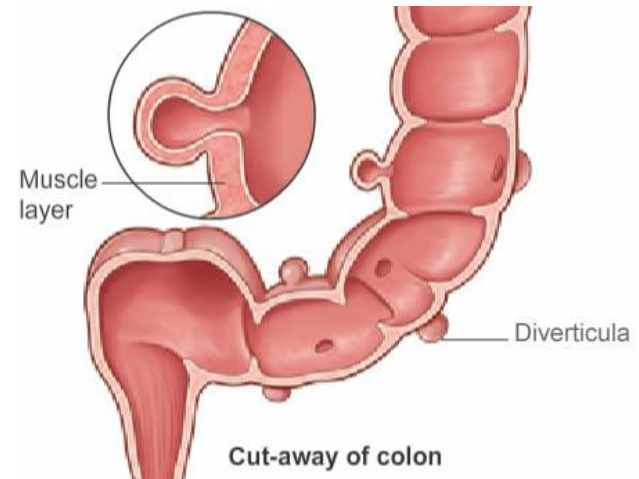


Intestinal Diverticula

Prof. Naveed Jabbar Bandesha
Chairman Department of Surgery & Allied
SMC/UOS
Sargodha

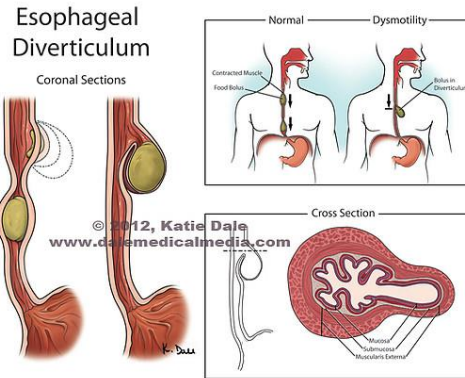
Introduction

- Hollow out-pouchings
- Common structural abnormality
- Can occur from esophagus to rectosigmoid junction
- But usually rectum spared
- **Congenital** --- All three layers involved
- **Acquired** ---- Muscular layer spared



