

BOWEL ANASTOMOSIS AND STOMAS

MODULE: GENERAL SURGERY, UROLOGY

TARGET: CT1 – ST4

BACKGROUND:

Bowel resection and anastomosis is a frequent occurrence during general surgical operations as well as during elective urological reconstructive procedures. Emergency operations frequently involve the construction of a stoma, especially in the presence of contamination or obstructed gut. This skills simulation specifically targets these skills - faculty will also explore with the learners the indications for these different stomas and the contra-indications for bowel anastomosis.

RELEVANT AREAS OF THE CURRICULUM

The ISCP states that by the end of CT2 the trainee should be a safe and useful assistant in the operating room and be able to perform some simple procedures under minimal supervision and perform more complex procedures under direct supervision.

Module 2: Common surgical conditions

Intestinal obstruction
Intestinal perforation
Abdominal wall stomata

Module 3: Basic surgical skills

To handle surgical instruments safely
To handle tissues safely
To incise and close superficial tissues accurately
To tie secure knots
Safely use surgical diathermy
To assist helpfully, even when the operation is not familiar
Handle tissues gently with appropriate instruments
understand the principles of anastomosis

INFORMATION FOR FACULTY

LEARNING OBJECTIVES

To be able to construct an end colostomy
To be able to construct a loop colostomy
To be able to construct a loop ileostomy
To be able to perform a handsewn or stapled small bowel anastomosis

SCENE SETTING

Location: Bench-top laboratory setting
 Expected duration of scenario: 90 mins with ongoing technical feedback throughout procedure

EQUIPMENT AND CONSUMABLES

Non-sterile gloves
 Inco pad / sheet
 Colostomy bags, Colostomy rods
 Number 10 scalpel blade, Scalpel handle No. 3
 Sharps bin
 Swabs - small
 Kidney dish
 Cork mat
 Pea soup
 Gilles toothed forceps
 Debaquey forceps
 GA 75 stapler plus refill for every learner
 McIndoe scissors
 6 x Mosquito clips
 3/0 Vicryl suture x 8
 2/0 Vicryl ties x 4
 3/0 PDS suture x8
 3/0 Vicryl rapide x8
 Soft bowel clamps x2
 Straight Mayo scissors
 Finger-switch diathermy hand piece with spatula blade
 ValleyLab diathermy machine – Force 2 (second hand auction price around £750)
 ValleyLab diathermy plates E7506 POLYHESIVE NON REM RET EL £79.50 for 50
 Clinical waste bags
 Pig belly large - £7.00 each Fresh Tissue Supplies
 Pig colon £3.30 Fresh Tissue Supplies
 Pig small bowel with mesentery £4.20 Fresh Tissue Supplies

PARTICIPANT BRIEFING

Under faculty guidance you will construct an end colostomy, then a loop colostomy.
 Use the diathermy to incise the pork belly. Then move on to form a loop ileostomy - the small bowel can be filled with pea soup to simulate small bowel contents.
 The final task is to perform a small bowel resection (it is suggested that you resect the ileostomy that you have created) divide the mesentery between clips, resect the bowel and then perform a small bowel anastomosis either stapled or hand-sewn - check the security of your anastomosis by filling the bowel with pea soup.

FACULTY BRIEFING

Please give both generic and specific feedback upon trainees suturing skills, in particular pay attention to the amount of tension placed on the tissues.
 Please give careful instruction as to how to 'spout' the ileostomy

SURGERY > TECHNICAL SCENARIO 8 > BOWEL ANASTOMOSES & STOMAS
INFORMATION FOR PARTICIPANTS
KEY POINTS

Indications for the different types of stomas
 How to ensure that the stoma spouts adequately
 Sub-mucosal anastomotic technique
 Familiarity with stapling devices

RELEVANCE TO THE CURRICULUM
Module 3 Basic surgical skills

Safe administration of appropriate local anaesthetic agents.
 Acquisition of basic surgical skills in instrument and tissue handling.
 Incise superficial tissues accurately with suitable instruments.
 Close superficial tissues accurately.
 Tie secure knots.
 Achieve haemostasis of superficial vessels.
 Use suitable methods of retraction.
 Handle tissues gently with appropriate instruments.
 Assist helpfully, even when the operation is not familiar.

Specific curricular items related to inguinal hernia

Anatomy of inguinal region including inguinal canal
 Hernia repair-inguinal

WORKPLACE-BASED ASSESSMENTS

Direct Observation of Procedural Skills (Surgical DOPS)
Trainer/Trainee Guidance Points

These guidance points are to be used in conjunction with point 6 ('performs the technical aspects in line with the guidance notes') on the main Surgical DOPS form. A mark should not be given for each of these points – they should instead be used to inform the mark to be given for point 6.

Specialty: General Surgery

Procedure: Formation of Loop Ileostomy (part of other operation)

Steps to be performed

1. Abdomen open at laparotomy. Stoma site marked.
2. Circular trephine of skin of appropriate diameter. Longitudinal split of rectus muscle to create aperture of appropriate size
3. Withdrawal of suitable loop of ileum through abdominal wall and fix if necessary
4. Prevent retraction of loop with sling or bridge and identify proximal and distal limb
5. Close abdominal wound
6. Incision of distal aspect of loop near skin level with folding back to produce a protruding stoma
7. Appropriate placement of mucocutaneous sutures
8. Accurately fashion flange of stoma appliance to fit stoma

There is a DOPS for creation of a loop ileostomy which may be used in modified form during this simulation

There is a PBA for emergency small bowel resection on the ISCP which can be used in modified form in this simulation - see left and on next page.

