Small Bowel Resection

Key Simulated steps and operative Principles

- Bowel resection with lymphadenectomy
- Use of GIA staplers
- Hand sewn end to end bowel anastomosis

Goals and Objectives

1. Learn the various types of staplers (GIA, TA, EEA)
2. Use clamps to ligate and divide mesentery followed by bowel division
3. Identify factors required for a successful bowel anastomosis
4. Perform the appropriate steps for an end-to-end hand sewn bowel anastomosis
5. Distinguish between a Lembert and a Gambee stitch
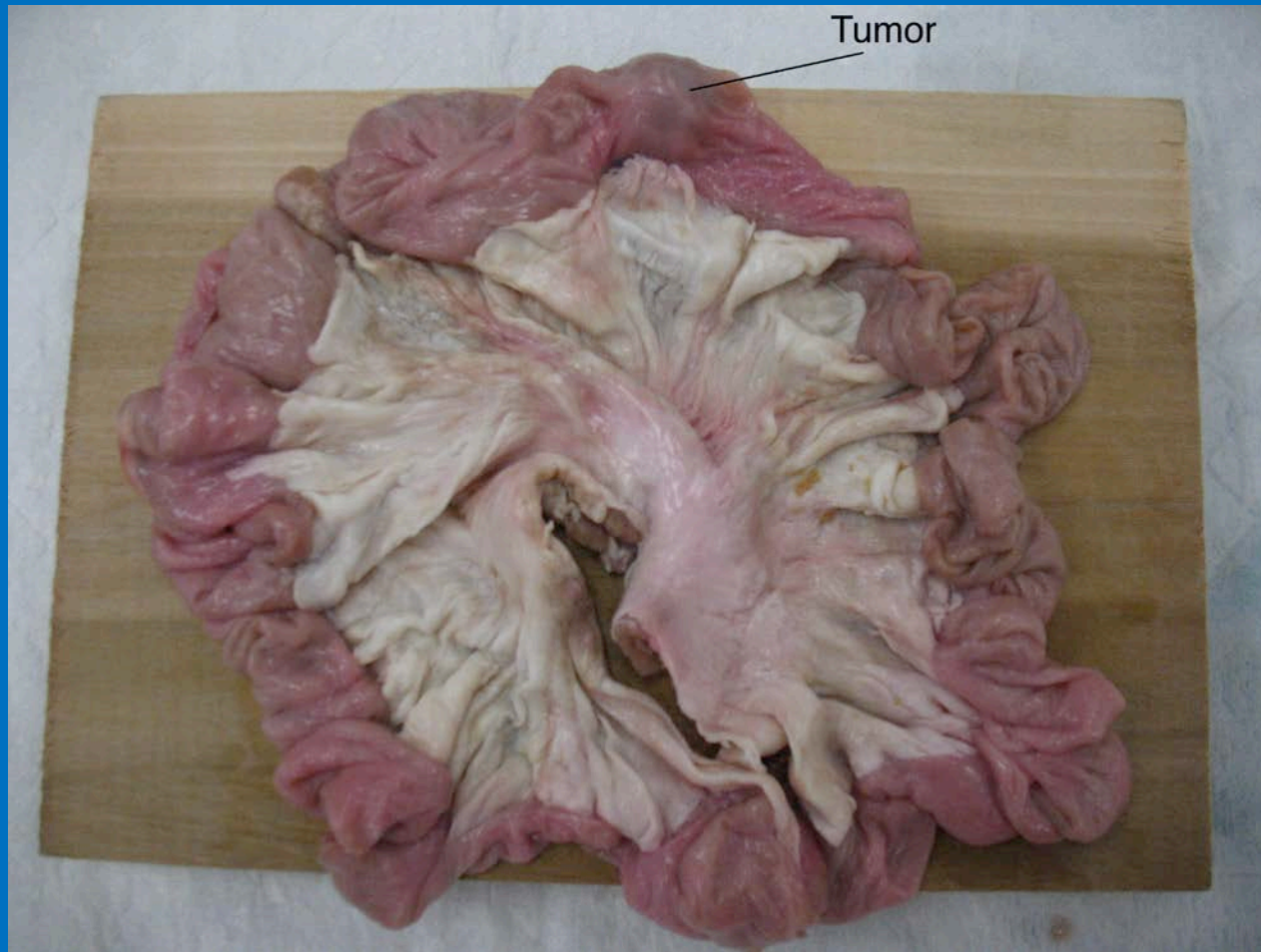
Required Materials and Costs

