

Postmortem evaluation in cases of suspected humane transport violation

Canadian Animal Health Laboratorians Network Annual Meeting
University of Guelph
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**UNIVERSITY
of GUELPH**
LABORATORY SERVICES
Animal Health Laboratory

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Kemptville
University of Guelph**



Fallen animal: an animal that is disabled by disease, emaciation, or any other condition likely to cause its death

Part II **Ontario Regulation 105/09** under the ***Food Safety and Quality Act***

Fallen animals

4. (1) Every person who is responsible for the care of and has control over a fallen animal shall promptly kill it or arrange for it to be killed, in a humane manner in either case. O. Reg. 105/09, s. 4 (1).

(2) No person shall move a fallen animal before it is killed. O. Reg. 105/09, s. 4 (2).

Part XII ***Health of Animals Regulations***, under ***Health of Animals Act*** (federal):

(2) Subject to subsection (3), no person shall load or cause to be loaded on any railway car, motor vehicle, aircraft or vessel and no one shall transport or cause to be transported an animal

(a) that by reason of infirmity, illness, injury, fatigue or any other cause cannot be transported without undue suffering during the expected journey;

Diagnostic case

- What is the disease?
- What is the cause?

Alleged humane transport violation

Legal postmortem – different questions:

- How long was this animal sick?
- How severe are the lesions – is this a fallen animal?



CHAIN OF CUSTODY AHL Case #: 16-006578 Case Coordinator: A Brooks

Submitting client's case number (if available): _____

On this date and time at AHL-Kemptville 2017/01/24 11:17 AM, the following specimen(s)
Sheep carcass was submitted by Karmel Smith
and was received by Tom McLean.

Submitter: [Signature] Date: 2017/01/24
Receiver: [Signature] Date: 2017/01/24



Date	Procedure	Location/ storage details	Signature
2017-1-28	spmt master		[Signature]
2017-2-1	carcass rendered		[Signature]

Postmortem Method ID: AHL-002

Initial Date Authorized: 2016-Apr-14 19:38

Date(s) Supplemental: 2016-Apr-15 12:26

Necropsy performed by Dr. A. Brooks, assisted by Tom McLean, Debbie Scissons

Date/time postmortem began: April 12, 2016 8:15 AM

Date/time postmortem end: April 12, 2016 11:00

Photographs: 76 (photographs taken by A. Brooks, D. Scissons). Photograph log is separate.

Animal Identification: Holstein, female, adult.

OMAFRA red ear tag: 0325979

CCIA ear tag: 11119130 1579

yellow year tag: 1579 BOGART

on the back of the animal there are 3 stickers/labels (1. Blue label –OMAFRA held for veterinary inspection #1197, 2. White label 1197, 3.

Green label – 1579).

AHL-Kemptville Photograph Log

page 1 of 2

AHL Case number: 16-027742 Pathologist: Brooks



Filename	Description/Comment	Taken by (initials)	Date taken
DSC-0658	head + front of carcass	DS	2016-4-12
DSC-0659	head + front of carcass	DS	2016-4-12
DSC-0660	topline / vertebral column	DS	2016-4-12
DSC-0661	hind end carcass	DS	2016-4-12
DSC-0662	ventrum carcass	DS	2016-4-12
DSC-0663	ventrum carcass	DS	2016-4-12
DSC-0664	R shoulder + neck - transport marking	DS	2016-4-12
DSC-0665	on skin w hair loss		
DSC-0665	skin ulcer R stifle	AB	2016-4-12
DSC-0666	skin ulcer R stifle	AB	2016-4-12
DSC-0667	Mammary skin lesion	AB	2016-4-12
DSC-0668	Mammary skin lesion (udder cleft alternately)	AB	2016-4-12
DSC-0669	skin ulcer R stifle	AB	2016-4-12

OMAFRA – questions

1. Estimate the age of the lesions (was this animal sick when it left the farm?).
2. Would you consider the animal a fallen animal (i.e., disabled by disease, emaciation, or any other condition likely to cause death)?
3. How obvious would this disease have been?
4. Would a reasonable person have been able to recognize the signs of this disease?



