

Clinical Examination of the Digestive System

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VETS30016 / VETS90120

Intended learning outcomes

- Take a thorough history to establish the likelihood of digestive system dysfunction in animals
- Differentiate normal and abnormal digestive system function based on physical examination findings
- Apply an understanding of the physiology of the digestive system to localise disease processes
- Describe some of the diagnostic aids that will enable further investigation of the digestive system



Clinical examination in veterinary practice

- Our patients can't tell us what the problem is...



Why might you need to evaluate the digestive system?

- Common presenting complaints or clinical signs (depending on the species):
 - Weight loss
 - Diarrhoea
 - Vomiting / regurgitation
 - Halitosis
 - Oral pain
 - Dysphagia
 - Abdominal pain
 - Abdominal enlargement / 'bloat'
 - Other
- } Often emergencies if sudden and/or severe

What do your patients and your clients need you to know?

- Is the problem likely to be self-limiting?
- Does the animal need treatment?
 - Symptomatic treatment
 - Specific / invasive / aggressive treatment
- Does the animal need surgery?
 - Elective / emergency
- Does there need to be more investigation?
 - Individual / herd



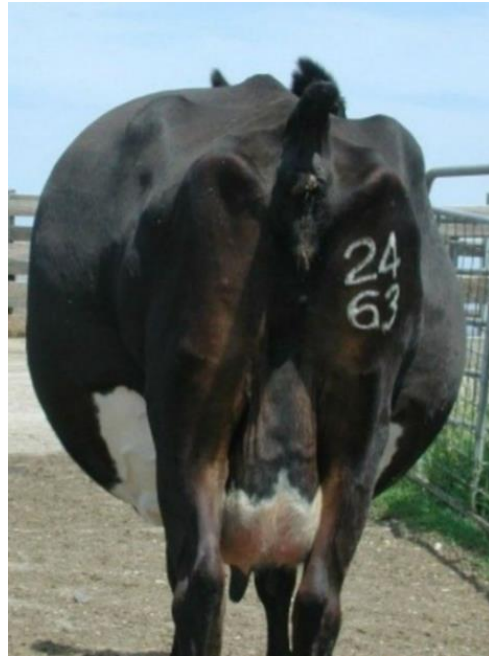
What do your patients and your clients need you to know?

- You need a ***refined*** problem list
- You need a ***prioritised*** differential diagnosis list
- You will achieve this by taking a good history and completing a thorough physical examination



History

- Sometimes needs to be delayed



History

- Sometimes needs to be taken outside of the clinic / hospital



History

- For chronic or non-life-threatening presentations, the history is the most important part of the clinical evaluation
- Make sure to keep detailed records



To ask the right question is already half the solution of a problem
- Carl Jung (1875-1961)

Signalment

- Species
- Breed
- Sex
- Age
- Colour



Holstein-Friesian cow



Hereford cow



Holstein-Friesian bull



Holstein-Friesian calf

History

- Nature and timeframe of presenting complaint
- Prophylaxis
 - Vaccination status; deworming status
- Current medications
- Prior treatment
 - When? Duration? Response?
- Any non-gastrointestinal signs?
- Appetite
- Changes in body condition



Diet

- Especially important for disorders that might involve the digestive system
- Current diet
 - Quality (What food(s) – brand / source? Treats?)
 - Quantity (How much? How often?)
 - Provision (Competition? Indoor / outdoor? Scavenger?)
- Recent changes to diet?
 - When? What was the former diet?
- Access to other food sources in environment? (Toxins?)
- Individual or herd?



