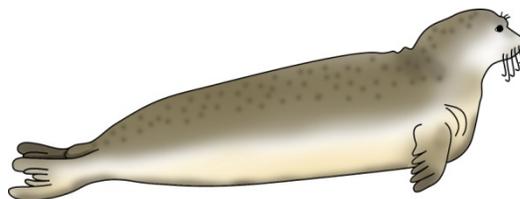


- Thorny-headed worms attach to the inside of the intestine.
- Small sores may be seen at the point of attachment.
- The ear bones from fish can sometimes be mistaken for worms. Ear bones (photo B) rub off easily, worms do not.

2. What are they ?

- Thorny-headed worms are short, small, flattened worms.
- The head of the worm has hooks which are used to attach onto tissues.

Thorny-headed Worms



3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

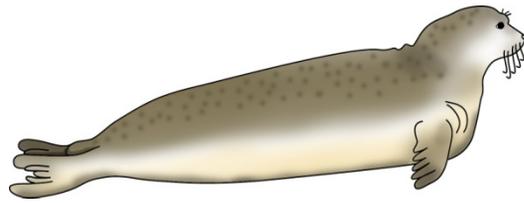
SAFE

5. Is it safe to feed to dogs ?

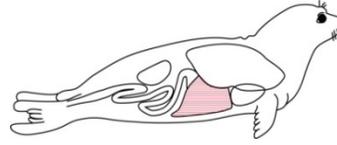


For more information go to H-C.7

Liver Flukes



Bearded Seal



1. Where are they found ?

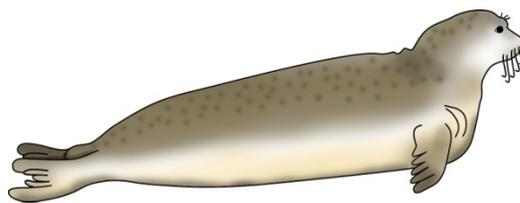


Photo Credit: *Dr. L Measures*

- Flukes are often found in the tubes of the liver and pancreas.
- They can often cause swelling, redness and scarring.

2. What are they ?

- Flukes are small, flat, worm-like parasites.



Liver Flukes

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

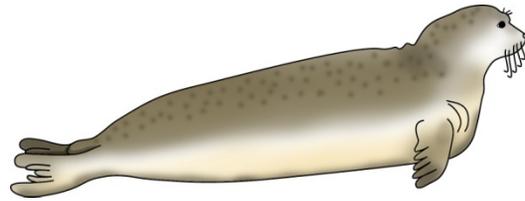
SAFE

5. Is it safe to feed to dogs ?

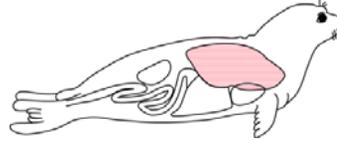


For more information go to H-C.8

Lungworms



Bearded Seal



1. Where are they found ?

- Lungworms are found in the lungs of seals.
- Different species of lungworms are found in whales.

2. What are they ?

- Lungworms are parasitic roundworms.
- Worms (< 7 cm) and/or small round grey lumps (<2 cm) may be found when butchering.

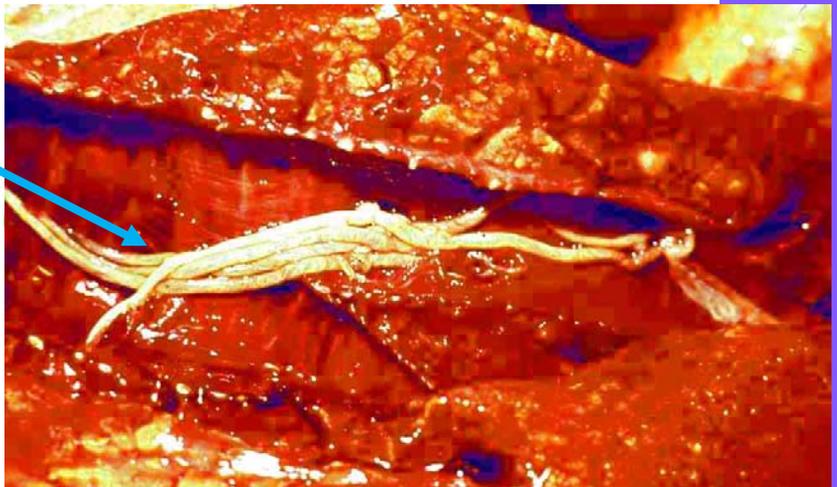
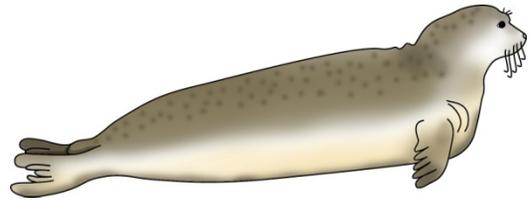


Photo Credit: Dr. J. Geraci



Lungworms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

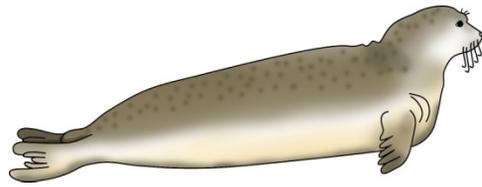
SAFE

5. Is it safe to feed to dogs ?

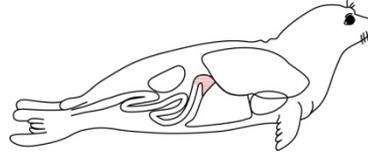


For more information go to H-C.9

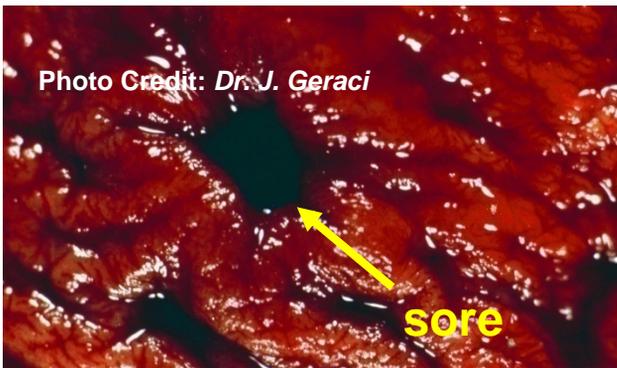
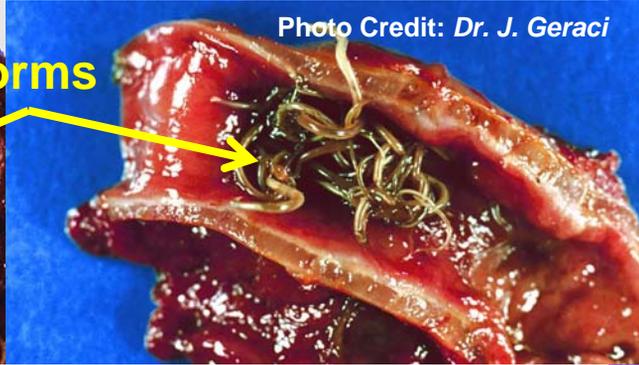
Stomach Worms



Bearded Seal



1. Where are they found ?

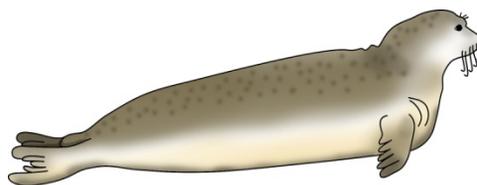


- Stomach worms are most often found only in the stomach, but can be found in the beginning part of the intestine.

- Worms can burrow into tissues causing sores.

2. What are they ?

- The stomach worms are roundworms.
- The seal becomes infected with the roundworm when it eats a fish that contains an immature stage of the worm (see roundworms of fish in sections A-1.4, A-2.4, A-3.4).



Stomach Worms

3. Is it safe to skin the seal ?



4. Is it safe to eat the seal ?



It is not recommended to eat infected stomach or intestines raw.

5. Is it safe to feed to dogs ?



It is not recommended to feed dogs infected stomach or intestines raw.

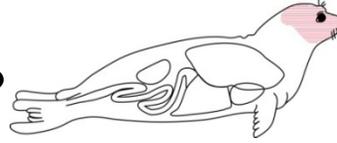
For more information go to H-C.10

C-2.1

Eye infections (conjunctivitis)



Ringed Seal



1. Where are they found ?

- Eye infections are often seen in eyes which appear to be slightly cloudy and partly shut.
- There may also be a discharge from the corners of the eyes.
- Eye infections may be associated with other sicknesses such as sick-looking lungs (see pneumonia in section G-1.7).

2. What are they ?

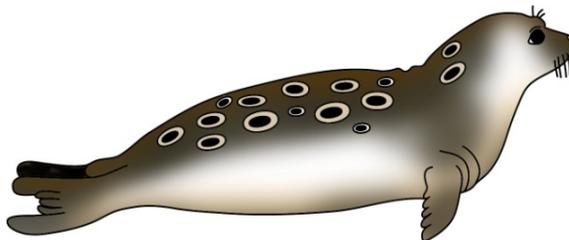
- Eye infections are seen as swelling and redness of the lining of the eyelids, similar to pinkeye in humans.
- They can be caused by viruses or by bacteria. We do not know a lot about the types of viruses that a seal can get, or if they can cause sickness in humans.

Photo Credit: Dr. P-Y. Daoust



Photo Credit: Dr. J. Geraci





Eye infections (Conjunctivitis)

3. Is it safe to skin the seal ?



Wear gloves when handling animals that look sick.

Wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the seal ?



Animals with only an eye infection are likely OK to eat.

It is not recommended to eat seals that look sick overall.

5. Is it safe to feed to dogs ?

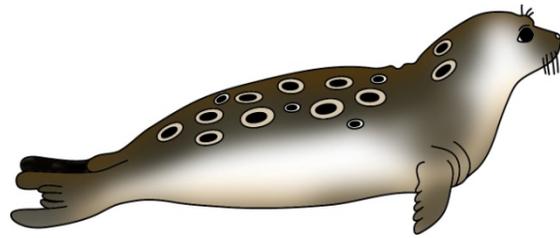


Animals with only an eye infection are likely OK to feed to dogs. It is not recommended to feed to dogs seals that look sick overall.

For more information go to H-C.1

C-2.2

Hair Loss



Ringed Seal

1. Where on the body ?

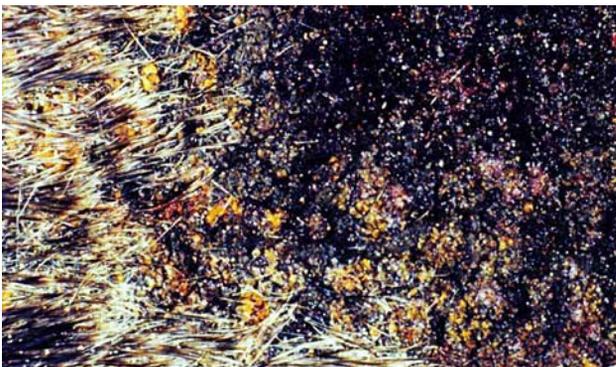


- Hair loss can occur anywhere on the body.

2. What is it ?

- Patchy hair loss in older animals may be caused by bacterial or fungal infections of the skin.
- Hair loss can occur in animals who fail to properly shed their old hair coat.
- Rarely, newborn pups will be born with no hair. This is most likely a genetic problem.

Photo Credit: Dr. P-Y Daoust



- Patchy hair loss from a fungal skin infection.

Photo Credit: Dr. J. Geraci



- Hairless seal pup born dead.



Hair Loss

3. Is it safe to skin the seal ?



Wear gloves or plastic bags over hands if seal looks unusually sick.

Wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the seal ?



The seal is likely OK to eat, but it is advised to cook the meat first if you are concerned about safety.

Avoid eating sick or weak animals.

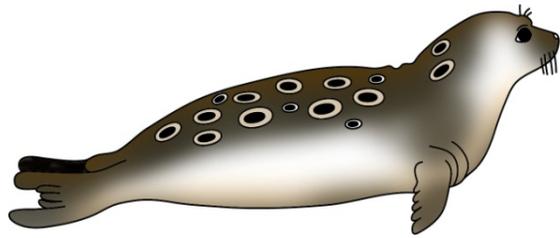
5. Is it safe to feed to dogs ?



The seal is likely OK to feed to dogs but avoid feeding dogs seals looking sick or weak.

C-2.3

Seal Lice



Ringed Seal

1. Where are they found ?



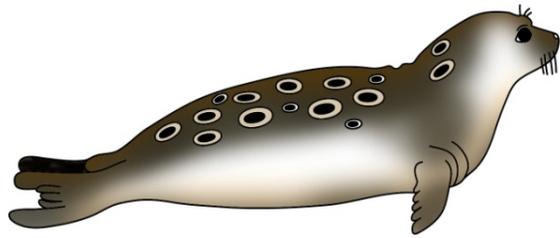
- Lice can be found anywhere on the body.
- Lice are most often seen on the head and hind flippers.



Photo Credit: J. Geraci

2. What are they ?

- Seal lice are small marine insects.
- They suck the blood from holes they make in the skin.
- They may transmit heartworm to the seal (see heartworm in section C-2.11).



Seal Lice

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

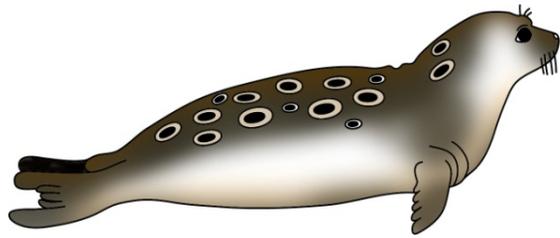
SAFE

5. Is it safe to feed to dogs ?



For more information go to H-C.3

Sealpox



Ringed Seal



1. Where is it found ?

- Sealpox lumps are more common on the head and neck, but can be found anywhere on the animal.
- These lumps may occur singly or in groups.

2. What is it ?

- Sealpox is caused by a virus.
- It is seen as firm lumps on the skin.
- The small lumps (2-3 cm) can break open, ooze and eventually heal often leaving a greyish, slightly raised scar without fur.

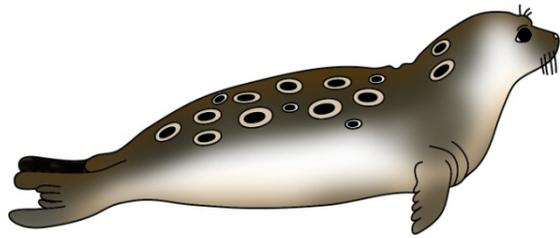
Photo Credit: *Dr. P-Y. Daoust*



Photo Credit: *Dr. J. Geraci*



Sealpox



3. Is it safe to skin the seal ?



Wear gloves or use plastic bags over hands.

Wash tools, hands and outer clothing in hot soapy water.

The virus causing the sealpox may cause sores in people.



4. Is it safe to eat the seal ?



Human health concerns are uncertain.

It is not recommended to eat these animals.

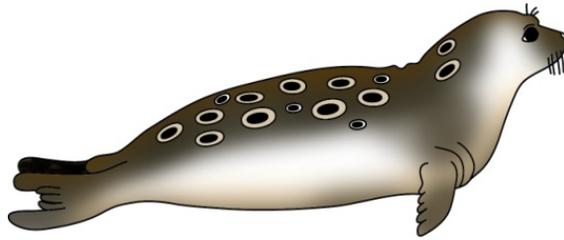
5. Is it safe to feed to dogs ?



It is not recommended to feed dogs anything you would not eat.

C-2.5

Pelt Discolouration



Ringed Seal

1. Where on the body ?



- Pelt discolouration can occur anywhere on the body.



Photo Credit: D. White

2. What is it ?

- In affected areas the skin may be darker than usual, and there may be hair loss, reddening, thickening, and flaking of the skin.
- Pelt discolouration is often caused by a fungal infection.

Pelt Discolouration



3. Is it safe to skin the seal ?



Wear gloves, or use plastic bags to cover hands.

4. Is it safe to eat the seal ?



The meat should be OK to eat if cooked well.
It is not recommended to eat the seal if it looks unusually sick or weak.

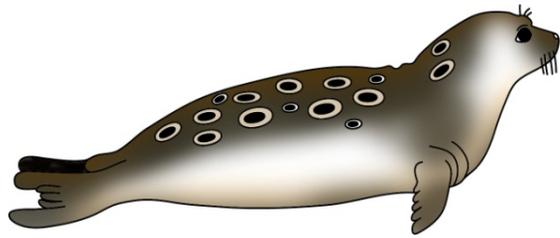
5. Is it safe to feed to dogs ?



It is not recommended to feed dogs any parts of the seal if you would not eat it.

For more information go to H-C.5

Tapeworms



Ringed Seal

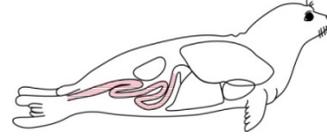


Photo Credit: Dr. L Measures

1. Where are they found ?

Photo Credit: Dr. J. Geraci



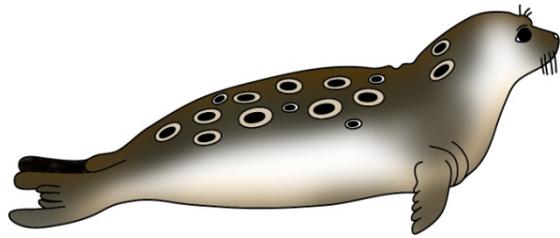
- Tapeworms are most often found in the intestines of the animal.
- Seals get tapeworms from eating fish infected with immature tapeworms (see Immature tapeworms of fish in sections A-1.6, A-2.6, A-3.6).

2. What are they ?

- Tapeworms are small, flat, segmented worm-like parasites.
- Tapeworm size, and length varies depending on species and age of the worm.



Photo Credit: S. Kutz



Tapeworms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

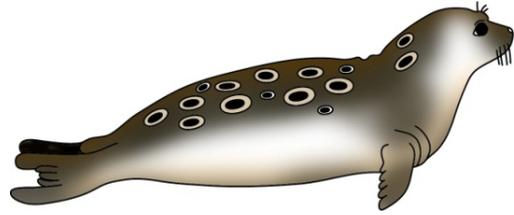
5. Is it safe to feed to dogs ?



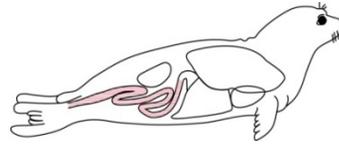
For more information go to H-C.6

C-2.7

Thorny-headed Worms



Ringed Seal



1. Where are they found ?

Photo Credit: Dr. J. Geraci



Photo Credit: Dr. J. Geraci



- Thorny-headed worms attach to the inside of the intestine.
- Small sores may be seen at the point of attachment.
- The ear bones from fish can sometimes be mistaken for worms. Ear bones (photo B) rub off easily, worms do not.

2. What are they ?

- Thorny-headed worms are short, small, flattened worms.
- The head of the worm has hooks which are used to attach onto tissues.



Thorny-headed Worms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

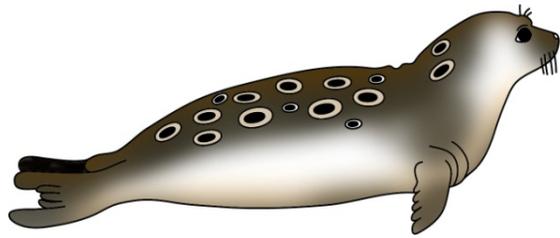
5. Is it safe to feed to dogs ?



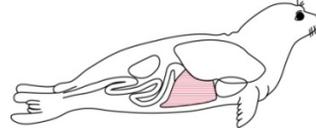
For more information go to H-C.7

C-2.8

Liver Flukes



Ringed Seal



1. Where are they found ?

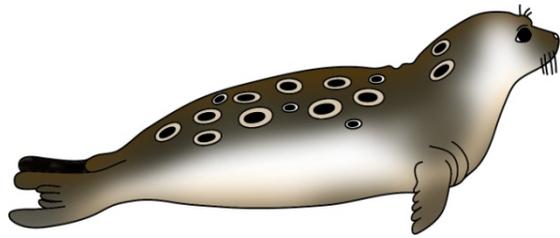


Photo Credit: *Dr. L Measures*

- Flukes are often found in the tubes of the liver and pancreas.
- They can often cause swelling, redness and scarring.

2. What are they ?

- Flukes are small, flat, worm-like parasites.



Liver Fluke

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

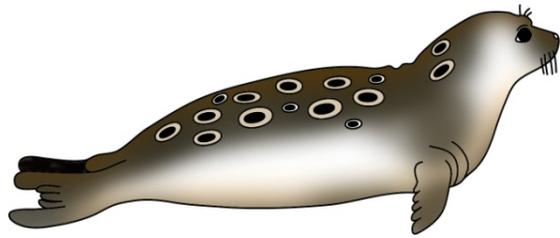
5. Is it safe to feed to dogs ?



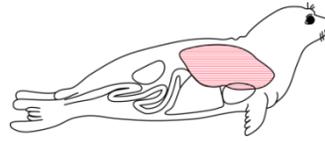
For more information go to H-C.8

C-2.9

Lungworms



Ringed Seal



1. Where are they found ?

- Lungworms are found in the lungs of seals.
- Different species of lungworms are found in whales.

2. What are they ?

- Lungworms are parasitic roundworms.
- Worms (< 7 cm) and/or small round grey lumps (<2 cm) may be found when butchering.