- CVD Mosquito x4
- Short Metz
- GIA Stapler/endo GIA stapler
- Debakey x2
- 3-0 Vicryl (polyglycolic acid suture) on SH needle
- 3-0 Vicryl (polyglycolic acid suture) tie
- 3-0 silk
- Suture scissor
- Blade
- Marble
- Wood Board
- Plastic box

Setup Step 1

Set small bowel on wood board

Setup Step 2

Put a marble into the small bowel through the ends to represent a tumor
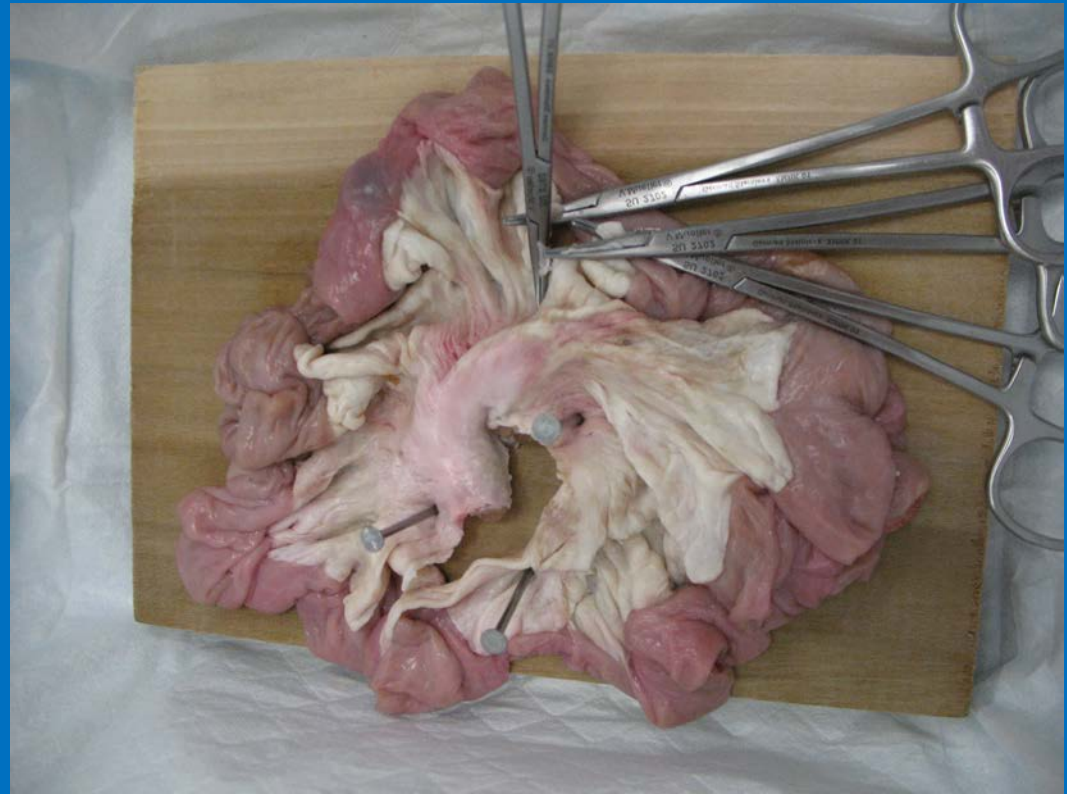
Setup Step 3

Pin three nails into the wooden board to stabilize the small bowel and simulate mesentery fixation

