



Infectious Diseases of the Gastrointestinal Tract

PHYSICAL EXAMINATION: REVIEW





Gastrointestinal Tract

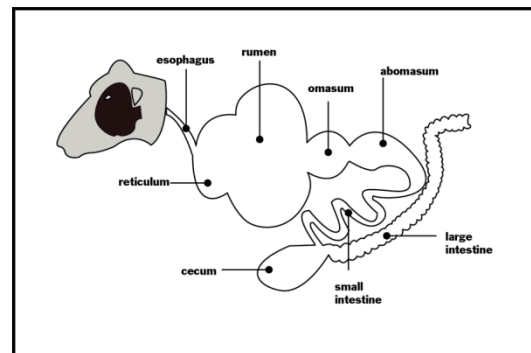
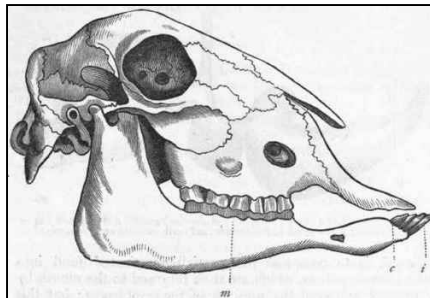
- **A healthy and functional digestive system is essential**
 - Promotes weight gain and maintenance of body condition
 - Normal reproductive cycling and reproductive efficiency
 - Supports good nutritional status, and therefore, maintains the ability of immune system to fight infection
 - Enables livestock reaching full genetic potential





Gastrointestinal Tract

- **GI tract consists of:**
 - Mouth
 - Tongue grasps forages and teeth and dental pads grind food
 - Saliva aids digestion and buffers rumen pH
 - Stomach
 - **Four compartments**
 - Rumen - microbial fermentation and production of volatile fatty acids
 - Reticulum - traps foreign objects ingested by the cow
 - Omasum - sends large particles back into rumen/reticulum and promotes liquid passage
 - Abomasum – is the “true” stomach
 - Lower tract
 - **Small and large intestines**
 - Nutrients are absorbed in the small intestines
 - Water is absorbed in the large intestines





Gastrointestinal System Examination

- **A complete clinical examination with emphasis on the gastrointestinal system should be conducted**
- **The examination should include:**
 - Evaluation from a distance
 - Collection of a complete history from the owner
 - Thorough physical examination
- **Once the examination is completed the veterinarian should consider completing an assessment that includes:**
 - Subjective findings – observations
 - Objective findings – physical examination parameters
 - Assessment – conclusions based on subjective and objective findings
 - Plan – establishing a plan to confirm the clinical diagnosis and therapeutic plan



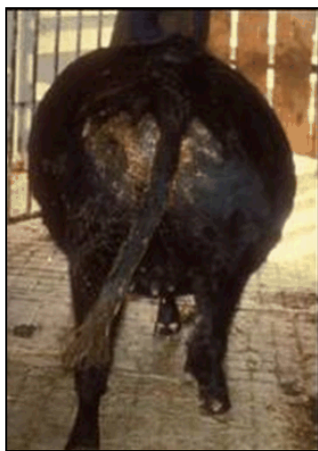


Examination from a Distance: Gastrointestinal

- **The animal being examined should be handled as little as possible to allow for a more accurate assessment**
 - Animal should be as relaxed as possible
- **Examination of the gastrointestinal system from a distance should include:**
 - Evaluate body condition and abdominal shape
 - Reluctance to move, arched posture, grinding teeth are indicative of pain
 - Evaluate for discharge from the mouth
 - Is the animal chewing cud
 - Is the animal kicking or looking at abdomen
 - Evaluate the head for symmetry
 - Assess the consistency of the fecal material



Evaluation from a Distance





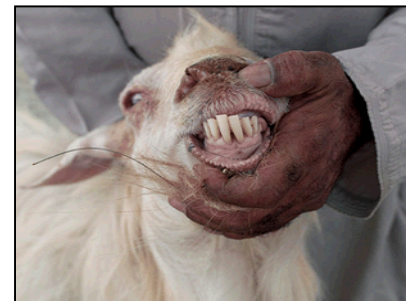
Gastrointestinal System: Physical Examination