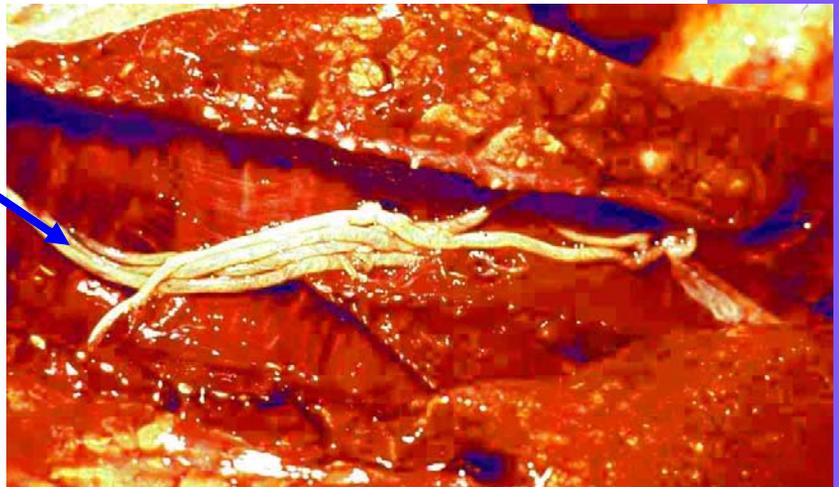
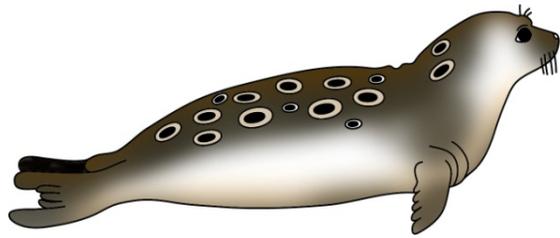


Photo Credit: Dr. J. Geraci



Lungworms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

5. Is it safe to feed to dogs ?



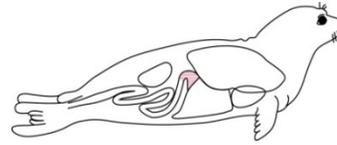
For more information go to H-C.9

C-2.10

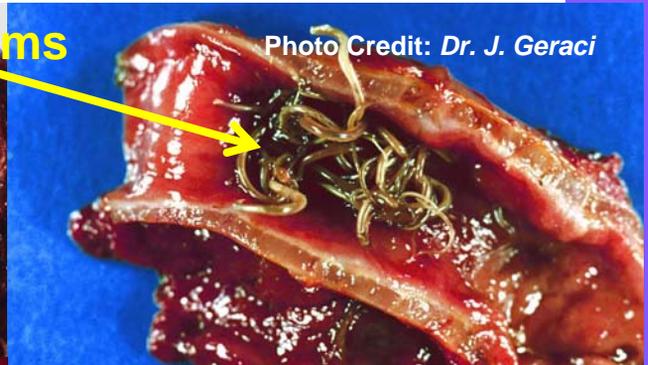
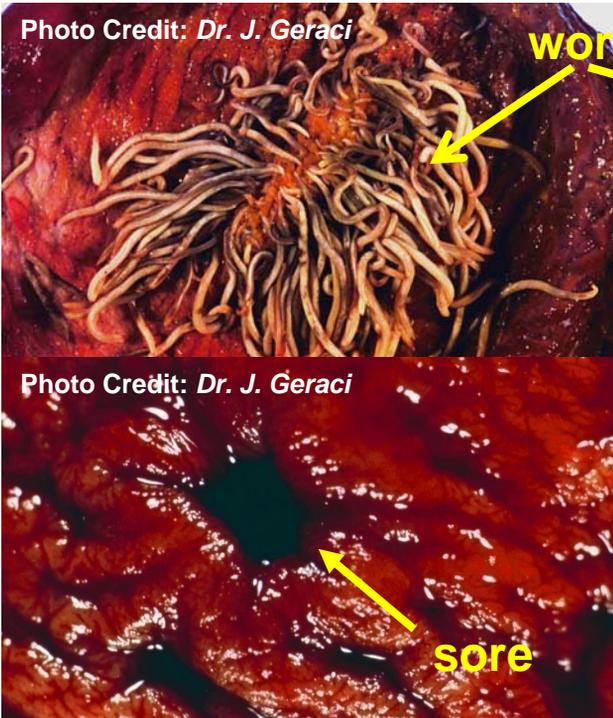
Stomach Worms



Ringed Seal



1. Where are they found ?

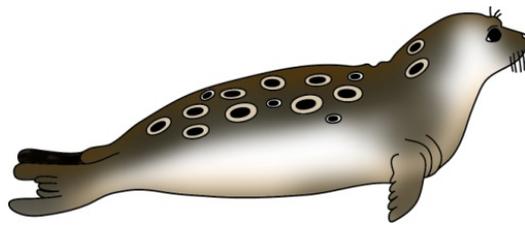


- Stomach worms are most often found only in the stomach, but can be found in the beginning parts of the intestine.

- Worms can burrow into tissues causing sores.

2. What are they ?

- The stomach worms are roundworms.
- The seal becomes infected with the roundworm when it eats a fish that contains an immature stage of the worm (see roundworms of fish in sections A-1.4, A-2.4, A-3.4).



Stomach Worms

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?



It is not recommended to eat infected stomach or intestines raw.

5. Is it safe to feed to dogs ?

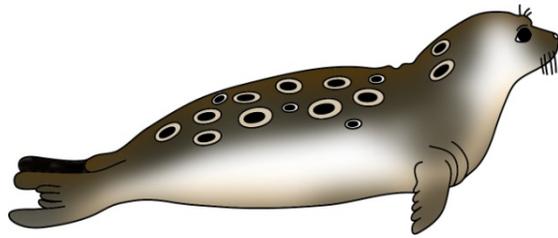


It is not recommended to feed dogs infected stomach or intestines raw.

For more information go to H-C.10

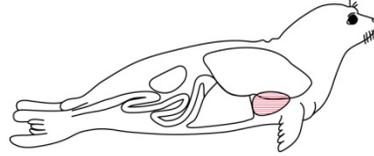
C-2.11

Heartworm



Ringed Seal

1. Where are they found ?



- Heartworm is found within the heart and blood vessels leading to the lungs.

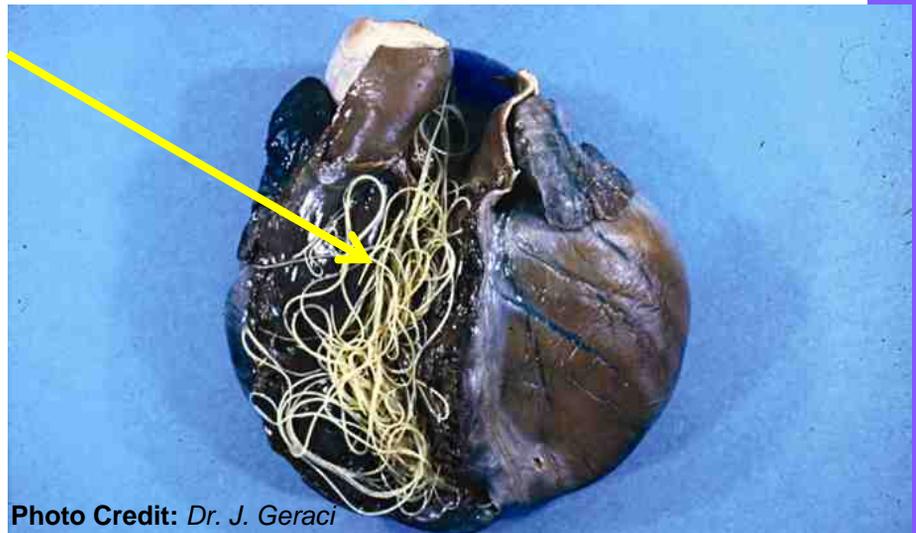
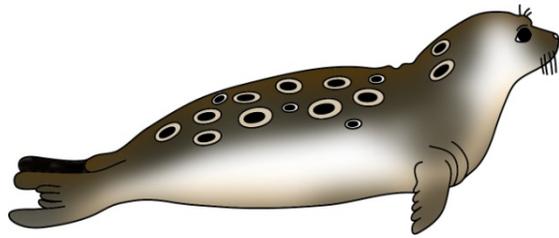


Photo Credit: Dr. J. Geraci

- Seals get heartworm when they are bitten by seal lice (see seal lice in section C-2.3) carrying immature heartworms.

2. What are they ?

- Heartworms, also known as roundworms.



Heartworm

3. Is it safe to skin the seal ?

SAFE

4. Is it safe to eat the seal ?

SAFE

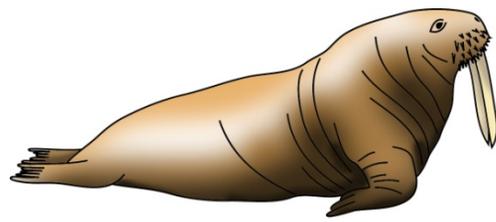
5. Is it safe to feed to dogs ?



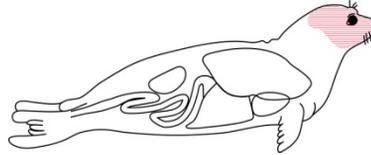
For more information go to H-C.11

C-3.1

Eye infections (conjunctivitis)



Walrus



1. Where are they found ?

- Eye infections are often seen in eyes which appear to be slightly cloudy and partly shut.
- There may also be a discharge from the corners of the eyes.
- Eye infections may be associated with other sicknesses such as sick-looking lungs (see pneumonia in section G-1.7).

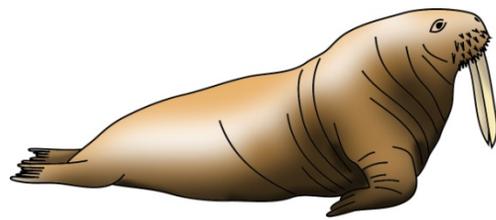
2. What are they ?

- Eye infections are seen as swelling and redness of the lining of the eyelids, similar to pinkeye in humans.
- They can be caused by viruses or by bacteria. We do not know a lot about the types of viruses that a walrus can get, or if they can cause sickness in humans.

Photo Credit: *Dr. J. Geraci*



Seals showing eye infections. Walrus eyes would look similar.



Eye infections (conjunctivitis)

3. Is it safe to skin the walrus ?



Wear gloves when handling animals that look sick.

Wash tools and outer clothing in hot soapy water.

4. Is it safe to eat the walrus ?

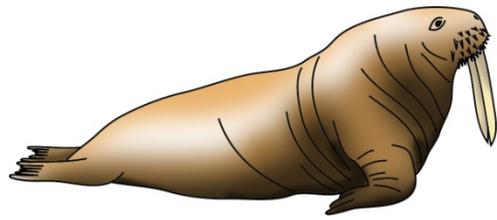


Animals with only an eye infection are likely OK to eat. It is not recommended to eat walruses that look sick overall.

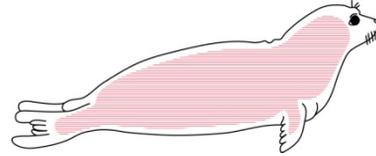
5. Is it safe to feed to dogs ?



Animals with only an eye infection are likely OK to feed to dogs. It is not recommended to feed to dogs walruses that look sick overall.



Walrus



Trichinellosis

1. Where is it found ?

- Trichinella can be in many different parts of the meat.
- You can not see trichinella with the naked eye. They can only be detected using a microscope.
- Samples of walrus meat can be tested at a laboratory.

2. What is it ?

- Trichinellosis is an infection with a roundworm parasite.
- It is passed from one animal to another by eating raw meat containing the parasite.
- The tiny, invisible, immature stage of the parasite lives in the meat.



Trichinellosis

3. Is it safe to skin the walrus ?



4. Is it safe to eat the walrus ?



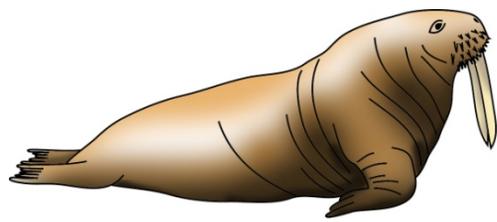
The trichinella should be killed if the meat is cooked well.
If the meat is to be eaten raw, frozen or aged, then it is recommended that the animal be tested before eating.

5. Is it safe to feed to dogs ?

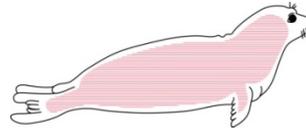


It is not recommended to feed dogs anything that is not safe for humans.

Botulism



Walrus



1. What is it ?

- Botulism is caused by a strong poison produced by bacteria which can grow on **improperly** prepared igunaq (aged meat) and sometimes also misiraq (aged oil).
- The bacteria occur naturally in animals and the environment.
- Botulism can be life threatening to those who eat contaminated food.
- It causes progressive body weakness and paralysis.

2. Signs and Symptoms

- First signs usually appear 12 to 36 hours after eating contaminated food.
- First signs usually are nausea, vomiting, diarrhea or stomach pain.
- Shortly afterwards, there can be dry mouth, blurry vision, double vision, difficulty or pain in swallowing or speaking, faintness and difficulty in breathing.



Botulism

3. What should you do ?

Go directly to the nursing station if you think you ate bad food.



4. Is it safe to eat aged meat you think has been improperly aged ?

It is advised to only eat aged meat (igunaq) which you know has been prepared properly by experienced and trusted producers.

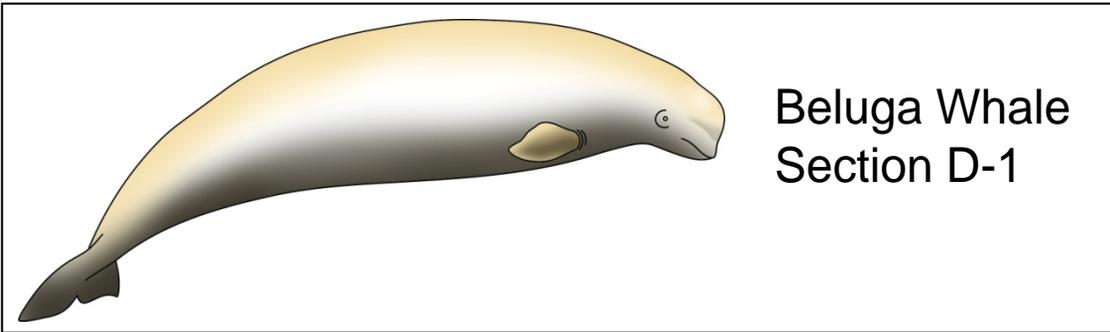


5. Is it safe to feed aged meat to dogs you think has been improperly aged ?

It is not recommended to feed dogs anything you would not eat.



Section D



Section D

Diseases and Parasites of the Beluga

Skin infections

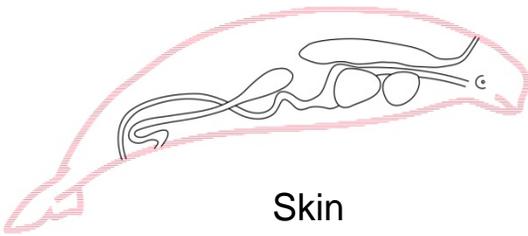


Photo Credits: D. Martineau



Beluga whale

Section D-1.1

Skin craters



Photo Credit: J. Geraci

Beluga whale

Section D-1.2

Whale lice



Photo Credits: L. Measures



Beluga Whale

Section D-1.3

Section D

Diseases and Parasites of the Beluga

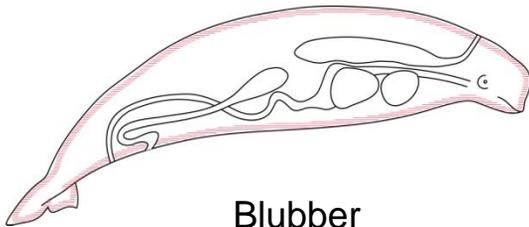
Blubber cysts

Photo Credit: Dr. J. Geraci



Beluga whale

Section D-1.4



Blubber

Worms between blubber and meat

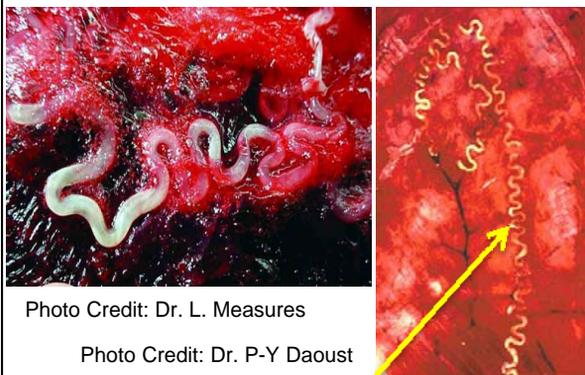


Photo Credit: Dr. L. Measures

Photo Credit: Dr. P-Y Daoust

Beluga whale

Section D-1.5

Section D

Diseases and Parasites of the Beluga

Kidney worms

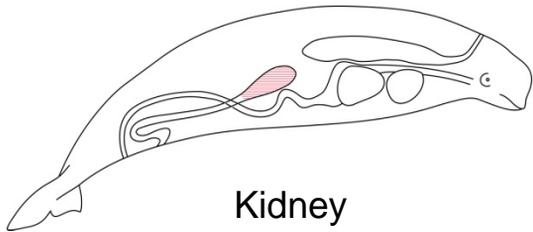


Photo Credit: Dr. P. Duignan



Beluga whale

Section D-1.6

Worms in the blowhole

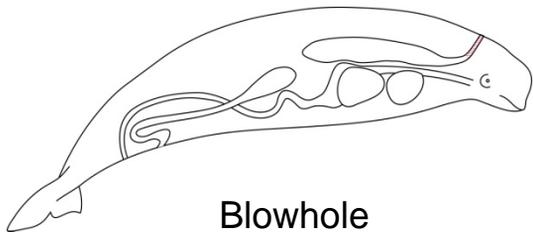


Photo Credit: G. Early

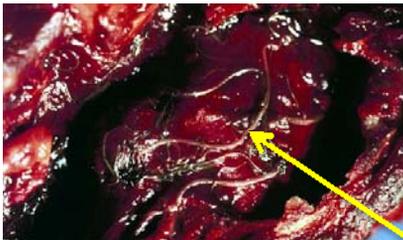


Photo Credit: J. Geraci

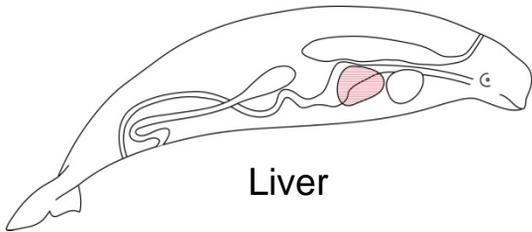
Beluga whale

Section D-1.7

Section D

Diseases and Parasites of the Beluga

Liver Fluke



Liver

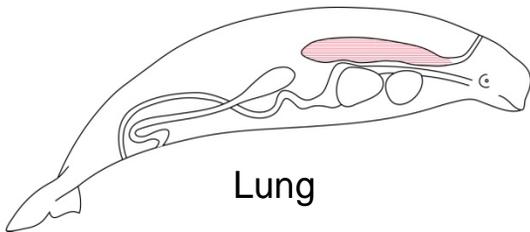


Photo Credit: Dr. L Measures

Beluga whale

Section D-1.8

Lungworms



Lung

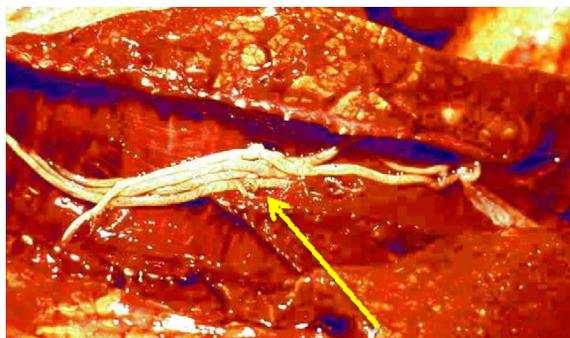


Photo Credit: Dr. J. Geraci

Beluga whale

Section D-1.9

Section D

Diseases and Parasites of the Beluga

Stomach worms

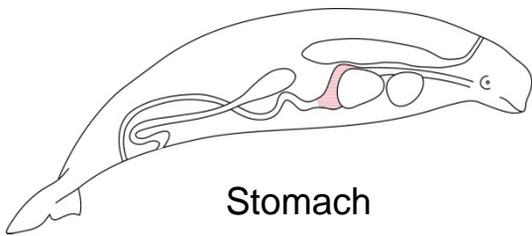


Photo Credit:
Dr. D. Martineau

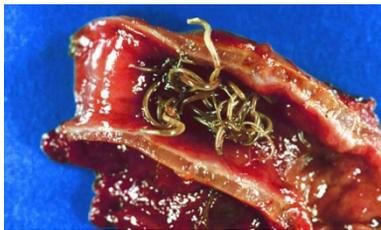


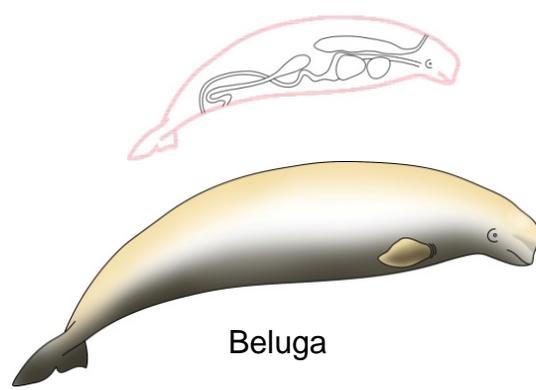
Photo Credit:
Dr. J. Geraci

Beluga whale

Section D-1.10

D-1.1

Skin Infections



Beluga

1. Where is it found ?

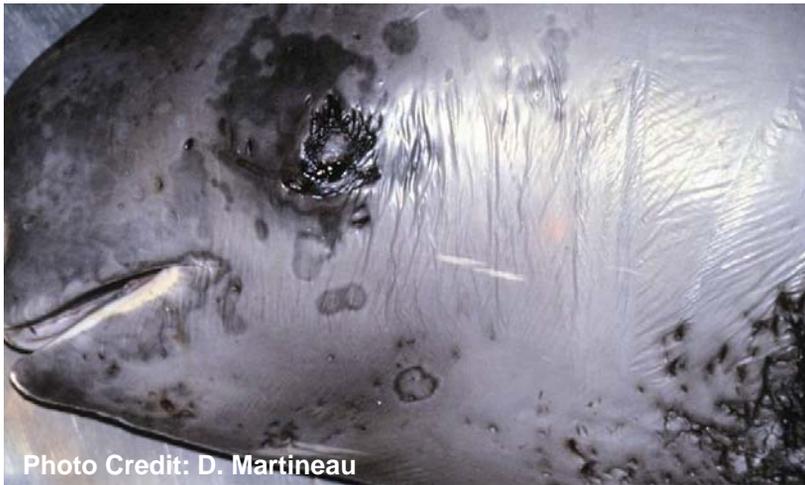


Photo Credit: D. Martineau

- Sores can be found anywhere on the body.
- Skin may be dry and peeling. Large patches may be discoloured.

