



Colorectal Anastomoses

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Types

- End to End
 - **Small bowel resection**
 - **Anterior resection**
- Side to Side
 - **Entero-enterostomy eg.bypass**
- End to side
 - **Roux-en-Y**



End-to-end



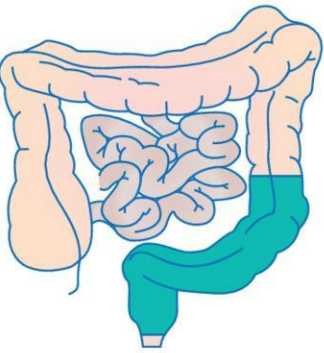
End-to-side



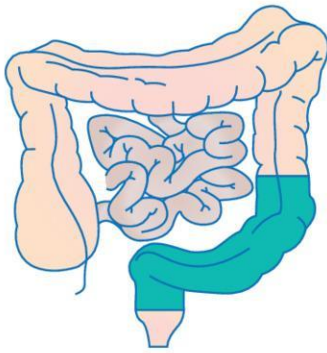
Side-to-side

Which anastomosis?

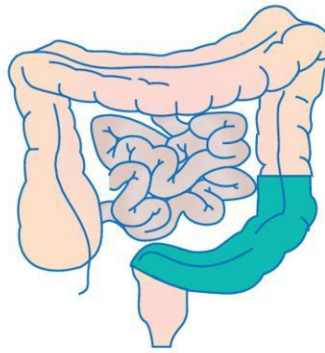
Low anterior resection



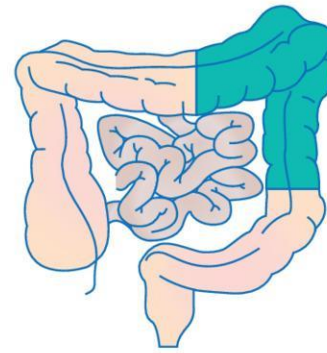
High anterior resection



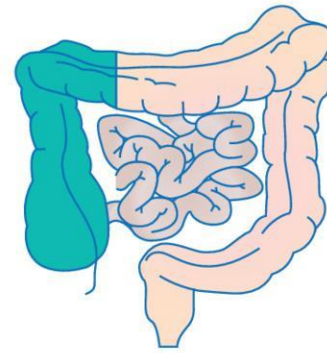
Sigmoid colectomy



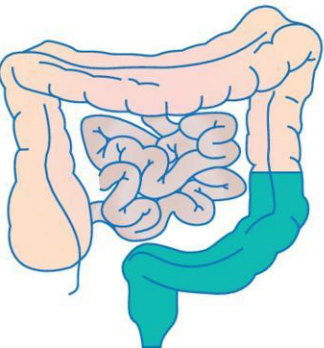
Left hemicolectomy



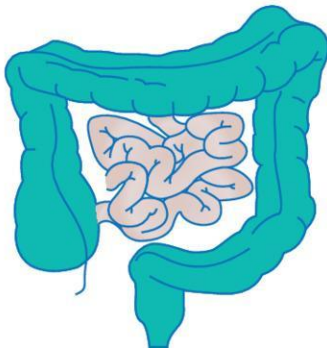
Right hemicolectomy



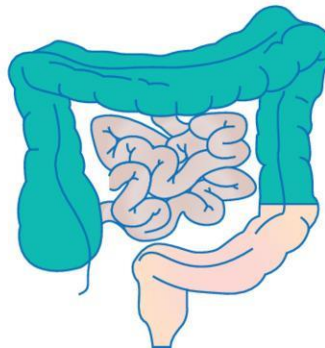