Ageing lesions: estimate

- ***Was this animal sick when it left the farm?***
- **Challenge** to provide an accurate estimate of lesion age
- Supporting **evidence** (*reviewed by other expert witnesses*):
 - Gross lesions – accurate description
 - Photographs
 - Histopathology – stage of inflammation and repair
 - Research articles (e.g., time-course studies)



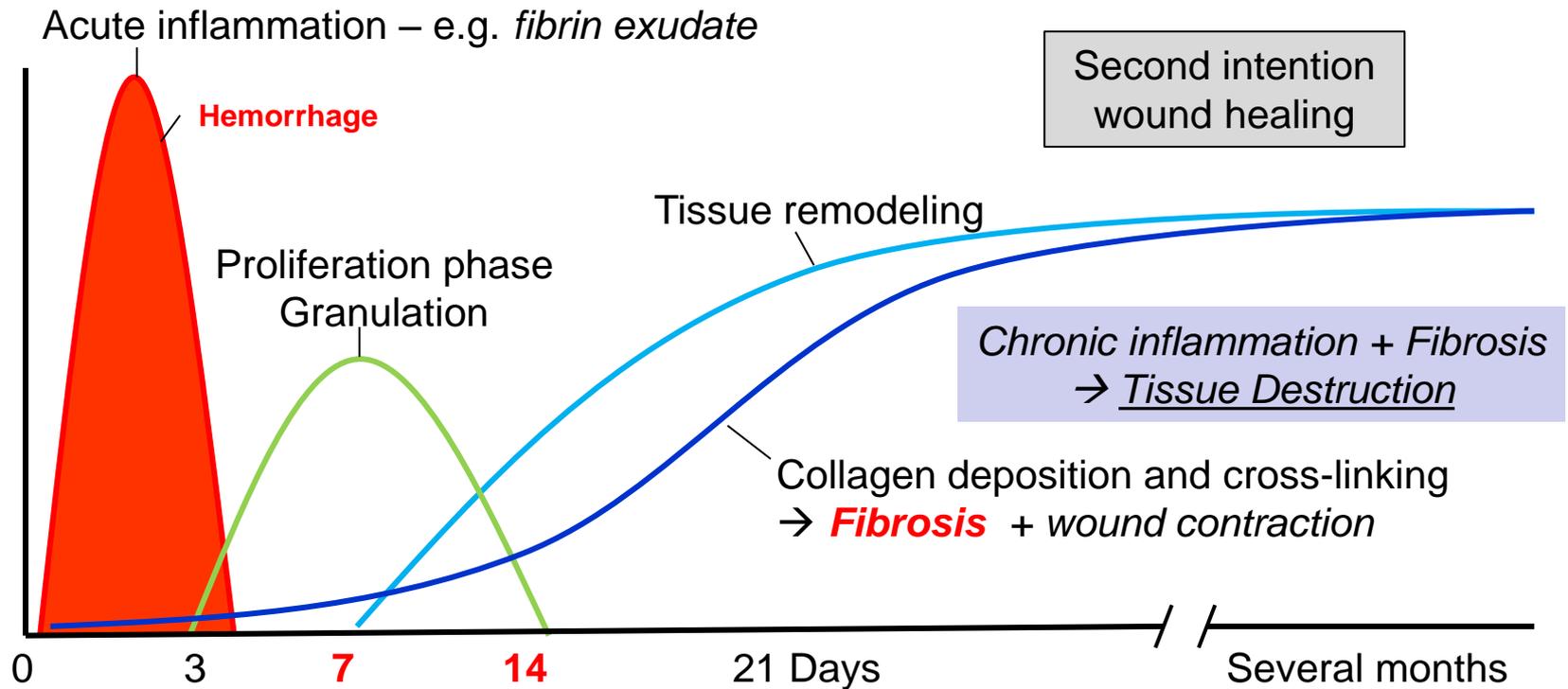
Acute: few hours - few days (e.g. 0-4 days)

Chronic: prolonged duration – weeks-months-years (e.g. > 7days)

McGavin, M. Donald., and James F. Zachary. *Pathological Basis of Veterinary Disease*. 6th ed. Mosby Elsevier, 2016.

Thomson, Reginald George. *General Veterinary Pathology*. Second ed., W.B. Saunders, 1984.

