



BOWEL ANASTOMOSIS

I. OBJECTIVES

By the end of this laboratory session participants should be able to . . .

- (1) Understand the principles behind stapled and hand-sewn anastomosis
- (2) Perform various techniques of hand-sewn and stapled anastomosis
- (3) Recognize suture, needle and equipment options for this procedure
- (4) Understand the causes, principles and complications of bowel anastomosis
- (5) Demonstrate proficiency in knot-tying on bowel wall

II. ASSUMPTIONS

- (1) Review layers of esophageal, stomach, small and large intestinal walls. Learn the blood supply, relationship of the mesentery and peritoneal attachments to various parts of the intestine.
- (2) Basic proficiency in knot-tying (one-hand and two-hand, right and left hands), handling of the needle driver and suture

III. SUGGESTED READING

Anatomy atlas of your choice as well as any information regarding knot-tying, suture materials etc.

IV. ANATOMICAL CONSIDERATION

As above.

V. DESCRIPTION OF LABORATORY MODULE

- (1) Review suturing techniques, suture material and needle selection, etc.
- (2) Perform single and double-layer anastomosis on latex or pig bowel segment – running, interrupted.
- (3) After introduction to stapling devices, apply stapling techniques to latex or pig bowel.

VI. DESCRIPTION OF TECHNIQUE/PROCEDURE

- (1) Assess residents' knowledge of suture material, needles and suturing techniques, using Penrose drain if needed.

- (2) Using needle driver and smooth forceps, perform a single-layer as well as a two-layer end-to-end anastomosis of 2 pieces of pig intestine or latex bowel mounted on wooden block. Residents may assist each other in this exercise.
- (3) Review loading, firing and disassembly techniques of linear and transverse stapling devices and allow residents to test devices on pig intestine or latex bowel. Explain use of other devices (eg circular staplers) which may be used in later pig labs.

VII. EQUIPMENT NEEDED

Pig or latex bowel, wooden blocks, instruments and suture for each resident.
Stapling devices and reloads.

VIII. REFERENCES

Surgical skills manual.
Surgical Atlas of your choice.