Abdomino-perineal resection



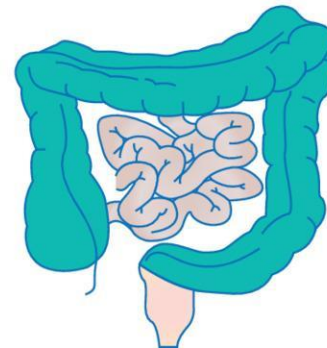
Total proctocolectomy



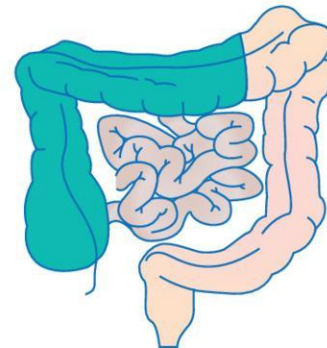
Subtotal colectomy



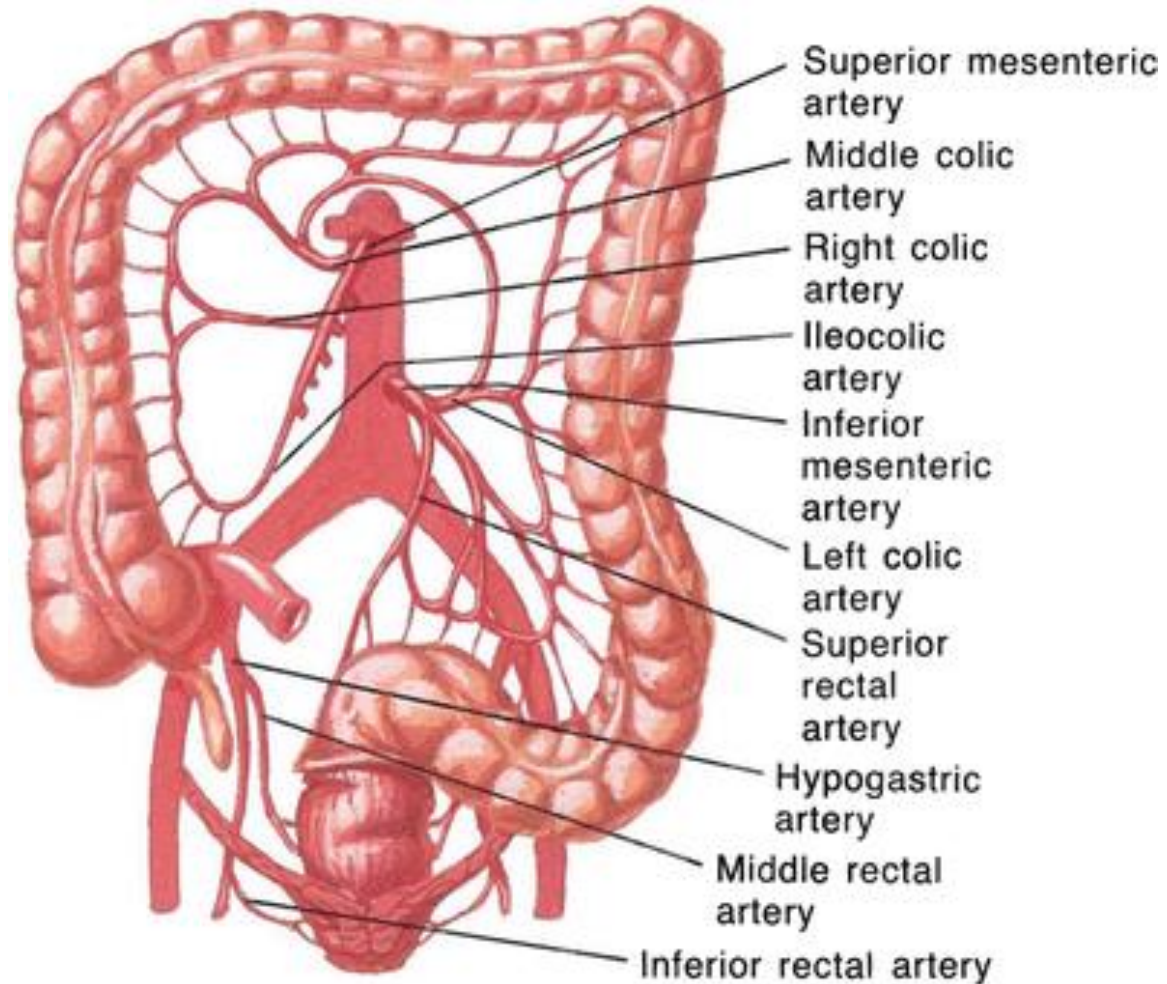
Total abdominal colectomy



Extended right hemicolectomy



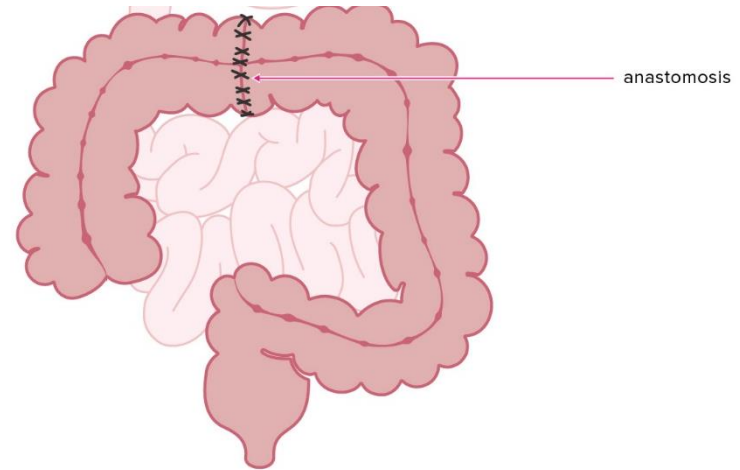
It mostly depends on supply



