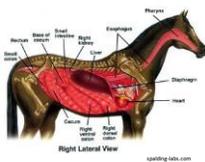


Overview and Objectives

- Introduction: What is colic (and what isn't it)?
- Risk factors for colic
 - Identify areas where you can intervene to reduce risk
- Clinical signs
 - Recognize what colic looks like and when to call your vet
- What to expect during a colic work-up
 - Become familiar with key findings that will guide your referral decision
- Management and outcomes
 - Understand the factors that go into the decision for medical vs. surgical management
 - Recognize potential complications

Colic = Abdominal Pain

- Colic is a **symptom**, not a disease
- Signs of pain may be sudden and severe ("acute") or be present for a longer period of time at a lower severity ("chronic")
- Possible sources:
 - Intestine
 - Liver
 - Kidneys/bladder
 - Uterus/ovaries/testes
 - Abdominal cavity (peritoneum)
 - **ANYTHING IN THE ABDOMEN**



Multiple Potential Sources of Pain

- Distention/stretch (gas/fluid/feed material)
- Tension/pull
- Inflammation
- Compromised blood supply (dead/dying tissue)

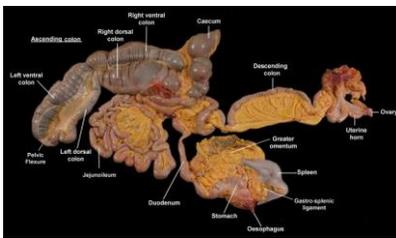


Other Stuff That Can Look Like Colic (But Isn't)

- Muscle pain (myositis)
- Pleuropneumonia
- Laminitis
- Neurologic disease (ataxia or dementia)

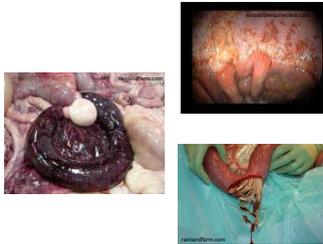


Anatomy of the GI Tract



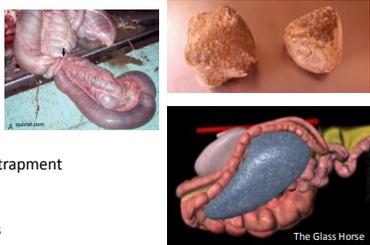
Any part of the GI tract can be involved

- Stomach
 - Impaction
 - Ulcers
- Small intestine
 - Pedunculated lipoma
 - Incarceration
 - Intussusception
 - Impaction
 - Proximal enteritis



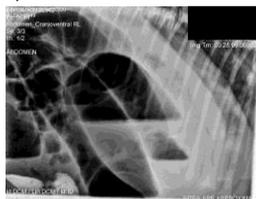
Any part of the GI tract can be involved

- Cecum
 - Impaction
- Large colon
 - Gas (spasmodic)
 - Impaction
 - Displacement
 - Nephrosplenic entrapment
 - Volvulus/torsion
 - Enterolith
 - Right dorsal colitis



Any part of the GI tract can be involved

- Small colon
 - Fecal impaction (meconium in foals)
 - Fecalith



Risk Factors for Colic - General

- Any recent change in feed, exercise, social structure, environment (travel, barn change, pasture change, weather)
- Poor dental management
- High parasite load
- Restricted access to water (especially a problem in winter)

A recent management change is reported by > 40% of owners with horses being evaluated for colic

Risk Factors for Colic – Specific

- Large colon torsion: post-partum mares (or late pregnancy)
- Strangulating lipoma: > 14 years of age, Arabian breed
- Epiploic foramen entrapment: cribbers (windsuckers)
- Ileal impaction: Bermuda coastal grass hay
- Fecalith: miniature horse
- Foals: ascarid impaction, meconium impaction, intussusception, gastric ulcers



What Does Colic Look Like?

- Mild
 - Restless
 - Sweating
 - Off feed
 - Looking at abdomen
 - Stamping/kicking
 - Stretching out



What Does Colic Look Like?

- Moderate
 - Kicking at belly
 - Laying down
 - Rolling
 - Stretching out



What Does Colic Look Like?

- Severe
 - Any of the previous signs (rolling, kicking, etc.) but more severe/frantic
 - Horse acts without regard for injury to itself and/or those around it



Note: horses can roll during the course of normal activity. The difference is, the usually shake themselves off and look alert when they stand up. Horses in pain either roll without getting up or stand in place and may appear shaky or dull.

Normal Parameters

- Heart rate: 32-40 beats/minute
- Respiratory rate: 6-20 breaths/minute
- Mucous membranes: pink, moist
- Capillary refill time: < 2 seconds
- Gut sounds in all four quadrants



When Should You Call Your Vet?

- Sudden onset of severe pain
- Sudden worsening of pain
- Mild pain that has lasted for several hours or is getting worse
- Pain that is not responsive to a dose of Banamine
 - Expect improvement within 30 min, should last for several hours
- Pain exhibited by a high-risk patient (e.g. foal, late term pregnancy)
- **Any time you are concerned**

Questions to Expect from Your Vet

- When did you first notice the horse acting colicky? Where did you find it? What was it doing?
- Is it better/worse/the same than when you first noticed it? Changing rapidly or slowly?
- Have you done anything? Did it help?
- When was the last time the horse ate/drank? Passed manure/urinated?
- Is it a pregnant mare? Is she foaling?
- Has the horse ever colicked before? Has it had abdominal surgery before?
- Have there been any recent changes? Raced/shown recently? Food (hay/grain) or housing change? Foaled recently? Traveled recently?