Pet food Advance Dermocare linked to megaesophagus outbreak, research shows

By Sarah Scopelianos and Angelique Donnellan

Posted Thu 13 Dec 2018 at 3:32pm

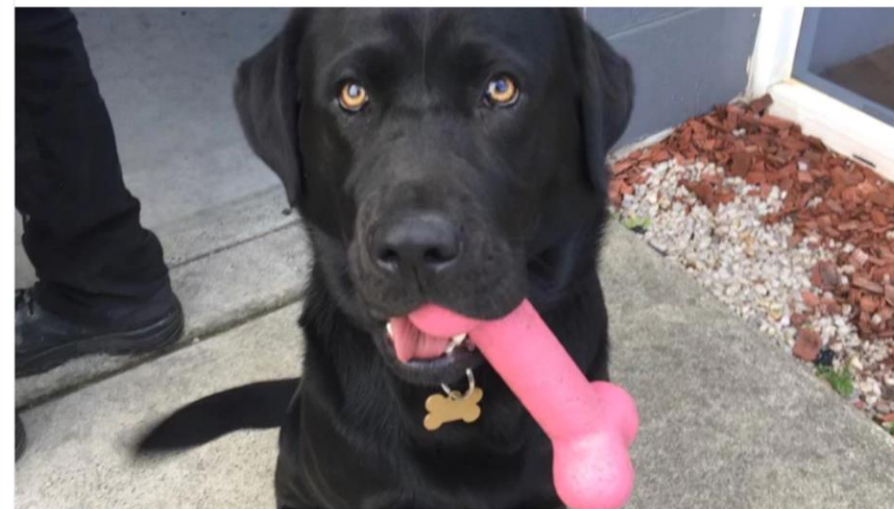


Rachel Dola's dog Zara had to be put down after getting megaesophagus. (Supplied: Rachel Dola)

Statewide pet food outbreak alert as Victoria grapples with worst dog death toll

ABC Gippsland / By Emma Field

Posted Fri 16 Jul 2021 at 2:59pm, updated Fri 16 Jul 2021 at 5:57pm



The owners of Olive decided on Sunday to euthanase their pet after she suffered liver damage





Vomiting or regurgitation?

- Regurgitation
 - Passive process
 - Always oesophageal problem
- Vomiting
 - Active process
 - Can be primary gastrointestinal problem
 - Can be metabolic / toxic issue
- More in Lecture 12



Diarrhoea

- Volume / frequency
- Consistency
- Appearance
 - Blood (fresh / melena)
 - Mucous
 - Pallor
- Small or large intestine?
- More in Lecture 25

SCORE	SPECIMEN EXAMPLE	CHARACTERISTICS
1		<ul style="list-style-type: none"> • Very hard and dry • Often expelled as individual pellets • Requires much effort to expel from body • Leaves no residue on ground when picked up
2	IDEAL 	<ul style="list-style-type: none"> • Firm, but not hard, pliable • Segmented in appearance • Little or no residue on ground when picked up
3		<ul style="list-style-type: none"> • Log shaped, moist surface • Little or no visible segmentation • Leaves residue on ground, but holds form when picked up
4		<ul style="list-style-type: none"> • Very moist and soggy • Log shaped • Leaves residue on ground and loses form when picked up
5		<ul style="list-style-type: none"> • Very moist but has a distinct shape • Present in piles rather than logs • Leaves residue on ground and loses form when picked up
6		<ul style="list-style-type: none"> • Has texture, but no defined shape • Present as piles or spots • Leaves residue on ground when picked up
7		<ul style="list-style-type: none"> • Watery • No texture • Present in flat puddles



Observation from a distance

- Prior to approaching / handling animal – will depend on context
- Demeanour & behaviour
- Posture & gait
- Defecation & urination
- Respiratory rate
- Environment
 - Bedding, feeding equipment, hygiene, ventilation



Physical examination

- Abbreviated (major body system assessment) in emergency situations (e.g. distress, collapse)
 - Cardiovascular, respiratory, neurological systems
- Otherwise: ***thorough, systematic*** examination, including the digestive system



More is missed by not looking than not knowing
- Thomas McCrae (1870-1935)

Physical examination

- Approach will vary with animal species:
 - Context / environment / husbandry
 - Handling / restraint
 - Anatomy / physiology