Setup Step 4

Place the wood board with the bowels in a box

Procedure Step 1

After determining the resection margin, clamp and tie vessels to divide the mesentery
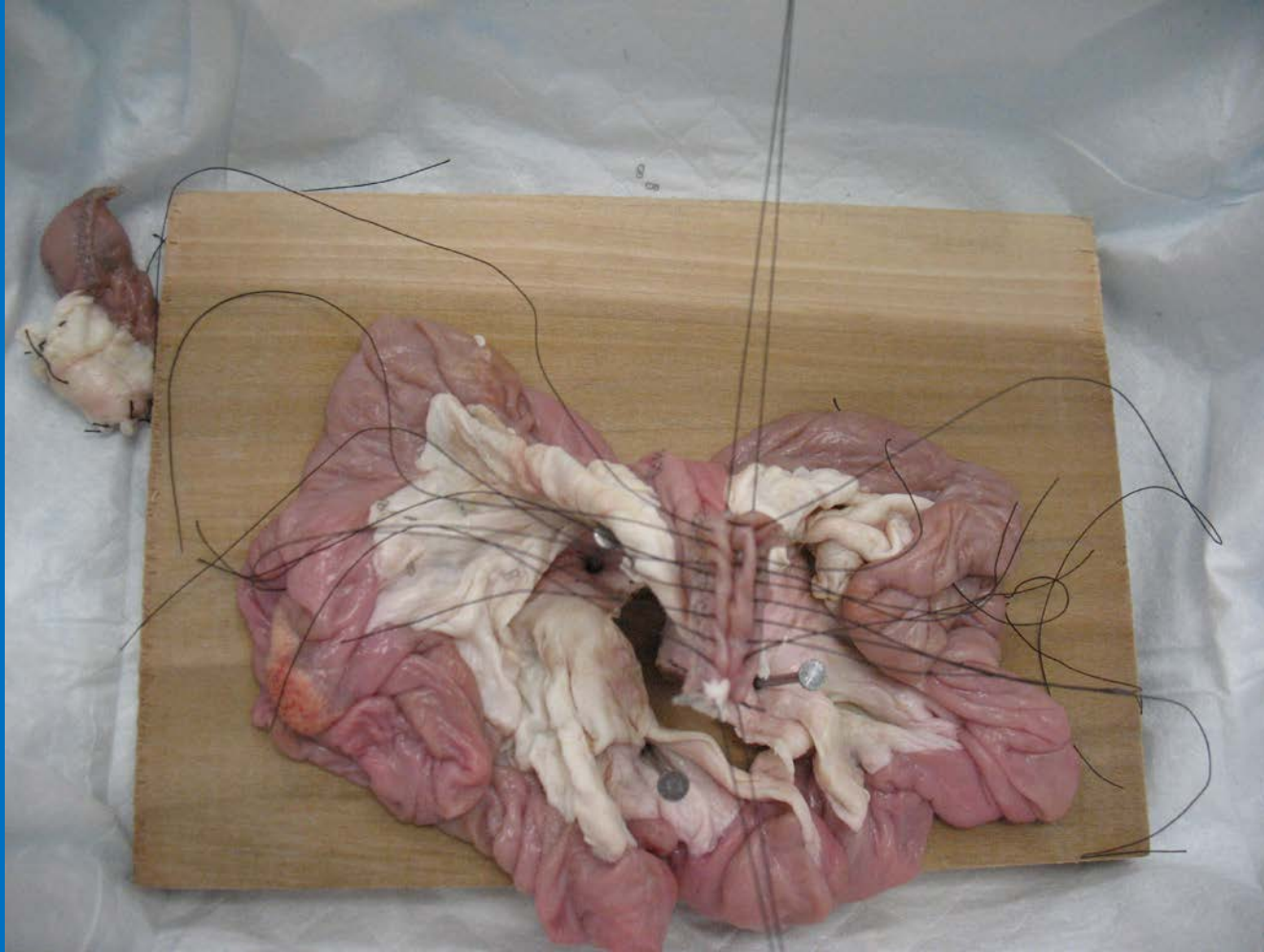
Procedure Step 2

