

AGES/RANZCOG Trainee Workshop in Laparoscopic Surgery: Skills Laboratory

ENDOSCOPIC TRAINING PROGRAM

Hand – Eye Co-ordination Test: Revision of Basic Laparoscopic Skills

Training and Research Laboratory Pelvi-Trainer Exercises

PHASE ONE: Revision of basic skills

Introduction

Make a ball with a piece of paper, approximately 2 cm in diameter. This object will be the ball. Each exercise has a target time. Only proceed to the next exercise after achieving three consecutive scores equal to or better than the target time. Left forceps means using the left hand to hold the forceps. 'Right forceps' means using the right hand to hold the forceps.

Timing should start the moment the ball touches the first square.

Insert the laparoscope and forceps into the pelvi-trainer...ready to go!

Exercise One: Hold ball with the right forceps and touch ball in each square as read out.

Repeat this for ten consecutive squares. Target time **25 seconds**.

Exercise Two: Hold ball with the right forceps and place ball in each square as directed. The forceps must unload and reload the ball each time

Repeat this for ten consecutive squares. Target time **40 seconds**.

Exercise Three: Hold ball with right forceps and place ball in each square as directed. The forceps, after unloading, must be withdrawn from view on the screen before picking up the ball again.

Repeat this for ten consecutive squares. Target time **50 seconds**.

Exercise Four: Hold ball with the left forceps and touch ball in each square as read out.

Repeat this for ten consecutive squares. Target time **25 seconds**.

Exercise Five: Hold ball with the left forceps and place ball in each square as directed. The forceps must unload and reload the ball each time.

Repeat this for ten consecutive squares. Target time **40 seconds**.

Exercise Six: Hold ball with left forceps and place ball in each square as directed. The forceps, after unloading, must be withdrawn from view on the screen before picking up the ball again.

Repeat this for ten consecutive squares. Target time **50 seconds**.

PHASE TWO: Fine motor skill development

Exercise Seven:

Segment A: Stacking nuts: Scatter nuts in view of laparoscope. Use your right forceps to stack the nuts as tall as you can



Record the largest number of nuts stacked

Segment B: Scatter nuts in view of laparoscope. Use your left forceps to stack the nuts as tall as you can.

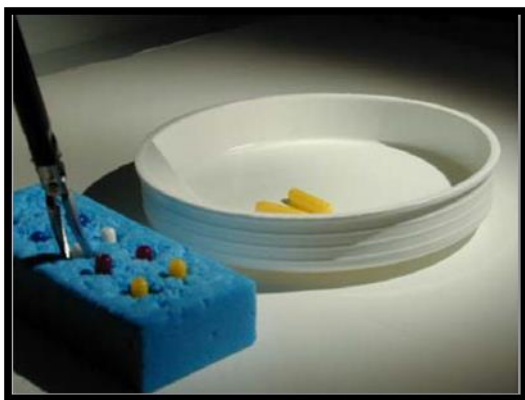
Record the largest number of nuts stacked.

Exercise Eight: Place the buttons in a circle: Using your left forceps pick up a button transfer it to your right forceps and place it on the number one.



Repeat the steps to place a button in each square from 1 to 16. Target Time **6 minutes**.

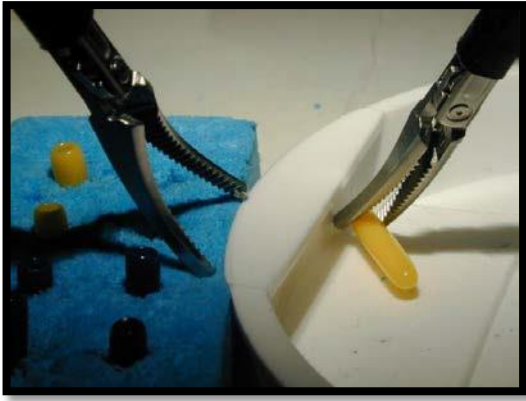
Exercise Nine: Pegboard with Single Hand Transfer:



Segment A: With right forceps, remove and replace 10 pegs.