Stage of inflammation and repair can be used to estimate lesion age



Adapted from Stashak, Ted S., and Christine Theoret, eds. *Equine Wound Management*. Second ed. Wiley-Blackwell, 2008.

Case: dairy cow at sales barn

- **Recumbent after transport**
- **Groaning**



ACUTE:

- PMN, oat cells, necrosis
- Fibrin
- < 3 days

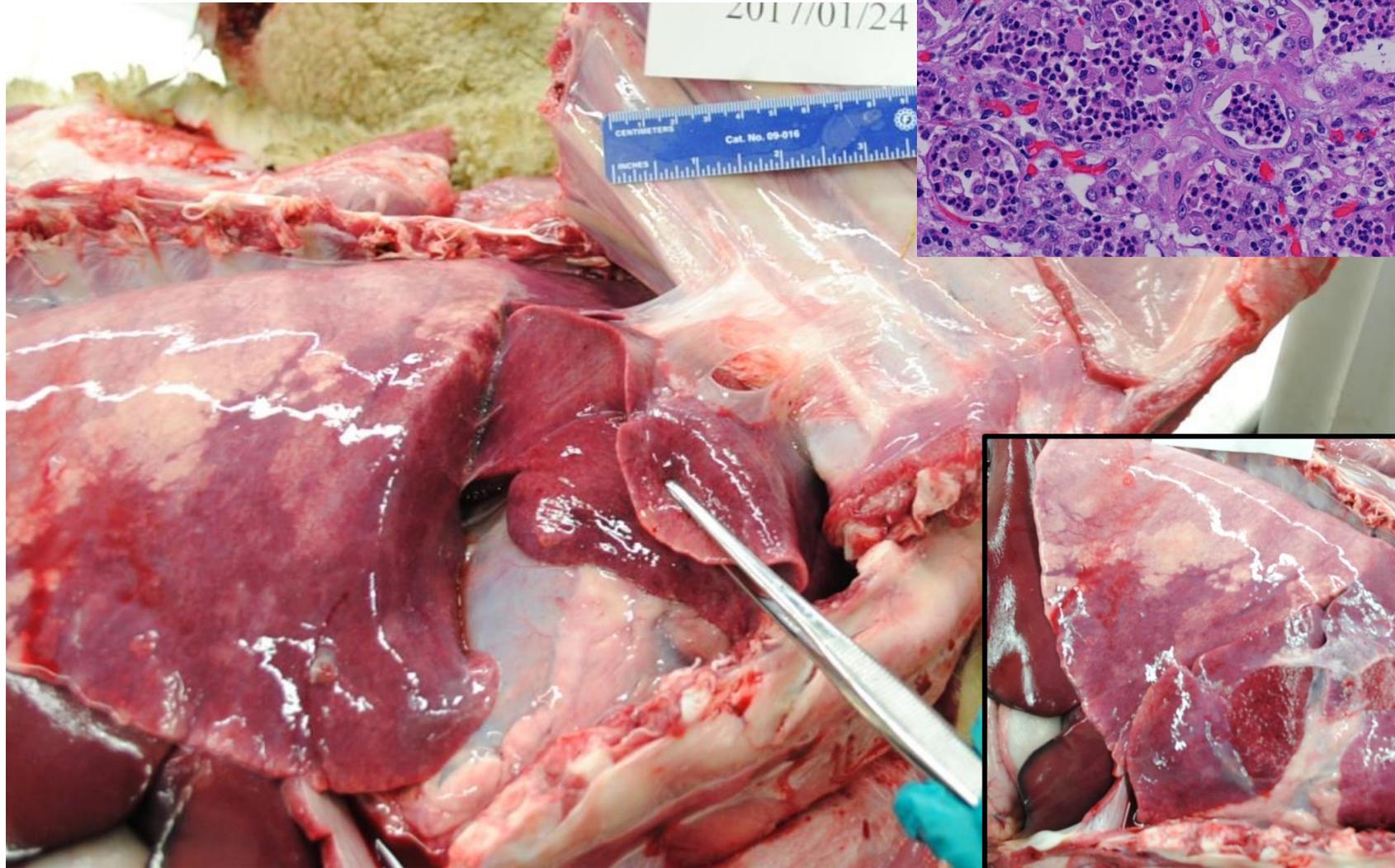
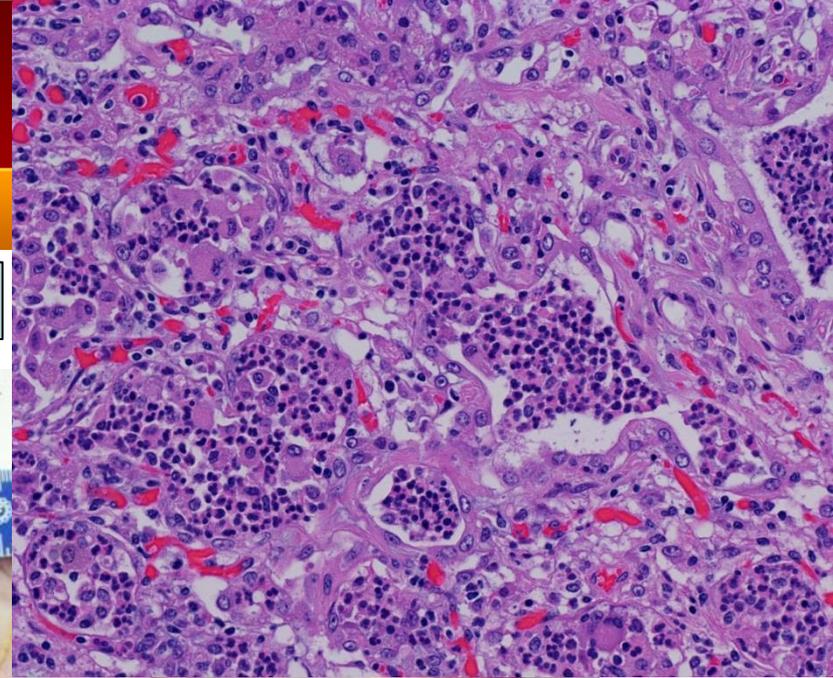
BUT....