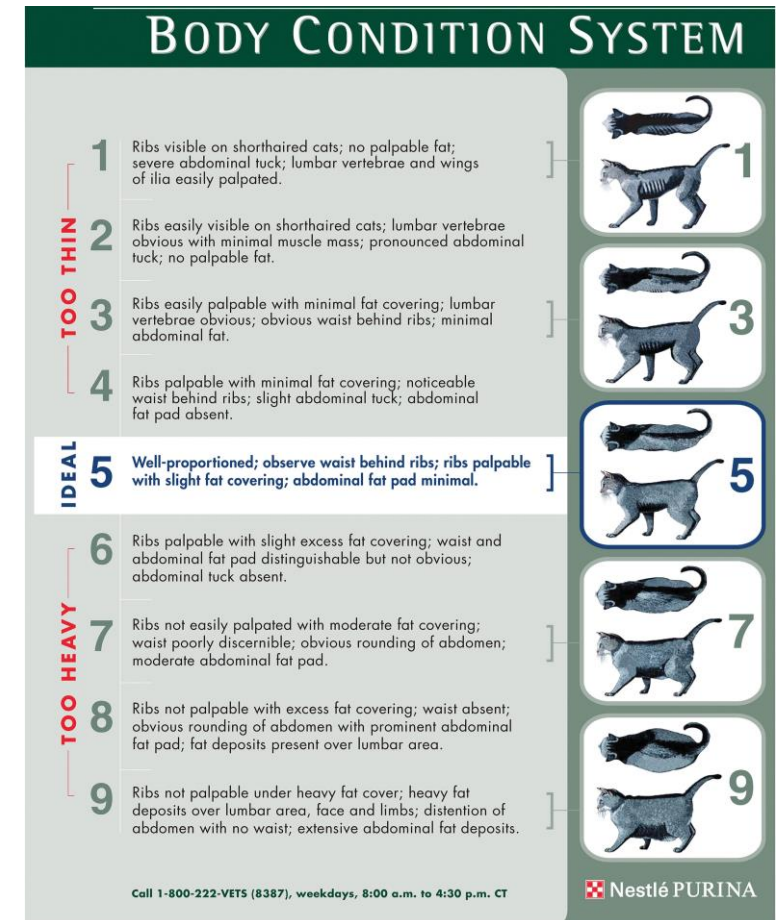
Physical examination

- Body condition
- Mentation & demeanour
- Rectal temperature
- Auscultation
 - Heart rate & rhythm, lung sounds, borborygmi
- Hydration status
 - Skin turgor, mucous membrane colour & capillary refill time
- Palpation
 - Pulses, body surface, joint / limb swelling or pain, pitting oedema
- Oral examination
 - Dental health, foreign bodies cats, masses, ulceration, etc.




Body condition

- Prioritisation of differentials can vary with body condition
 - For example, 10-year-old cat presenting with vomiting:
 - Obese: Pancreatitis higher on DDx list
 - Thin: Infiltrative bowel disease higher on DDx list
- Can revisit history to query owner observations or clarify timeframes, if necessary



Body condition

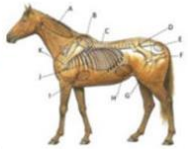
Body Condition Scoring







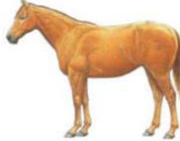





**BODY
CONDITION
SCORING CHART**

**Areas of Emphasis for
Body Condition Scoring**

- A. Thickening of the neck
- B. Fat covering the withers
- C. Fat deposits along backbone
- D. Tuber coxae
- E. Fat deposits around tailhead
- F. Tuber ischi
- G. Fat deposits on inner thigh
- H. Fat deposits on flanks
- I. Fat deposit behind shoulder
- J. Fat covering ribs
- K. Shoulder blends into neck



