



# **LapPass Handbook**

## **MSc Laparoscopic Surgery**

## Aims of LapPass

1. To improve laparoscopic skills
2. Improvement of CV – LapPass is a recognised badge of proficiency in laparoscopic skills
3. To accelerate operative skills and therefore opportunities during training and in theatre
4. Show commitment to surgery and advancement of surgical technique
5. Crossover to real world operating



## CAMERA HOLDING SKILLS

Minimum of 6 cases each at least 30 minutes long.

Sole camera holder.

Forewarn operator that this is an assessable task.

At least 3 cases using 30 degree laparoscope.

## SKILLS TO BE DEMONSTRATED

- Camera precision: Target to be maintained within the centre of the image for the majority of the time and to the satisfaction of the operator.
- An appropriate distance from the target tissue to be maintained and to demonstrate proactive dynamism with 'zooming in' for precise tasks and 'zooming out' for general views and instrument exchanges.
- An understanding of the principles of the 30 degree laparoscope with demonstration of orientation whilst maintaining the horizon.
- Appropriate teamworking skills.

## The 4 Key Tasks

### Task 1

#### GRASPING & MANIPULATION

Target time to complete: 4 minutes.

Flexible pad, 3 posts, 3 polo mints, 15cms string, 2 Johannes forceps.

#### INSTRUCTIONS - FOR EACH MINT:

- Floor to post 1: left hand only.
- Post 1 to 2: right hand only with rotation of mint so it is now upside down.
- Post 2 to 3: transfer from one hand to other in mid air.
- Post 3 to floor: pass along string without touching floor.



### Task 2

#### TYING EXTRACORPOREAL ROEDER KNOTS AND PLACING THEM TO SIMULATE APPENDICECTOMY

Target time to complete: 8 minutes.

Partially inflated glove with 4 lines at 1cm intervals along one digit, long length of suture material, 2 Johannes forceps or knot pusher, Laparoscopic scissors.

#### INSTRUCTIONS

- Create and place three Roeder knots; two proximally in zone 1, one distally in zone 3 and divide finger in zone 2.
- Glove and tip must not deflate.

### Task 3

#### CUTTING AN ACCURATE DISC

Target time to complete: 3 minutes.

Glove or charmois leather, laparoscopic scissors, graspers.

Solid circular line (diameter must be at least 5cms) on glove or charmois leather, with inner and external parallel dotted lines 0.5cms away.

Touching/breaching dotted line disqualifies.

#### INSTRUCTIONS

- Cut disc from pad without breaching dotted lines and without damaging underlying tissue.



### Task 4

#### SUTURING / CREATE 2 SECURE, RECOGNISED SURGICAL KNOTS UNDER SLIGHT TENSION

Target time to complete: 6 minutes.

Flexible pad with 2 dots drawn 1cm apart, braided suture, needle driver, Johannes forceps, laparoscopic scissors.

#### INSTRUCTIONS

- Place and tie 2 sutures to draw 2 dots together securely under tension. Suture placement must be contained within the dotted areas.
- Acceptable knot types: Szabo, single-handed reef knot, surgeon's knot (intracorporeal).



## Learning to tie a Roeder Knot

### Stage 1

- Loop the tie around the structure to be ligated and bring out the end through the same port.
- Choose one end to be the static end (in this instance the left sided thread coloured blue for ease).
- This is the **STANDING END** (blue).
- **IF THERE IS A NEEDLE THE NEEDLE END MUST BE THE STANDING END.**
- The other end then is to become the knot which will slide along the static (**STANDING**) limb. This is the **ACTIVE END** (whitened).



### Stage 2

Throw a half knot as demonstrated.



### Stage 3

Continue with the **ACTIVE END** and complete a full turn around both threads.



### Stage 4

Continue around once more finishing with the **ACTIVE END** next to the **STANDING** thread.



### Stage 5

- Use the **ACTIVE END** to throw a jamming half hitch around the **STANDING END**.
- The effect of this is so that as the knot is tightened on the tissues the half hitch will automatically tighten and the knot will be secure.



### Stage 6

- The knot may be tightened.
- The line of the **STANDING END** is seen to be straight and the knot will now slide along this onto the tissues as a one way slipping knot.
- Cut the excess thread and slide the knot onto the tissues by whatever means appropriate.