Common Types

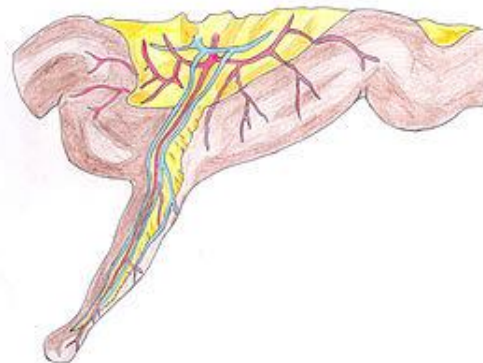
- Esophageal Diverticulum



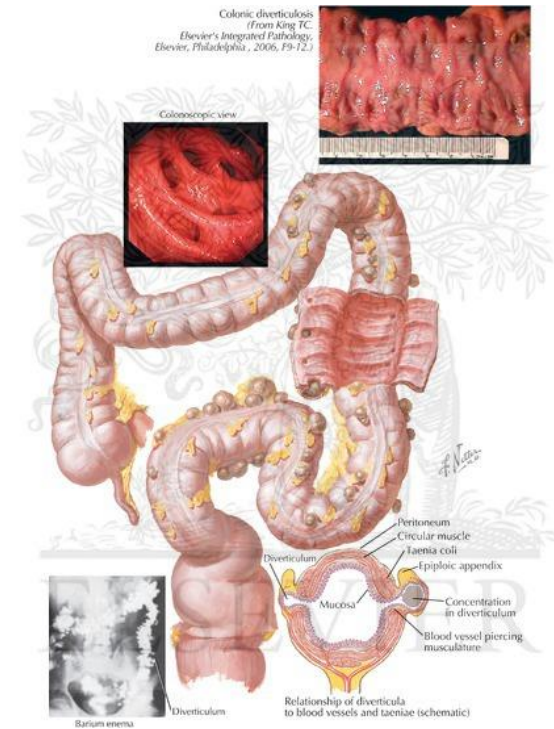
- Jejunal Diverticulum



- Meckel's Diverticulum



- Colonic Diverticulum

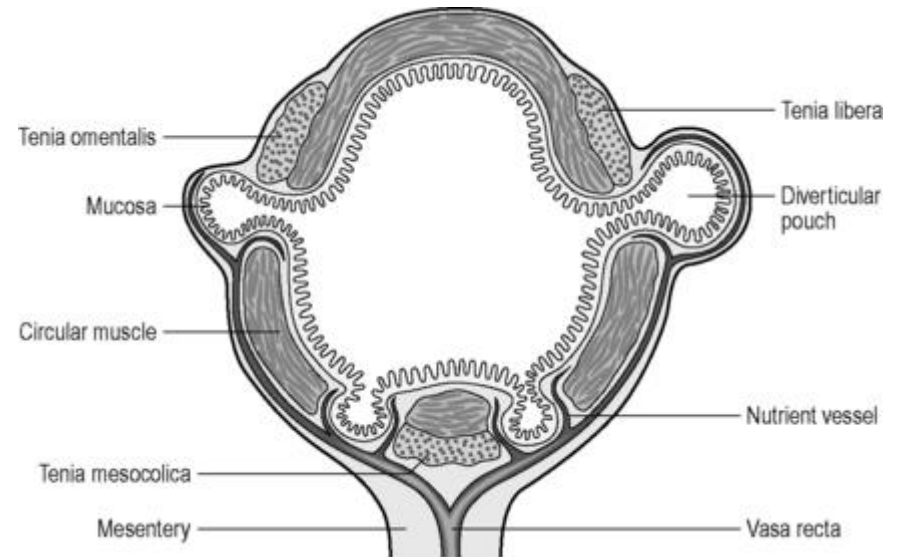
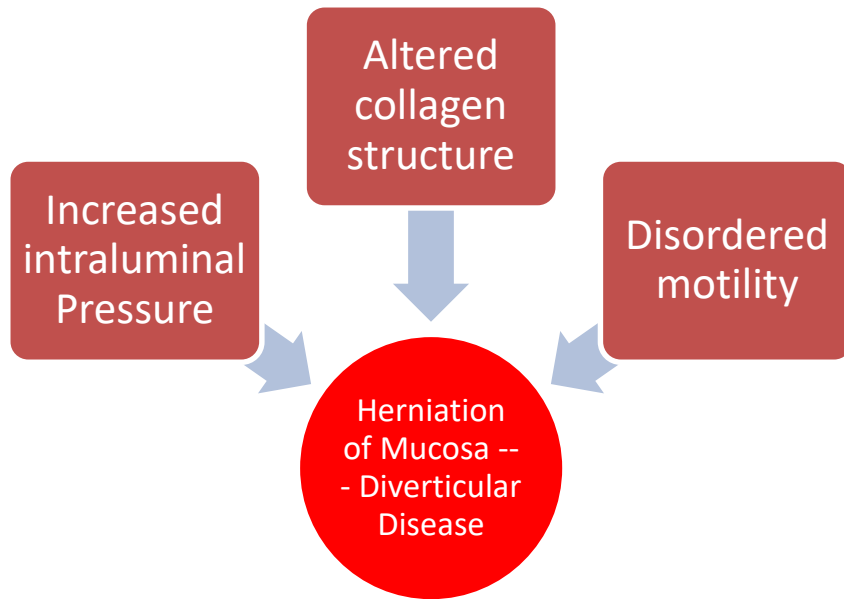


Colonic Diverticular Disease

- Outpouching or diverticulae in wall of colon
- More in Western population
- Incidence increases with age
- 30% over the age of 60 years
- 60% over age of 80 yrs.
- Large majority asymptomatic
- 10-30% develop symptomatic complications
- Sepsis & Death occur mostly in elderly frail Pts.
- 1% need surgery
- **??? WHO, WHEN & HOW**