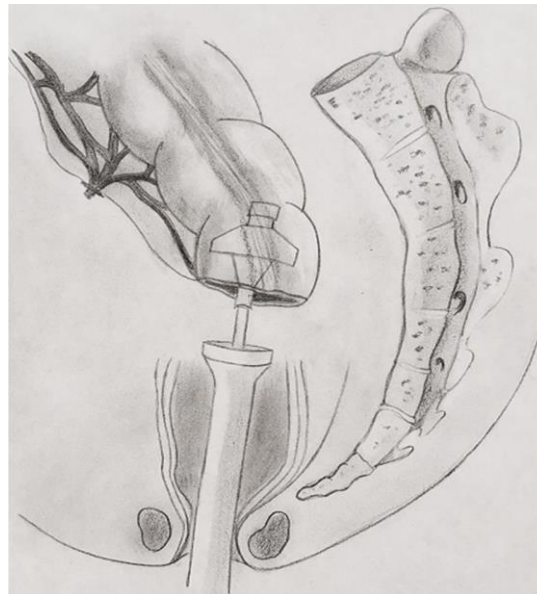


End to end

- Handsewn



- Stapled



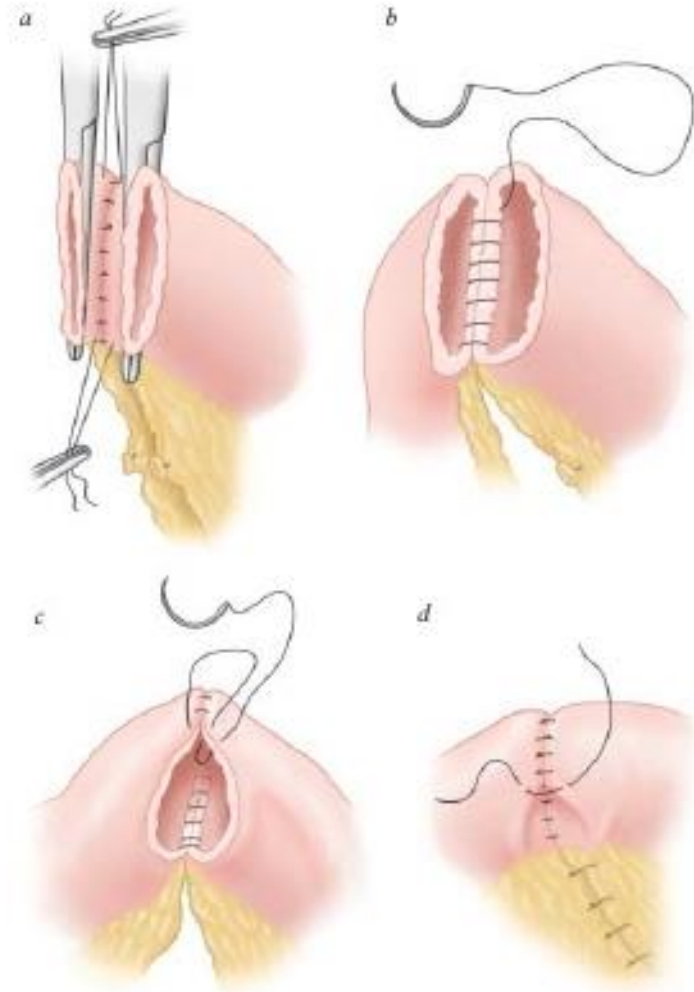
Functional End to End

- Small bowel or ileocolic anastomosis



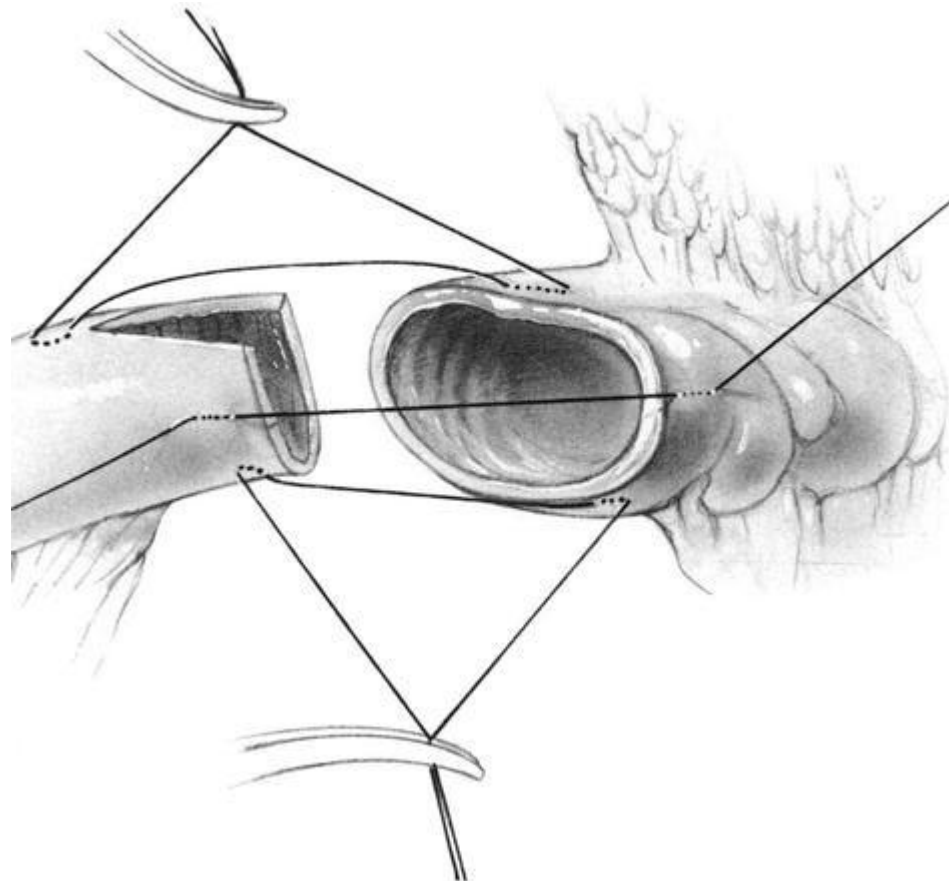
Handsewn end to end

- Multiple interrupted handsewn anastomosis



Size discrepancy

- End to side
- Cheatle Slit if end to end join



To staple or handsew?

