



# How to interpret post mortem findings

By Dr Mark Williamson

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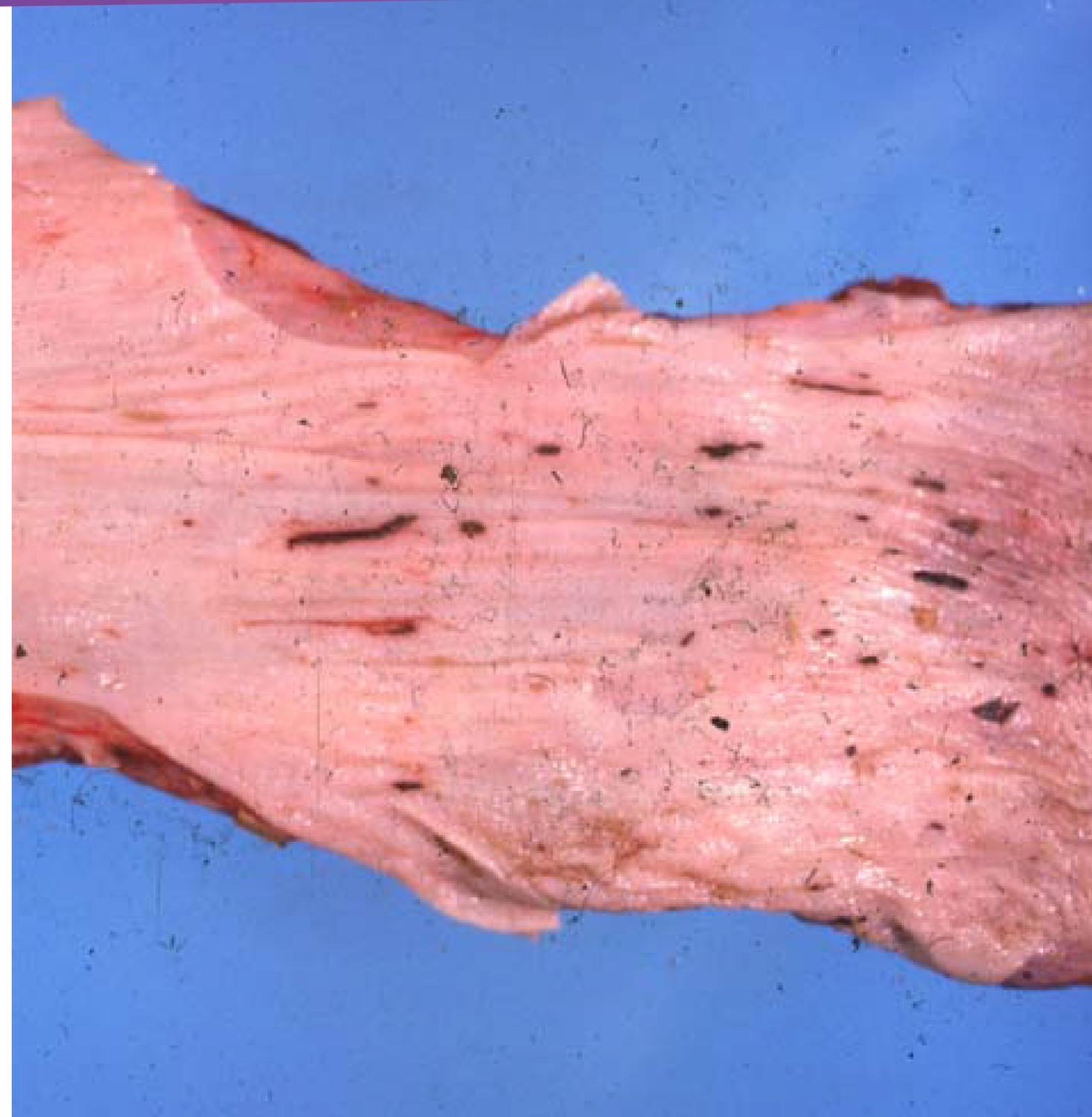
# Points to consider when looking at a post mortem

1. Is this an exotic disease or zoonosis?
2. Is this post mortem change or is it significant?
3. How would the change affect the organ?
4. Describe changes in plain English
5. Develop a list of differential diagnoses
6. Assess the diagnosis in the context of other findings
7. Lab tests necessary to confirm the diagnosis