Visit

[www.alsgbi.org/trainees/passport](http://www.alsgbi.org/trainees/passport)  
to view training videos.

Turn over for  
more details



# Task 1: Grasping and Manipulation

*Time needed to complete – 4 minutes*

## Instructions

Key aim:

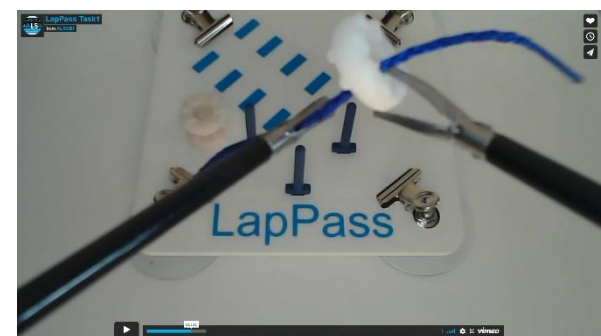
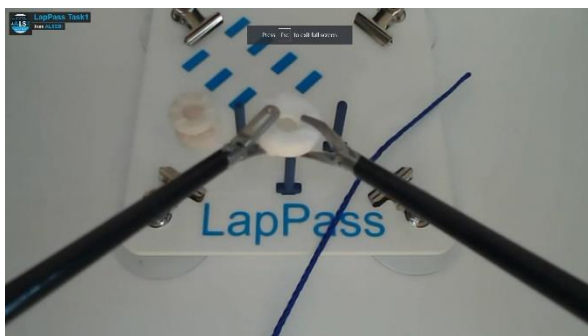
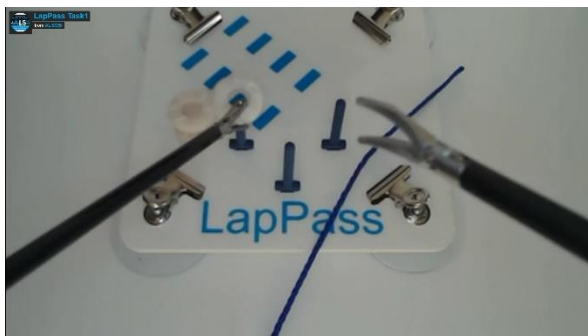
- Moving 3 polo mints between 3 posts

Steps:

1. Mint from floor to **post 1** using **left** hand only
2. Moving from **post 1** to **post 2** using right hand only with **180°** rotation of polo
3. Moving from **post 2** to **post 3** transferring from one hand to another mid-air
4. Grasping mint from **post 3** and passing through string without mint touching the floor

Tips and Tricks:

- Use Petelin/Marylands grasper in left hand and grasp with one tongue inside lumen when picking up the mint during **Step 1**
- For **Step 2**, grasp mint at **45°** angle prior to moving off post to allow for perpendicular transition during **180°** rotation
- Prior to grasping mint during **Step 4**, use both graspers to **straighten** the string to allow for ease of passage through mint



## **Task 2: Extracorporeal Roeder Knots and Simulated Appendicectomy**

*Time needed to complete – 8 minutes (time starts after creation of 1<sup>st</sup> extracorporeal roeder knot)*

### **Instructions**

Key aim:

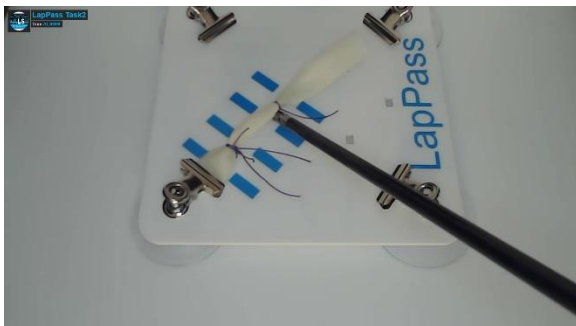
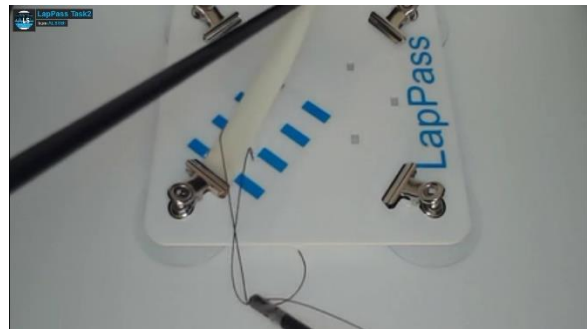
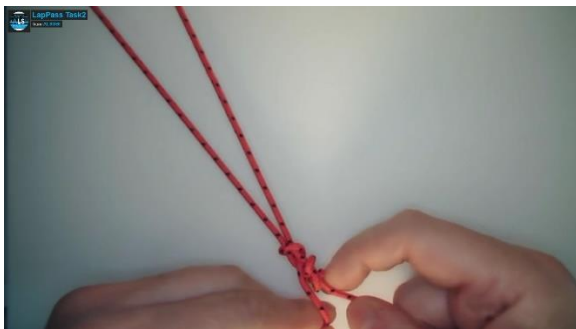
- Creation of 3 x extracorporeal roeder knots and performing simulated appendicectomy
- Penrose drain OR partially inflated glove used to simulate appendix
- 3 zones – 2 x knots in 1<sup>st</sup> zone near “base”, 1 x knot in 3<sup>rd</sup> zone and divide in 2<sup>nd</sup> zone