No compelling evidence that one technique is superior to others:

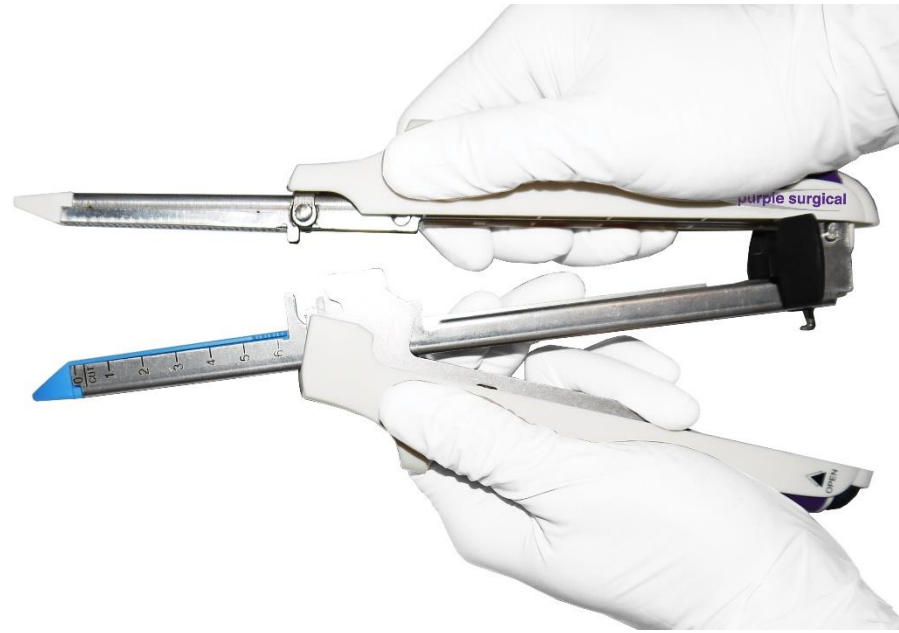
- Handsewn single- and double-layer anastomoses have been compared in a 2012 Cochrane review of seven small trials. There was no significant difference in anastomotic failure, morbidity, and mortality rates. Single-layer anastomosis was faster, but only by a mean difference of 11 minutes (95% CI -16.37 to -5.97; two studies).
- The best evidence came from a trial of over 1000 patients who underwent gastrointestinal anastomoses. The incidence of clinical leaks was similar between the two groups (sutured 3.2 percent, stapled 4.7 percent), while the incidence of radiological leaks was higher in the sutured group (12.2 versus 4.1 percent). Other patient outcomes were comparable.