The mesentery of the section of bowel to be resected has now been divided
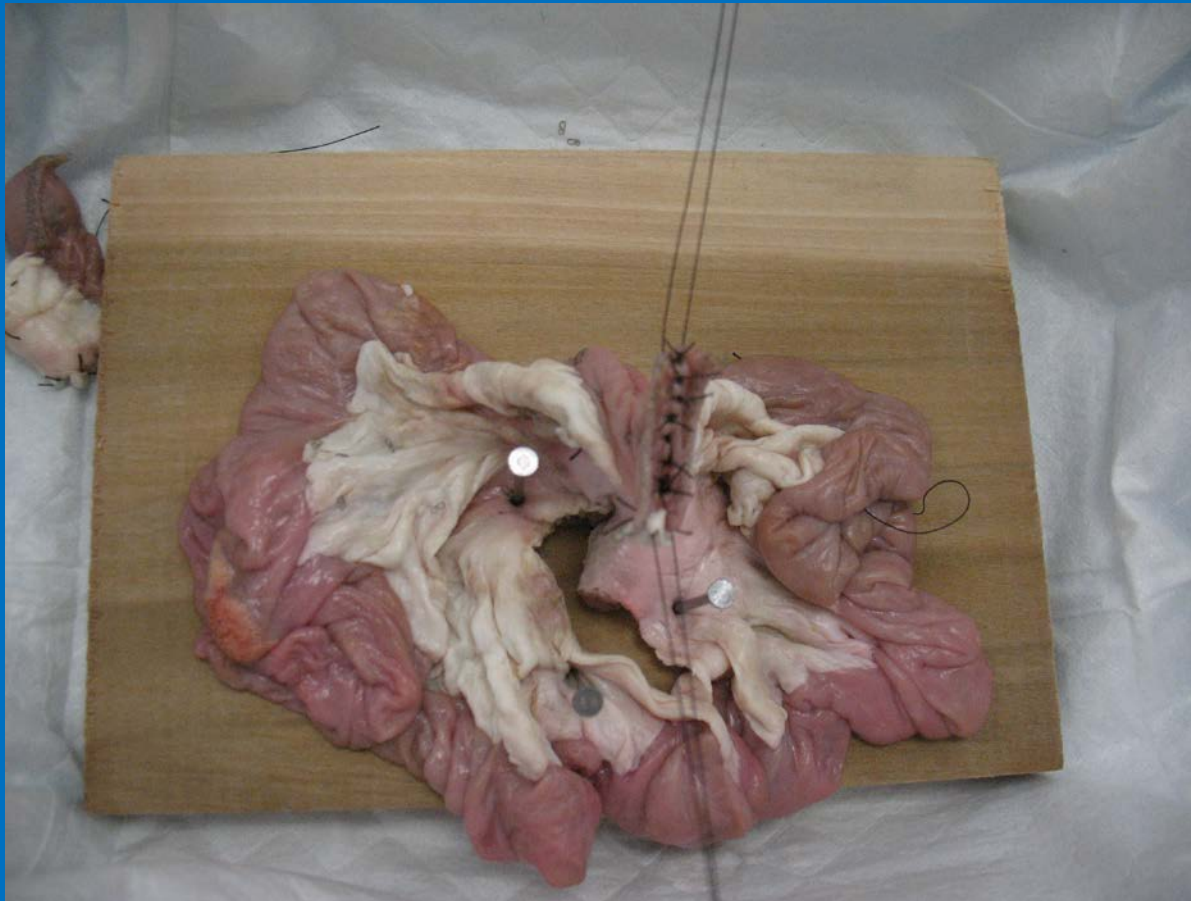
Procedure Step 3