- T2 hyperplasia
- Bronchiolitis obliterans

Interpretation:

Severe acute pneumonia under 3 days, *with older lesions that may or may not have been apparent.*

Case: adult ewe – thin, lethargic at sales barn

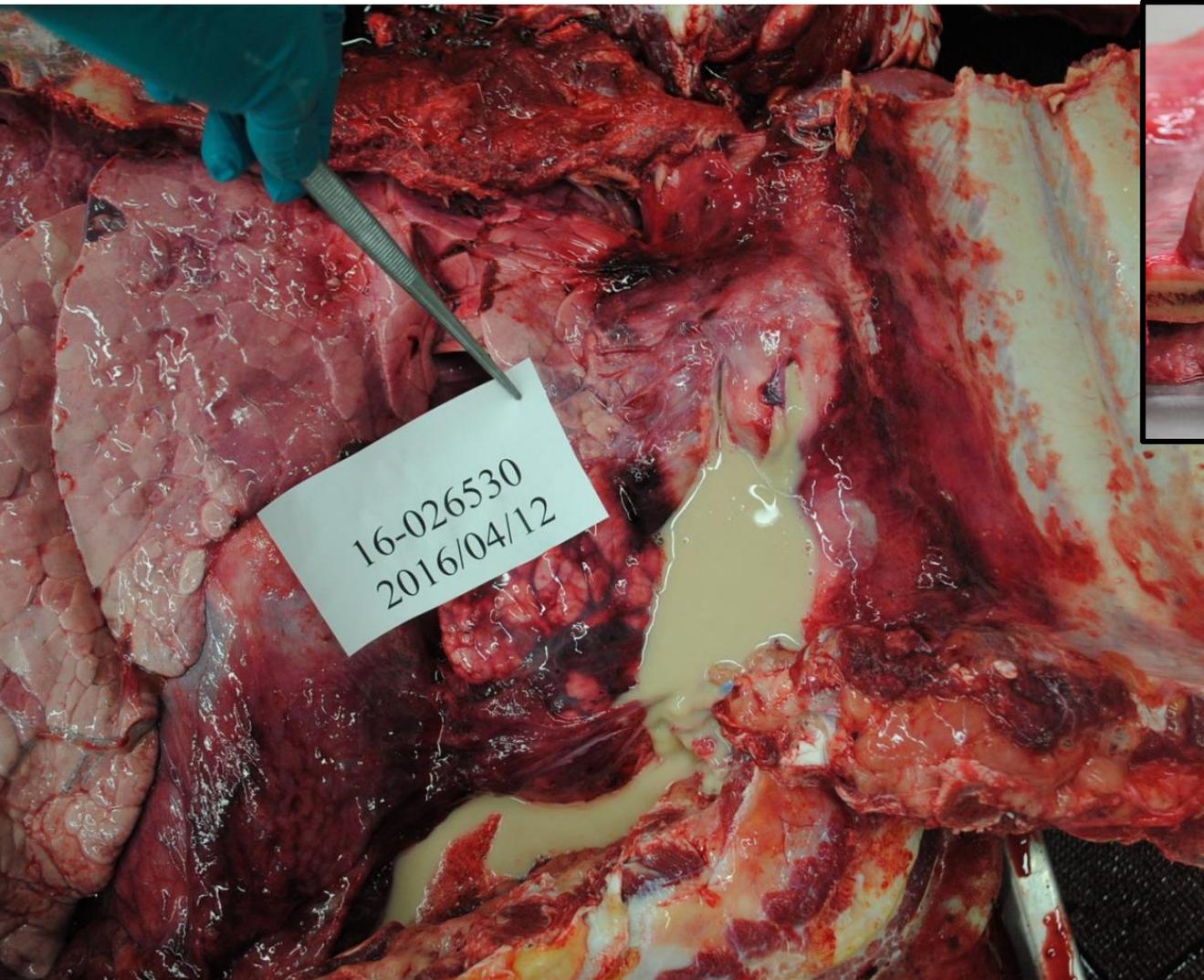


~ 4-7 days



Case: dairy cow at sales barn

- *thin*
- *respiratory distress – dyspnea*
- *distended jugulars, extended head and neck*

***Fallen animal?***

- *Dyspnea*
- *Infection not contained*

Fallen animal: disabled by disease, emaciation, or any other condition likely to cause its death

Significance?