Bottom Line

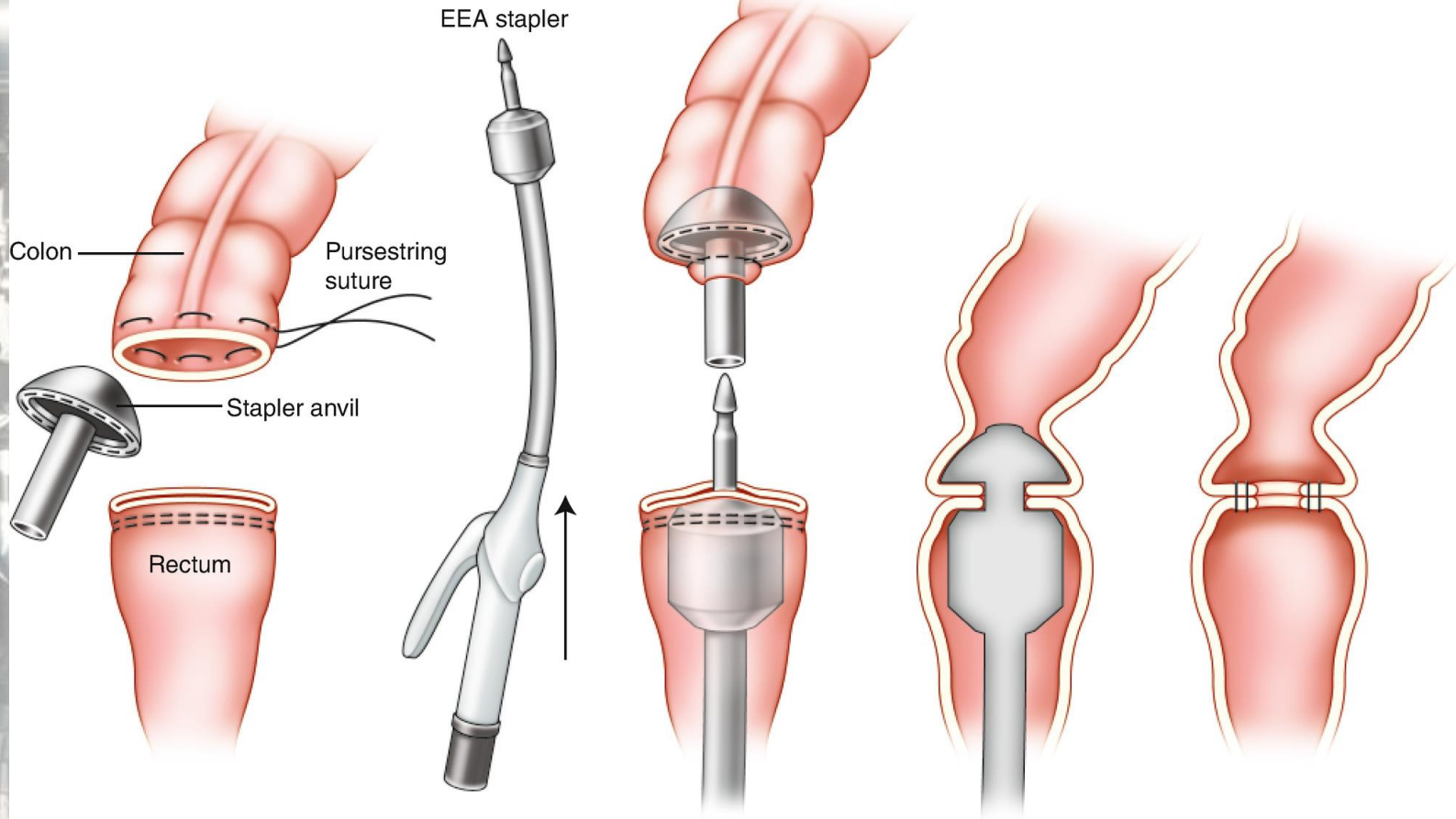
- The key to a successful anastomosis is the accurate union of two viable bowel ends with complete avoidance of tension