<p>1. Poor Animal extremely emaciated; spinous processes, ribs, tailhead, tuber coxae, and tuber ischi projecting prominently; bone structure of withers, shoulders, and neck easily noticeable; no fatty tissue can be felt.</p>			<p>2. Very Thin Animal emaciated; slight fat covering over base of spinous processes; transverse processes of the lumbar vertebrae feel rounded; spinous processes, ribs, tailhead, tuber coxae, and tuber ischi prominent; withers, shoulders, and neck structure faintly discernable.</p>
<p>3. Thin Fat buildup about halfway on the spinous processes; transverse processes cannot be felt; slight fat cover over ribs; spinous processes and ribs easily discernable; tailhead prominent, but individual vertebrae cannot be identified visually; tuber coxae appear rounded but easily discernable; tuber ischi not distinguishable; withers, shoulders and neck accentuated.</p>			<p>4. Moderately Thin Slight ridge along back; faint outline of ribs discernable; tailhead prominence depends on conformation; fat can be felt around it; tuber coxae not discernable; withers, shoulders, and neck not obviously thin.</p>
<p>5. Moderate Back is flat (no crease or ridge); ribs not visually distinguishable but easily felt; fat around tail head beginning to feel spongy; wither appear rounded over spinous processes; shoulders and neck blend smoothly into body.</p>			<p>6. Moderately Flethy May have slight crease down back; fat over ribs fleshy/spongy; fat around tailhead soft; fat beginning to be deposited along sides of withers, behind shoulders and along sides of neck.</p>
<p>7. Flethy May have crease down back; individual ribs can be felt, but noticeable filling between ribs with fat; fat around tailhead soft; fat deposited along withers, behind shoulders, and along neck.</p>			<p>8. Fat Crease down back; difficult to feel ribs; fat around tailhead very soft; area along withers filled with fat; area behind shoulder filled with fat; noticeable thickening of neck; fat deposited along inner thighs.</p>
<p>9. Extremely Fat Obvious crease down the back; patchy, bulging fat around tailhead, along withers, behind shoulders, and along neck.</p>			<p>Illustrations courtesy of the JRA Japanese Feeding Standard for Horses, 2004. p16-18 Henneke, et al., 1983</p>



Score 1

Vertical and horizontal processes are prominent and sharp. Fingers can be easily pushed beneath the transverse. Loin is thin with no fat cover.



Score 2

Vertical processes are prominent and smooth. Horizontal processes are smooth and rounded but it is still possible to press fingers under.



Score 3

Vertical and horizontal processes are smooth rounded, the bone is only felt with pressure.



Score 4

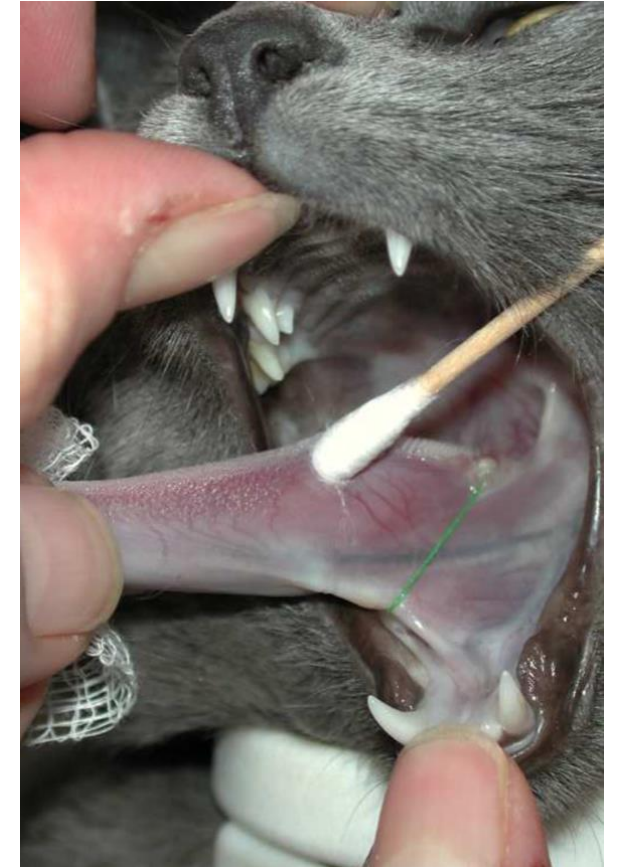
Vertical processes are only detectable as a line. Horizontal processes cannot be felt. Loin muscle is full and rounded with a thick covering of fat.