Etiology

- Low fiber diet



Presentation of Acute Diverticular Disease

- Uncomplicated
- Or
- Complicated
 - Diverticulitis
 - Abscess
 - Peritonitis
 - Intestinal Obstruction
 - Hemorrhage
 - Fistula
 - Stricture

Clinical Features

- Depends on site of disease & Severity of disease
- Constipation or diarrhea
- LIF pain in 70%
- Flatulence & Bloating
- Nausea & Vomiting
- Can be confused with IBD
- Anorexia

Physical Examination

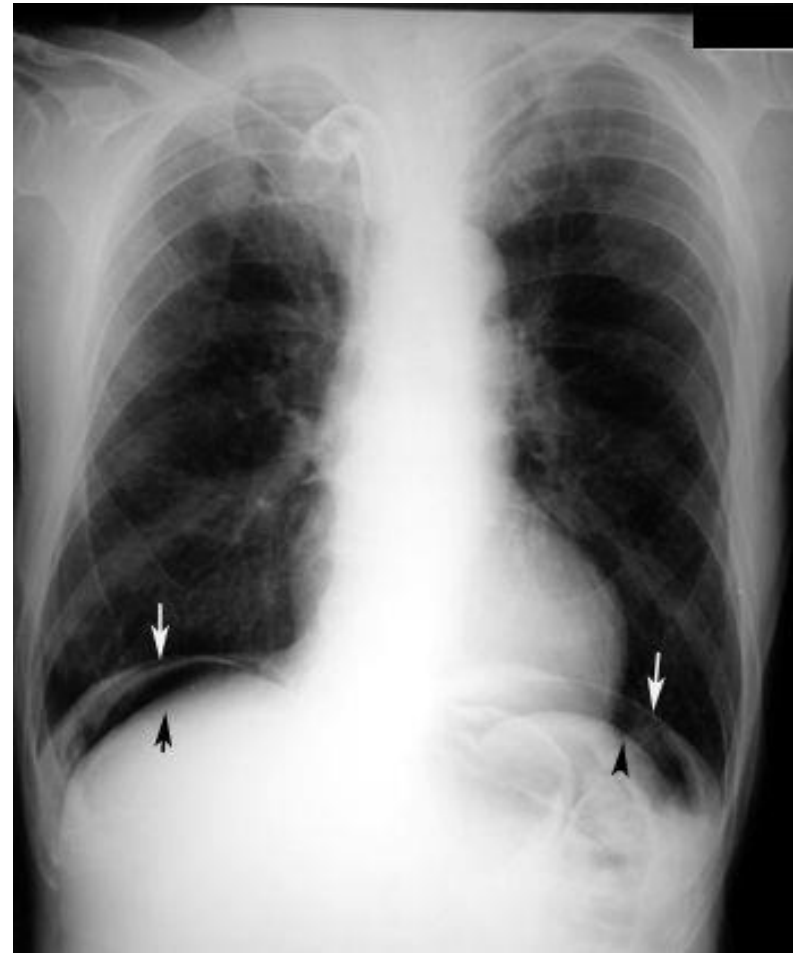
- A range of physical findings
- Guarding
- Tenderness
- Bowel sounds diminished or absent
- Mass
- Rebound tenderness
- Fistula – specific features

Laboratory Studies

- Full blood count
- Renal profile
- LFTs to exclude other causes
-
- Urine analysis
- Urine culture
- Blood culture
- Pregnancy test

