

GASTRO-INTESTINAL SURGERY:**Anything from straightforward to holy cow!****Synopsis-- Anatomy and the Disease**

Key issues with GI surgery are its unique symbiosis with the outside world (bacteria, particulate materials), its harsh products (gastric acid, bile acid) and its delicate constitution. It's a gorilla in a ballet tutu!

The vascular anatomy is unique to each portion and cannot be ignored. The layers are similar, but unique enough for custom treatment based on which portion is under scrutiny. The luminal contents are either merely troublesome or downright dangerous based on location and patient status.

The anatomical diversity of the GI is too grand to easily synopsise (sp?), but suffice to say it requires close study. It is easily disturbed creating either an **obstructive clinical picture** or a **perforating clinical picture**: luminal erosion (perforating), neoplasia/inflammation (obstructive/perforating), strangulation (obstructive/perforating), foreign body (obstructive/perforating), or immobility (obstructive).

Surgical Overview:

Most commonly approached via a ventral midline celiotomy, attention is paid initially to positions prior to disturbing the site. Thereafter, palpation and visualization provide the majority of details necessary to make a surgical treatment plan.

Given its dangerous luminal contents, the generous use of surgical barriers to general contamination is required when entering the lumen (biopsy, -otomy, -ectomy). The offending structure is isolated and exteriorized when feasible, using choice ligament transection to mobilize tight/deep structures. A selective and "measure twice-cut once" technique is used for vascular isolation of the offending segment. Sharp dissection/resection is essential (scalpel) to minimizing crush injury to GI wall. Luminal contents are contained with stay-suture elevation, finger compression (using index-middle finger vs. thumb-index finger to avoid over-compression) or GI instrumentation.

For non-luminal procedures (-pexy), adequate apposition and tension relieving is important for tight adhesions. Any inadvertent luminal perforation must be noted and addressed directly.

The decision-making around general vs. focal lavage hinges on degree of contamination. If the disease is one of contamination preoperatively (perforation), general lavage and thorough evacuation is likely beneficial. If the surgical contamination is significant, general lavage may be beneficial. If surgical contamination is contained, local lavage may reduce further contamination and inflammation related directly to the act of lavage/evacuation.

Closure is routine except for treatment of body wall contamination. If present, copious lavage of closed linea will reduce chemical- and bacterial-induced incisional inflammation/infection. Glove and instrument changes will further reduce incision related complications.

The **indications & rationale** for surgical treatment are:

- Ultrasound (or other advanced diagnostic) confirmation of mass-effect, foreign body or other mural/luminal/obstructive process.
- Abdominocentesis or ultrasound confirmation of free peritoneal fluid with high WBCC, low glucose, high lactate, foreign material or intracellular bacteria.
- Presumptive tumor staging sufficient to understand prognosis and treatment options.

Supportive/ancillary options with surgical treatment are:

- Enteral feeding and GI-bypass feeding may be helpful depending on patient status, disease and surgical requirements; planning for and initiating access during primary procedure is beneficial.
- Early feeding, early mobility, adequate pain management, judicious use of narcotics, and selective use of motility-enhancing medications improve patient outcomes.

The **perioperative experience** for pet and owner includes:

- It is common for patients to experience disruptions in their appetite; this is significantly disturbing to clients. Address preemptively with discussions and proactive physiologic, behavioral and medical considerations.
- Early return to home is beneficial in the postop recovery of GI surgery; hospital stress and recumbency both contribute to morbidity.
- Frequent recheck appointments may be needed to track progress and selectively address morbidity (further diagnostics, fluid support, appetite stimulation, motility modifiers, antibiotics).

Expectations for outcome are:

- Disease and treatment dependent. (See selective descriptions)

Complications that may arise with this procedure are:

- GI stasis/ileus (common, mild-serious; will require time, physiotherapy, medication w/drawl or addition)
- Surgical dehiscence/perforation (uncommon, serious; will require surgical revision)
- GI adhesions (uncommonly significant, variable clinical significance; may require surgical revision)

Postoperative **outcomes may be poor** due to the above complications, and/or:

- Disease unaddressed with surgical treatment.

What a surgeon needs prior to surgery:

- Client discussion regarding potential need for ongoing postoperative support at 24hr facility.

General considerations and complications for all surgery/anesthesia procedures are:

- *Difficult and/or painful anesthetic recovery (variable; may require additional medications or re-hospitalization)*
- *Incisional infections (rare, minor; usually require oral antibiotics)*
- *Incisional dehiscence (rare, minor or major; may require surgical revision)*
- *Adverse anesthetic event (rare, major; may result in serious impairment or death)*

Proper owner expectations are important to a successful experience and patient outcomes. Please discuss this information with your clients while assisting them with decision-making for **Gastro-intestinal Surgery**.

Lara Rasmussen, DVM, MS

Diplomate, American College of Veterinary Surgery

DIRECT VETERINARY SURGERY, LLC

(See additional materials at www.directvetsurg.com for veterinary professionals and pet owners.)