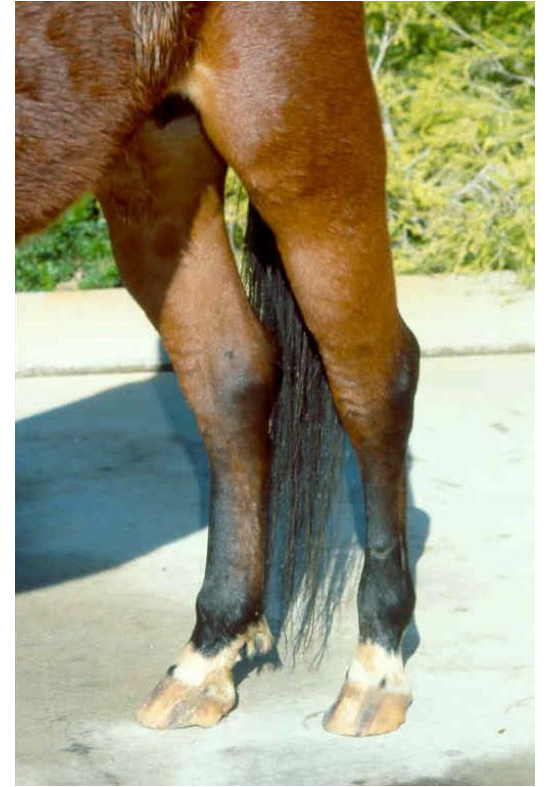
Score 5

Vertical and horizontal processes cannot be detected and there is a dimple in the fat layers where the processes should be. Loin muscle is very full with very thick fat cover.

Oral examination

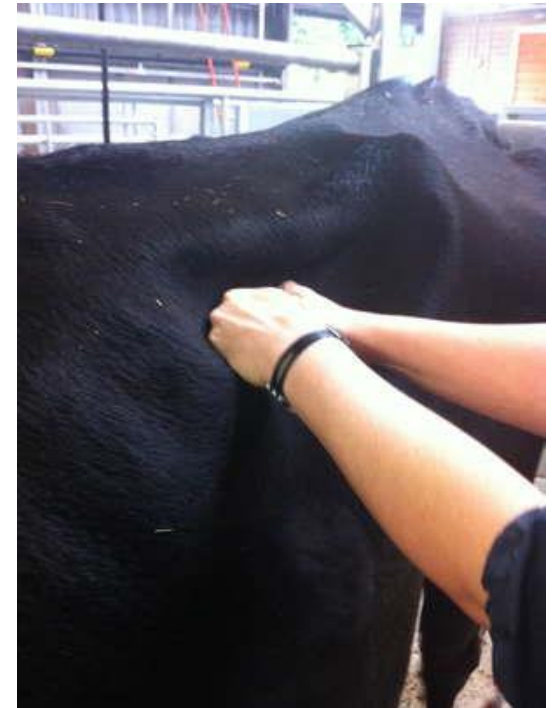


Pitting oedema



Physical examination

- Abdominal auscultation (+ percussion)
 - Borborygmi
 - Rumen contractions
 - Ileocaecal valve flush
- Abdominal palpation
 - Organ size and position
 - Foreign body
 - Lymph nodes
 - Ballottement in large animals