- The exact cause is unknown.
- Found only in St. Lawrence River population, not yet seen in Nunavut.

2. What is it ?

- Skin infections cause severe skin disease.
- Sores can vary in size, colour, shape and location. They can rupture and be slow to heal.

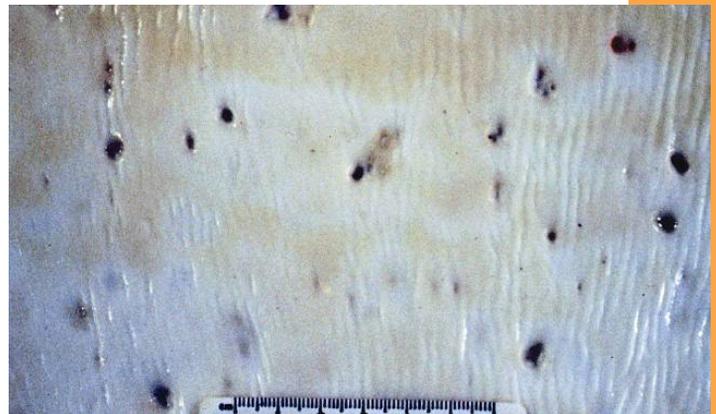
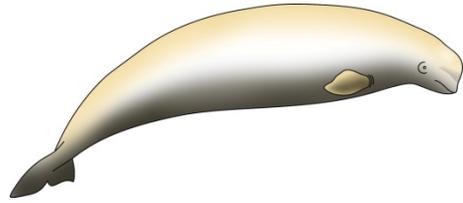


Photo Credit: D. Martineau



Skin Infections

3. **Is it safe to butcher the beluga ?**



Wear gloves or plastic bags over hands.

4. **Is it safe to eat the beluga ?**



It is not recommended that the muktuk of affected areas be eaten.

It is not recommended to eat any parts of the beluga if more than one third of the whale has this condition.

5. **Is it safe to feed to dogs ?**

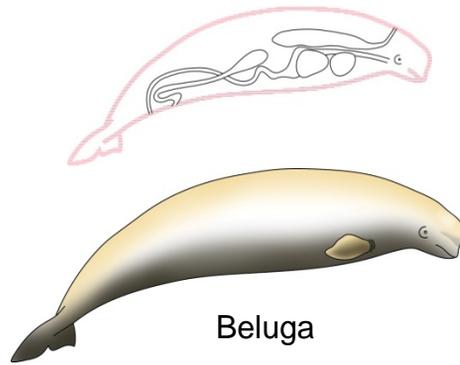


It is not recommended to feed dogs anything not safe for people to eat.

For more information go to H-D.1

D-1.2

Skin “Craters”



1. Where are they found ?

- Skin craters can be found anywhere on the body.

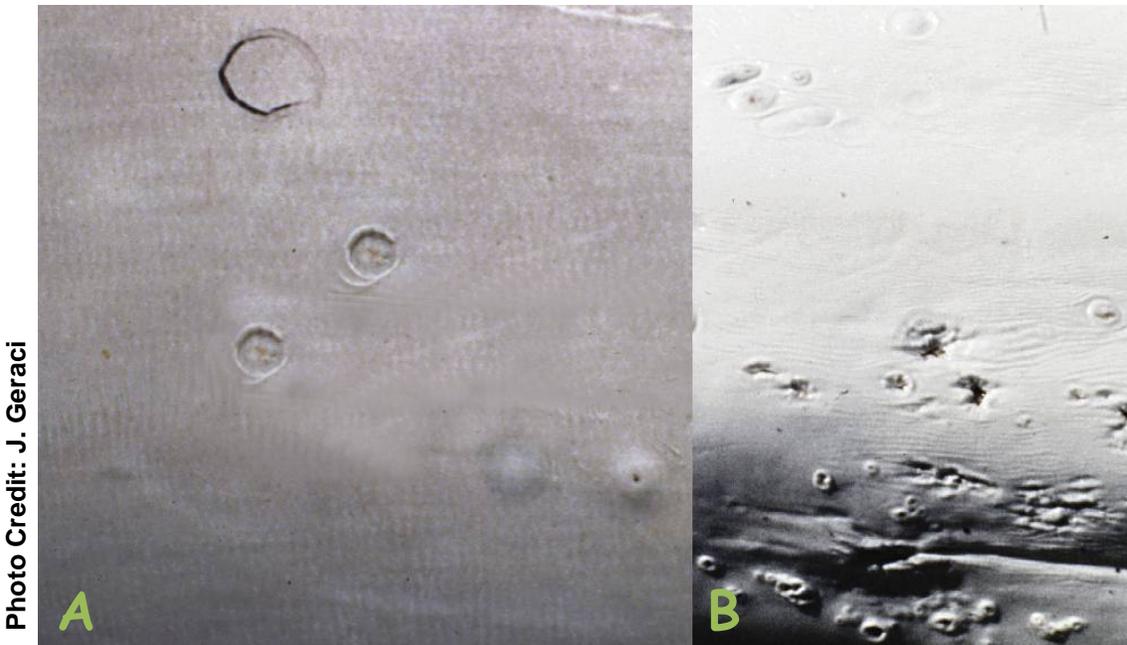
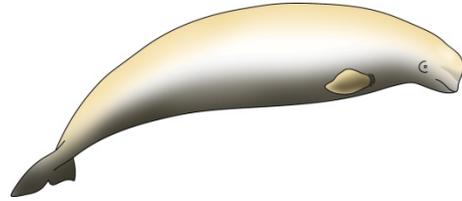


Photo Credit: J. Geraci

2. What are they ?

- Skin craters are circular depressions on the skin, often with a thin raised edge around the circle.
- Skin craters are variable in size and shape as seen in photos A and B.
- Their cause is unknown, but appearance suggests that they may be caused by a virus.



Skin “Craters”

3. **Is it safe to butcher the beluga ?**



4. **Is it safe to eat the beluga ?**



It is not recommended to eat skin and underlying blubber from areas with skin craters.

5. **Is it safe to feed to dogs ?**

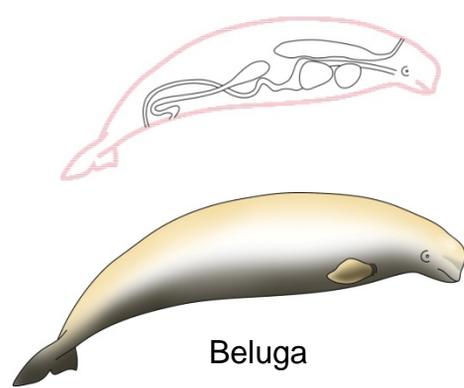


It is not recommended to feed skin or underlying blubber to dogs from areas with skin craters.

For more information go to H-D.2

D-1.3

Whale “Lice”



1. Where are they found ?

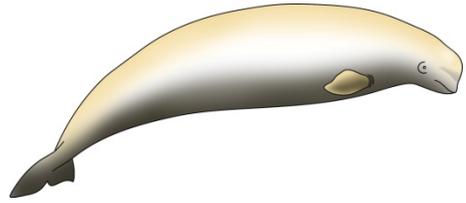
Photo Credit: L. Measures



- Whale “lice” live in cracks and on barnacles and bumps on the skin of whales.
- Whale “lice” do not cause disease, but large numbers may indicate an unhealthy whale.

2. What are they ?

- Whale “lice” are not really lice, but are small water-living animals.



Whale “Lice”

3. Is it safe to butcher the beluga ?



4. Is it safe to eat the beluga ?

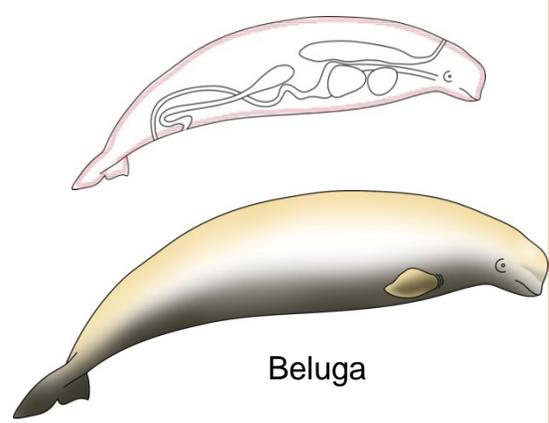


5. Is it safe to feed to dogs ?



D-1.4

Parasitic Cysts in Blubber



1. Where are they found ?

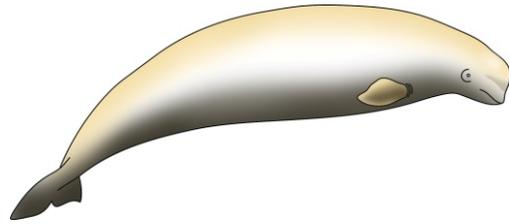
- Sacs, or cysts, can occur anywhere in blubber but are most often found on the underside of the animal.



Photo Credit: Dr. J. Geraci

2. What are they ?

- The fluid-filled cysts contain an immature tapeworm.
- The tapeworms will mature only in a different animal which is likely a shark.



Parasitic Cysts in Blubber

3. Is it safe to butcher the beluga ?



4. Is it safe to eat the beluga ?



It is recommended to cut away cysts before eating.

5. Is it safe to feed to dogs ?

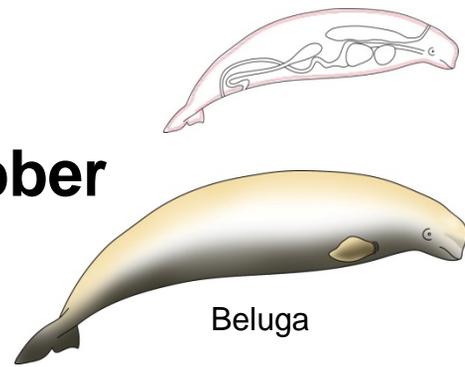


It is recommended to cut away cysts before feeding to dogs.

For more information go to H-D.4

D-1.5

Worms between Blubber and Meat

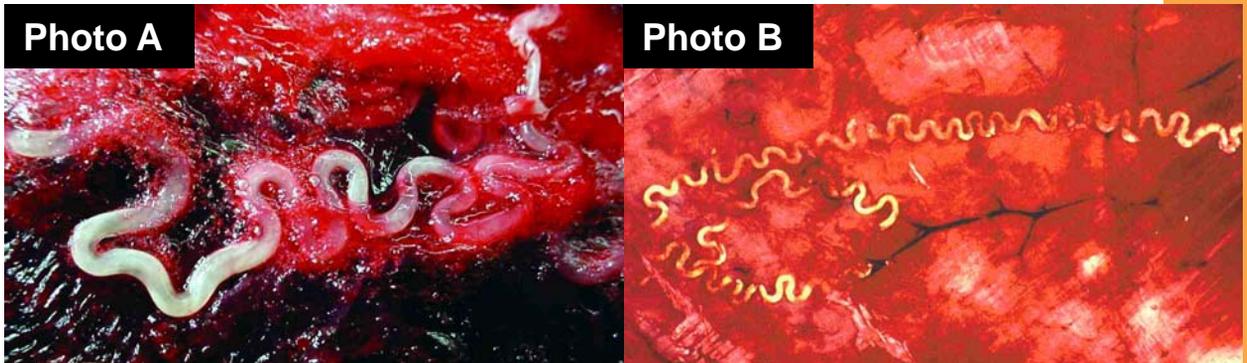


1. Where are they found ?

- Worms generally occur in the tissue where the blubber and meat connect such as seen in Photo A.

Photo Credit: Dr. L. Measures

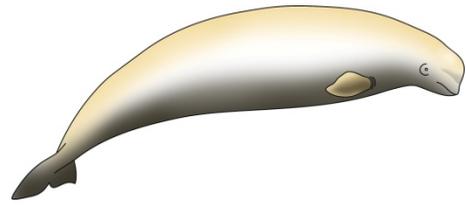
Photo Credit: Dr. P-Y Daoust



- Worms can also occur in other locations.
- Sometimes the worms can still be seen after they have died and become hardened as shown in Photo B.

2. What are they ?

- They are parasitic worms called roundworms.



Worms between Blubber and Meat

3. Is it safe to butcher the beluga ?



4. Is it safe to eat the beluga ?

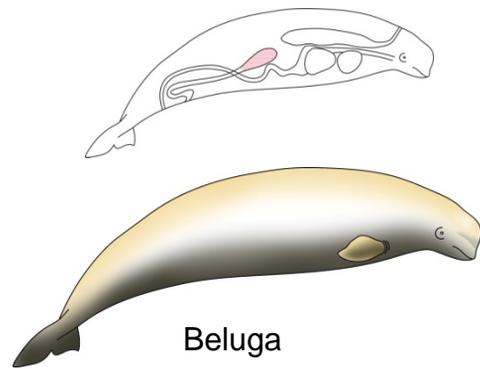


5. Is it safe to feed to dogs ?



D-1.6

Worms in the Kidney



Beluga Whale

1. Where are they found ?

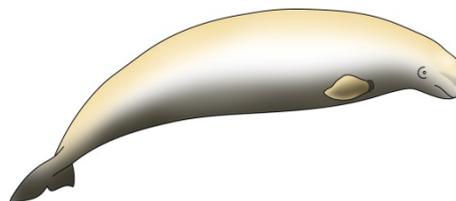
- Worms are found in large numbers inside the kidney.



Photo Credit: Dr. P. Duignan

2. What are they ?

- These are large parasitic roundworms.



Worms in the Kidney

3. **Is it safe to butcher the beluga ?**



4. **Is it safe to eat the beluga ?**



It is recommended to either cut out and throw away any kidneys with worms, or cook any kidneys having worms before eating.

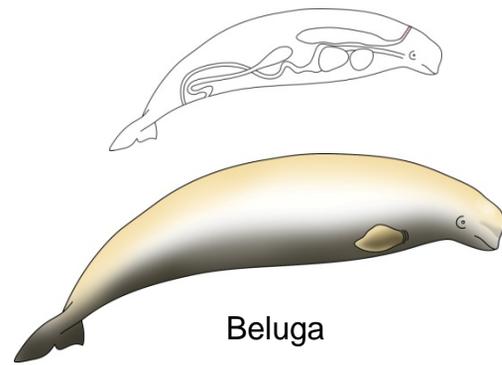
5. **Is it safe to feed to dogs ?**



It is recommended to cook kidneys first before feeding to dogs.

D-1.7

Worms in Blowhole and Head

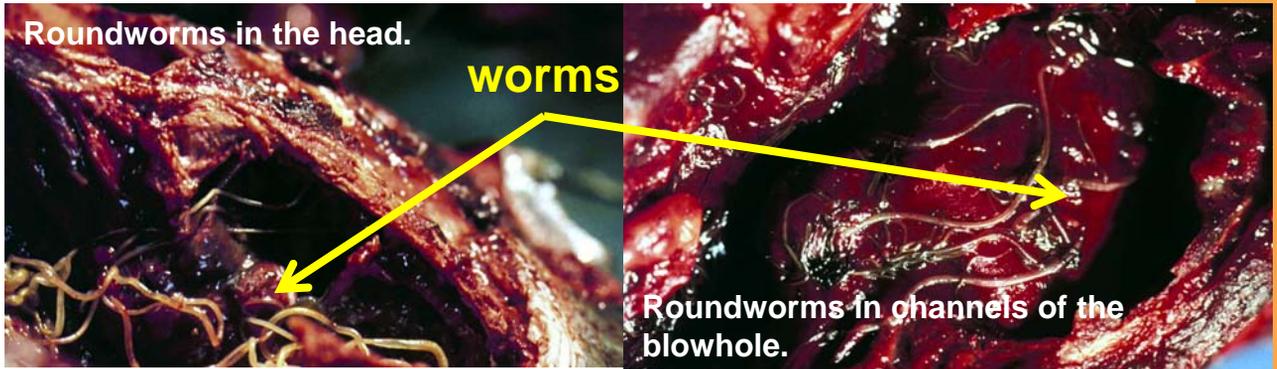


1. Where are they found ?

- These worms can be found anywhere in the head, including the ear and channels connected to the blowhole.

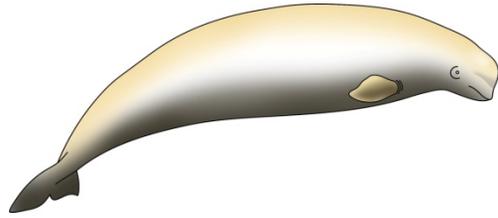
Photo Credit: G. Early

Photo Credit: J. Geraci



2. What are they ?

- Parasitic roundworms and or flukes.



Worms in Blowhole and Head

3. Is it safe to butcher the beluga ?



4. Is it safe to eat the beluga ?

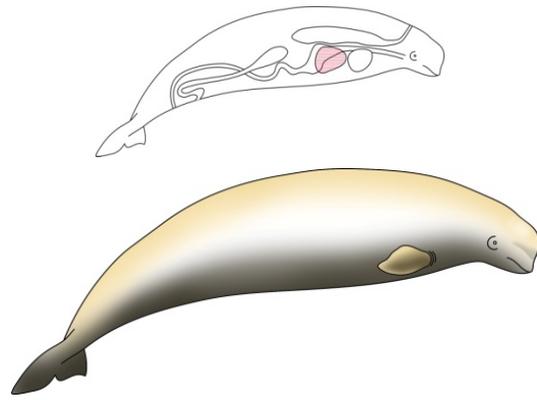


5. Is it safe to feed to dogs ?



D-1.8

Liver Fluke



Beluga

1. Where are they found ?

- Flukes are often found in the tubes of the liver and pancreas.

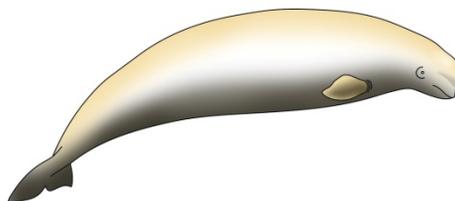


Photo Credit: Dr. L Measures

- Flukes in these tissues can often cause sores that can spread to neighboring tissues.

2. What are they ?

- Flukes are small, flat, worm-like parasites.



Liver Fluke

3. Is it safe to skin the whale ?



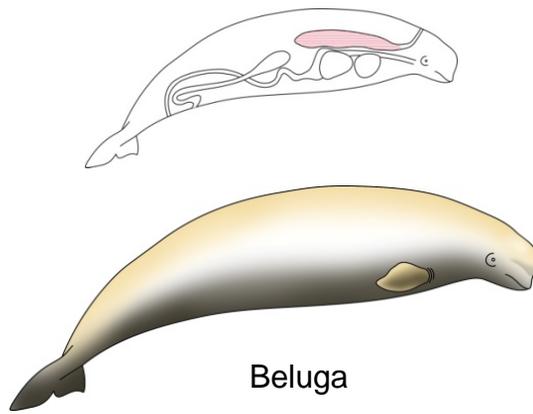
4. Is it safe to eat the whale ?



5. Is it safe to feed to dogs ?



Lungworms



1. Where are they found ?

- Lungworms are found in the lungs of Belugas.
- Different species of lungworms are found in seals.

2. What are they ?

- Lungworms are parasitic roundworms.
- Worms (< 7 cm) and/or small round grey lumps of dead tissue (<2 cm) may be found when butchering.