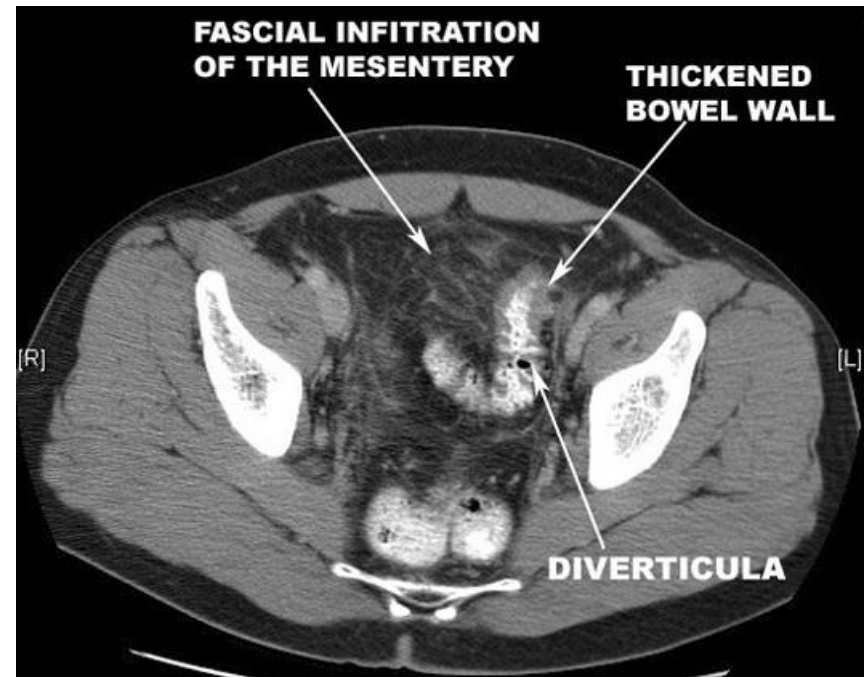
Radiological Imaging

- PFA not helpful in making diagnosis
- But can tell us
- Bowel obstruction
- Free air--- perforation



Imaging Studies

- CT Best imaging modality
- Sensitivity & specificity is 97%
- Severity & complications
- Preferred over intraluminal examinations since inflammation is extra luminal