- **Mouth**

- Determine odor of the breath – foul smell may indicate anaerobic infection
- Mucous membrane color – bright red might indicate sepsis or endotoxemia
- Mucous membrane moisture – dry membranes indicate dehydration
- Evaluate the mucous membranes and tongue for the presence of ulcers
- Evaluate the ability to chew and swallow
- Evaluate the teeth
- Assess for excessive salivation

- **Pharynx**

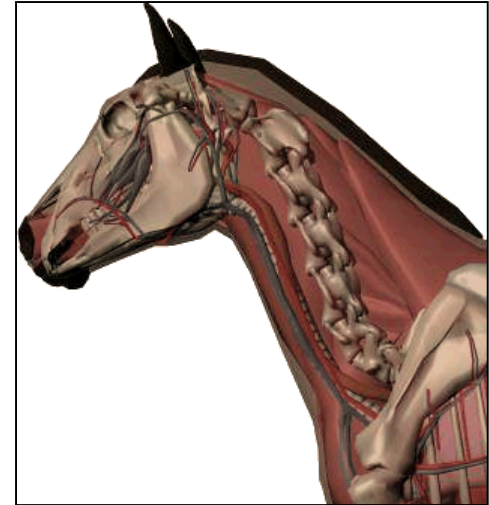
- Evaluate for swelling and ability to swallow





Gastrointestinal System: Physical Examination

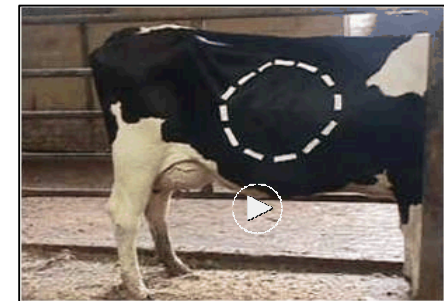
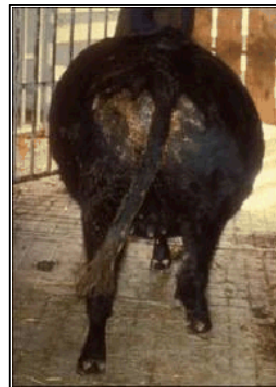
- **Esophagus**
 - Determine if any swellings exist – the esophagus is more superficial on the left side in the jugular furrow
- **Heart**
 - Evaluate the heart rate – elevations in heart rate can indicate pain and/or dehydration
 - **Horse: 35 – 45 beats per minute**
 - **Foal: 60 – 100 beats per minute**
 - **Cattle: 60 – 80 beats per minute**
 - **Calf: 60 – 100 beats per minute**
 - Evaluate rhythm – arrhythmias can indicate electrolyte abnormalities





Gastrointestinal System: Physical Examination

- **Stomach – Horse**
 - In horses with colic, a nasogastric tube can be passed to determine if the stomach is full
- **Stomach – Ruminant**
 - Auscultation of the rumen can be accomplished on the left side in the paralumbar fossa
 - Motility of the rumen can also be felt in the left paralumbar fossa
 - If the rumen is distended the abdominal contour will change
 - The left and right sides can be percussed to determine if the abomasum is displaced
 - Withers pinch test can assess for cranial abdominal pain if hardware disease is suspected





Gastrointestinal System: Physical Examination

- **Intestines**

- The abdomen of a horse can be divided into four quadrants for auscultation
 - **Small intestines are located in the left in the upper flank region**
 - The examiner should be able to hear intestinal sounds in all regions of the abdomen
 - Absence of sounds may indicate that the intestines are not moving
 - **Large intestines are located in the lower left, upper right flank region, and lower right**
 - The examiner should be able to hear intestinal sounds on the right side
- The spiral colon and cecum of cattle can be auscultated on the right side of the abdomen in the paralumbar fossa
 - **The examiner should be able to hear intestinal sounds on right side, intestinal sounds cannot be heard on the left because of the rumen**
- Rectal examination can reveal abnormalities of the intestines including:
 - **Horses: Distended small intestines, distended or displaced large colon, distended cecum**
 - **Cattle: Distended small intestines, distended cecum, and distended spiral colon**



Assessment and Plan

- **Make note of all subjective and objective findings**
- **Assessment:**
 - Compile the results of your findings and develop a list of differential diagnoses
- **Plan:**
 - Use your assessment to develop a plan
 - Additional diagnostic testing to confirm or rule out a diagnosis
 - Treatment plan
 - Address epidemiology and transmission concerns if appropriate