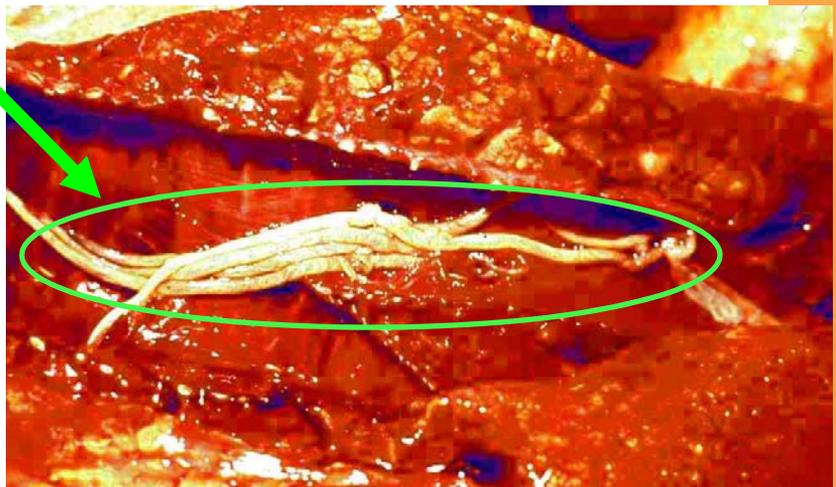
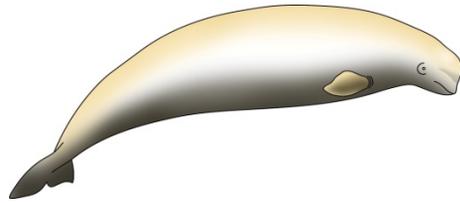


Photo Credit: Dr. J. Geraci



Lungworms

3. Is it safe to skin the whale ?



4. Is it safe to eat the whale ?

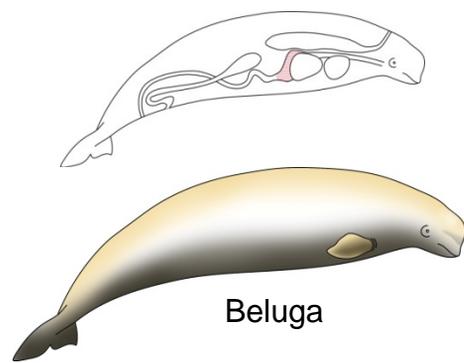


5. Is it safe to feed to dogs ?



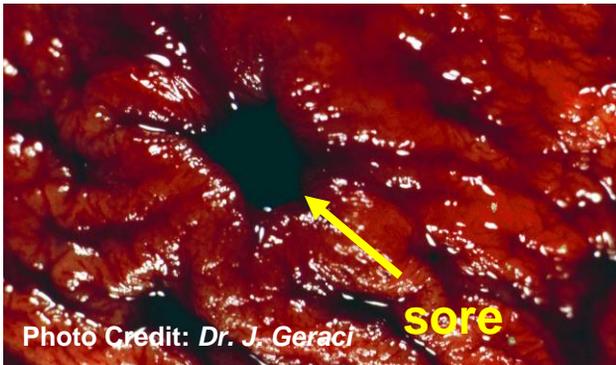
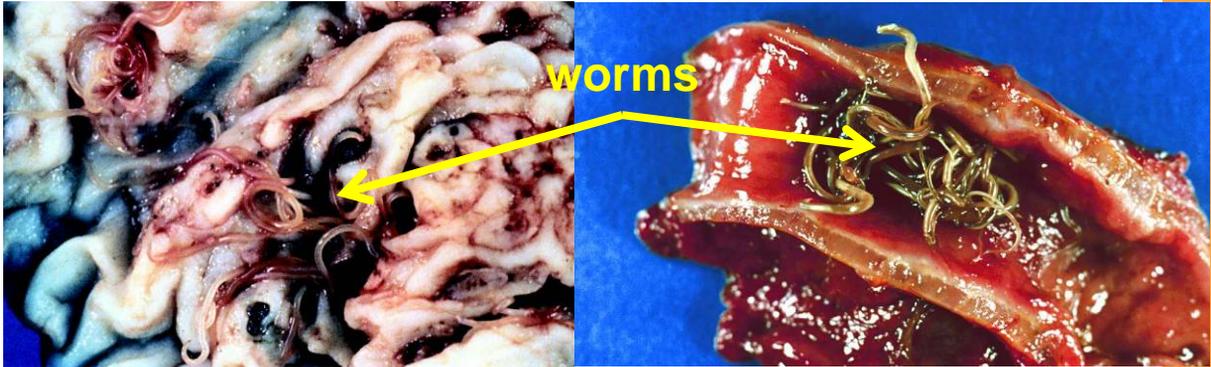
D-1.10

Stomach Worms



1. Where are they found ?

Photo Credit: *Dr. D. Martineau*

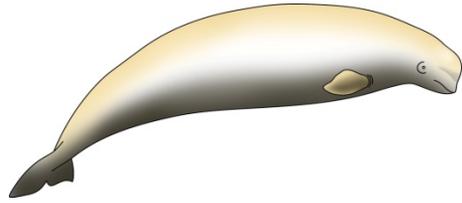


- Stomach worms can be found anywhere in the stomach and also in the intestines.

- Worms can burrow into tissues causing sores.

2. What are they ?

- Stomach worms are parasitic roundworms.
- Beluga are infected by eating infected fish. The fish become infected from eating infected invertebrates such as krill.



Stomach Worms

3. Is it safe to skin the whale ?

SAFE

4. Is it safe to eat the whale ?

It is not recommended to eat infected stomach or intestines raw.

5. Is it safe to feed to dogs ?

It is not recommended to feed dogs infected stomach or intestines raw.

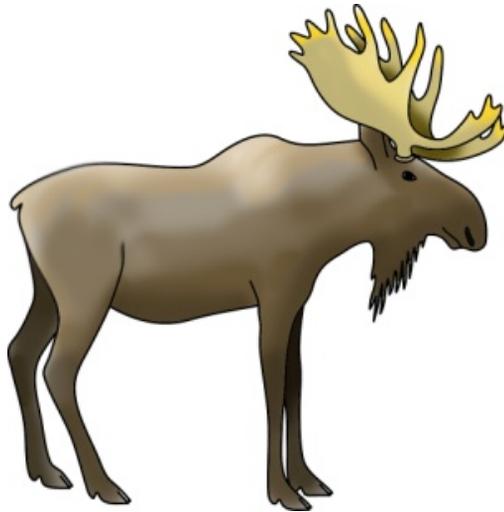
Section E



Caribou
Section E-1



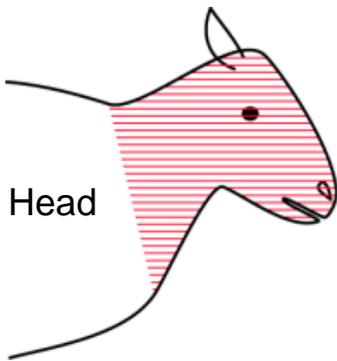
Muskox
Section E-2



Moose
Section E-3

Section E

Diseases and Parasites of Hoofed Animals



Nose and throat bots

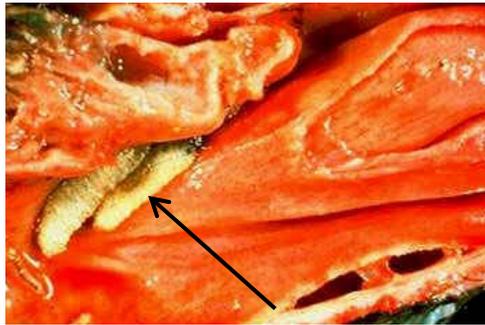


Photo Credit: NWT Wildlife Division

Caribou

Section E-1.1

Lumpy jaw



Caribou

Section E-1.2

Muskox

Section E-2.1

Contagious ecthyma



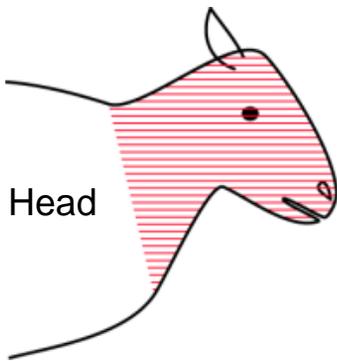
Photo Credit: GNWT

Muskox

Section E-2.2

Section E

Diseases and Parasites of Hoofed Animals



Besnoitiosis



Photo credit:
NWT
Wildlife Division



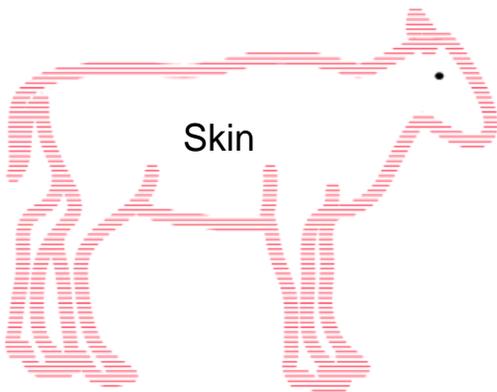
Photo Credit:
Susan Kutz

Caribou

Section E-1.11

Muskox

Section E-2.6



Ticks

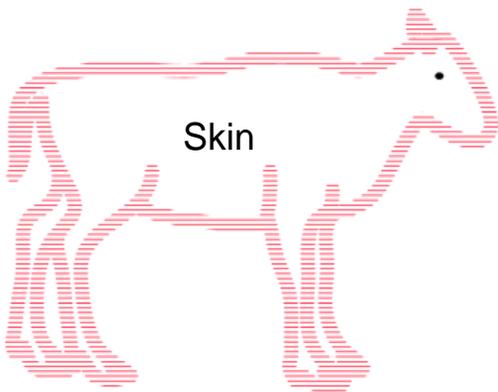


Moose

Section E-3.1

Section E

Diseases and Parasites of Hoofed Animals



Warts



Photo Credit: D. Campbell

Caribou

Section E-1.3

Moose

Section E-3.2

Warbles

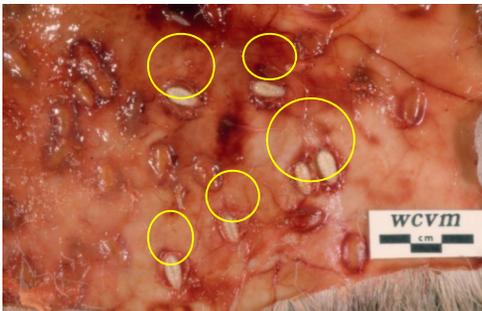


Photo credit: Dr. G. Wobeser

Caribou

Section E-1.4

Contagious ecthyma



Photo Credit: GNWT

Muskox

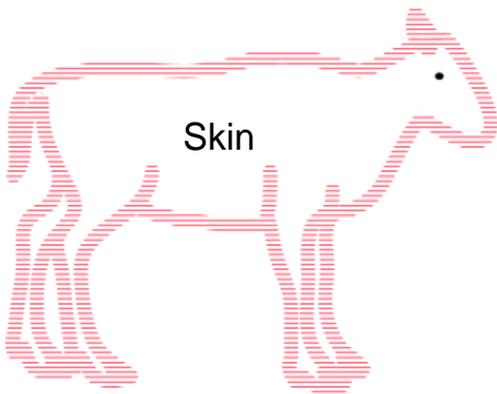
Section E-2.2

Section E

Diseases and Parasites of Hoofed Animals

Besnoitiosis

	Photo credit: NWT Wildlife Division
Photo Credit: Susan Kutz	
Caribou	Section E-1.11
Muskox	Section E-2.6

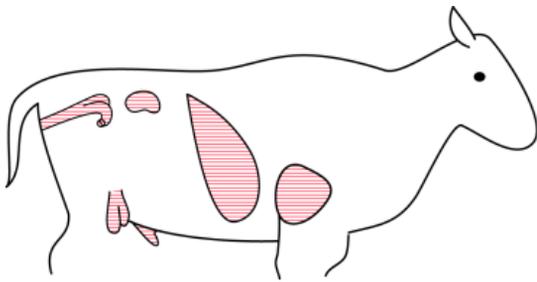


Brucellosis

	Photo credit: Dr. G. Wobeser
Caribou	Section E-1.10
Muskox	Section E-2.5
Moose	Section E-3.6

Section E

Diseases and Parasites of Hoofed Animals



Organs

Liver tapeworm cyst



Photo credit: Dr. G. Wobeser

- Caribou Section E-1.5
- Moose Section E-3.3

Tapeworm cysts in the Lungs (Hydatid disease)



Photo credit: Dr. G. Wobeser

- Caribou Section E-1.7
- Moose Section E-3.4

Brucellosis

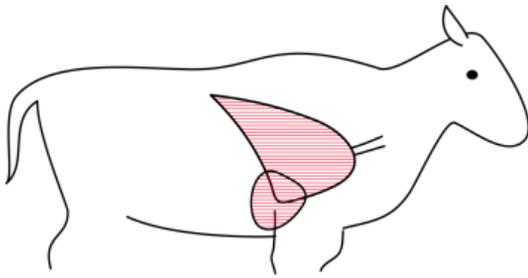


Photo credit: Dr. G. Wobeser

- Caribou Section E-1.10
- Muskox Section E-2.5
- Moose Section E-3.6

Section E

Diseases and Parasites of Hoofed Animals



Lung, heart

Thread lungworm



Photo credit: Dr. G. Wobeser

Caribou

Section E-1.6

Muskox

Section E-2.3

Tapeworm cysts in the Lungs (Hydatid disease)



Photo credit: Dr. G. Wobeser

Caribou

Section E-1.7

Moose

Section E-3.4

Muskox lungworm



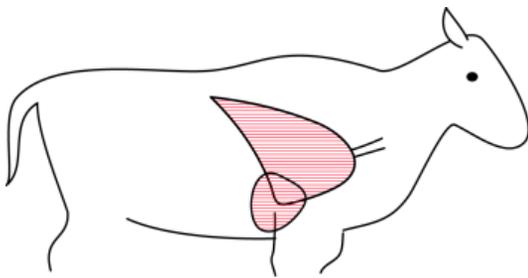
Photo credit: Dr. S. Kutz

Muskox

Section E-2.4

Section E

Diseases and Parasites of Hoofed Animals



Lung, heart

Muscle tapeworm cysts

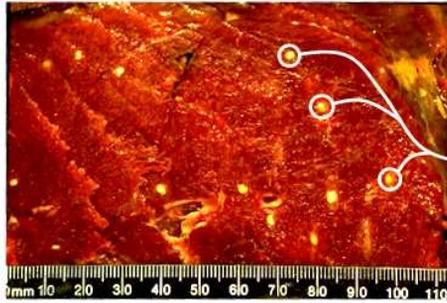


Photo Credit: NWT Wildlife Division

Caribou Section E-1.9

Moose Section E-3.5

Section E

Diseases and Parasites of Hoofed Animals

Very small muscle cysts (Sarcocystosis)

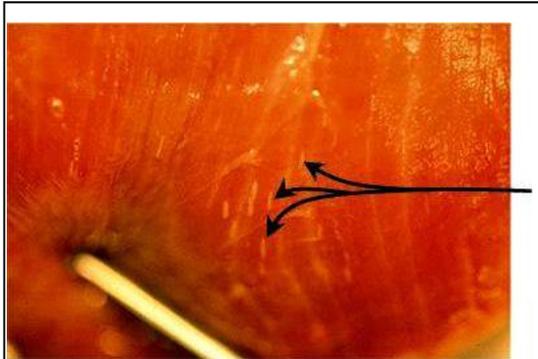
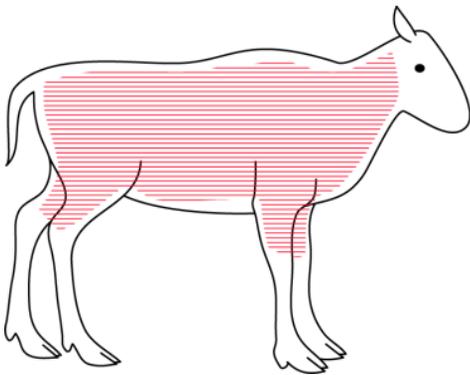


Photo Credit: NWT Wildlife Division

Caribou Section E-1.8



Muscle

Muscle tapeworm cysts

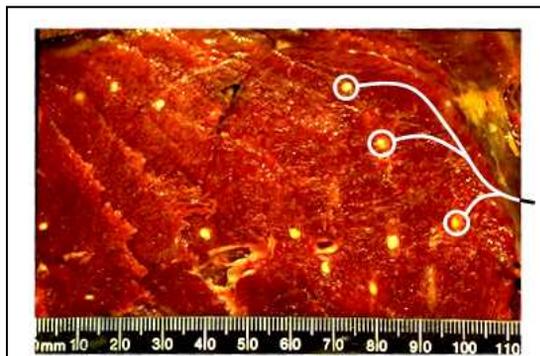


Photo Credit: NWT Wildlife Division

Caribou Section E-1.9

Moose Section E-3.5

Section E

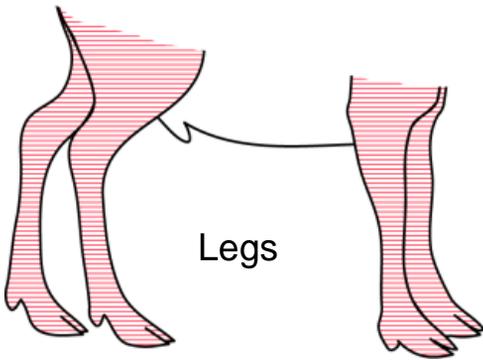
Diseases and Parasites of Hoofed Animals

Besnoitiosis

	Photo credit: NWT Wildlife Division
Photo Credit: Susan Kutz	
Caribou	Section E-1.11
Muskox	Section E-2.6

Brucellosis

	Photo credit: Dr. G. Wobesser
Caribou	Section E-1.10
Muskox	Section E-2.5
Moose	Section E-3.6

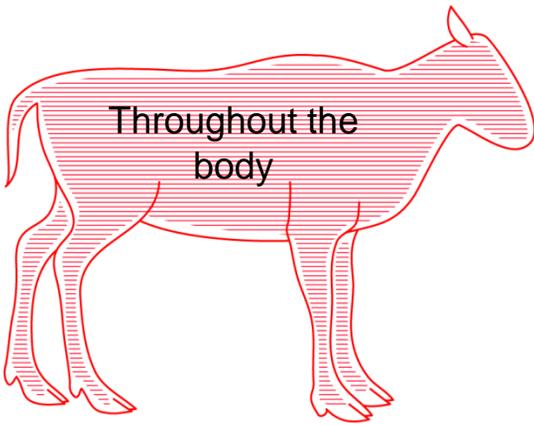


Section E

Diseases and Parasites of Hoofed Animals

Besnoitiosis

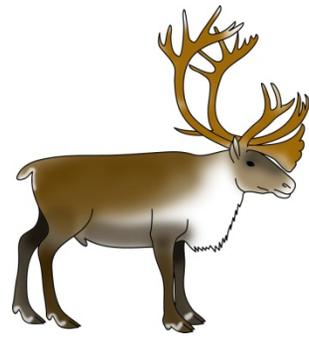
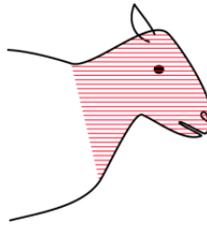
	Photo credit: NWT Wildlife Division
Photo Credit: Susan Kutz	
Caribou	Section E-1.11
Muskox	Section E-2.6



Brucellosis

	Photo credit: Dr. G. Wobeser
Caribou	Section E-1.10
Muskox	Section E-2.5
Moose	Section E-3.6

Nose and Throat Bots



Caribou

1. What are they ?

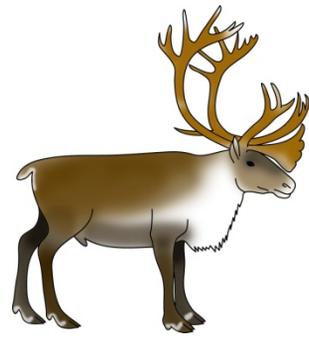
- nose & throat bots are larvae of the bot fly
- adult bot flies lay eggs in the nose of caribou
- eggs hatch into larvae and move to the back of the throat.



2. Where are they found ?

- the larvae of the bot fly grow in the soft tissues of the inner nose and back of throat
- they are sneezed or coughed out in spring.





Caribou

Nose and Throat Bots

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

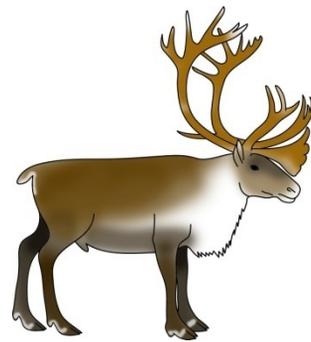
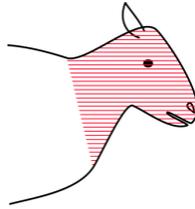
5. Is it safe to feed to dogs ?



For more information go to H-E.1

E-1.2

Lumpy Jaw



Caribou

1. What do you see ?

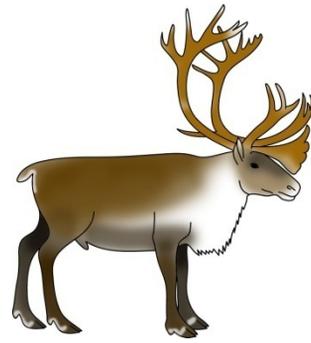
- The jaw may appear deformed or swollen and if the sore has not healed, it may contain thick yellow pus.

2. What is it ?

- Lumpy jaw develops from a sore in the jaw or mouth that becomes infected with bacteria.
- The sore can be caused from many different things such as rough food or a broken tooth.



The jaw bone can become permanently deformed from bacterial infection.



Lumpy Jaw

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

CAUTION

The meat is safe to eat.
However, it is not recommended to eat any meat that has touched infected areas.

5. Is it safe to feed to dogs ?

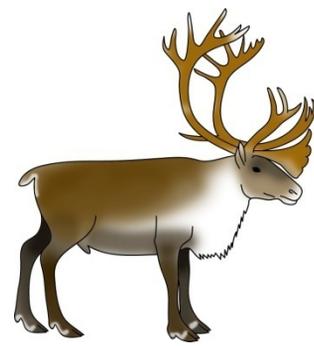
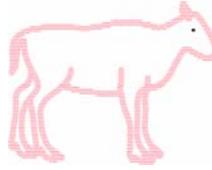
The meat is safe to eat.
However, it is not recommended to feed any meat that has touched infected areas.



For more information go to H-E.2

E-1.3

Warts



Caribou

1. Where are they found ?

- Warts are often found on the head, but can also be seen on other parts of the body.
- Warts are most common in animals younger than two years old.

2. What are they ?

- Warts in animals are caused by a virus similar to those causing warts in people.
- They are seen as lumps of many shapes and sizes

- Photos show warts on a deer's neck (A) and leg (B).

- Similar warts can also occur on caribou.



Photo Credit: D. Campbell



Warts

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

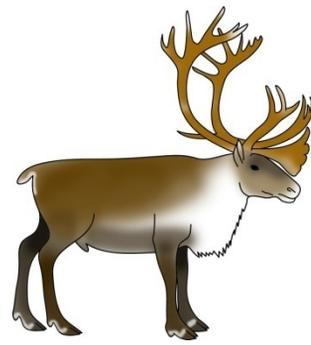
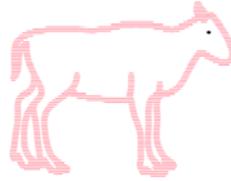
5. Is it safe to feed to dogs ?