General Surgery PBA: EMERGENCY - Small Bowel Resection		
Trainee:	Assessor:	Date:
Assessor's Position*:	Email (institutional):	GMC No:
Duration of procedure (mins):	Duration of assessment period (mins):	Hospital:
Operation more difficult than usual? Yes / No (If yes, state reason)		<input type="checkbox"/> Tick this box if this PBA was performed in a Simulated setting .

* Assessors are normally consultants (senior trainees may be assessors depending upon their training level and the complexity of the procedure)

IMPORTANT: The trainee should explain what he/she intends to do throughout the procedure. The Assessor should provide verbal prompts if required, and intervene if patient safety is at risk.

Rating:

N = Not observed or not appropriate

D = Development required

S = Satisfactory standard for CCT (no prompting or intervention required)

Competencies and Definitions		Rating N/D/S	Comments
I. Consent			
C1	Demonstrates sound knowledge of indications and contraindications including alternatives to surgery		
C2	Demonstrates awareness of sequelae of operative or non operative management		
C3	Demonstrates sound knowledge of complications of surgery		
C4	Explains the procedure to the patient / relatives / carers and checks understanding		
C5	Explains likely outcome and time to recovery and checks understanding		
II. Pre operation planning			
PL1	Demonstrates recognition of anatomical and pathological abnormalities (and relevant co-morbidities) and selects appropriate operative strategies / techniques to deal with these		
PL2	Demonstrates ability to make reasoned choice of appropriate equipment, materials or devices (if any) taking into account appropriate investigations e.g. x-rays		
PL3	Checks materials, equipment and device requirements with operating room staff		
PL4	Ensures the operation site is marked where applicable		
PL5	Checks patient records, personally reviews investigations		
III. Pre operative preparation			
PR1	Checks in theatre that consent has been obtained		
PR2	Gives effective briefing to theatre team		
PR3	Ensures proper and safe positioning of the patient on the operating table		
PR4	Demonstrates careful skin preparation		
PR5	Demonstrates careful draping of the patient's operative field		
PR6	Ensures general equipment and materials are deployed safely (e.g. catheter, diathermy)		
PR7	Ensures appropriate drugs administered		
PR8	Arranges for and deploys specialist equipment (e.g. image intensifiers) effectively		
IV. Exposure and closure			
E1	Demonstrates knowledge of optimum skin incision / portal / access		
E2	Achieves an adequate exposure through purposeful dissection in correct tissue planes and identifies all structures correctly		
E3	Completes a sound wound repair where appropriate		

E4	Protects the wound with dressings, splints and drains where appropriate		
V. Intra operative technique: global (G) and task-specific items (T)			
IT1(G)	Follows an agreed, logical sequence or protocol for the procedure		
IT2(G)	Consistently handles tissue well with minimal damage		
IT3(G)	Controls bleeding promptly by an appropriate method		
IT4(G)	Demonstrates a sound technique of knots and sutures/staples		
IT5(G)	Uses instruments appropriately and safely		
IT6(G)	Proceeds at appropriate pace with economy of movement		
IT7(G)	Anticipates and responds appropriately to variation e.g. anatomy		
IT8(G)	Deals calmly and effectively with unexpected events/complications		
IT9(G)	Uses assistant(s) to the best advantage at all times		
IT10(G)	Communicates clearly and consistently with the scrub team		
IT11(G)	Communicates clearly and consistently with the anaesthetist		
IT12(T)	Explores the abdomen in a logical fashion, defines the diagnosis and determines need for small bowel resection		
IT13(T)	Mobilises small bowel with due regard to adjacent structures		
IT14(T)	Demonstrates and ligates mesenteric vessels		
IT15(T)	Divides and resects bowel and makes effective anastomosis with sutures, closing mesenteric defect		
VI. Post operative management			
PM1	Ensures the patient is transferred safely from the operating table to bed		
PM2	Constructs a clear operation note		
PM3	Records clear and appropriate post operative instructions		
PM4	Deals with specimens. Labels and orientates specimens appropriately		

Global Summary

Level at which completed elements of the PBA were performed on this occasion		Tick as appropriate
Level 0	Insufficient evidence observed to support a summary judgement	
Level 1	Unable to perform the procedure, or part observed, under supervision	
Level 2	Able to perform the procedure, or part observed, under supervision	
Level 3	Able to perform the procedure with minimum supervision (needed occasional help)	
Level 4	Competant to perform the procedure unsupervised (could deal with complications that arose)	

Comments by Assessor (including strengths and areas for development):

Comments by Trainee:

Trainee Signature:	Assessor Signature:
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Assessor training? No
 Written
 Web/CD
 Workshop

Time taken for feedback mins
Not at all Highly



PARTICIPANT REFLECTION

What have you learned from this experience? (Please try and list 3 things)

How will your practice now change?

What other actions will you now take to meet any identified learning needs?

PARTICIPANT FEEDBACK

Date of training session:.....

Learner grade:.....

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
I found this skills simulation useful					
I understand more about the simulation subject					
I have more confidence to deal with this operative case					
The material covered was relevant to me					

How could this simulation be improved for future participants? This is especially important if you have ticked anything in the disagree/strongly disagree box.

FACULTY DEBRIEF – TO BE COMPLETED BY FACULTY TEAM

What went particularly well during this simulation?

What did not go well, or as well as planned?

Why didn't it go well?

How could the simulation be improved for future participants?