Staple the bowel proximally and distally to resect the specimen
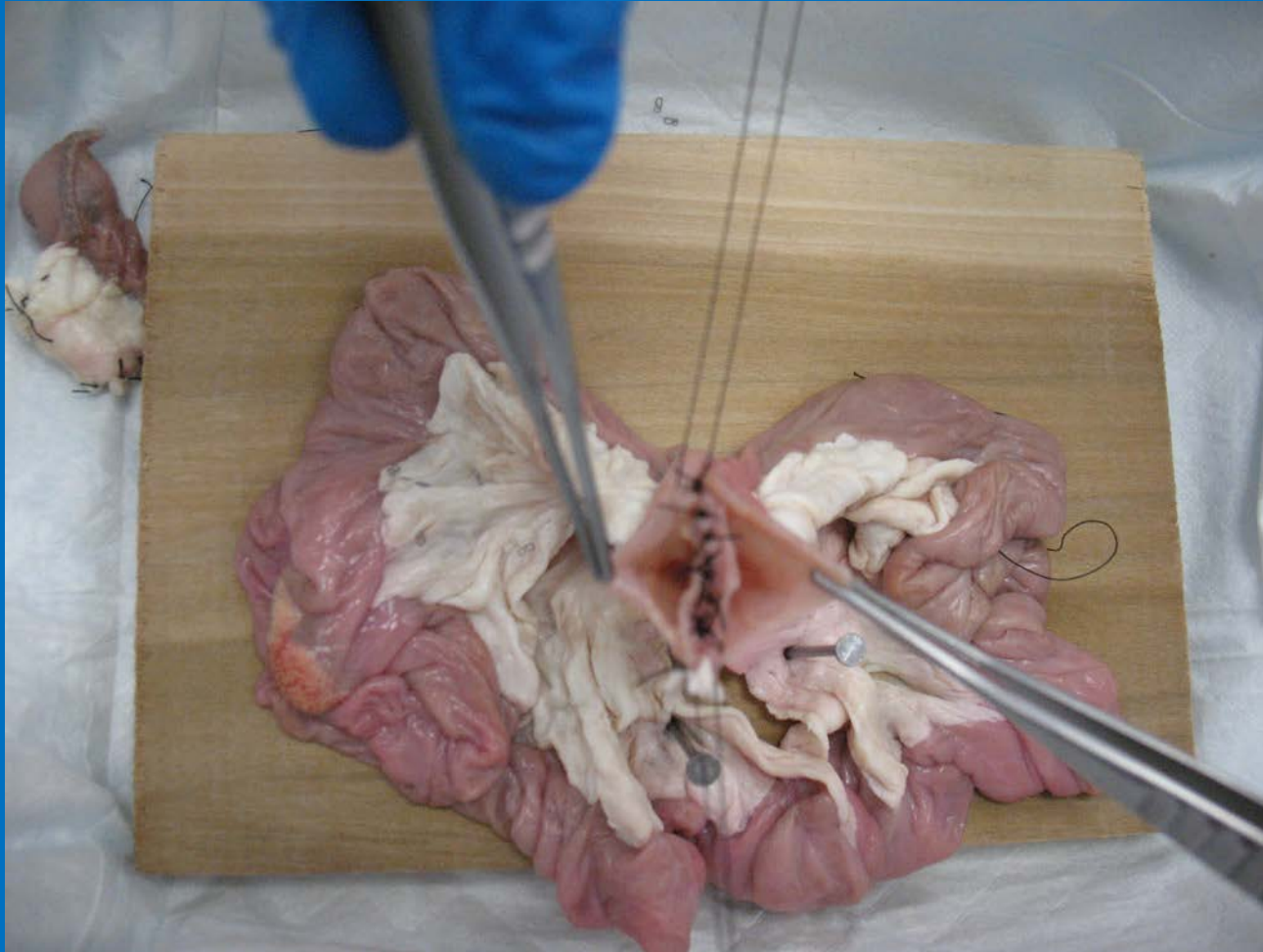
Procedure Step 4

Start the posterior layer of the anastomosis with interrupted Lembert sutures
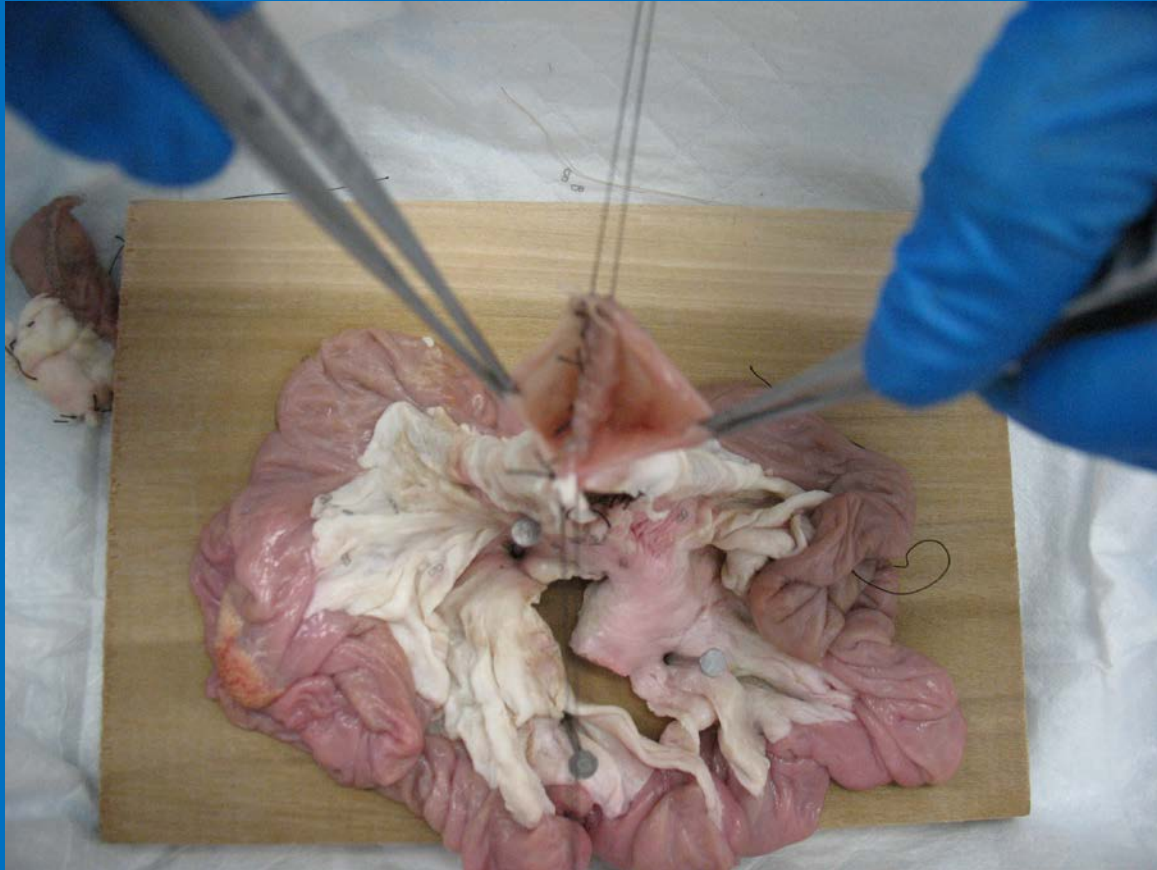
Procedure Step 5