For more information go to H-E.5

E-1.4

Warbles



Caribou

1. Where are they found ?

- Warbles are found just underneath the skin, usually on the caribou's back.
- They break through the skin in early summer and drop to the ground.

2. What are they ?

- Warbles are larvae of the warble fly.

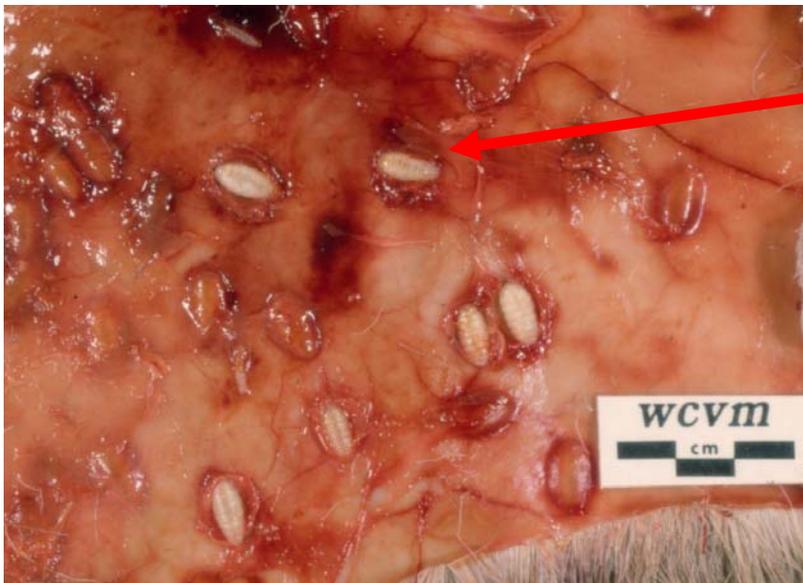


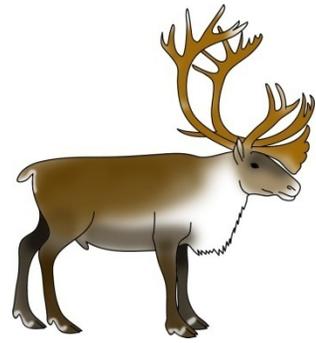
Photo Credit: WCVm



Larvae of a warble fly.



Photo Credit: Susan Kutz



Warbles

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

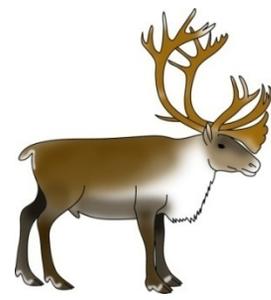
5. Is it safe to feed to dogs ?



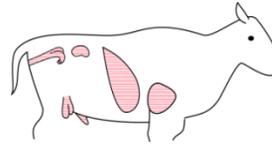
For more information go to H-E.6

E-1.5

Tapeworm Cysts in the Liver



Caribou



1. Where are they found ?

- Sacs, or cysts, are filled with clear liquid and contain an immature tapeworm.

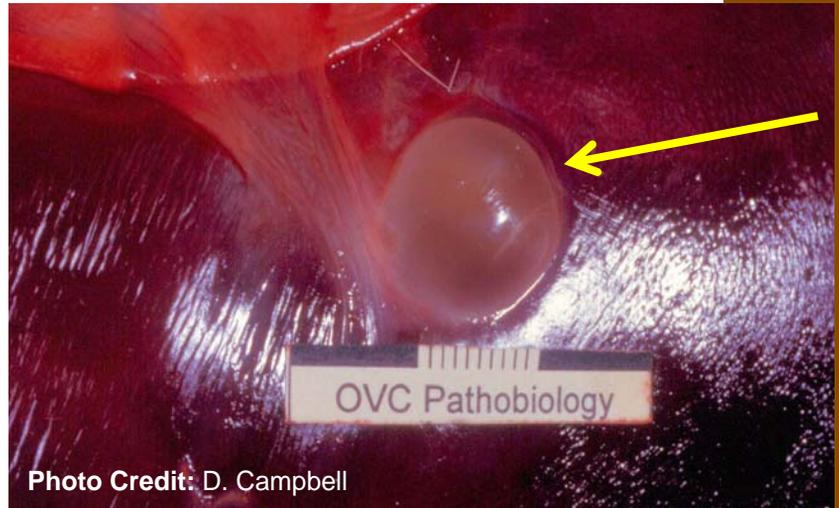
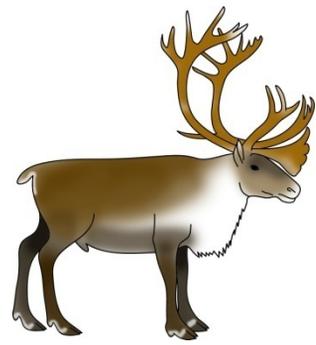


Photo Credit: D. Campbell

- Large cysts are usually found attached to the liver or the lining of the body cavity.
- There may also be white, star-like scars on the surface of the liver from past infections that have healed.
- Cysts can be easily removed during butchering.

2. What are they ?

- The disease is caused by immature tapeworms which move to the liver and become enclosed in fluid-filled sacs, or cysts.



Tapeworm Cysts in the Liver

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

5. Is it safe to feed to dogs ?

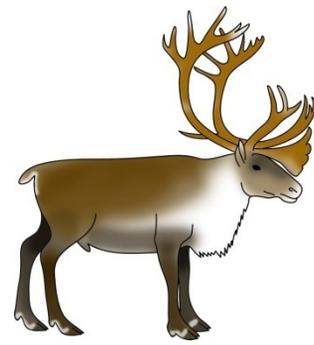


Dogs can become infected by eating infected parts.

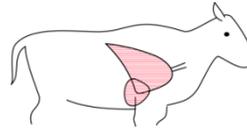
For more information go to H-E.7

E-1.2

Thread lungworm



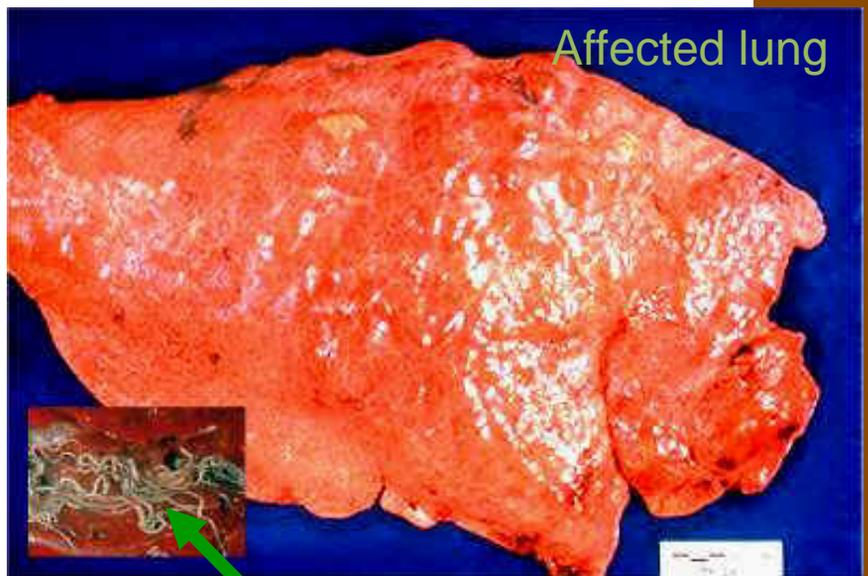
Caribou



1. Where is it found ?

Photo Credit: NWT Wildlife Division

- Adult lungworms are white, threadlike and may be 1 – 8 cm long.
- They may be seen when cutting into the lung.



Affected lung

adult worms

- The presence of lungworms may also be seen as round, grey lumps (up to 2 cm diameter) of dead tissue.
- Very sick animals may be weak and have a dull hair coat.
- Very sick animals may also have difficulty breathing and may not be able to run well.

2. What is it ?

- The sickness is caused by thin, thread-like roundworms which move to the lungs.



Thread lungworm

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

5. Is it safe to feed to dogs ?



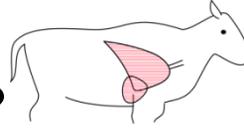
For more information go to H-E.8

E-1.7



Tapeworm cysts in the lungs (Hydatid Disease)

1. Where are they found ?

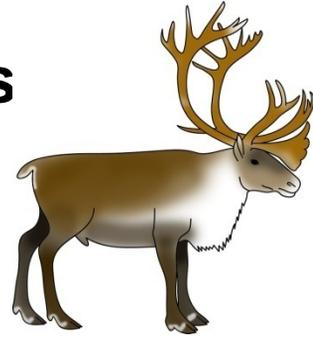


- Sacs, or cysts, in the lungs have thick walls and are filled with clear liquid.
- Cysts are usually found in the lungs, but can also occur in the liver and other organs.
- Fluid-filled cysts can be 2-20 cm in diameter.
- Cysts can easily be removed during butchering.

2. What are they ?

- The disease is caused by immature tapeworms which move to the lungs and become enclosed in fluid-filled sacs, or cysts.

Tapeworm cysts in the lungs (Hydatid Disease)



3. Is it safe to skin the animal ?

SAFE

4. Is it safe to eat the animal ?

SAFE

5. Is it safe to feed to dogs ?

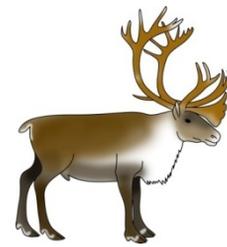
Dogs can become infected by eating parts with cysts.

Humans can be infected from tapeworm eggs in the droppings of infected dogs.

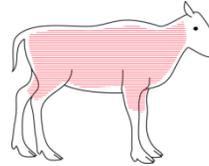


E-1.8

Very small muscle cysts (Sarcocystosis)



Caribou



1. Where are they found ?

- These sacs, or cysts, are found in the meat (muscle) of the animal.
- Infected muscle may be swollen and sometimes show green cigar-shaped areas up to several centimeters in length caused by dead cysts.

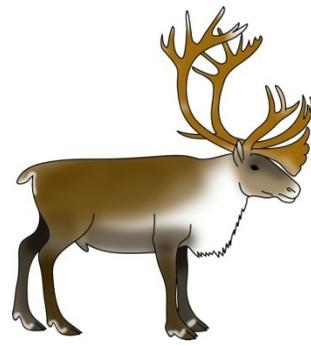
2. What are they ?

- These are sacs, or cysts, of a parasite.
- They look like small grains of rice (<5mm).
- They grow into adult parasites only in meat eaters (e.g., wolves, foxes, dogs).

Photo Credit: NWT Wildlife Division



- The rice-shaped cysts are found inside the muscle of the animal.



Very small muscle cysts (Sarcocystosis)

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

SAFE

5. Is it safe to feed to dogs ?

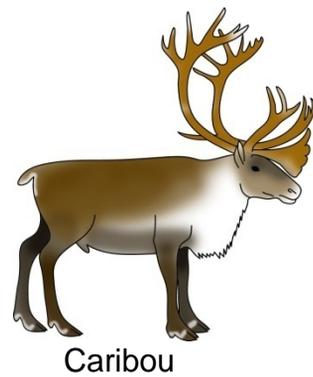
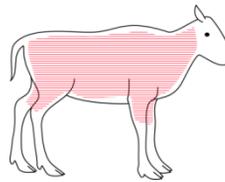
Dogs can become infected by eating meat with cysts.
Droppings from infected dogs can infect humans.



For more information go to H-E.11

E-1.9

Muscle tapeworm cysts



1. Where are they found ?

- These cysts are found in the meat of the animal.

2. What are they ?

- These are sacs containing an immature tapeworm.
- These tapeworms mature to adults only in meat eaters like the wolf or dog.

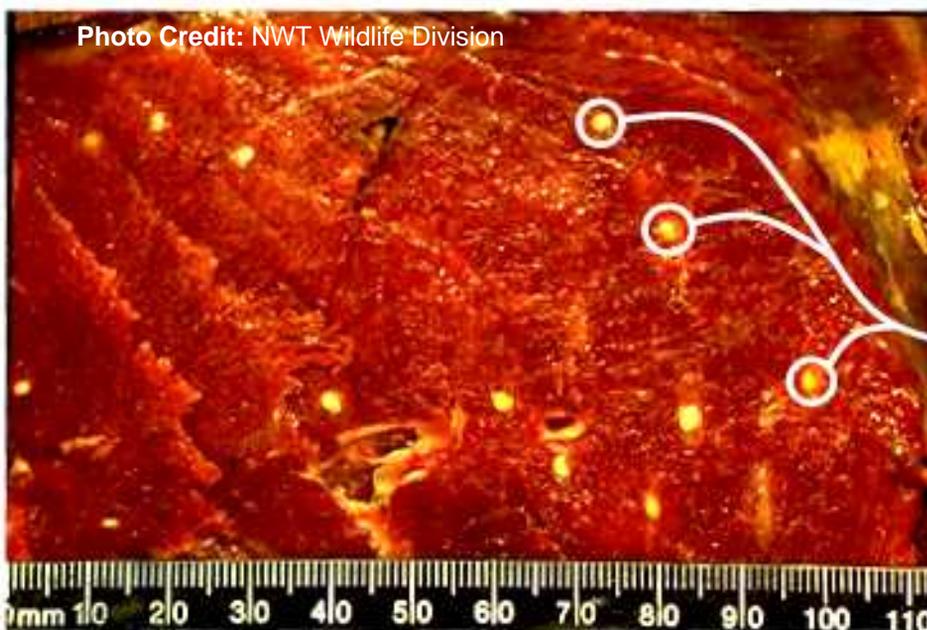


Photo Credit: NWT Wildlife Division

The round cysts are found inside the meat of the animal.



Muscle tapeworm cysts

3. Is it safe to skin the caribou ?

SAFE

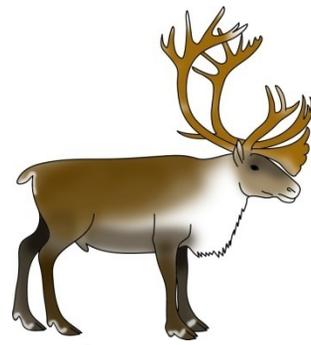
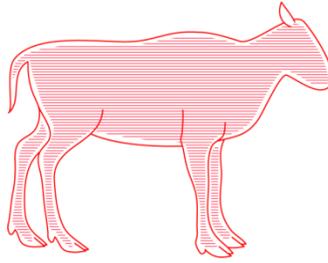
4. Is it safe to eat the caribou ?

SAFE

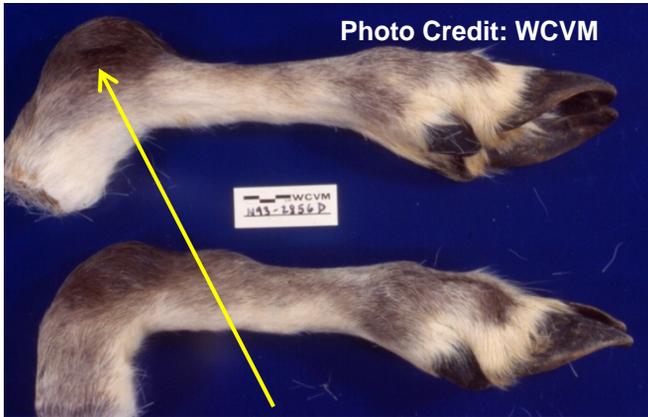
5. Is it safe to feed to dogs ?

Dogs can become infected by eating parts with cysts.



E-1.10**Brucellosis
(lumpy knee)**

Caribou

1. Where is it found ?

Swelling around knee.

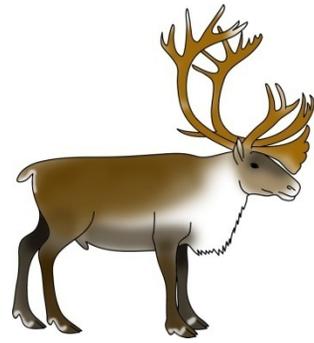


Swelling around testicles.

- Swelling around leg joints (especially in front legs) often causes limping.
- Pus-filled swellings under the skin, in the meat or in the internal organs may be seen when butchering.
- The testicles or womb may be affected.

2. What is it ?

- Brucellosis is caused by bacteria.
- It is spread in the afterbirth and fluids spilled during calving.
- This fluid can contaminate plants used for food by caribou.



Brucellosis

3. Is it safe to skin the caribou ?



You can get brucellosis from handling contaminated parts.
Avoid cutting into diseased parts.
Avoid spilling fluid from the womb onto meat.
Wash tools, hands and outer clothing with hot soapy water.

4. Is it safe to eat the caribou ?



The meat is safe to eat only after cooking well*.

5. Is it safe to feed to dogs ?



It is not recommended to feed diseased parts to dogs.

**Brucella is not killed by freezing, smoking, drying or pickling.*

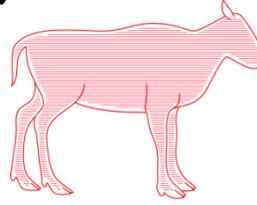
For more information go to H-E.13

E-1.11

Besnoitiosis (bone meal disease)



Caribou



1. Where is it found ?

Photo Credit: NWT Wildlife Division

- Sacs, or cysts, are found under the skin of the lower legs and face, and around the eye.



- The skin may be thick and rough.

Small cysts under the skin around the eye.



Photo Credit: Susan Kutz

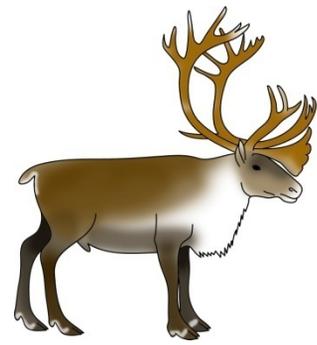
2. What is it ?

- The disease is caused by a parasite that forms small, hard cysts under the skin or around the eyes.

Photo credit: NWT Wildlife Division



Hair loss and thick skin on head of caribou



Besnoitiosis (bone meal disease)

3. Is it safe to skin the caribou ?

SAFE

4. Is it safe to eat the caribou ?

Meat is safe to eat if well
cooked.

5. Is it safe to feed to dogs ?

It is not recommended to feed
parts containing cysts to dogs.

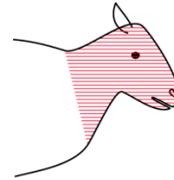
For more information go to H-E.14

E-2.1

Lumpy Jaw



Muskox



1. What do you see ?

- The jaw may appear deformed or swollen and if the sore has not healed, it may contain thick yellow pus.

2. What is it ?

- Lumpy jaw develops from a sore in the jaw or mouth that becomes infected with bacteria.
- The sore can be caused from many different things such as rough food or a broken tooth.



The jaw bone can become permanently deformed from bacterial infection.



Lumpy Jaw

3. **Is it safe to skin the muskox ?**



4. **Is it safe to eat the muskox ?**



The meat is safe to eat. However, it is not recommended to eat any meat that has touched infected areas.

5. **Is it safe to feed to dogs ?**



The meat is safe to feed to dogs. However, it is not recommended to feed any meat that has touched infected areas.

For more information go to H-E.2

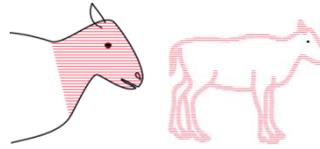
E-2.2

Contagious Ecthyma



Muskox

1. Where is it found ?



- Blisters and scabs are generally found on the lips, mouth, nose, eyelids and ears.
- Scabs can also occur on the udder and the top of the foot just above the hoof.
- It is more common and severe in younger animals.

- The photo shows scabs on a mountain goat. Scabs would look similar on a muskox.



2. What is it ?

- This sickness causes pus-filled blisters which form thick scabs on the head.
- It is caused by a virus that is easily passed by touching animals infected with scabs.
- It occurs in mountain goats and muskoxen in Alaska, but is not known to occur in Nunavut.



Contagious Ecthyma

3. Is it safe to skin the muskox ?



You can get infected from touching scabs of an infected animal.

Wear gloves when handling animal and wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the muskox ?



The meat is safe to eat. However, it is advised to first trim off affected parts and cook well before eating.

5. Is it safe to feed to dogs ?



The meat is safe to feed. However, it is advised to first trim off infected parts as well as any parts that have touched infected parts.

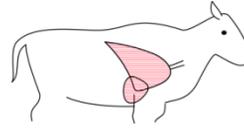
For more information go to H-E.3

E-2.3

Thread lungworm



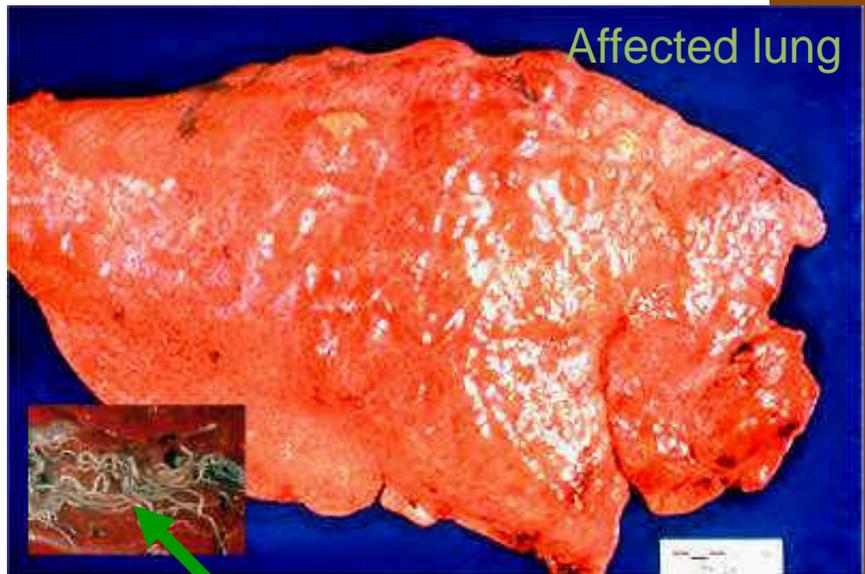
Muskox



1. Where is it found ?

Photo Credit: NWT Wildlife Division

- Adult lungworms are white, threadlike and can be 1 – 8 cm long.
- They may be seen when cutting into the lung.



adult worms

- The presence of lungworms may also be seen as round, grey lumps (up to 2 cm diameter) of dead tissue.
- Very sick animals may have difficulty breathing and can not run well.
- Very sick animals may also be weak and have a dull hair coat.