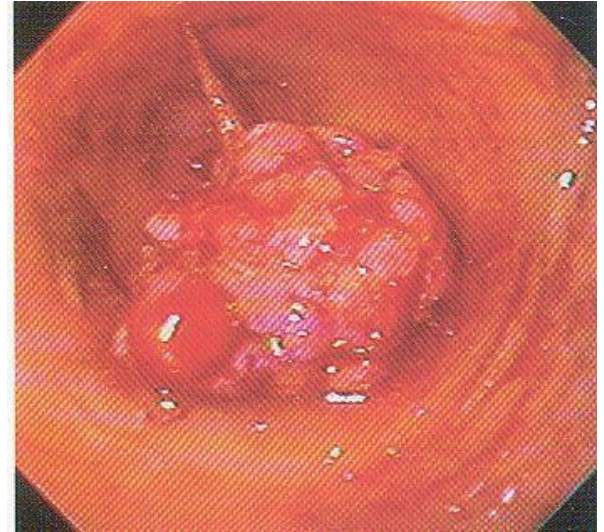
Abdominal palpation

- Cats and small dogs / puppies (can be difficult in larger dogs)
 - Can detect organomegaly, foreign bodies, etc.
 - Should be able to feel:
 - Both kidneys
 - Urinary bladder
 - Intestinal loops
 - Caudal margin of the liver
 - Faecal balls
 - Not normal to feel:
 - Spleen, lymph nodes