Tie down the interrupted Lembert sutures
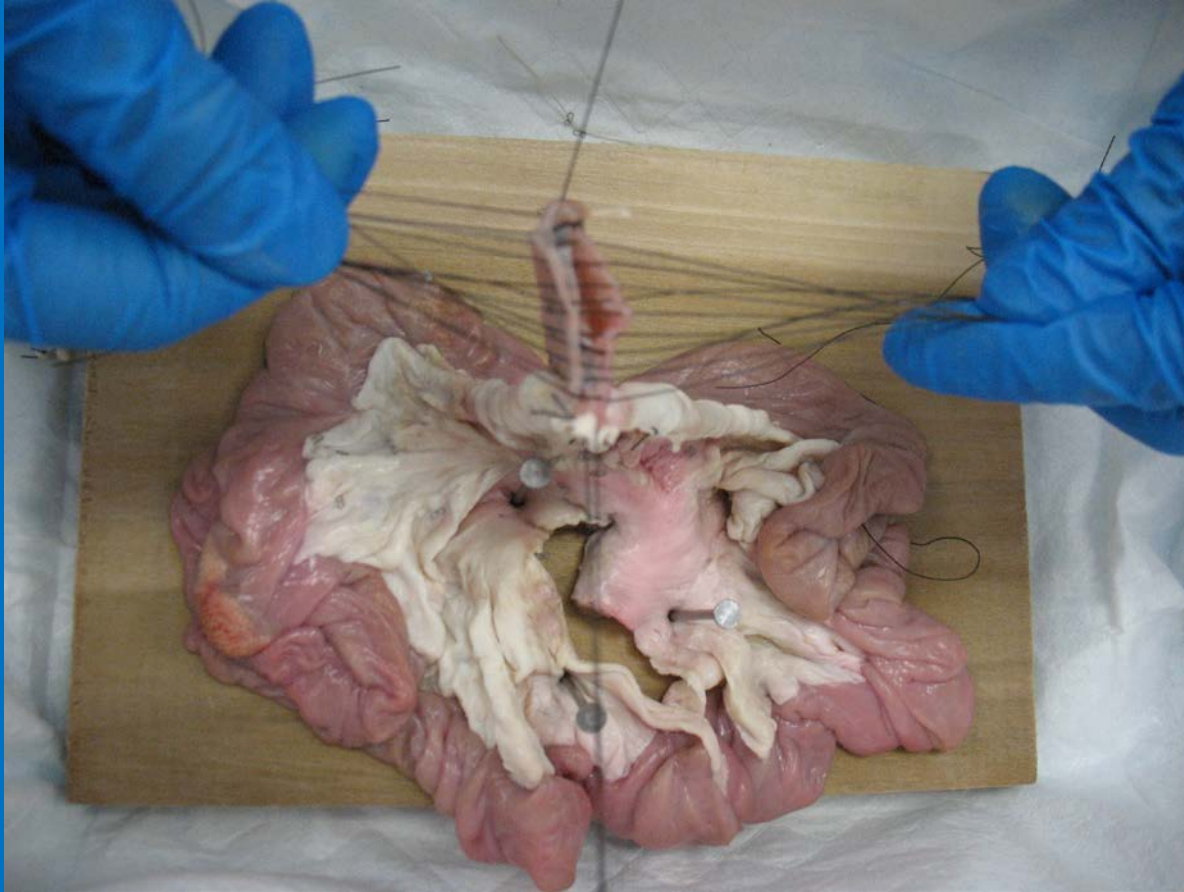
Procedure Step 6