Colic Work-up in the Field

- | | |
|-----------------------------|--------------------------------|
| Always/Almost always | Sometimes |
| • Full physical exam | • Abdominocentesis (belly tap) |
| • Pass nasogastric tube | • Ultrasound |
| • Rectal exam | |
| Rarely | |
| • Radiographs (x-rays) | |
| • Bloodwork | |

With the exception of radiographs, you can expect all of these to be performed during the initial work-up if you are referred to the hospital

Deciding on referral

- **Persistent or recurrent pain**
- Cardiovascular compromise
- Small intestinal distention
- Severe large colon gas distention
- Positive net reflux through the nasogastric tube
- Abnormal belly tap



Clinical signs associated with poorer prognosis: increasing duration of clinical signs, increased heart rate at presentation, bright pink/red or blue/purple mucous membranes

How Much Will it Cost?



- Work-up **\$300-400**
- Medically managed colic **\$1000-1500** (\$350-550/day on fluids)
- Surgical colic **\$4000-9000**
 - Open and euthanize **\$2000-2200**
 - Displacement/enterotomy (no resection) **\$4000-6000**
 - Colon torsion (no resection) **\$5000-7000**
 - Small intestinal resection, large intestinal resection **\$7000-9000**

By the Numbers

- About 50% of colic events are evaluated by a veterinarian
- **About 75% of colics seen in the field will respond to simple medical treatment**, 25% have a lesion that would require intensive medical management or surgery
 - About 70% of cases that have a lesion that would require referral are euthanized in the field
- About ~10% of the cases seen in the field are referred into a hospital setting

Incidence of colic in US survey (21,820 horses):
4.2 events/100 horses/year



Decision Making in the Hospital

- Some lesions you can sit on to see if they respond to medical therapy (fluids, pain meds, etc.)
 - Simple colon displacement
 - Mild to moderate impactions
 - Nephrosplenic entrapment (phenylephrine + walk/jog; rolling)
- **Strangulating lesions will not get better without surgical correction**
 - Small intestinal distention/reduced motility
 - Gas-distended large colon with tight bands
 - Serosanguinous belly tap
- **Regardless of suspected diagnosis, #1 reason to go to surgery is intractable pain**
 - Non-responsive or inappropriately responsive to pain medication

Expected outcomes (surgery)



- Large colon lesions make up about 60% of referral cases
 - ~80-90% survival to discharge (worse if resection required)
 - Most common complications recurrent pain, diarrhea
- Small intestinal lesions make up about 30% of referral cases (60-80% of these are strangulating)
 - ~75% survival to discharge (worse for strangulating lesions)
 - More commonly euthanized on table for poor prognosis
 - Most common complications recurrent pain, persistent reflux
- Fairly equivalent long-term survival if they make it out of the hospital
 - ~80-85% at 1 year for most lesions
 - Most common long-term complication repeat colic episodes

Short-Term Complications

- Most common complications recurrent pain and incisional infection (25-30% of horses)
- Prolonged reflux (post-operative ileus) and severe endotoxemia also recognized commonly (10-15%)
- Less common complications related to jugular vein, infection in the abdominal cavity, diarrhea (< 10%)
- Horses with small intestinal disease more prone to post-operative ileus
- Horses with ischemic bowel more likely to exhibit post-operative pain
- **Underlying lesion more important than any other factor (including age) for developing complications**

Transition to Home

- Hospital stay varies depending on underlying cause and response to therapy
 - 24-48 hours for uncomplicated medical colics
 - 3-10 days for more complicated medical colics
 - 4-7 days post-surgery, depending on whether complications develop
- Generally can have normal feeding once home
- 8 weeks before back to work under saddle
 - Week 1-2: strict stall rest – staples removed at 2 weeks
 - Week 3-4: stall rest with 10-20min hand-walking daily
 - Week 5-8: gradually increasing amounts of hand-walking
 - May be up to 6 months before back in full work
- Prognosis for return to work excellent for all disciplines (70-85% reported)



When Should You Call?

- Signs of pain
- Fever (rectal temp > 101.5F)
- Off feed, lethargy/depression
- Diarrhea
- Excessive swelling associated with surgery or catheter sites
- Any drainage from surgical incision
- **Any time you are concerned**



Long-Term Complications

- Most common complication is repeat colic episodes
 - 35% of horses discharged after a single surgery had a subsequent episode of colic
 - 7.5% of horses discharged after a single surgery required a second surgery at some point in the future
- In the general horse population (i.e. not necessarily seen by a vet or referred for treatment), recurrence rate reported to be 50 colic events/100 horse years at risk
 - Horses with a known dental problem or that crib/windsuck at increased risk for recurrence in the year following a colic episode

Bottom line: A horse that has had an episode of colic is at higher risk for future episodes compared to a horse that has never colicked