Steps:

1. Create 3 x extracorporeal roeder knots
2. Place 2 x extracorporeal knots proximal and 1 x extracorporeal knot distal
3. Divide simulated appendix between knots (zone 2)

Tips and Tricks:

- Create all 3 extracorporeal roeder knots prior to placing
- Cut shorter end of suture as close to the knot as possible to avoid pulling the wrong end when tightening the knot onto simulated appendix
- Pass Johann grasper between loop of knot and grasp tip of simulated appendix before sliding knot to targeted zone



## **Task 3: Cutting an Accurate Disc**

*Time needed to complete – 3 minutes*

### **Instructions**

Key aim:

- Cutting a disc in a glove or specialised cutting material without breaching the dotted lines or back wall

Steps:

1. Hold cutting material/disc with left hand grasper to tent material
2. Make incision with scissors in right hand
3. Cut along line without breaching the dotted lines either side or back wall
4. Task completed when disc is completely free from underlying material

Tips and Tricks:

- Can alternate hands to cut either side of the disc but requires ambidexterity to utilise this approach
- Ensure material is tented during initial entry to prevent breaching back wall
- Ample time if progress with good economy of movement so do not rush



## **Task 4: Suturing/Creation of Intracorporeal Knots Under Slight Tension**

*Time needed to complete – 6 minutes*

### **Instructions**

Key aim:

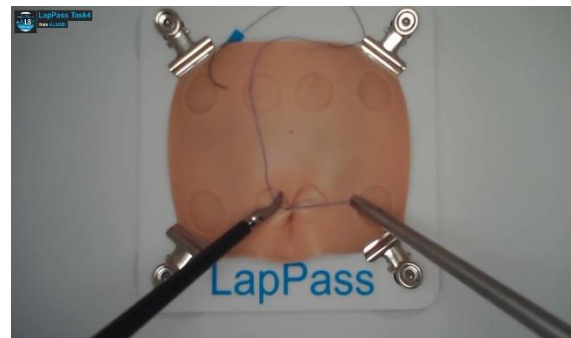
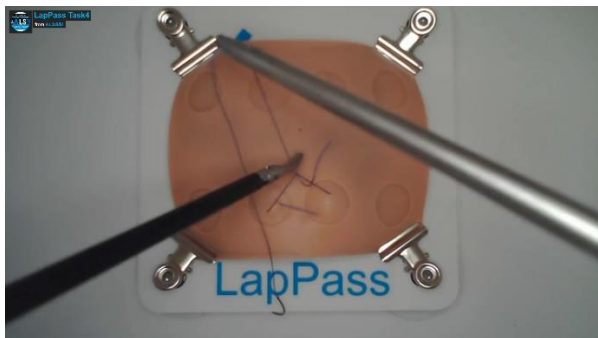
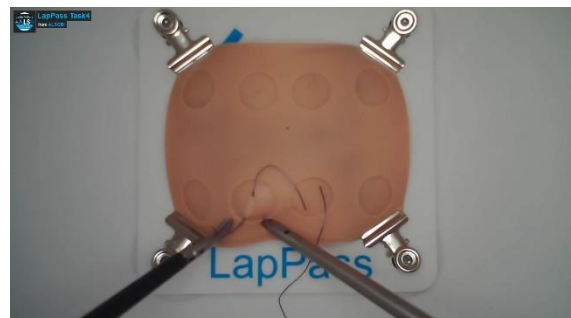
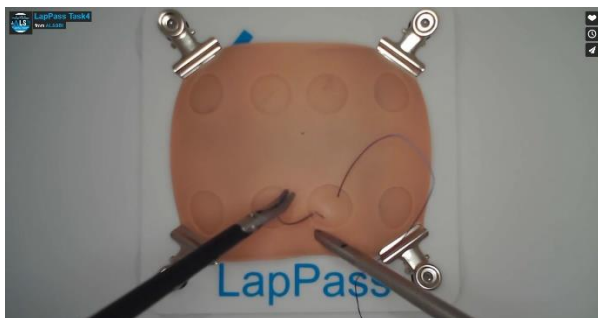
- Place 2 sutures bringing together the two circles (or 2 pre-drawn dots) securely under slight tension
- Accepted knots: Szabo, reef, surgeon's