Linear Staplers

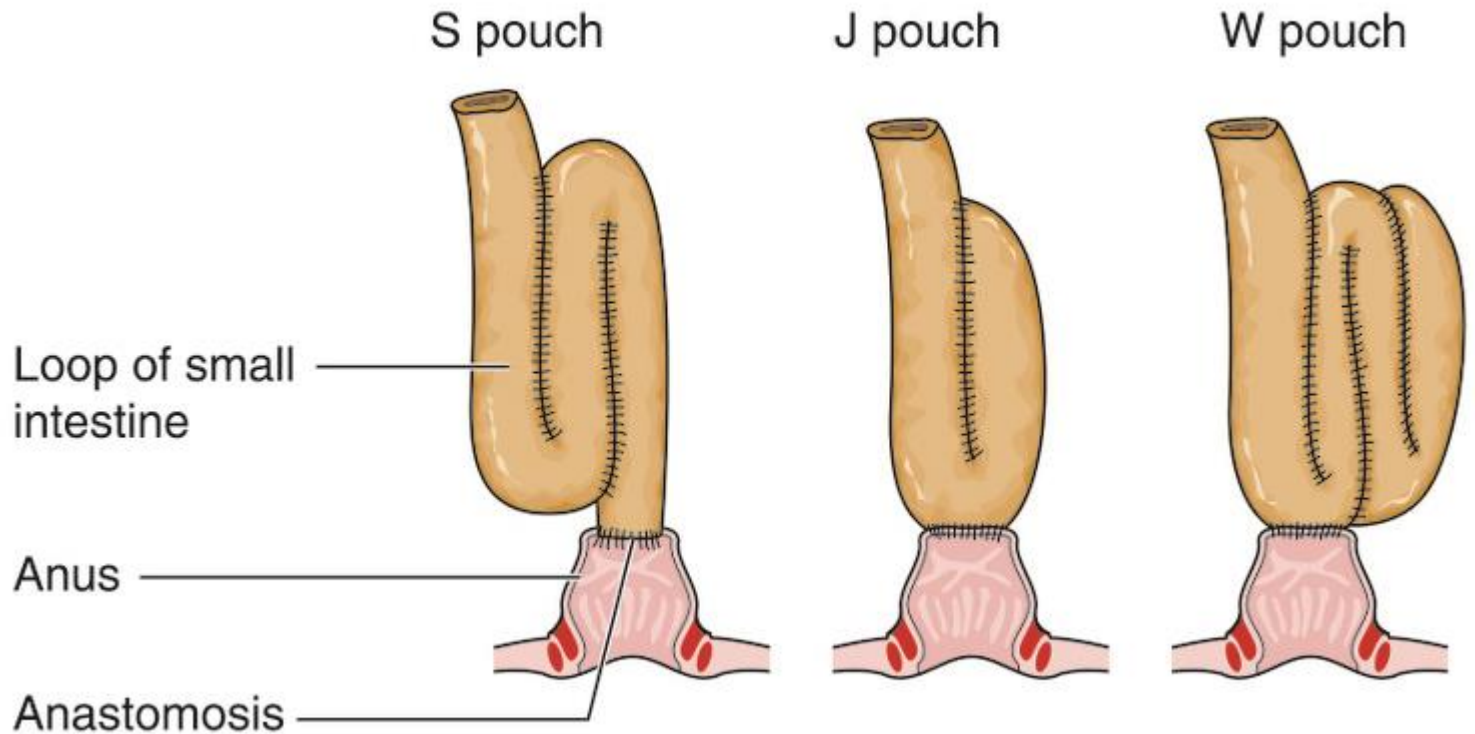


Stapled Colo-rectal Anastomosis

Low Anterior Resection

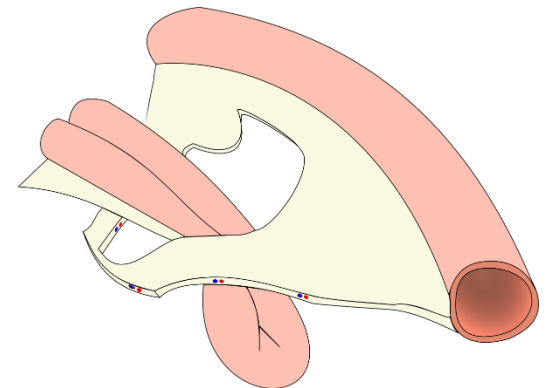


Ileo-anal Anastomosis

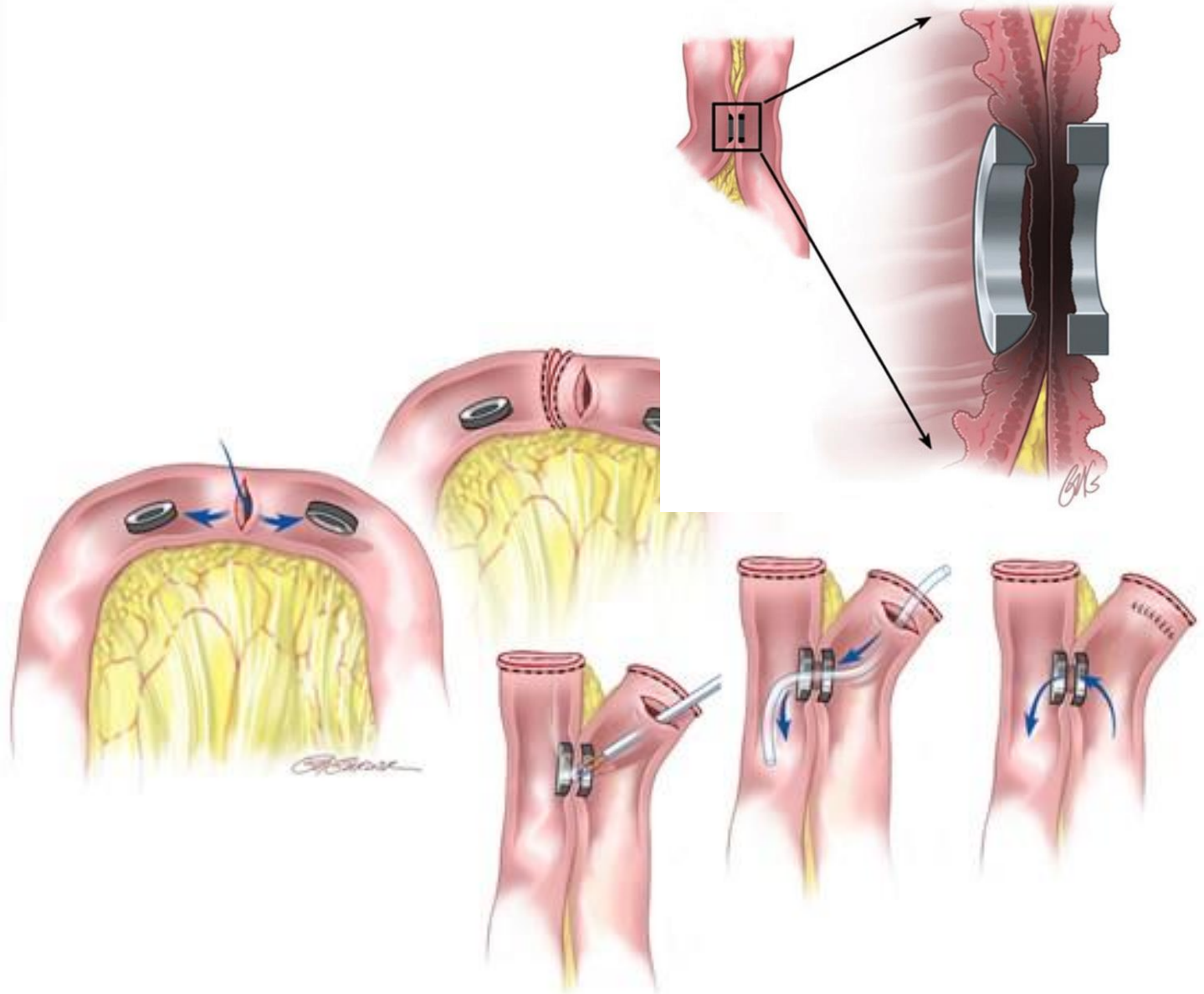


Practical Points

- Mobilisation with plenty of length to avoid any tension
- Always use antimesenteric border for small bowel or taenia for large bowel
- Reinforce corners by inverting them
- Close mesenteric windows



Magnamosis, the future of anastomosis?





Anastomotic leak

Patient Factors

Age
Gender
ASA
Obesity
Nutrition
Immune suppression
NSAIDS
radiation

Technical Factors

- Stapled v Handsewn
- Single layer vs double layer
- Bowel prep
- Drains
- Omentoplasty
- Leak testing
- Diverting stoma