Segment B: With left forceps, remove and replace 10 pegs. Target time each segment, **4 minutes**

Exercise Ten: Pegboard with Peg Pass:

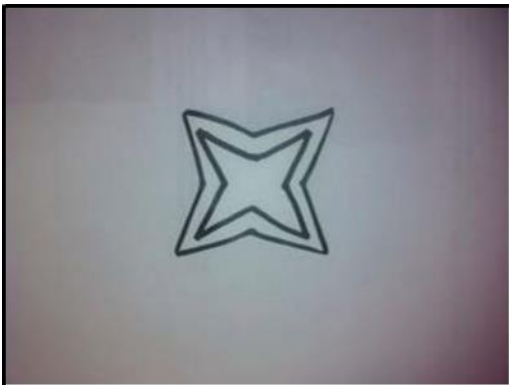


Segment A: Remove all 10 pegs with right forceps. Pick up a peg with left forceps, transfer to right forceps, and place in the pegboard with right forceps. Place 10 pegs in Board.

Segment B: Remove all pegs with left forceps. Pick up a Peg with right forceps, transfer to left forceps, and place in pegboard with left forceps. Place 10 pegs in Board.

Target time for each segment, **4 minutes**.

Exercise Eleven: Twinkle, Twinkle Little Star: Use a grasper and scissors to cut out the star



Target time **4 minutes**

Exercise Twelve: Use a grasper and scissors to cut out the circle in the glove.



Target time **5 minutes**.

Exercise Thirteen: Cutting and Extraction:



A length of rubber tubing which is marked into 6 segments at one end is placed in a plastic tray with a lip at the top and the bottom.

The segments are to be separated one at a time from the rest of the tubing and extracted from the trainer through the 12mm port. If control of the segment is lost during cutting or extracting this is counted as an error. If the long segment of the tubing escapes from the confines of the tray this is also an error. The task must be completed with no errors in the required time.

Target Time for completion **6 minutes**.

PHASE THREE: Skill progression

Exercise Fourteen: Place a needle-holder and a suitable grasper into the trainer. Grasp a needle with the forceps and position the needle onto the needle-holder in the following ways:

- a) Right angle to needle-holder (neutral position)
- b) 45° outward position.
- c) 45° inward position.

Alternate between a, b, and c at least 3 times.

Exercise Fifteen: Following the Curve of the Needle: While passing the needle from one instrument to another, place the needle and suture five times through the eyelet in the same direction without moving the block above the containing circle.

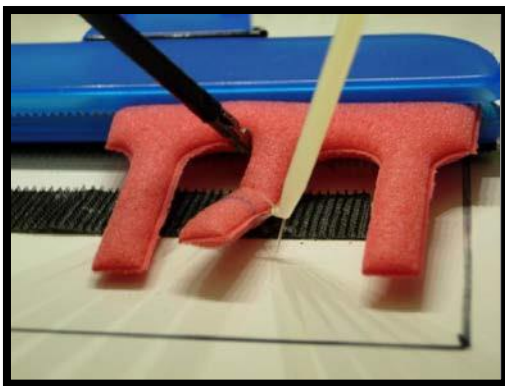


Exercise Sixteen: Using a length of suture and two needle drivers, the needle is to be passed through the small eyelets from 1 through to 11. The circuit is first traversed in a counter-clockwise direction and then reversed at the 12:00 position and the task repeated in the clockwise direction. If the needle is dropped or a target avulsed, this is a task ending error.



Target Time **4 minutes**.

Exercise Seventeen: Endoloop Drill (*): The object in this task is to place the ligating loop precisely on the black line, secure and cut the loop material. You cannot break or preload the endoloop prior to beginning the task. Time begins when any instrumentation is seen on the screen (or when breaking or preloading the endoloop). Time ends when you cut the loop material.



Target Time **53 seconds**.

Exercise Eighteen: Dissection exercise using Applied Medical body form

Exercise Nineteen: Dissect skin off grape: Ask your assistant to hold the skewered grape via the stick. Using a grasper and scissors gently dissect grape skin from flesh. This skill mimics that required to perform an ovarian cystectomy.



Exercise Twenty: Laparoscopic intracorporeal suturing exercise

Practice needle loading, needle driving, knot tying, repair defect in the Applied Medical body form