# Example of how to look at gross pathology tissue from a bovine

<b>Name the organ</b>	<b>Oesophagus</b>
<b>Describe the lesion</b>	<b>Multiple red linear erosions and ulcers along the mucosa</b>
<b>Could this be an exotic disease?</b>	<b>Yes, rinderpest</b>
<b>Most likely diagnosis</b>	<b>BVD</b>
<b>Differential diagnosis</b>	<b>Rinderpest, IBR, MCF</b>
<b>Further diagnostic tests</b>	<b>BVD PCR/ELISA, Rinderpest IBR MCF - PCR</b>



# The way I look at gross samples

1	Distribution	Random vs symmetrical
2	Size	Absolute vs relative
3	Shape, geometric & demarcation	Defines vascular unit or organ architecture
4	Colour	
5	Consistency	Soft or hard, wet or dry
6	Contour	If raised something added: cells or fluid <u>If sunken something taken away</u>
7	Texture	If you can spread it like a knife it is necrosis, debris, inflammation. If the texture is hard it is cells perhaps a tumour or fibrous tissue.

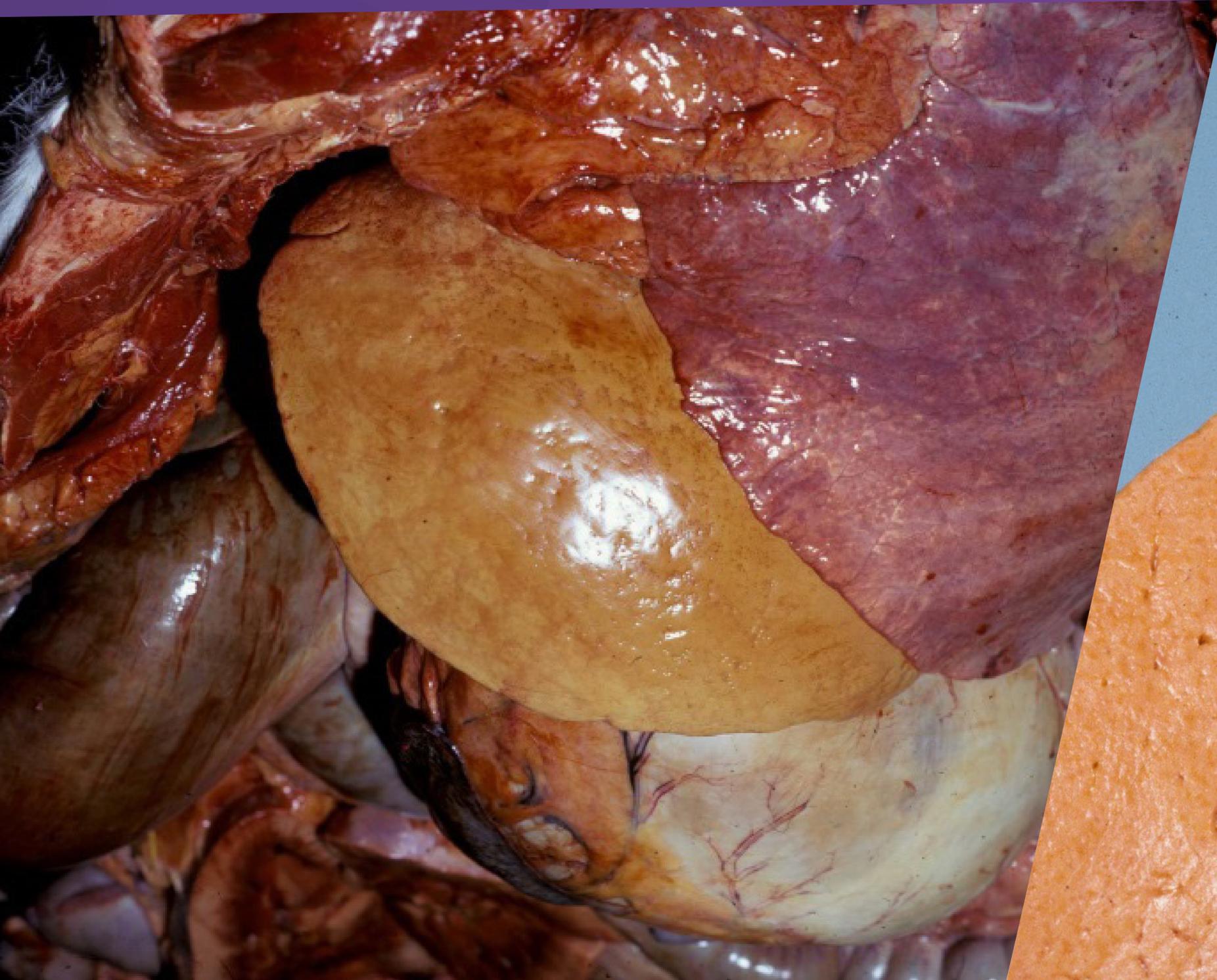
# Liver from a cow



# Another liver from a cow



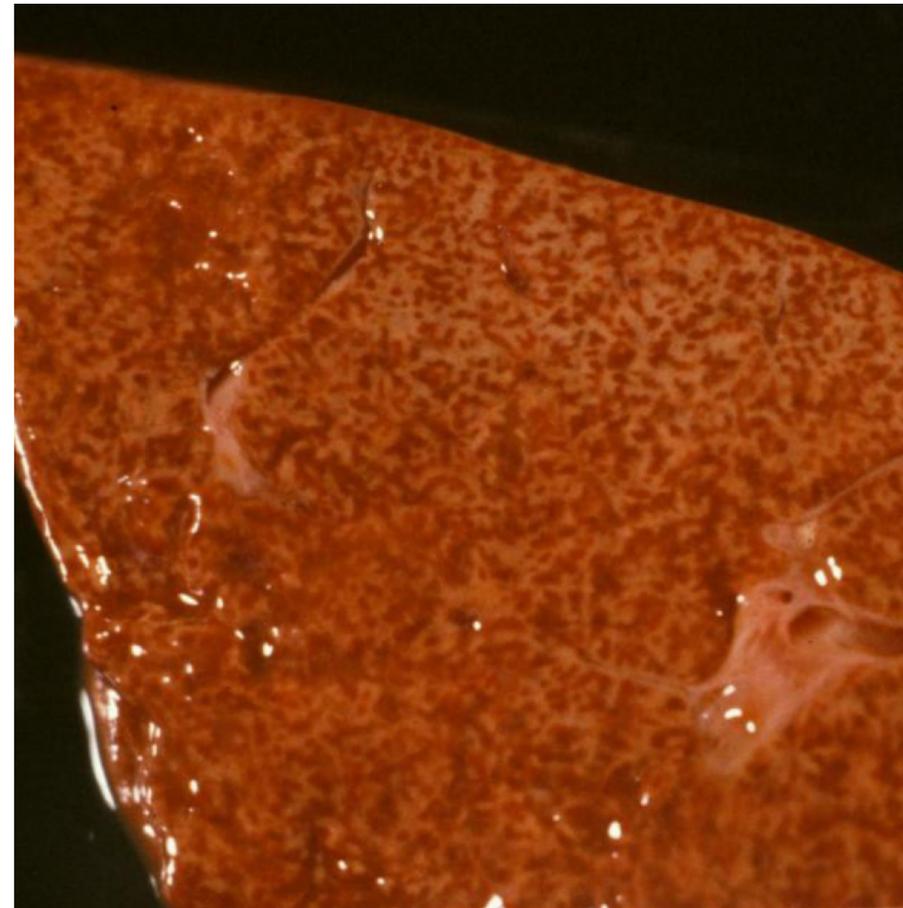
# A third liver from a cow



**Multi-focal**



**Symmetrical**



**Diffuse**



# Colour

<b>1</b>	<b>Red to reddish black</b>
	Increased amount of blood <b>Focal</b> - haemorrhage Consider haematoma, vascular tumour abscess with haemorrhage <b>Diffuse</b> - passive congestion
<b>2</b>	<b>Black to brown</b>
	Melanin
<b>3</b>	<b>Green</b>
	Bile or fungal or autolysis