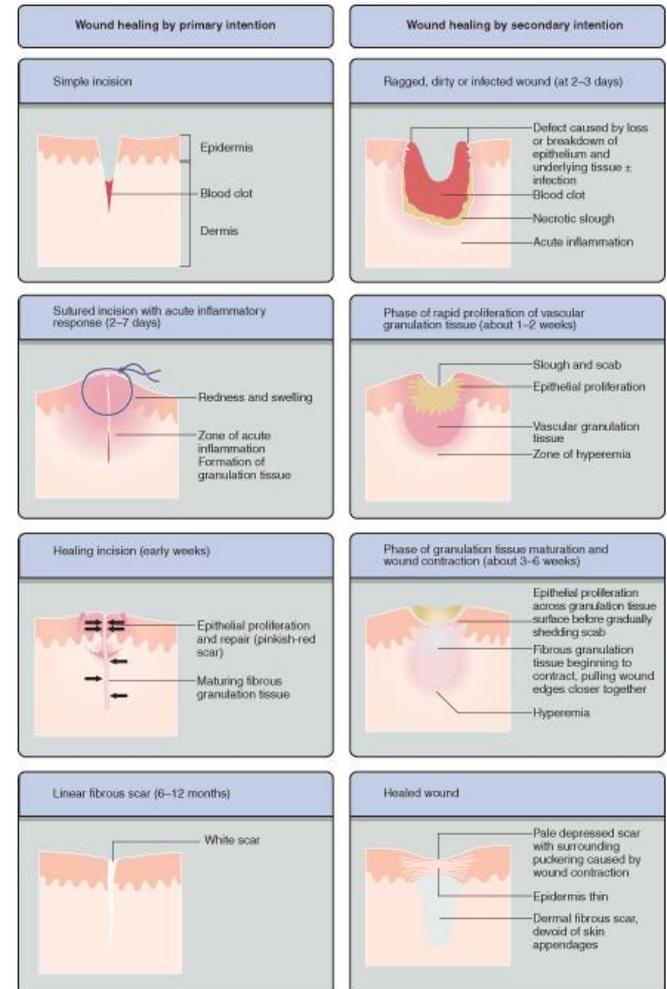
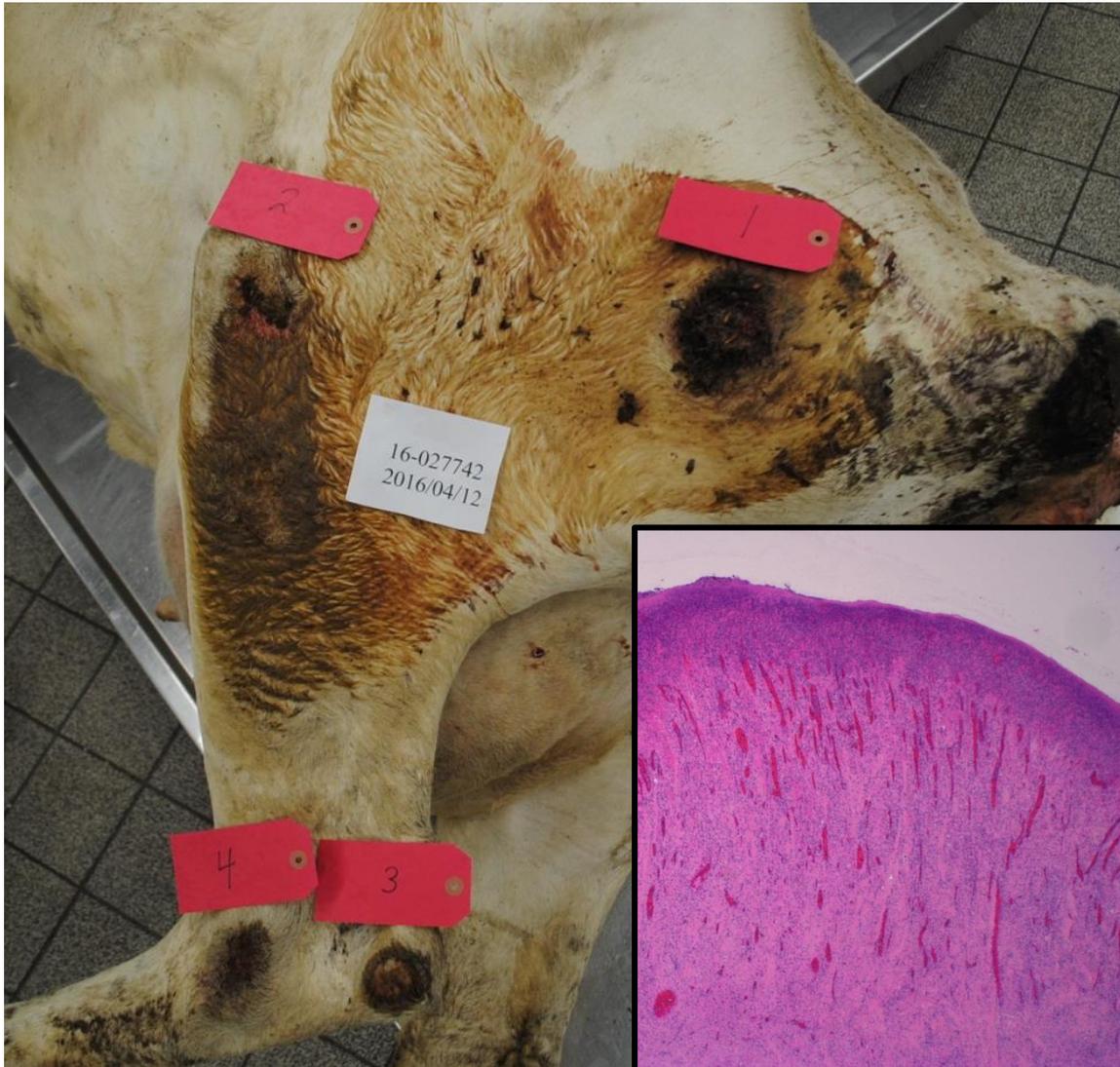