2. What is it ?

- The sickness is caused by thin, thread-like roundworms which move to the lungs.



Thread lungworm

3. Is it safe to skin the muskox ?
4. Is it safe to eat the muskox ?
5. Is it safe to feed to dogs ?



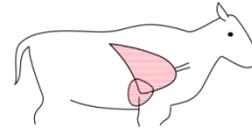
For more information go to H-E.8

E-2.4

Muskox lungworm



Muskox



1. Where are they found ?

- Sacs, or cysts, in the lungs have thick walls and contain adult lungworms, their eggs and larvae.
- Cysts can be 1-4 cm in diameter.



- Older animals with muskox lungworm may have difficulty breathing and can not run well.

2. What are they ?

- The sickness is caused by roundworms which move to the lungs and become enclosed in a sac, or cyst.
- Muskoxen get the disease by eating snails or slugs containing immature worms.



Muskox lungworm

3. Is it safe to skin the muskox ?

SAFE

4. Is it safe to eat the muskox ?

SAFE

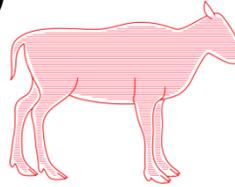
5. Is it safe to feed to dogs ?



For more information go to H-E.10

E-2.5

Brucellosis (lumpy knee)



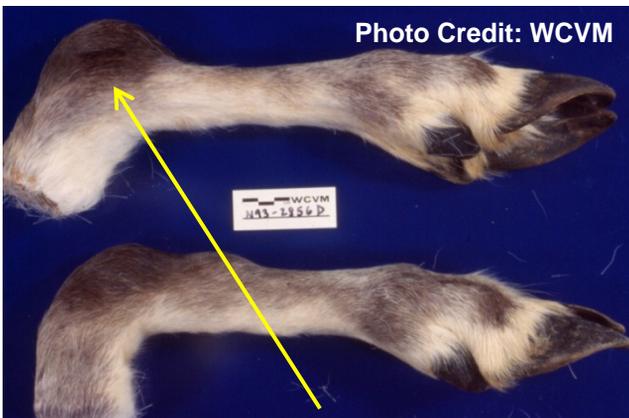
Muskox

1. Where is it found ?

- Swelling around leg joints (especially in front legs) often causes limping.
- Pus-filled swellings under the skin, in the meat or in the internal organs may be seen when butchering.
- The testicles or womb may be affected.

Swelling around knee.

Swelling around testicles.



2. What is it ?

- Brucellosis is caused by bacteria.
- It is spread in the afterbirth and fluids spilled during calving.
- This fluid can contaminate plants used for food by muskoxen.



Brucellosis

3. Is it safe to skin the muskox ?



You can get brucellosis from handling contaminated parts.
Avoid cutting into diseased parts.
Avoid spilling fluid from the womb onto meat.
Wash tools, hands and outer clothing with hot soapy water.

4. Is it safe to eat the muskox ?



The meat is safe to eat only after cooking well*.

5. Is it safe to feed to dogs ?

Do not feed any parts to dogs.



**Brucella* is not killed by freezing, smoking, drying or pickling.

For more information go to H-E.13

E-2.6

Besnoitiosis (bone meal disease)



Muskox

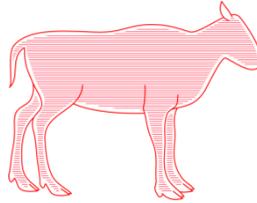


Photo Credit: NWT Wildlife Division

1. Where is it found ?

- Sacs, or cysts, are found under the skin of the lower legs and face and around the eye.
- The skin may be thick and rough.



Small cysts under the skin around the eye.



Photo Credit: Susan Kutz

2. What is it ?

- The disease is caused by a parasite that forms small, hard sacs, or cysts, under the skin or around the eyes.



Hair loss and thick skin on head of a caribou. Sores on a muskox would look similar



Besnoitiosis (bone meal disease)

3. Is it safe to skin the muskox ?



4. Is it safe to eat the muskox ?



Cook the meat well before eating.

5. Is it safe to feed to dogs ?

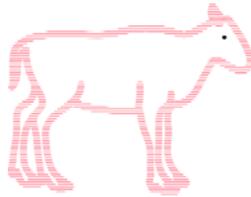


It is not recommended to feed parts containing cysts to dogs.

For more information go to H-E.14

E-3.1

Ticks



Moose

1. Where are they found ?

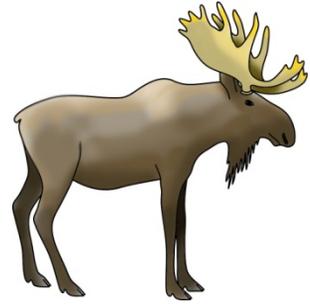
- Ticks are often found on the neck, shoulders and back, but can be found anywhere on the body.

2. What are they ?

- Ticks are small parasites that live on the skin.
- They suck on blood and other body fluids.
- They are generally 4-5 mm in size but can grow 2 to 3 times larger when filled with blood.



- Ticks cause hair loss and white patches from broken hairs.



Ticks

3. Is it safe to skin the moose ?

SAFE

4. Is it safe to eat the moose ?

SAFE

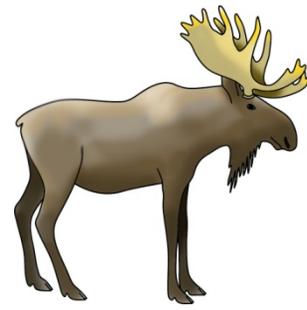
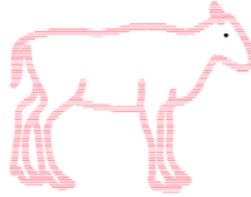
5. Is it safe to feed to dogs ?



For more information go to H-E.4

E-3.2

Warts



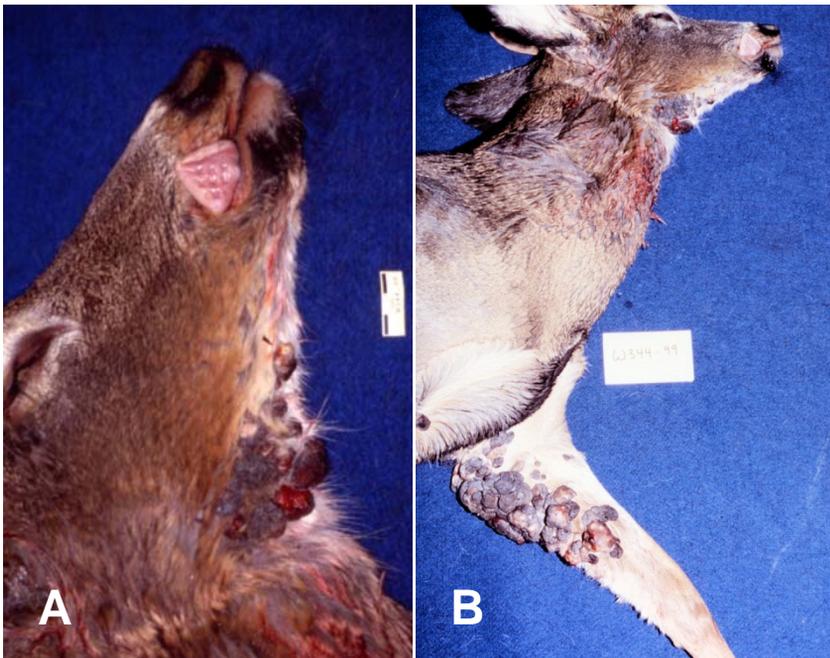
Moose

1. Where are they found ?

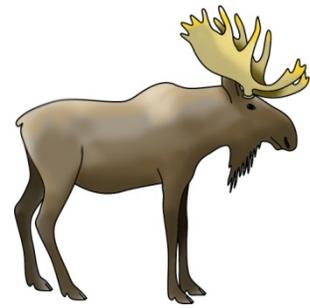
- Warts are often found on the head, but can also be seen on other parts of the body.
- Warts are most common in animals younger than 2 years old.

2. What are they ?

- Warts in animals are caused by a virus similar to those causing warts in people.
- They are seen as lumps of many shapes and sizes.



- Photos show warts on a deer's neck (A) and leg (B).
- Similar warts can also occur on moose.



Warts

3. Is it safe to skin the moose ?

SAFE

4. Is it safe to eat the moose ?

SAFE

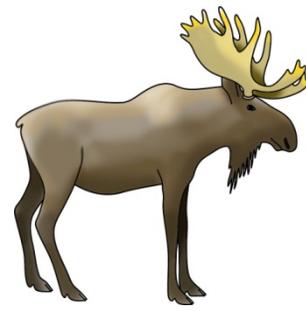
5. Is it safe to feed to dogs ?



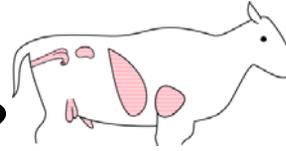
For more information go to H-E.5

E-3.3

Tapeworm Cysts in the Liver



Moose



1. Where are they found ?

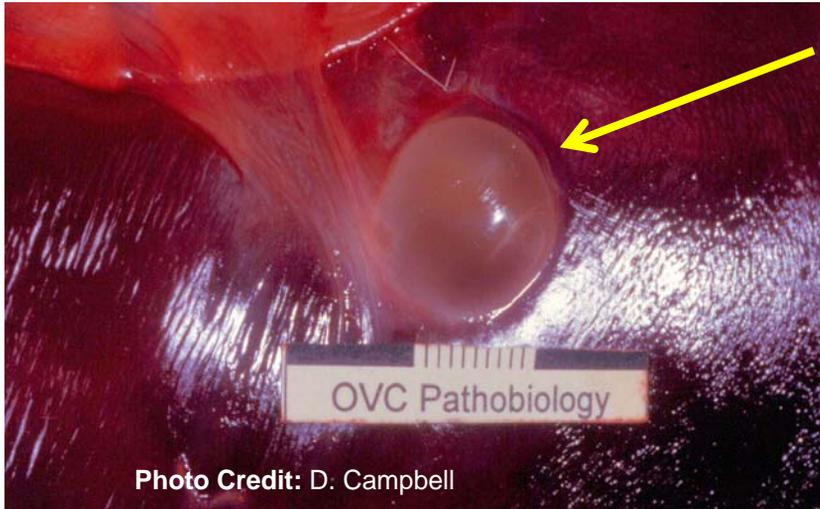


Photo Credit: D. Campbell

- Sacs, or cysts, are filled with clear liquid and contain an immature tapeworm.

- Large cysts are usually found attached to the liver or the lining of the body cavity.
- There may also be white, star-like scars on the surface of the liver from past infections that have healed.
- Cysts can be easily removed during butchering.

2. What are they ?

- The disease is caused by immature tapeworms which migrate to the liver and become enclosed in fluid-filled sacs, or cysts.



Tapeworm Cysts in the Liver

3. Is it safe to skin the moose ?

SAFE

4. Is it safe to eat the moose ?

SAFE

5. Is it safe to feed to dogs ?

Dogs can become infected with tapeworms if they eat parts with cysts.



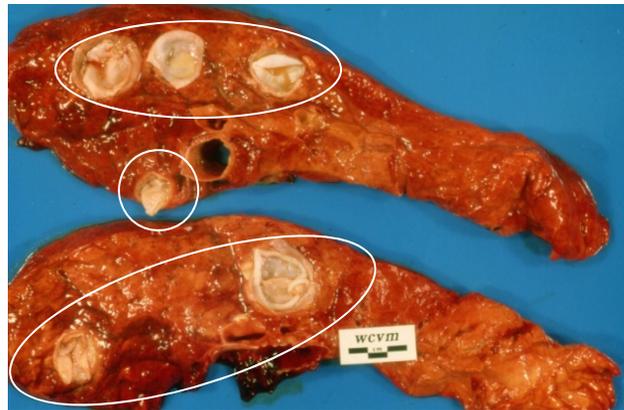
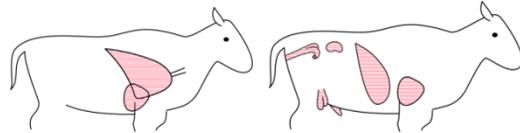
For more information go to H-E.7

E-3.4

Tapeworm cysts in lungs (Hydatid Disease)



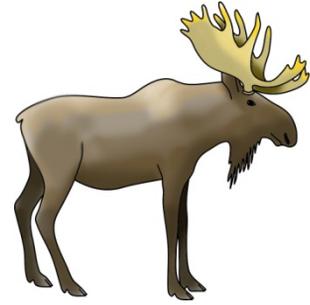
1. Where are they found ?



- Sacs, or cysts, in the lungs have thick walls and are filled with clear liquid.
- Cysts are usually found in the lungs, but can also occur in the liver or other organs.
- Fluid-filled cysts can be 2-20 cm in diameter.

2. What are they ?

- The disease is caused by immature tapeworms which move to the lungs and become enclosed in fluid-filled sacs, or cysts.



Tapeworm cysts in lungs (Hydatid Disease)

3. Is it safe to skin the animal ?

SAFE

4. Is it safe to eat the animal ?

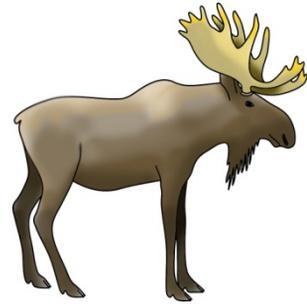
SAFE

5. Is it safe to feed to dogs ?

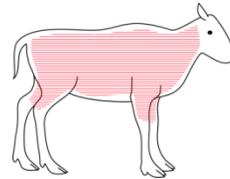


Dogs can become infected by eating parts with cysts.
Humans can be infected from tapeworm eggs in the droppings of infected dogs.

For more information go to H-E.9

E-3.3**Muscle tapeworm cysts**

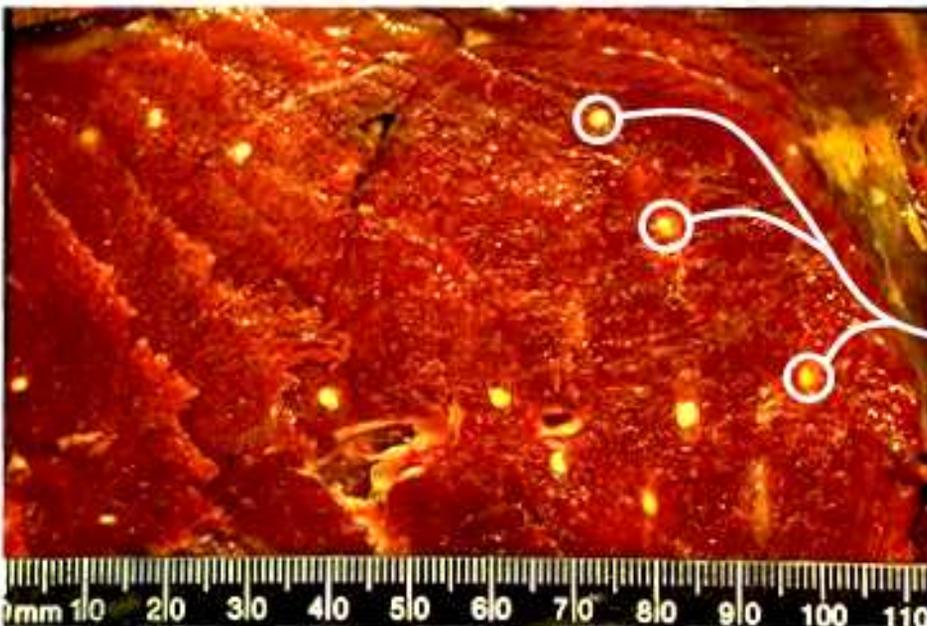
Moose

**1. Where are they found ?**

- These cysts are found in the meat of the animal.

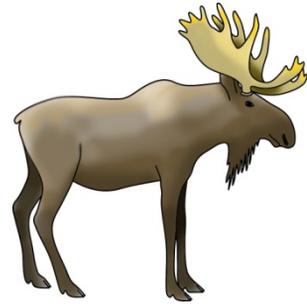
2. What are they ?

- These are sacs, or cysts, of an immature tapeworm.
- These tapeworms mature to adults only in meat-eating animals like the wolf and dog.



- The round cysts are found inside the meat of the animal.

Photo Credit: NWT Wildlife Division



Muscle tapeworm cysts

3. Is it safe to skin the moose ?

SAFE

4. Is it safe to eat the moose ?

SAFE

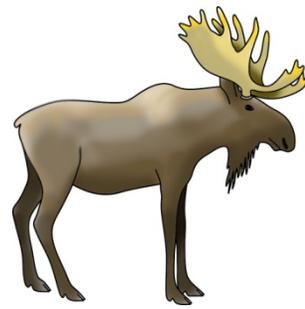
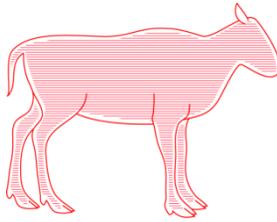
5. Is it safe to feed to dogs ?



Dogs can become infected by eating parts with cysts.

E-3.6

Brucellosis (lumpy knee)



Moose

1. Where is it found ?

- Swelling around leg joints (especially in front legs) often causes limping.
- Pus-filled swellings under the skin, in the meat or in the internal organs may be seen when butchering.
- The testicles or womb may be affected.



Photo Credit: WCVN



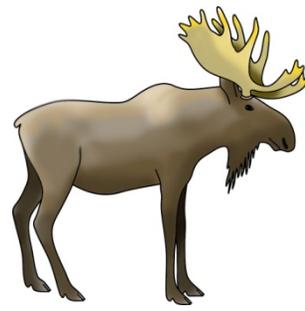
Photo Credit: WCVN

Swelling around knee.

Swelling around testicles.

2. What is it ?

- Brucellosis is caused by bacteria.
- It is spread in the afterbirth and fluids spilled during calving.
- These fluids can contaminate plants used for food by the moose.



Brucellosis

3. Is it safe to skin the moose ?



You can get brucellosis from handling contaminated parts.
Avoid cutting into diseased parts.
Avoid spill fluid from the womb onto meat.
Wash tools, hands and outer clothing with hot soapy water.

4. Is it safe to eat the moose ?



The meat is safe to eat only after cooking well*.

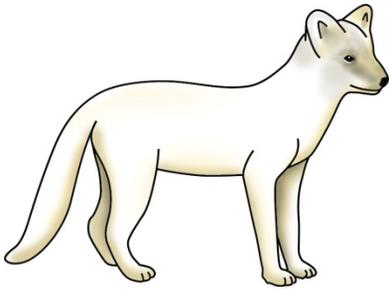
5. Is it safe to feed to dogs ?



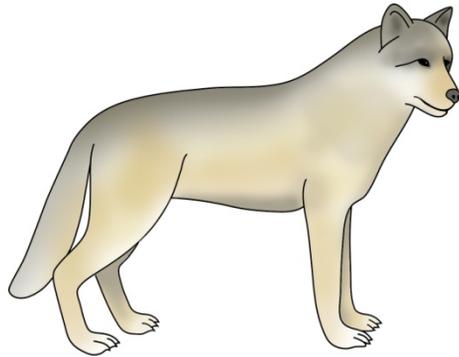
It is not recommended to feed any parts to dogs.

**Brucella is not killed by freezing, smoking, drying or pickling.*

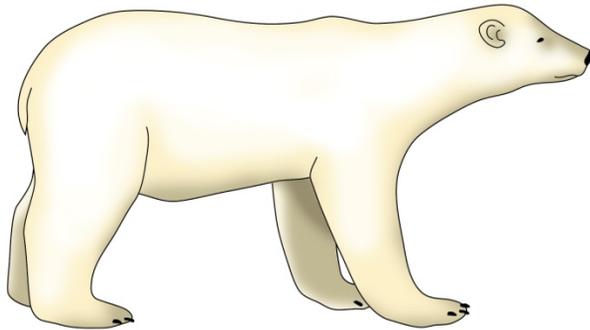
Section F



Arctic Fox
Section F-1



Arctic Wolf
Section F-2

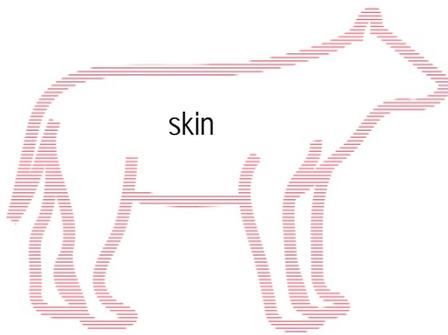


Polar Bear
Section F-3

Section F

Diseases and Parasites of Meat Eaters

Diseases and parasites of the skin



Mange

Photo Credits: D. Campbell



Arctic fox Section F-1.1

Arctic wolf Section F-2.1

Polar bear Section F-3.1

Lice



Photo Credit: WCVN

Arctic fox Section F-1.2

Arctic wolf Section F-2.2

Warts



Photo Credit: Animal Dermatology Specialty Clinic

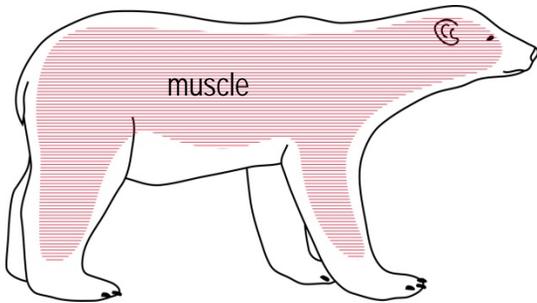
Arctic fox Section F-1.3

Arctic wolf Section F-2.3

Diseases and Parasites of Meat Eaters

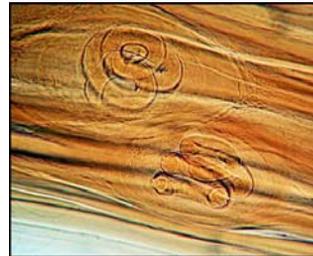
Diseases and parasites of the muscle

Trichinellosis



The meat will look normal.
Trichinella can not be seen with the
naked eye.