# Colour

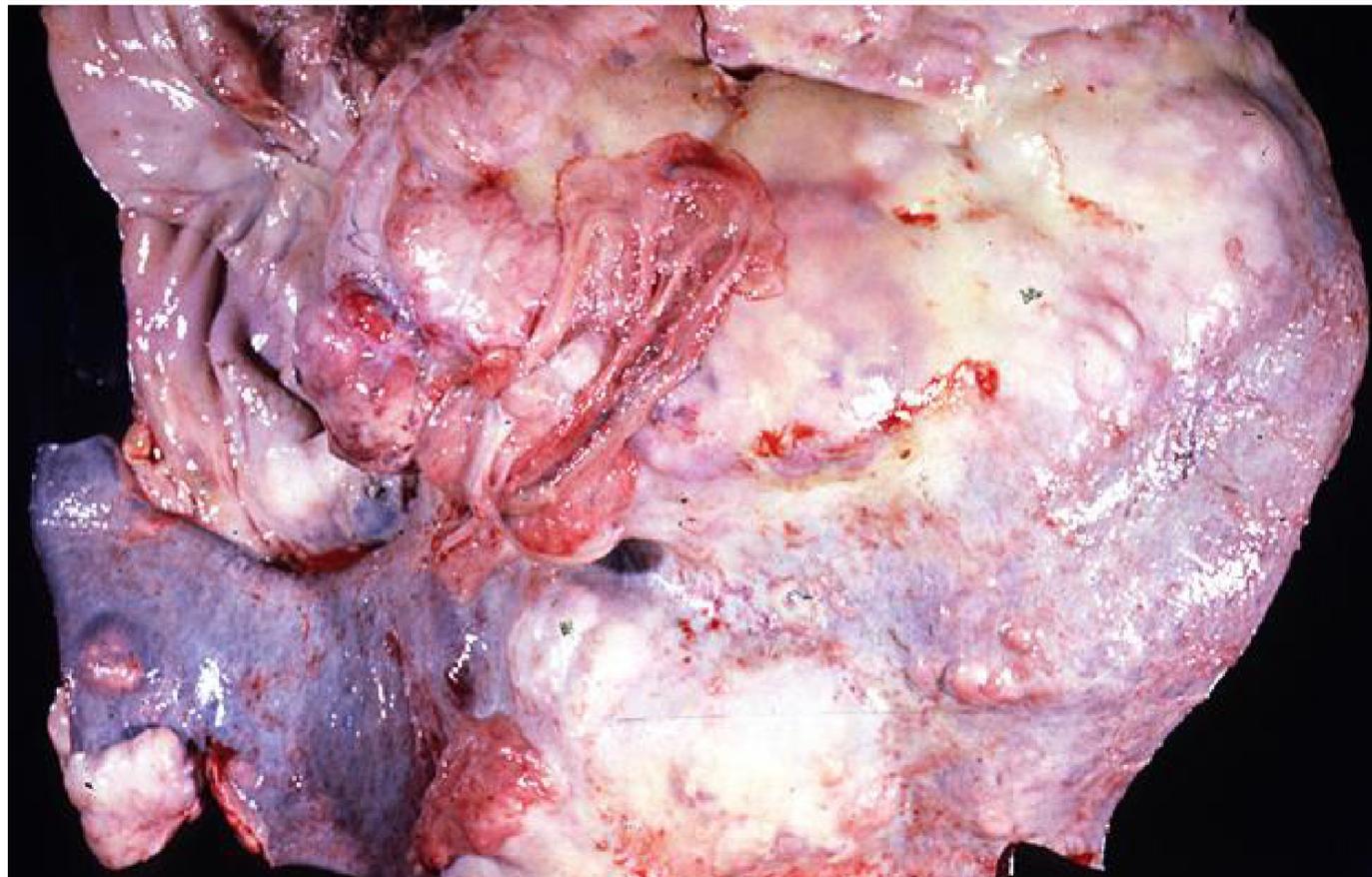
1	Red to reddish black
2	Black to brown
3	Green
4	Yellow
	Fat, bile, fibrin exudate
5	White - same as yellow
	Tumour, fibrosis tissue, bone cartilage, exudate