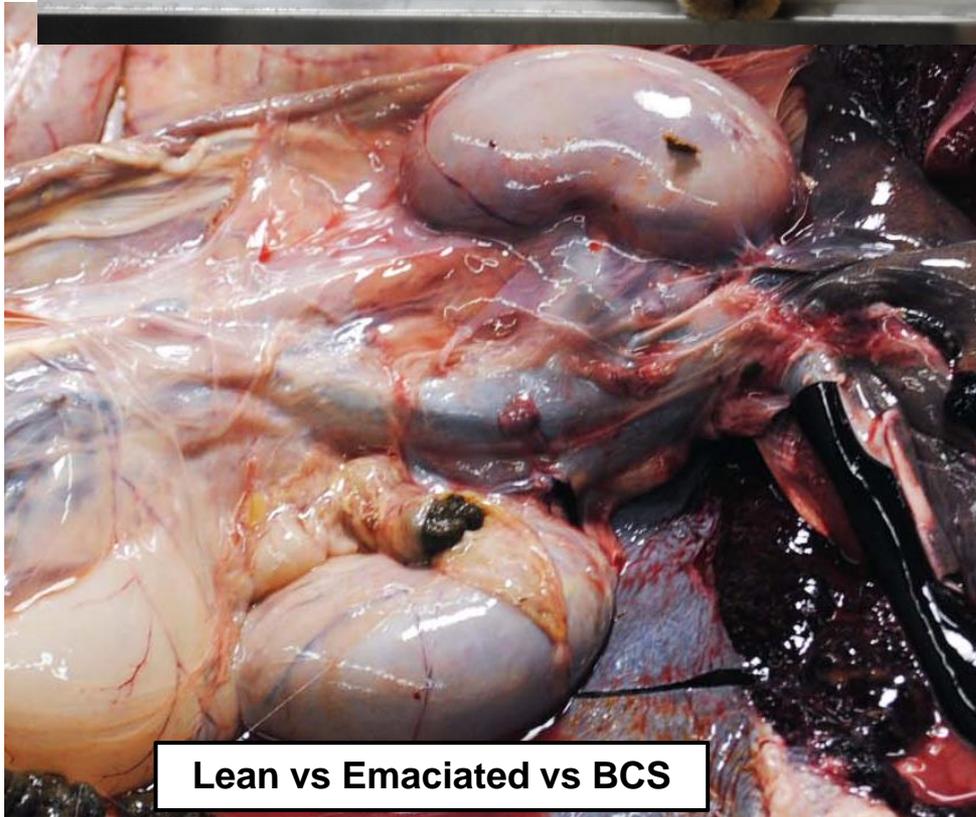
Fig. 3-35 Wound healing. Steps in wound healing by primary intention (left) and secondary intention (right). Note large amounts of granulation tissue and wound contraction in the healing by second intention.

(From Young B, O'Dowd G, Stewart W: *Wheeler's basic pathology: a text, atlas and review of histopathology*, ed 5, New York, 2010, Churchill Livingstone.)

Zachary and McGavin: *Pathologic Basis of Veterinary Disease*, 5th edition, Copyright © 2012 by Mosby, Inc., an affiliate of Elsevier Inc.