Steps:

1. Place needle into box and drop onto foam/suture pad
2. Mount needle and create 1<sup>st</sup> knot
3. Following completion of 1<sup>st</sup> knot, create 2<sup>nd</sup> knot with same length of suture
4. Both knots must be secure and under slight tension, bringing two circles together

Tips and Tricks:

- Szabo knot is the best to bring together dots/circles under slight tension
- Optimal length of suture is 6 inches (15 cm)
- Can use same length of suture twice or two separate length of sutures
- Practice mounting needle – this can cause loss of significant time if not proficient




# Task 5: Camera Holding

## Instructions

Key aim:

- Show competency in holding both 0° and 30° laparoscopic cameras intraoperatively
- Good anticipation of next steps
- Assist primary surgeon in completion of procedure


## ASSESSMENT OF CAMERA SKILLS



**AN EXCELLENT CAMERA MAN/WOMAN WILL:**

- Maintain the horizon so consistently that the issue is not considered by the surgeon until the completion of this form.
- Use the 30 degree camera appropriately including active purposeful rotation of the scope to access different areas of the abdomen without prompting, whilst maintaining the horizon and with appropriate active explanation.
- Zoom in and out dynamically; frequently *helping* by doing so (including during instrument changes). Cameraman employs proactive zooming movements which help 2D depth perception for complex tasks.
- Generally keeps the target in centre of screen and at an appropriate distance.
- Keeps the view sharp and steady, cleans camera at appropriate unprompted moments without causing avoidable surgeon stress. Demonstrates that refocusing may be required intraoperatively depending on focal length and distance from tissues. Is aware of, and demonstrates tricks for, keeping excellent picture quality (anti fog, warming, port cleaning etc).
- Has an understanding of illumination – how light intensity is lost in bleeding and when the laparoscope lens sits within the trocar and demonstrates how to improve the situation.
- Shows good team working skills assuming a comfortable position for himself/herself around others allowing primary surgeon free range of movements. May assume sitting or standing position.

## ASSESSMENT OF CAMERA SKILLS



Candidate	GMC number	Email				
	OPERATION	DURATION	SUTURING (Y/N)	SCOPE USED ASSESSOR AND GMC NUMBER	SCORE*	ASSESSOR SIGNATURE
CASE 1						
CASE 2						
CASE 3						
CASE 4						
CASE 5						
CASE 6						
CASE 7						
CASE 8						
CASE 9						

I submit this as a true reflection of the assessments undertaken    Signed \_\_\_\_\_    Date \_\_\_\_\_

**\*Excellent/ Good / More to improve/ Significant improvement Possible E / G / M / P**  
 Select and highlight three top scores for Zero degree and Three for 30° scope. Each must be 30 mins of laparoscopic operating time  
**One excellent and two good for both 0° and 30° scopes are required for the 'LapPass'**  
 (please highlight the cases for submission)



# **Resources**

## **Videos**

### **Task 1: Grasping and Manipulation**

<https://vimeo.com/413909571>

### **Task 2: Extracorporeal Roeder knots and simulated appendicectomy**

<https://vimeo.com/413924454>

### **Task 3: Cutting an accurate disc**

<https://vimeo.com/413731557>

### **Task 4: Suturing/creation of intracorporeal knot under slight tension**

<https://vimeo.com/413740730>

## **Links:**

<https://www.alsgbi.org/lappass/>

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