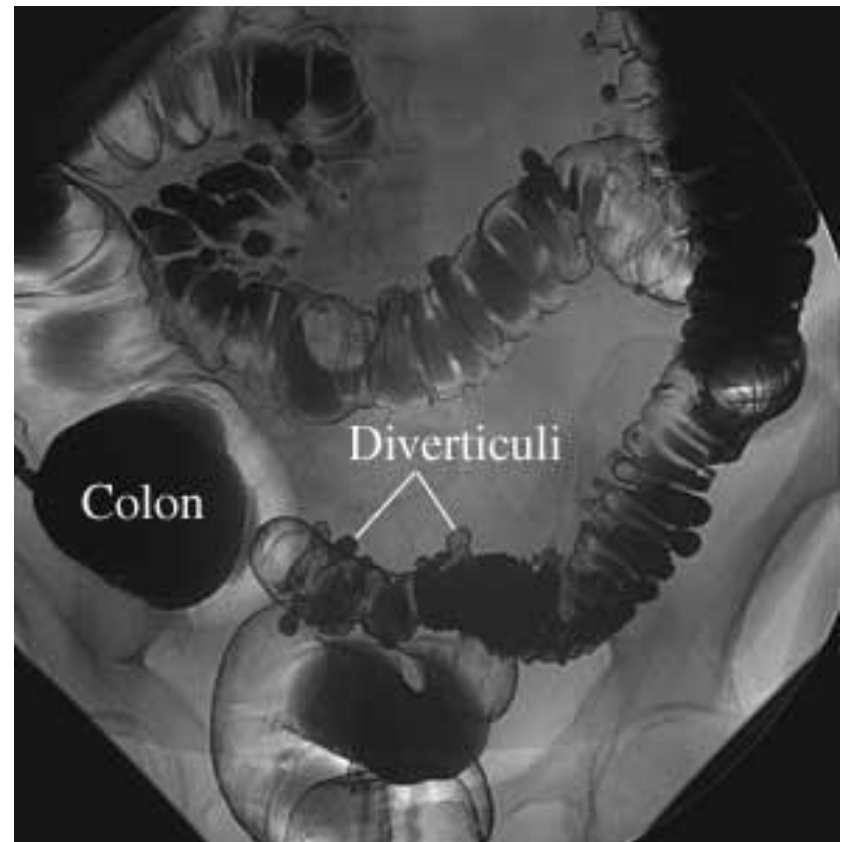


CT Scan Findings

- Pericolonic fat stranding
-
- Colonic diverticula
- Bowel wall thickening
- Soft tissue inflammatory masses
- Phlegmon & Abscess
- Peritonitis
- Fistula
- Obstruction
- Guides in percutaneous drainage

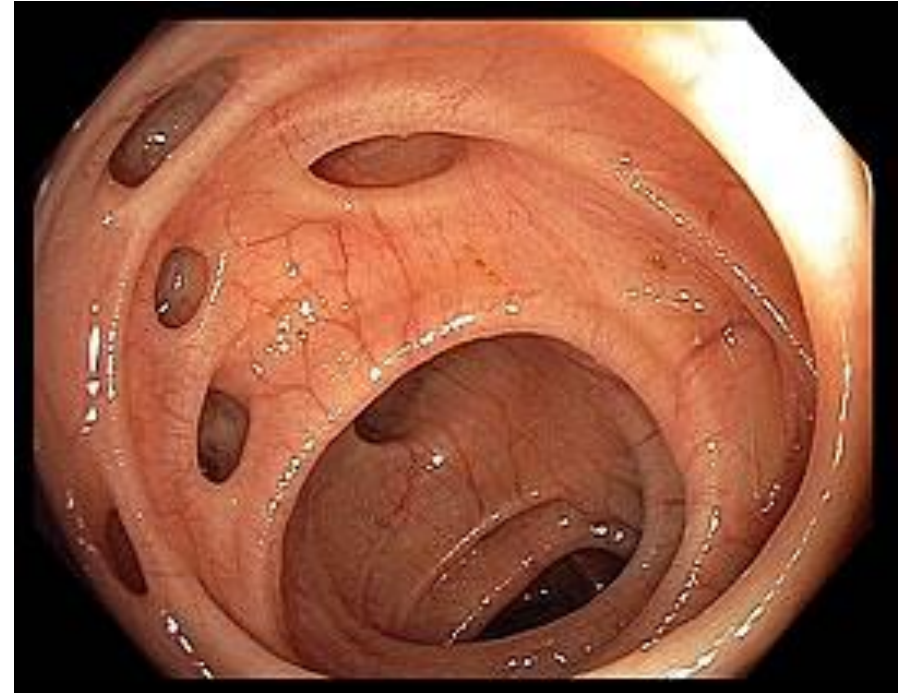
Radiological Imaging

- Contrast enema– not modality of choice in acute stage
- Water soluble enema can be used
- Leakage of Barium in peritoneum cavity – catastrophic
- Do contrast if unable to differentiate between diverticulitis & Carcinoma