This is a
close-up
picture of
Trichinella
through
a microscope.

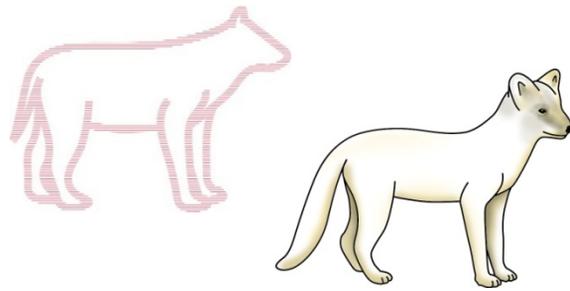


Polar bear

Section F-3.2

F-1.1

Mange



Arctic fox

1. Where is it found ?

- Mange can be found anywhere on the skin, but is often seen on the tips of the ears, elbows, lower legs and face.

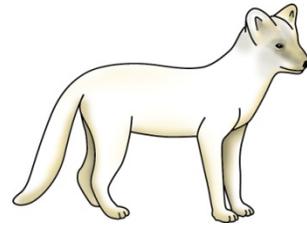
2. What is it ?

- Mange is a skin disease caused by mites.
- Mites are tiny parasites that can only be seen through a microscope.
- Mange can make the animal very itchy.

Photo Credit: D. Campbell



- Hair loss, thickening and cracking of the skin is often a good indication of mange.



Mange

3. Is it safe to skin the fox ?



Mites can move to humans and cause itching for a short time (days or weeks) – but they will not last.

Wear gloves and wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the fox ?



5. Is it safe to feed to dogs ?

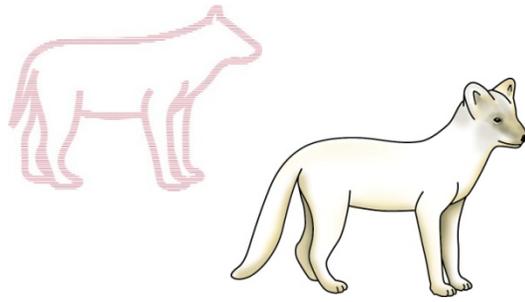


The meat is safe but it is advised to keep dogs away from infected skin.

For more information go to H-F.1

F-1.2

Lice



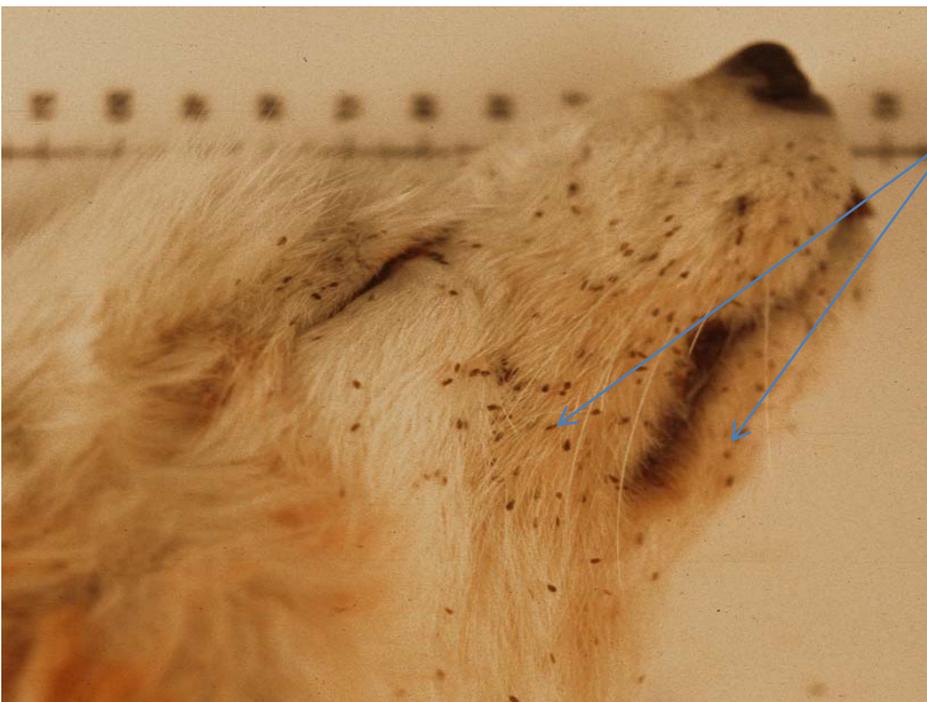
Arctic Fox

1. Where are they found ?

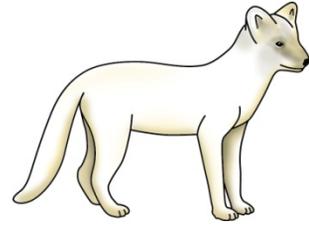
- Lice are often found on the neck, shoulders and back, but can sometimes be found on the stomach, around the hind end and in the groin.

2. What are they ?

- Lice are small (1-5 mm), flat, wingless insects that spread from animal to animal through close contact.



- Lice on an arctic fox are seen as black objects.



Lice

3. Is it safe to skin the fox ?

SAFE

4. Is it safe to eat the fox ?

SAFE

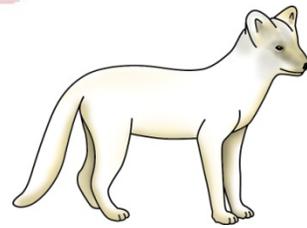
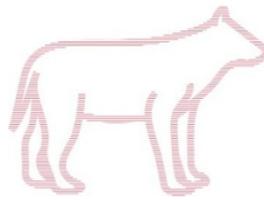
5. Is it safe to feed to dogs ?

Lice may move onto dogs but the meat is safe.



For more information go to H-F.2

F-1.3



Arctic Fox

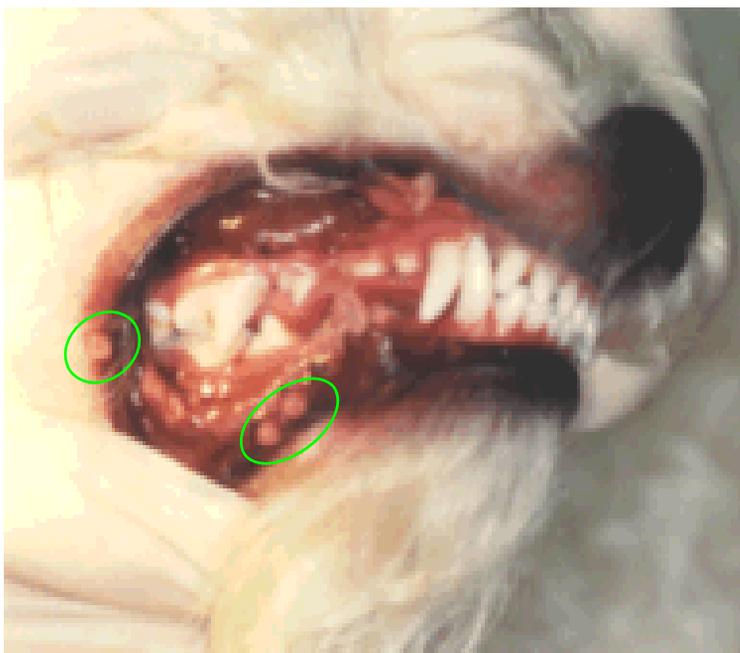
Warts

1. Where are they found ?

- Warts are usually found on the lips and gums.
- Animals usually do not appear to be affected by warts. If warts interfere with eating, the animal may be in poor body condition.

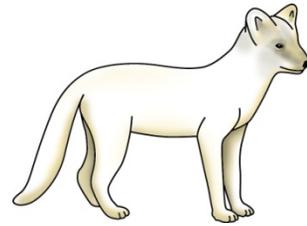
2. What are they ?

- Warts are dry, hard, whitish-coloured, cauliflower-shaped lumps.



- Photo shows warts on a domestic dog.
- Similar warts can also occur on foxes and wolves.

Photo Credit: Animal Dermatology Specialty Clinic



Warts

3. Is it safe to skin the fox ?



4. Is it safe to eat the fox ?



5. Is it safe to feed to dogs ?

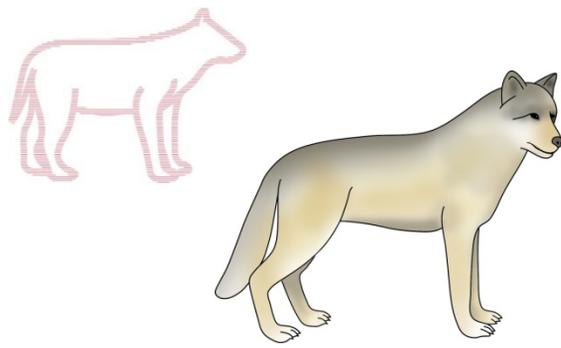


The meat is safe but it is advised to keep dogs away from infected skin.

For more information go to H-F.3

F-2.1

Mange



Arctic Wolf

1. Where is it found ?

- Mange can be found anywhere on the skin, but is often seen on the tips of the ears, elbows, lower legs and face.

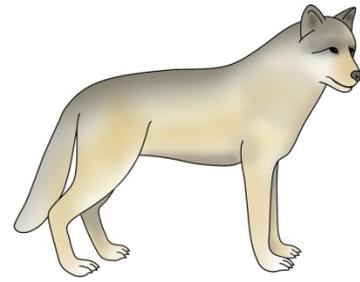
2. What is it ?

- Mange is a skin disease caused by mites.
- Mites are tiny parasites that can only be seen through a microscope.
- Mange can make the animal very itchy.

Photo Credit: D. Campbell



- Hair loss, thickening and cracking of the skin is often a good indication of mange.



Mange

3. Is it safe to skin the wolf ?



Mites can move to humans and cause itching for a short time (days or weeks) – but they will not last.

Wear gloves and wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the wolf ?



5. Is it safe to feed to dogs ?

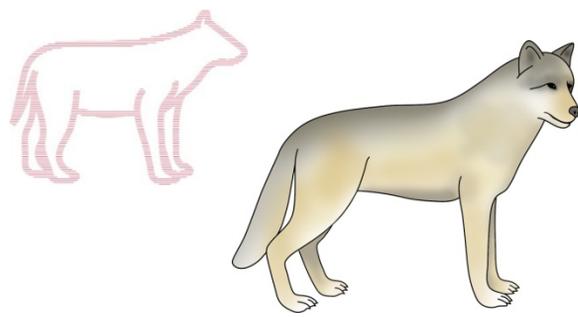


The meat is safe but it is advised to keep dogs away from infected skin.

For more information go to H-F.1

F-2.2

Lice



Arctic Wolf

1. Where are they found ?

- Lice are often found on the neck, shoulders and back, but can sometimes be found on the stomach, around the hind end and in the groin.

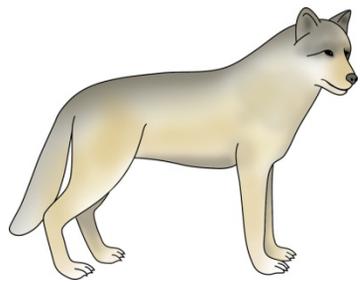
2. What are they ?

- Lice are small (1-5 mm), flat, wingless insects that spread from animal to animal through close contact.



- Lice on an arctic fox are seen as black objects.

- Lice on an arctic wolf would look similar.



Lice

3. Is it safe to skin the wolf ?



4. Is it safe to eat the wolf ?



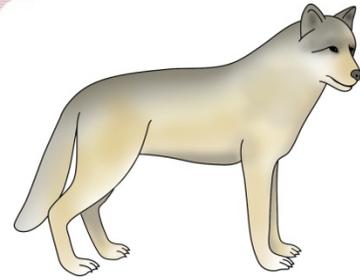
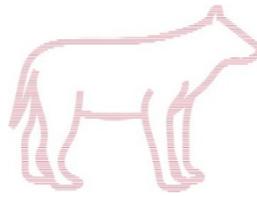
5. Is it safe to feed to dogs ?

Lice may move onto dogs but the meat is safe to feed.



For more information go to H-F.2

F-2.3



Arctic Wolf

Warts

1. Where are they found ?

- Warts are usually found on the lips and gums.
- Animals usually do not appear to be affected by warts. If warts interfere with eating, the animal may be in poor body condition.

2. What are they ?

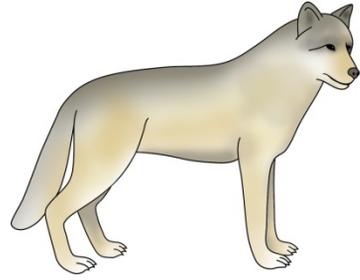
- Warts are dry, hard, whitish-coloured, cauliflower-shaped lumps.



- Photo shows warts on a domestic dog.

- Similar warts can also occur on foxes and wolves.

Photo Credit: Animal Dermatology Specialty Clinic



Warts

3. Is it safe to skin the wolf ?

SAFE

4. Is it safe to eat the wolf ?

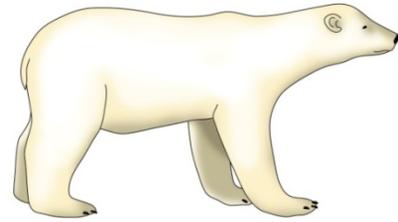
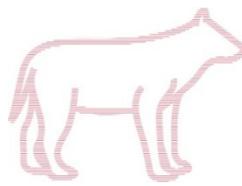
SAFE

5. Is it safe to feed to dogs ?



The meat is safe but it is advised to keep dogs away from infected skin.

For more information go to H-F.3

F-3.1**Mange**

Polar Bear

1. Where is it found ?

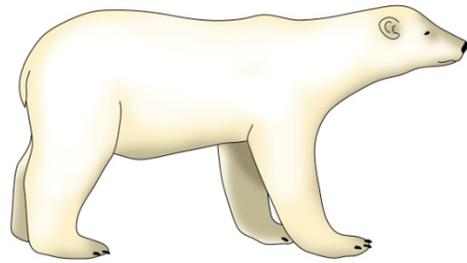
- Mange can be found anywhere on the skin, but is often seen on the tips of the ears, elbows, lower legs and face.

2. What is it ?

- Mange is a skin disease caused by mites.
- Mites are tiny parasites that can only be seen through a microscope.
- Mange can make the animal very itchy.

Photo Credit: *Dr. I. Stirling*

- Hair loss, thickening and cracking of the skin is often a good indication of mange.



Mange

3. Is it safe to skin the bear ?



Mites can migrate to humans and cause itching for a short time (days or weeks) – but they will not last.

Wear gloves and wash tools, hands and outer clothing in hot soapy water.

4. Is it safe to eat the bear ?



5. Is it safe to feed to dogs ?

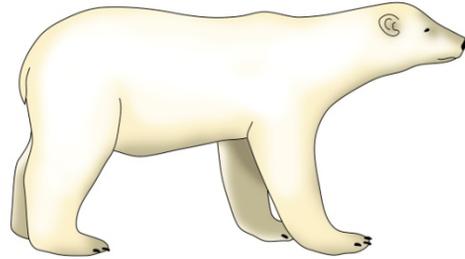
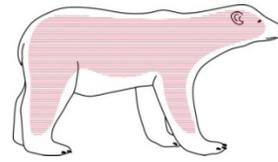


The meat is safe but it is advised to keep dogs away from infected skin.

For more information go to H-F.1

F-3.2

Trichinellosis



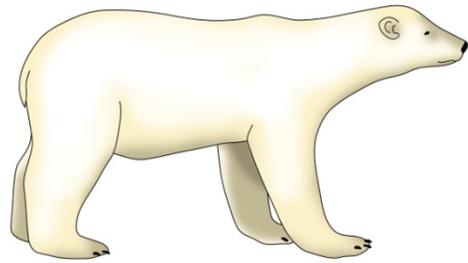
Polar Bear

1. Where is it found ?

- Trichinella can be found in many parts of the meat.
- You can not see trichinella with the naked eye. They can only be detected using a microscope.

2. What is it ?

- Trichinellosis is infection with a roundworm parasite.
- It is passed from one animal to another by eating raw meat containing the parasite.
- The tiny, invisible, immature stage of the parasite lives in meat.



Trichinellosis

3. Is it safe to skin the bear ?



4. Is it safe to eat the bear ?

Routine testing for trichinella in bear does not exist. Therefore, it is advised to cook the meat well before eating.



5. Is it safe to feed to dogs ?

It is not recommended to feed raw bear meat to dogs.



Section G

General Conditions (many different animals)

Sicknesses seen on the outside of the animal

Injuries



Photo credit: Dr. M. Cattet

See section G-1.1

Emaciation



Photo credit: WCVM

See section G-1.2

Skin cysts



Photo Credit: Dr. I. Stirling

See section G-1.3

Skin ulcers



Photo Credit: Dr. J. Geraci

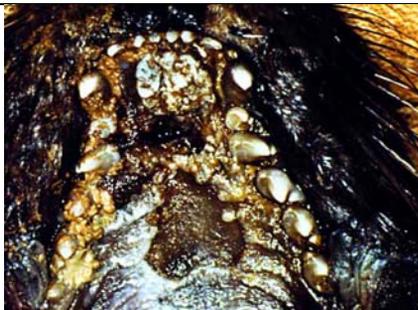
See section G-1.4

Section G

General Conditions (many different animals)

Sicknesses seen on the inside of the animal

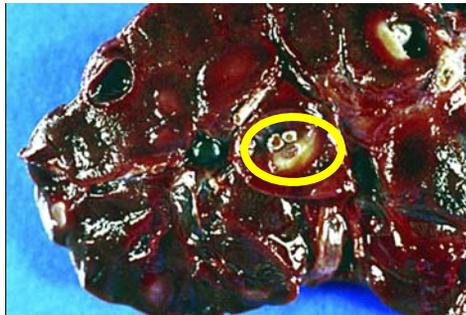
Mouth sores



See section G-1.5

Photo Credit: Dr. J. Geraci

Kidney stones



See section G-1.6

Photo Credit: Dr. J. Geraci

Pneumonia



See section G-1.7

Photo Credit: Dr. Martineau

Abnormal livers



See section G-1.8

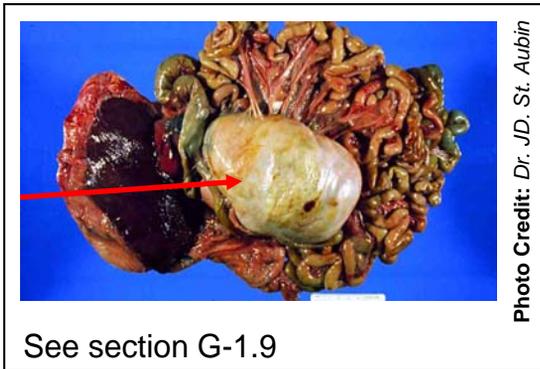
Photo Credit: Dr. G. Worbesser

Section G

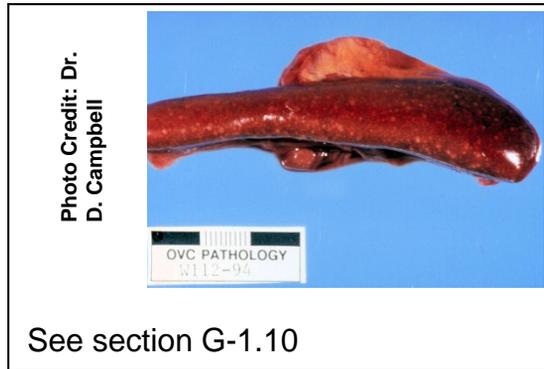
General Conditions (many different animals)

Sicknesses seen on the inside of the animal

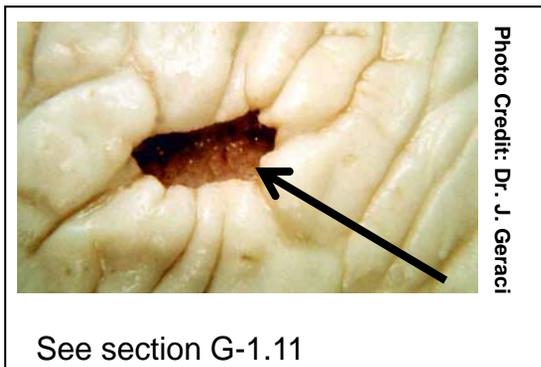
Enlarged lymph nodes



Infections of the spleen



Stomach ulcers



G-1.1

Injuries

Any Animal

1. What do you see ?



(Photo credit: Dr. M. Cattet)

- Wound in the side of a polar bear.



(Photo credit: Dr. J Geraci)

- Scars in the skin of a whale.

2. What are they ?

- Injuries are wounds in skin, muscle and bone that have not killed the animal.
- They may be new or quite old.

Photo Credit: Dr. M. Cattet



Broken tooth in a bear.

Injuries

Any Animal

3. **Is it safe to butcher the animal ?**



4. **Is it safe to eat the animal ?**



It is not recommended to eat the animal if it has other sicknesses that could make you sick.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-G.1

G-1.2

Emaciation

Any Animal

1. What is it ?

- Emaciation occurs when an animal has used up body stores of fat and/or muscle.
- It is due to a long period in which the animal has not had enough to eat.