# Consistency

**Firm – cell rich tissues**

Consider tumour or fibrous tissue



**Able to be spread with a knife**

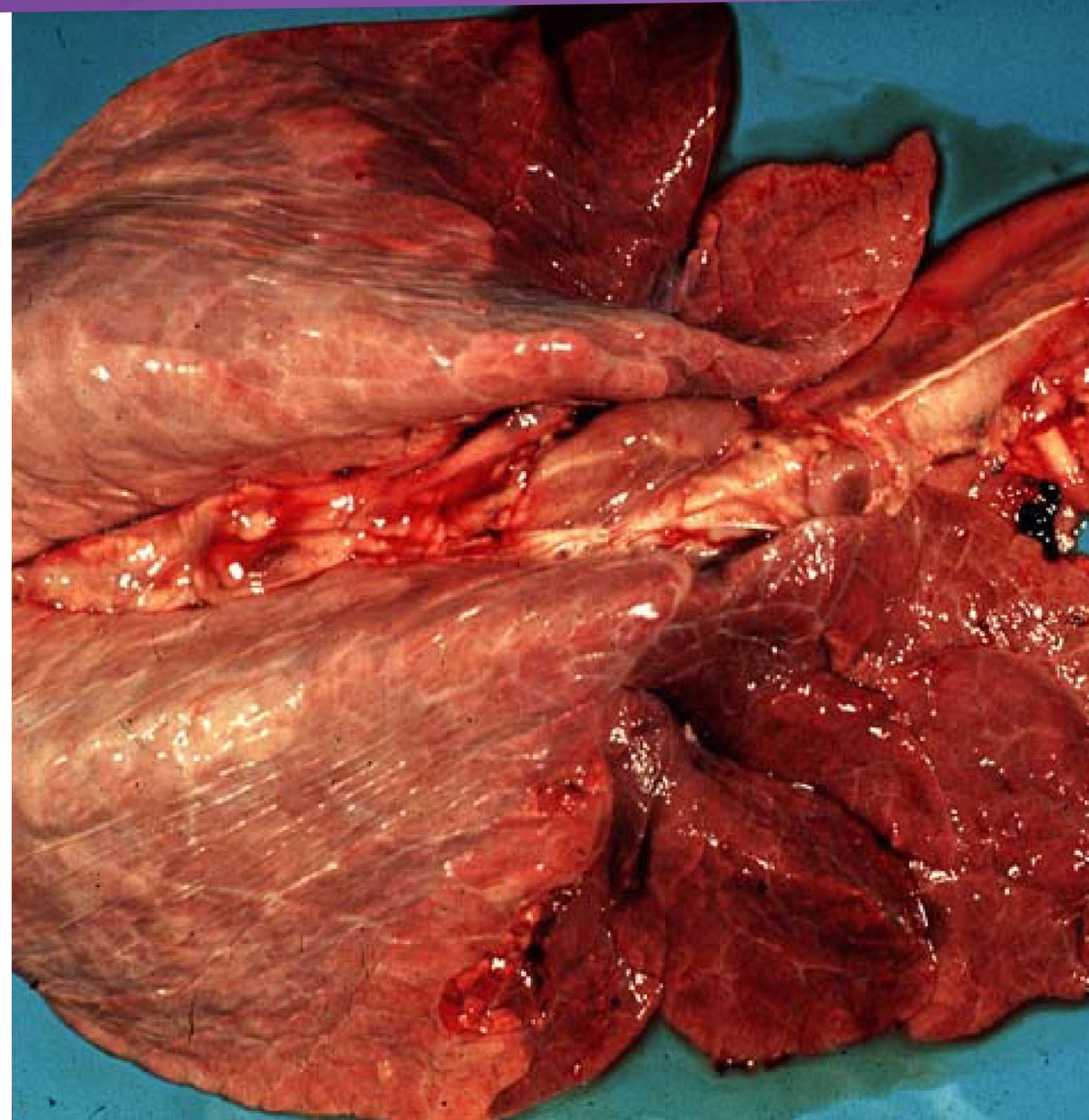
Pus, necrotic debris



**If it is not firm it is probably  
not pneumonia**

**If it sinks in formalin  
it is pneumonia**

**Bronchopneumonia look  
to the anterior ventral lobes**



# Always look for something added or something taken away

## Something taken away



## Something added

Cells have been added consider inflammation or tumour



# Contact

**Please contact me at Gribbles if I can provide you with further advice on the interpretation of your post mortem findings or send me a photo.**

## **Acknowledgments:**

Some of the images originated from the following institutions:

**University of Melbourne**

**Victorian Department of Primary Industries**

**Cornell University**





# Thank you for watching

Please feel free to contact me if you have any further questions.

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Dr Mark Williamson has been a senior veterinary pathologist at Gribbles Veterinary Pathology since 2004. Mark graduated from The University of Melbourne in 1986 with a Bachelor of Veterinary Science with 1st class Honours. In addition to working in private veterinary practice, Mark went on to complete a Masters of Veterinary Studies, MANZCS and a PhD.

His PhD on Hendra virus was awarded the National Rural Industries Research and Development Corporation Award. Mark is a Diplomate of the American College of Veterinary Pathologists and a registered specialist in Pathobiology in Victoria.

Although Mark enjoys all aspects of veterinary pathology his areas of expertise and passion includes infectious disease, immunohistochemistry, and molecular diagnosis. Mark enjoys immense satisfaction from building long term relationships with clients of Gribbles Veterinary Pathology and providing practical advice to all clients.