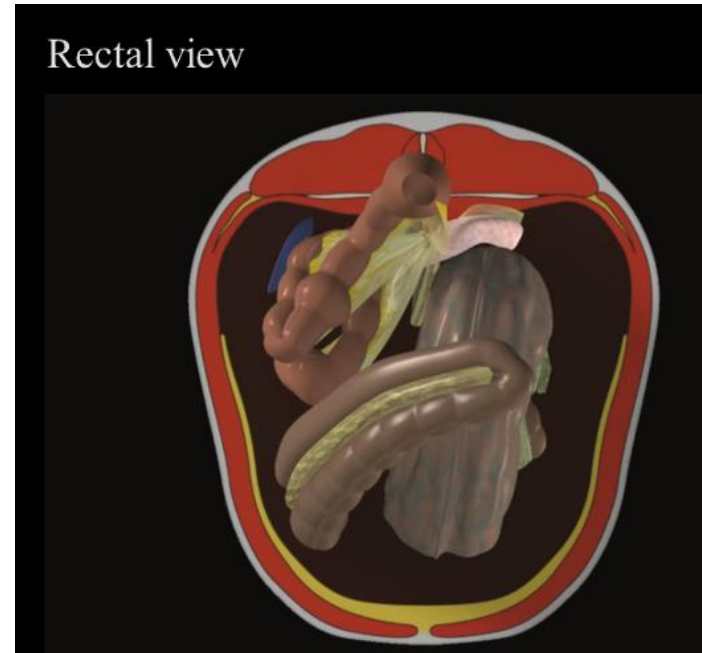
Rectal examination

- Small animals – digital palpation



Rectal examination

- Large animals

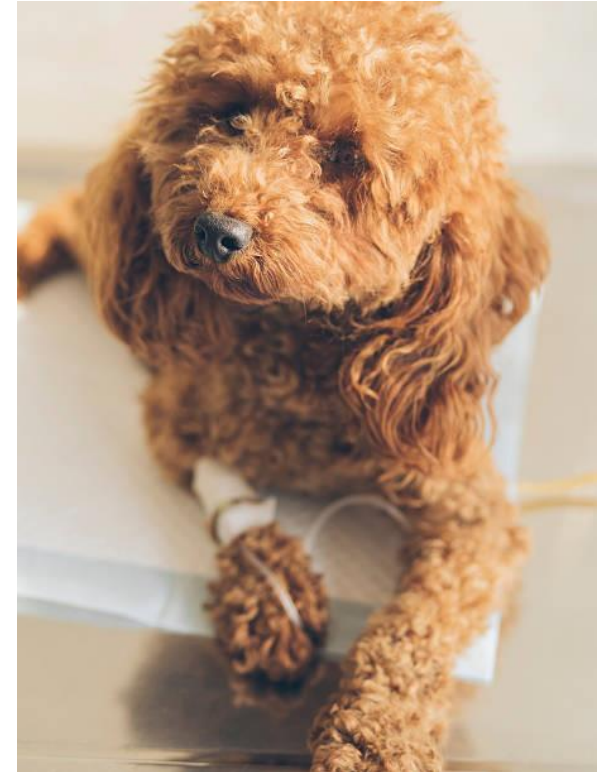


Nasogastric intubation



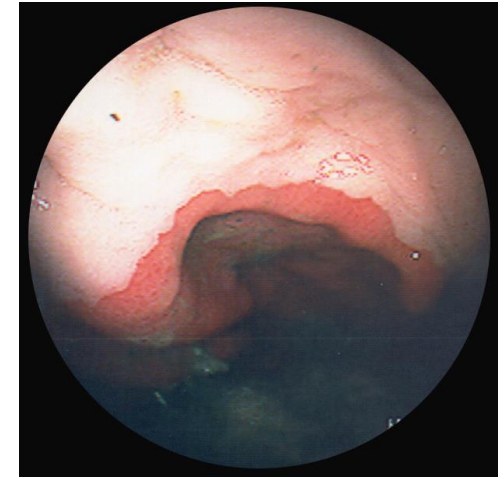
Putting it all together

- You will have established:
 - Whether the animal is likely to have an infectious disease
 - Whether the animal requires treatment
 - Symptomatic
 - Specific
 - Treatment trial
 - Whether further investigation is required
- Usually, localisation of the disorder, and sometimes the diagnosis

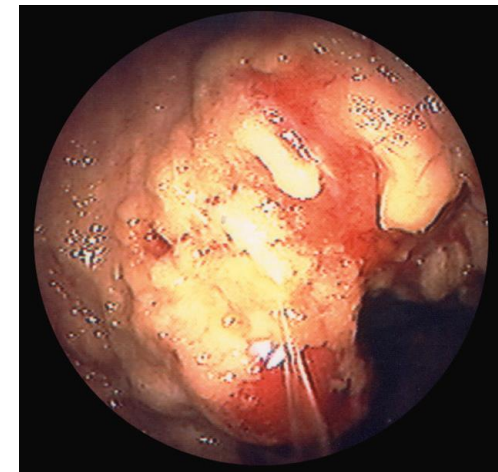


Additional diagnostics

- Clinical pathology – more in Lecture 30
 - Haematology and serum biochemistry
 - Urinalysis
 - Faecal analysis
 - Abdominocentesis
- Imaging – see Lecture 9
 - Radiography
 - Ultrasound
- Endoscopy – imaging / biopsy / FB retrieval
- Exploratory laparotomy (+/- biopsy)

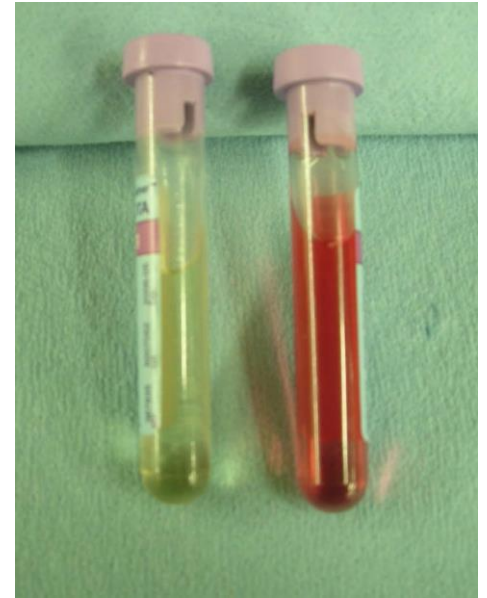


Normal equine stomach



Severe gastric ulcers

Abdominocentesis



Exploratory laparotomy

- If no response to non-specific treatment
- Suspected foreign body / mass
- Suspected septic peritonitis
- Biopsy if abdomen looks grossly normal



Conclusions

- Not a comprehensive overview of the veterinary clinical examination for all species
- Introduced key concepts to apply in case studies
- Refine your problem-solving approach to clinical evaluation with experience and as your knowledge expands:
 - **Modified** questions that are asked
 - **Refined** problem lists
 - **Prioritised** lists of differential diagnoses