Cut and remove the proximal and distal staple lines

Procedure Step 7

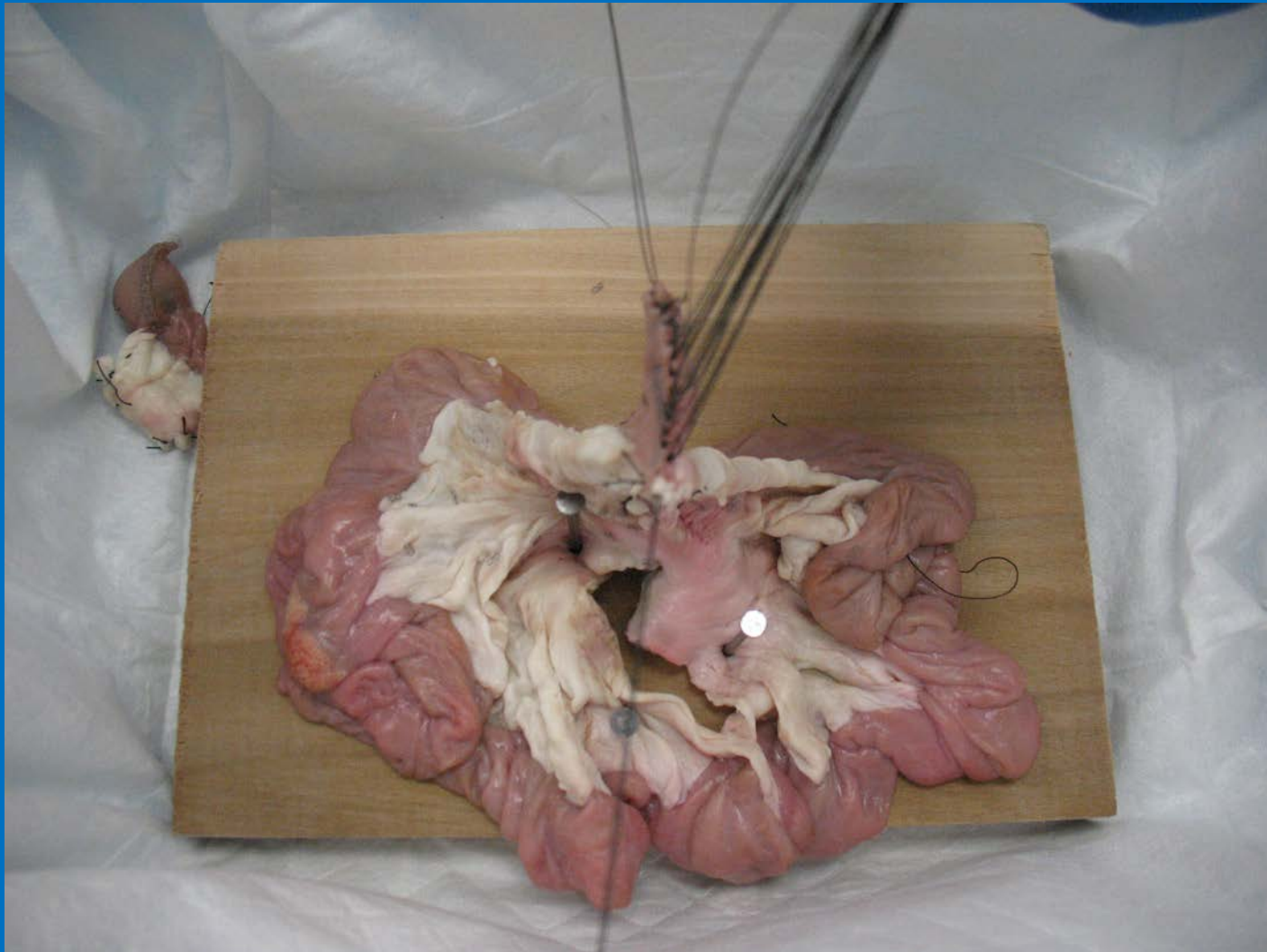
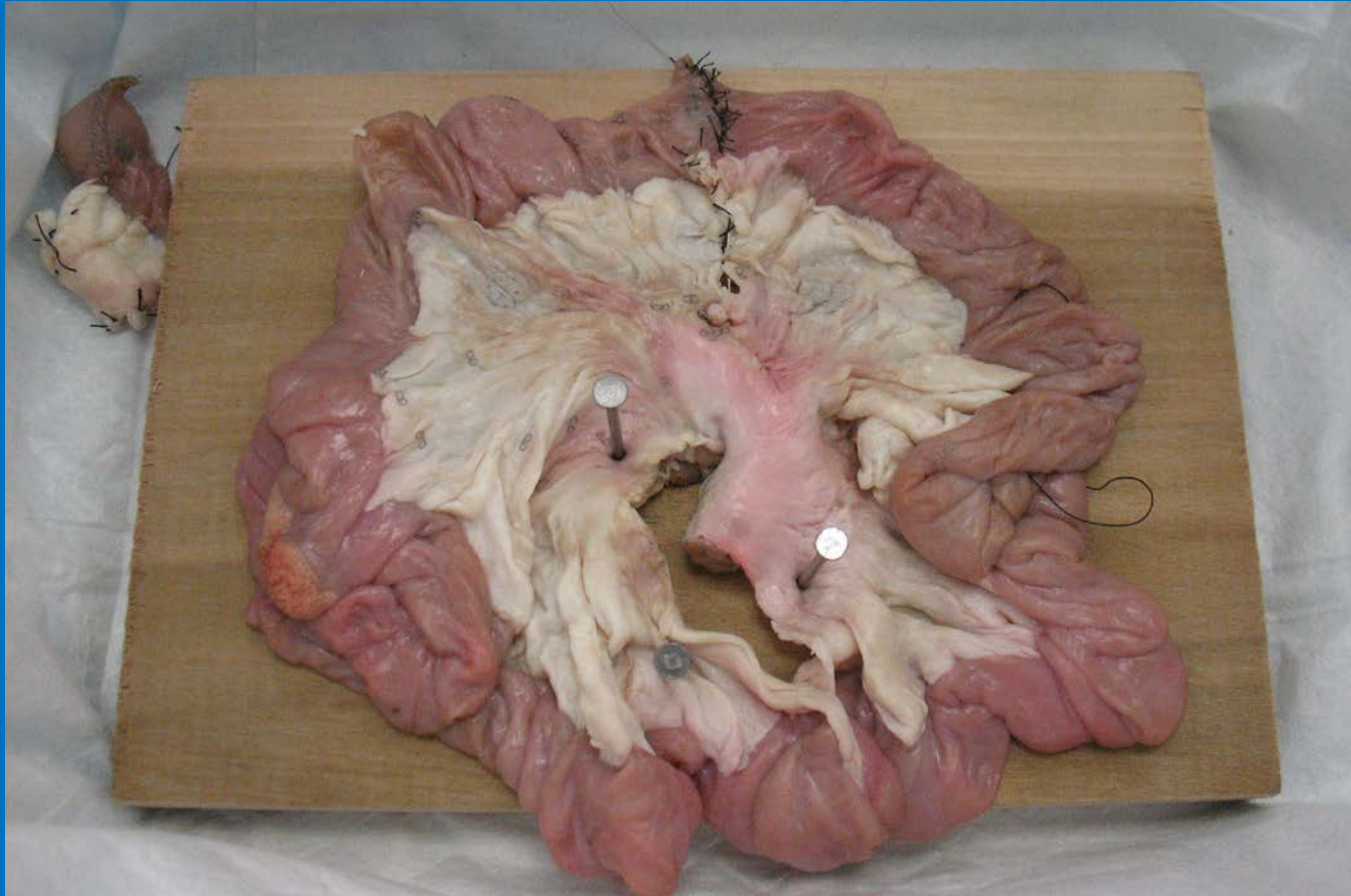Complete the posterior layer with a running suture

Procedure Step 8

Anterior layer of the anastomosis completed with interrupted Gambee stitches

Procedure Step 9

Tie down the Gambee sutures

Procedure Step 10

Repair the mesenteric defect with simple interrupted stitches

Procedure Step 11

Test the anastomosis underwater

Checklist

☐ Appropriate lymphadenectomy and bowel division

☐ Set up bowels correctly for anasomosis

☐ Know and perform individual steps in bowel anastomosis

☐ Closure of mesenteric defect

☐ Anastomosis should test air tight under water