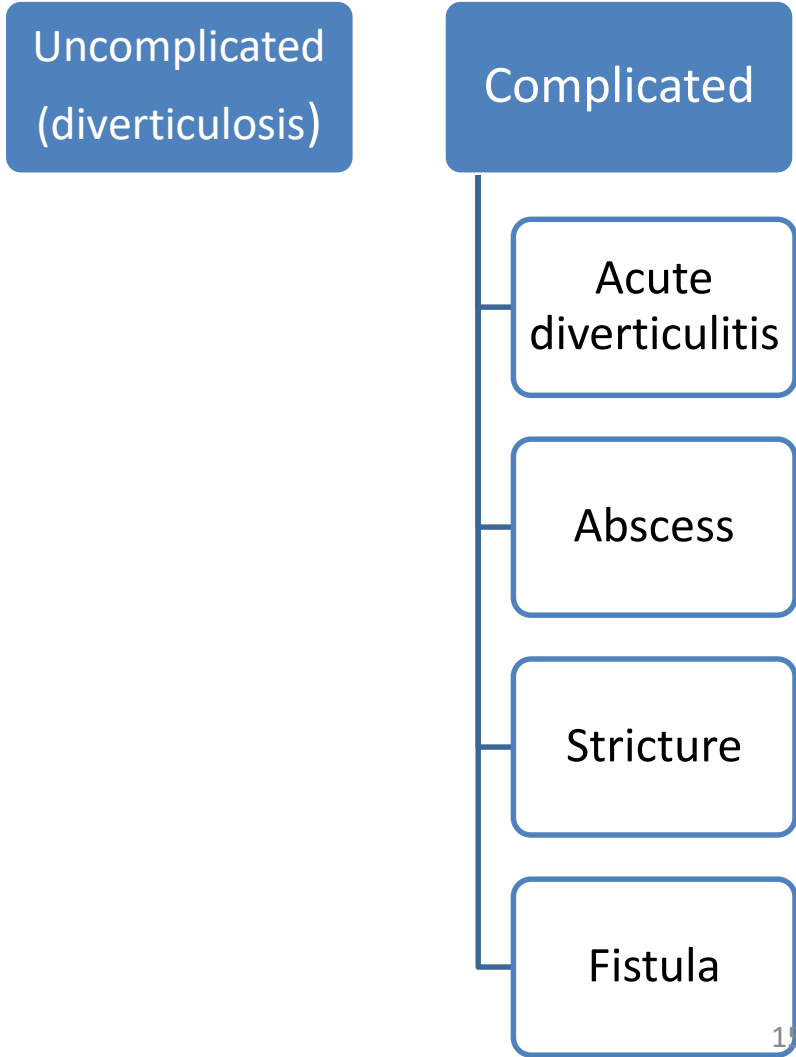
Procedures

- Endoscopy not recommended in acute phase
- After acute phase colonoscopy needed



Classification

- Most elective series divide into
- Uncomplicated
- Complicated



Classification

- Non perforated

- A. Diverticulosis – no inflammation
- B. Acute diverticulitis
- C. Phlegmonous/ peridiverticulitis
- D. Mesenteric/pericolic abscess
(HINCHEY 1)

- Perforated non -communicating

-

- A. Pelvic abscess (HINCHEY 2)
- B. Purulent peritonitis (HINCHEY 3)

- Perforated communicating

- A. Fecal peritonitis (HINCHEY 4)
- Chronic /recurrent diverticulitis-
stricture/fistula

Management

- Different places & healthcare workers manage differently
- Surgery or medical treatment
-
- Boundary line difficult
-
- Failed medical treatment – surgery
- Fit pt with colovesical fistula need- surgery (Resection of bowel)
- Unfit pt with colovesical fistula – initial medical therapy

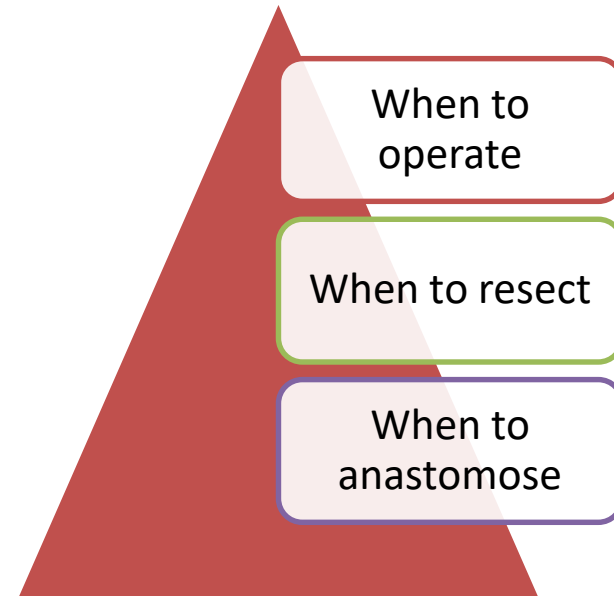
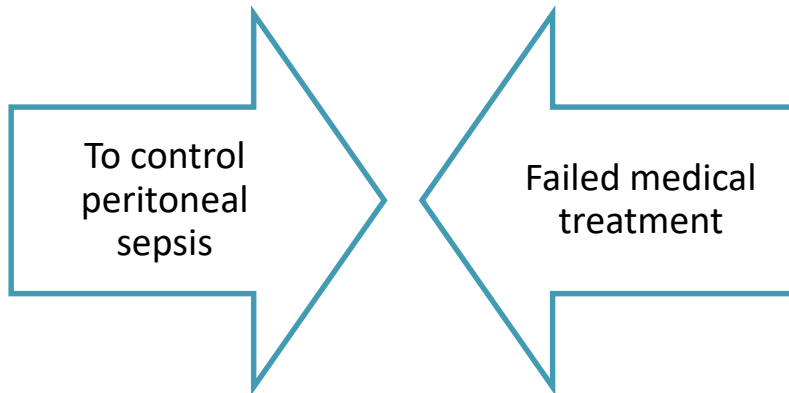
Management