Photo credit: WCVM

2. What does it look like ?



Photo credit: Dr. J. Geraci



Photo credit: Dr. L. Measures

- Skinny and weak with excess loose skin.

- Shoulder bone and ribs stick out (meat and blubber is thin) (emaciated beluga).

Emaciation

Any Animal



Photo credit: WCVM

- Emaciation can be caused by many different things such as broken teeth (makes eating difficult), lice, ticks, parasites inside the body or lack of good food.



Photo credit: WCVM

- In starving meat eaters and hoofed animals, bone marrow in the thigh bone will turn from solid white and waxy to yellow or red and more jelly-like.

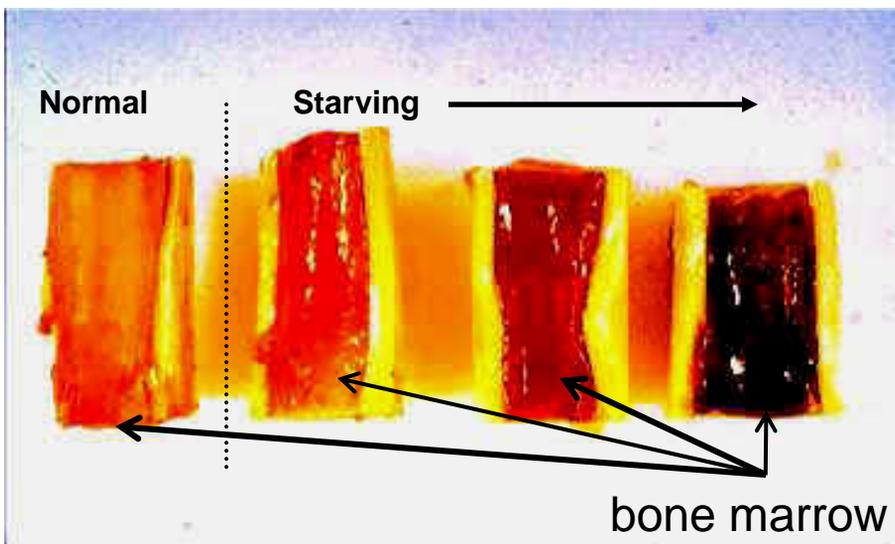


Photo credit: G. Wobeser CCWHC

Emaciation

Any Animal

3. Is it safe to butcher the animal ?



4. Is it safe to eat the animal ?



Meat should be OK to eat but may be of poor quality.

It is not recommended to eat the animal if it has other sicknesses or parasites that could make you sick.

5. Is it safe to feed to dogs ?



It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-G.2

G-1.3

Skin Cysts

Any Animal

1. Where are they found ?

- Skin cysts can be found anywhere on the body.
- They can be small (mm) to large (cm) in size.
- Some other types of cysts can be caused by parasites.

2. What are they ?

- A skin cyst is a sac filled with air, fluid, pus or other material.
- The cyst is usually “ball-shaped” and does not have any hair on it.

- Some cysts are considered “normal” and do not indicate disease or parasites.



Skin Cyst

Any Animal

3. Is it safe to skin the animal ?

SAFE

4. Is it safe to eat the animal ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-G.3

G-1.4

Skin Ulcers

Any Animal

1. Where on the body ?

- Ulcers can occur anywhere on the body, but often develop over pressure points where the skin overlying the bone is thin.

2. What are they ?

- An ulcer is an open sore in the skin.
- Ulcers may be red and may ooze blood, clear fluid or pus.
- They can be caused by cuts, scrapes, rubbing or other injuries.



Skin Ulcers

Any Animal

3. Is it safe to skin the animal ?

SAFE

4. Is it safe to eat the animal ?

CAUTION

Animals with ulcers should be safe to eat.

However, it is advised to cut ulcers out before eating and check for other sicknesses which may have caused the ulcer.

5. Is it safe to feed to dogs ?

It is not recommended to feed dogs anything you would not eat.



For more information go to H-G.4

G-1.5

Mouth Sores

Any Animal

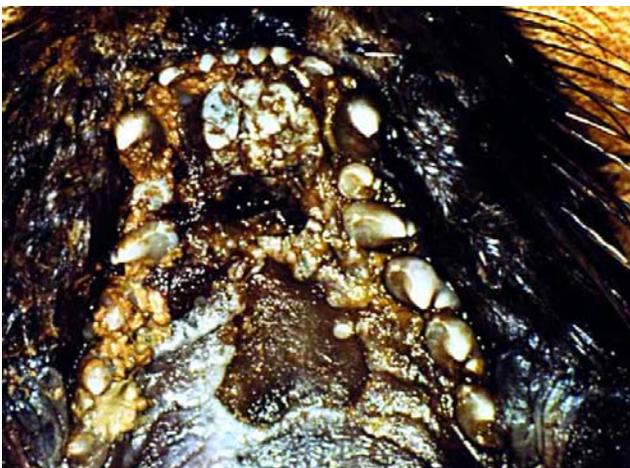
1. Where is it found ?

- Mouth sores are found in the mouth of most animals.
- Sores are common in under-fed animals.
- Sores may also be a sign of other sicknesses.

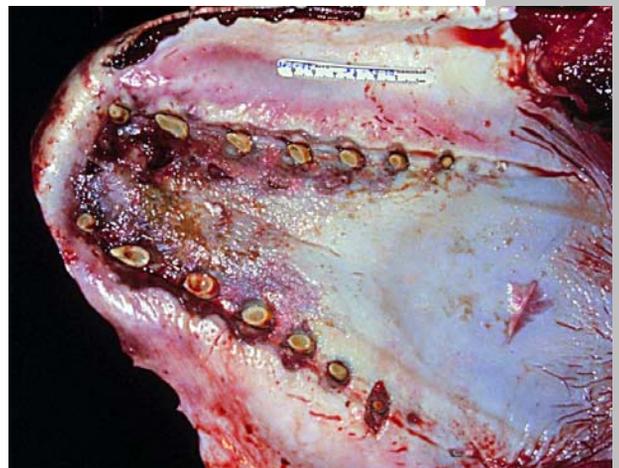
2. What is it ?

- With mouth sores the gum tissue around teeth becomes red and sore.
- Gum tissue may shrink making teeth loose.
- Sores in other areas of the mouth may also be found.

Seal - Photo Credit: Dr. J. Geraci



Beluga - Photo Credit: Dr. D. Martineau



Mouth Sores

Any Animal

3. Is it safe to skin the animal ?



4. Is it safe to eat the animal ?



It is not recommended to eat the animal if it has other sicknesses that could make you sick.

5. Is it safe to feed to dogs ?



It is not recommended to feed dogs anything not safe for humans to eat.

For more information go to H-G.5

G-1.6

Kidney Stones

Any Animal

1. Where are they found ?

- Kidney stones are found inside the kidney and sometimes in the urinary tract.
- Stones may block the flow of urine and cause kidney damage.

Photo Credit: Dr. J. Geraci



2. What are they ?

- Kidney stones are small, hard objects of different colours, sizes and shapes that form inside the kidney.
- They are made from excess waste products that normally pass out with the urine.



Kidney Stones

Any Animal

3. Is it safe to skin the animal ?

SAFE

4. Is it safe to eat the animal ?

SAFE

5. Is it safe to feed to dogs ?



For more information go to H-G.6

G-1.7

Pneumonia

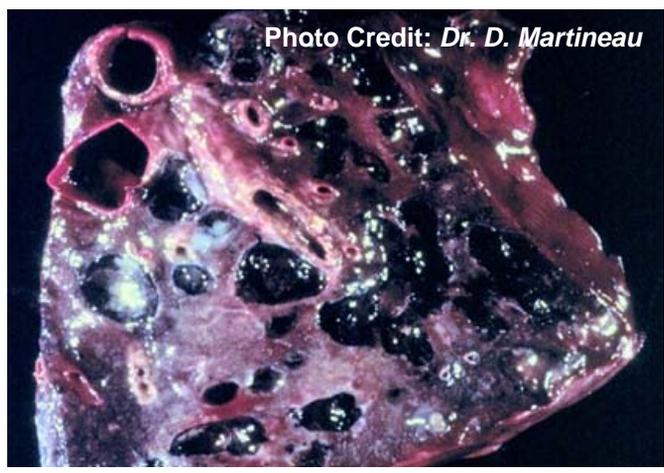
Any Animal

1. Where is it found ?



- Pneumonia is found in the lungs and airways.
- A normal lung is pale pink, light in weight and soft.

- Affected lungs may have dark and firm areas and there may be froth in the airways. Pus-filled wounds may be present.



Beluga lung with Pneumonia.

2. What is it ?

- Pneumonia occurs when the lungs, and often the airways inside the lungs, are diseased.
- There are many possible causes such as viruses, bacteria and parasites.

Pneumonia

Any Animal

3. **Is it safe to butcher the animal ?**



Clean your tools, hands and outer clothing in hot soapy water if pneumonia is suspected.

4. **Is it safe to eat the animal ?**



It is not recommended to eat animals suspected of having pneumonia.

It is normal for animals which have been shot in the chest to have froth in the airways of the lungs.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything not safe for humans.

For more information go to H-G.7

G-1.8

Abnormal Livers

Any Animal

1. What do you see ?

- You may see flat whitish scars on the surface of the liver or small yellow or white spots scattered throughout the liver.
- Many different things such as parasites, bacteria, or viruses can cause these conditions.

These white to clear areas are likely caused by parasitic worms.

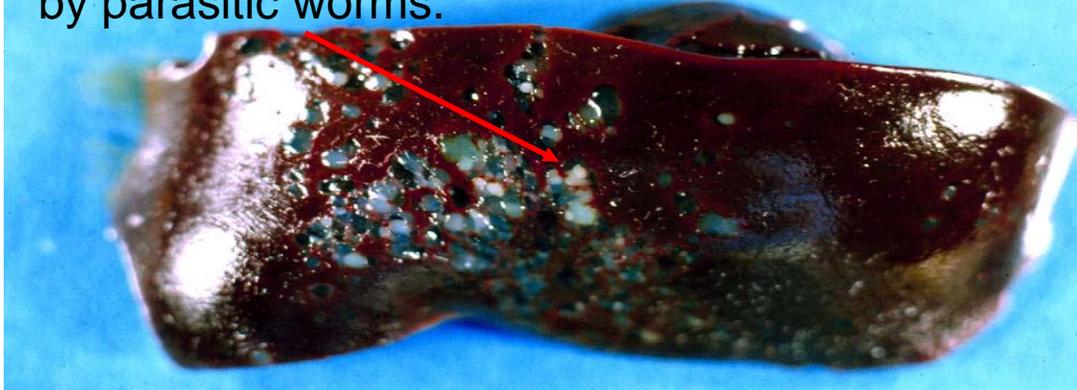


Photo Credit: Dr. J. Geraci

2. Where in the liver do abnormalities occur?

- Spots and scars are generally found on the surface of the liver, but may also be found inside the liver.
- Due to scar tissue, some livers may also be more firm than usual.

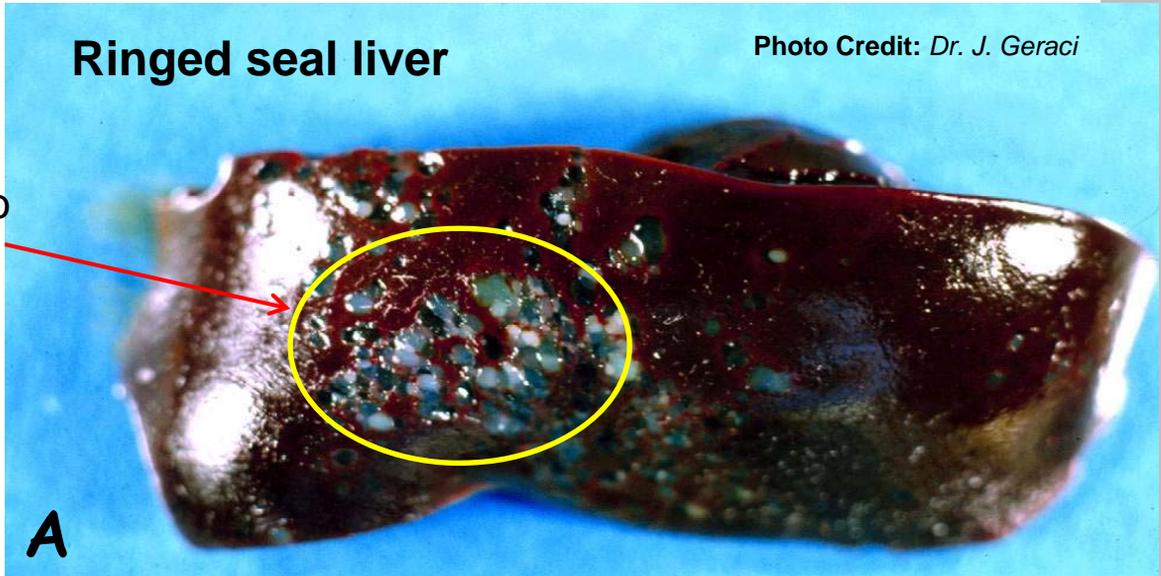
Abnormal Livers

Any Animal

Ringed seal liver

Photo Credit: Dr. J. Geraci

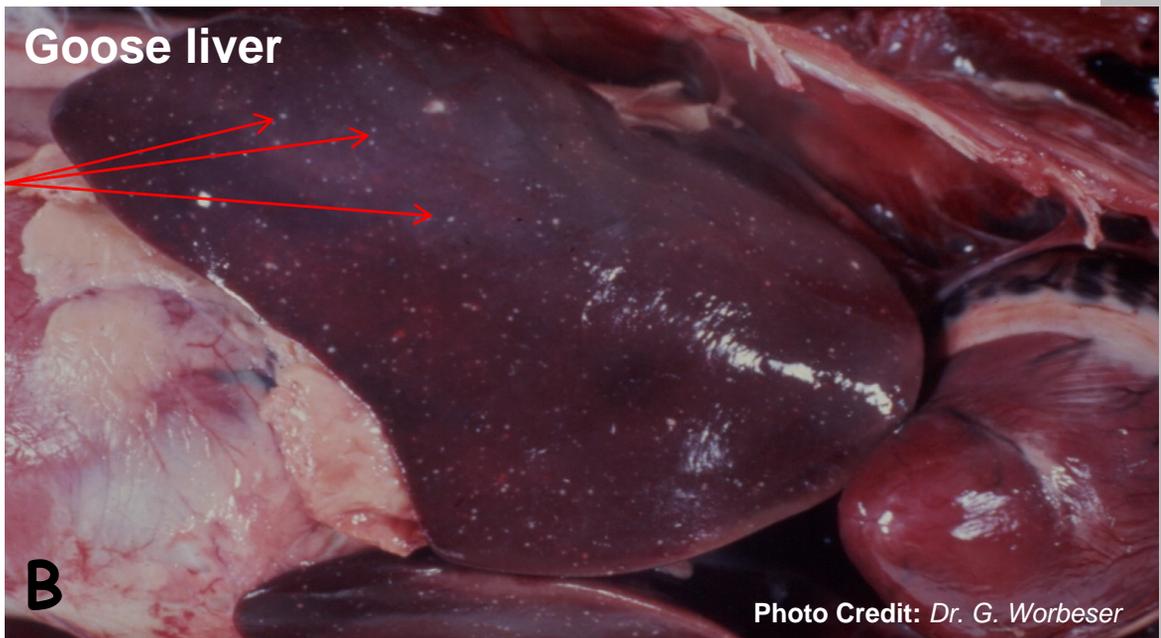
Large white to clear spots.



- The MANY small white spots in Photo B are caused by a virus.
- Seeing this type of condition in the liver and possibly in other organs as well may mean that the animal has a virus which MAY make people sick.

Goose liver

Small white spots.



Abnormal Livers

Any Animal

3. Is it safe to skin the animal ?



CAUTION

If many white spots (like those in Photo B) are seen, use gloves when handling the animal and wash tools, hands and outer clothing in hot soapy water after use.

4. Is it safe to eat the animal ?



WARNING

It is not recommended to eat the animal if many small white spots are seen throughout the liver (photo B on previous page).

5. Is it safe to feed to dogs ?



It is not recommended to feed dogs anything not safe for humans.

For more information go to H-G.8

G-1.9

Any Animal

Enlarged Lymph Nodes

1. Where are they found ?

- Lymph nodes are found throughout the body.

2. What are they ?

- Lymph nodes act as filters within the body. They trap and collect bacteria and viruses.
- Lymph nodes are generally cream coloured and often less than 3 cm in length.
- Enlarged lymph nodes generally mean that the animal is sick.

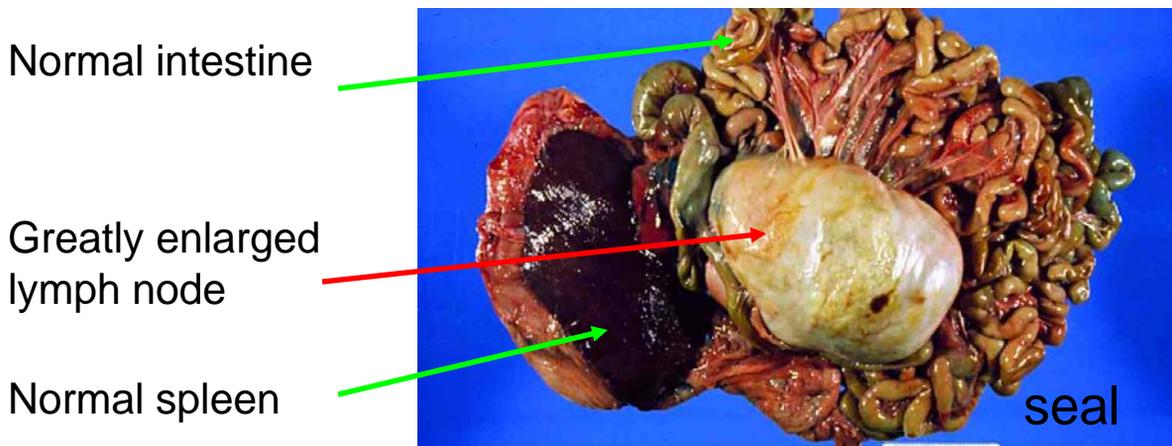


Photo Credit: Dr. J.D. St. Aubin

Enlarged Lymph Nodes

Any Animal

3. Is it safe to skin the animal ?



Clean tools, hands and outer clothing in hot soapy water if enlarged lymph nodes are seen.

4. Is it safe to eat the animal ?



Greatly enlarged lymph nodes may mean the animal is sick.
It is not advised to eat the animal if it appears sick or unusually weak.

5. Is it safe to feed to dogs ?



It is not recommended to feed dogs anything that is not safe for humans to eat.

For more information go to H-G.9

G-1.10

Infections of the Spleen

Any Animal

1. Where is the spleen found ?

- The spleen is a dark organ found next to the stomach.
- The shape and size is different in different animals, but it is usually curved, oval or round.

2. What is the spleen ?

- The spleen filters viruses and bacteria from the blood.
- An enlarged spleen or one that contains many white spots may indicate that the animal is sick.



Photo Credit: Dr. D. Campbell

Infections of the Spleen

Any Animal

3. **Is it safe to butcher the animal ?**



Clean your tools, hands and outer clothing in hot soapy water.

4. **Is it safe to eat the animal ?**



It is not recommended to eat the animal if many small white spots are seen throughout the spleen and if the spleen seems much larger than normal.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything not safe for humans.

For more information go to H-G.10

G-1.11

Stomach Ulcers

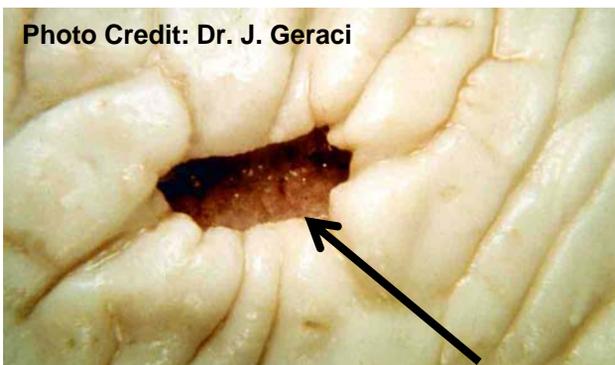
Any Animal

1. Where are they found ?

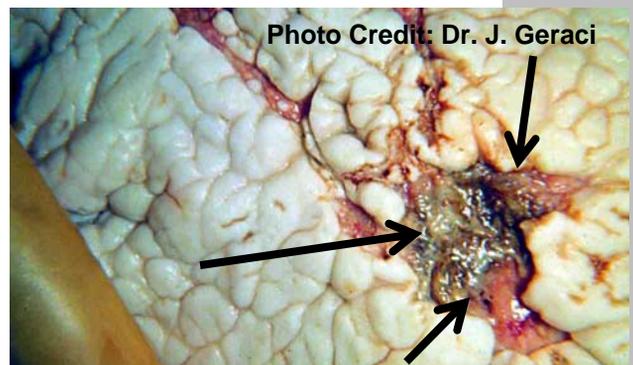
- Ulcers can be found anywhere in stomach.

2. What are they ?

- Stomach ulcers are open sores in the stomach.
- They can be caused by parasites, sharp objects or may be related to stress.
- Stomach acids can prevent these sores from healing.



Ulcers can be found one at a time.



Ulcers can be found in patches.

Stomach Ulcers

Any Animal

3. **Is it safe to butcher the animal ?**



4. **Is it safe to eat the animal ?**



Ulcers do not necessarily mean the animal is unsafe to eat. To be safe, check the animal over before eating to make sure that there are not other parasites or sicknesses which may cause harm.

5. **Is it safe to feed to dogs ?**



It is not recommended to feed dogs anything that is not safe for people to eat.

For more information go to H-G.11