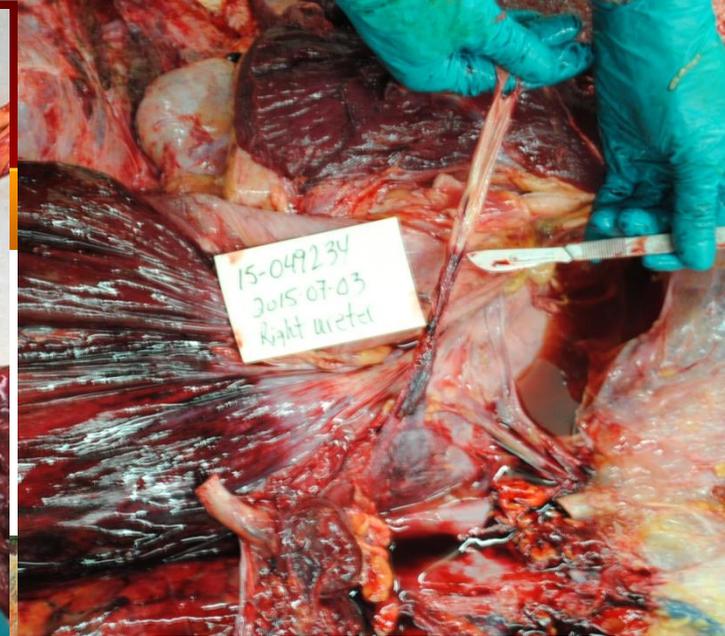
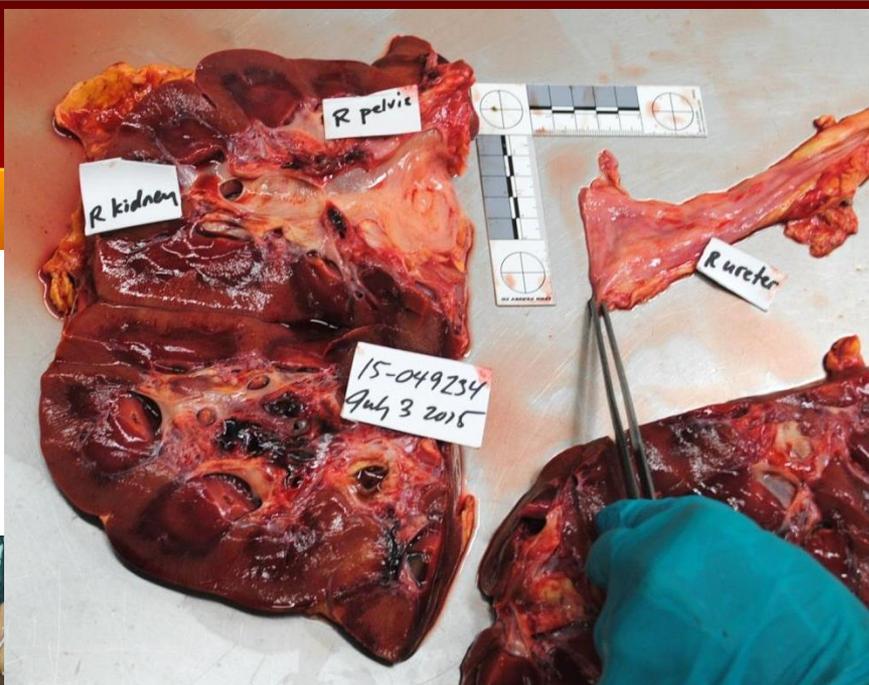


Case: Ewe observed to be thin and weak at sales barn



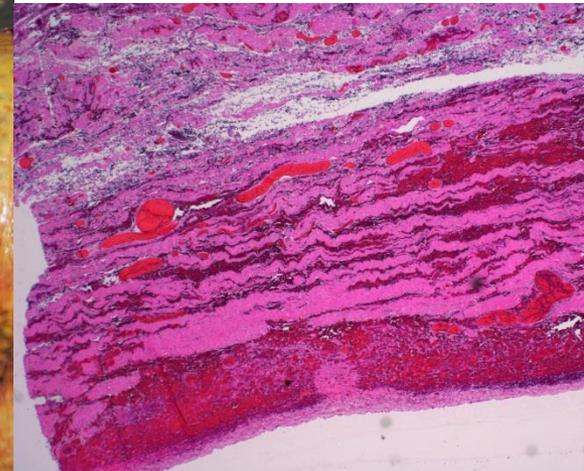
Lean vs Emaciated vs BCS





Dairy cow

- **Died after delivery to abattoir**
- **< 24 hours?**



Acknowledgements:

Dr. Jeff Caswell - Pathobiology

Mike Draper - OMAFRA

Dr. Jan Shapiro - AHL

Tom McLean, Debbie Scissons - AHL

Further reading:

- McGavin, M. Donald., and James F. Zachary. *Pathological Basis of Veterinary Disease*. Fifth ed., Mosby Elsevier, 2012.
- Thomson, Reginald G. *General Veterinary Pathology*. Second ed., W.B. Saunders, 1984.
- Stashak, Ted S., and Christine Theoret, eds. *Equine Wound Management*. Second ed., Wiley-Blackwell, 2008
- Maxie, M. Grant, ed. *Pathology of Domestic Animals*. Sixth ed., Elsevier, 2016.

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