Elective

- High fiber diet
- Reassurance
-
- Failure of medical treatment for many –may justify surgery

Management Emergency

- Answer three questions



Surgical options in perforated diverticulitis

Conservative

- Laparoscopic lavage
- Laparotomy with or without suture, with or without drainage, with or without proximal stoma
- Exteriorization of sigmoid loop

Radical

- Hartmann's procedure
- Resection plus anastomosis
- Resection plus anastomosis plus proximal stoma

When To Operate?

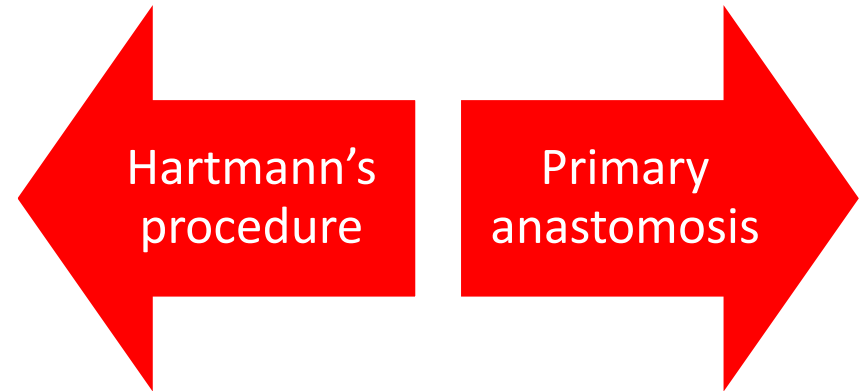
- Most difficult question
- Abdominal signs localized to LIF & limited systemic upset – few advocate surgery
- Widespread peritonitis & free gas- urgent surgery
- For remainder – vigorous resuscitation & antibiotic therapy
- Serial assessment by same observer
- Trial for 3/7 for conservative approach
- Imaging plays vital role
- Abscess < 5cm resolve mostly
- Laparoscopy – therapeutic exciting role

When To Resect?

- Widespread contamination – resection improves survival
- Resect sigmoid colon if laparotomy necessary
- Preliminary Laparoscopy – reduce need for laparotomy
- Inflamed colon – avoid resection
- Trust on antibiotics
- Inflamed non perforated colon – surgery rarely needed

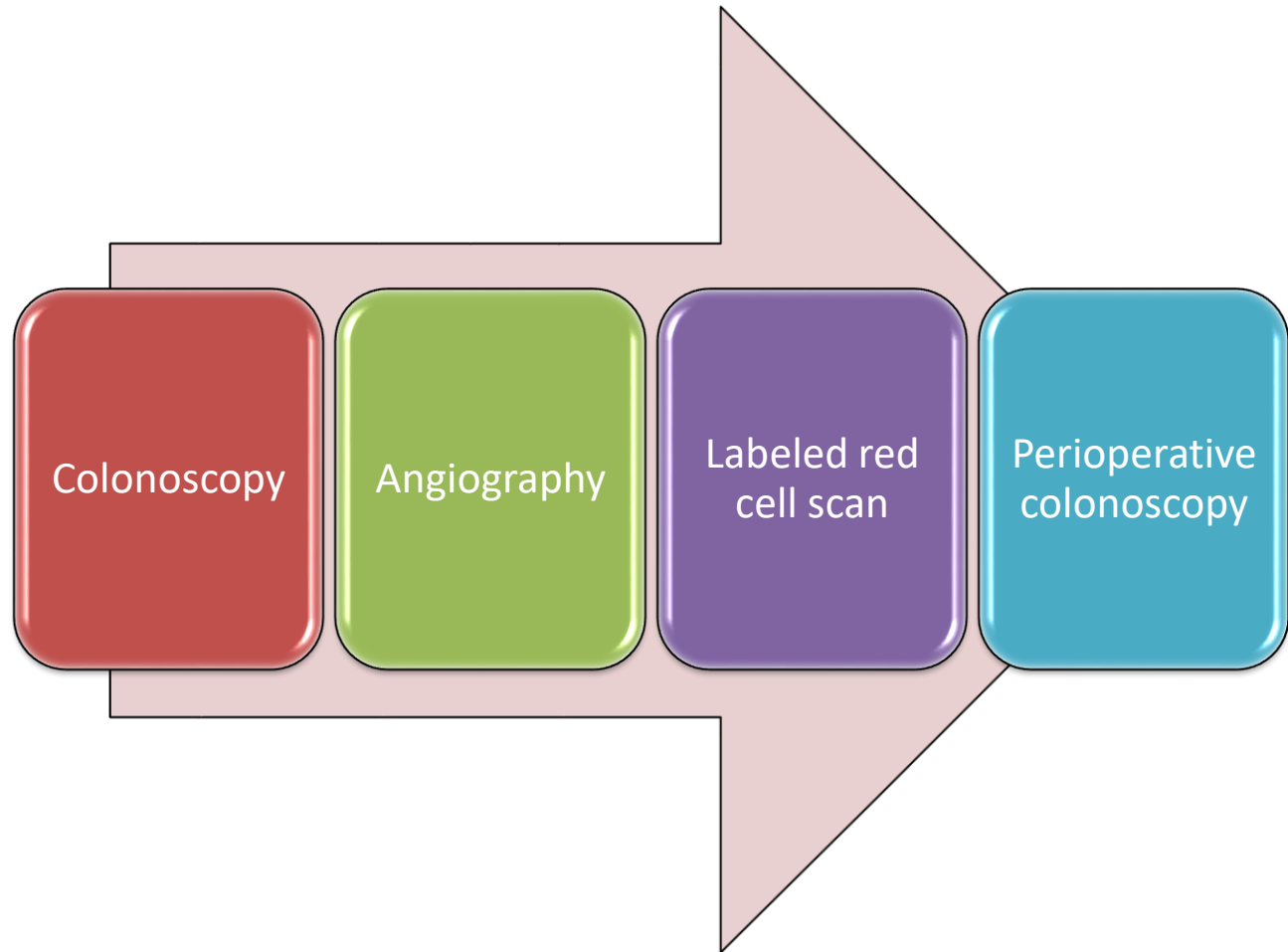
When To Anastomose?

- Resuscitation
- Surgeon
- anesthesia



Hemorrhage

- Strenuous effort to localize site of bleeding
- Colectomy



Key Points

- Sigmoid diverticular common
- Emergency admission uncommon
- CT scan best investigation emergency
- Urgent operation needed in <20% of emergency admissions
- If generalized peritonitis laparoscopic lavage should be considered
- If laparotomy- resection best option
- Primary anastomosis safe in selected cases
- Elective resection in selected cases