

TENDON REPAIR

MODULE: PLASTICS AND TRAUMA & ORTHOPAEDICS

TARGET: CT1 – ST2

BACKGROUND:

Plastic surgery requires advanced tissues handling skills – useful to practice away from the busy clinical setting. Tendon repair requires specific suturing work.

RELEVANT AREAS OF THE CURRICULUM

Module 2: Common surgical conditions

Benign and malignant skin lesions

Module 3: Basic surgical skills

Incision of skin and subcutaneous tissue

Ability to use scalpel and scissors

Closure of skin and subcutaneous tissue – accurate and tension free apposition of wound edges

Knot tying

Tissue retraction – tissues forceps

Tissue handling – appropriate application of instruments and respect for tissues

INFORMATION FOR FACULTY

LEARNING OBJECTIVES

To be able to use skin retractors appropriately

To perform a continuous suture maintaining tension along it

To perform interrupted sutures using both hand tied and instrument tied knots

To perform a subcuticular skin closure

To perform and know the steps of a tendon repair

To perform and know the steps of a simple rhomboid skin flap

SCENE SETTING

Location: Bench-top laboratory setting

Expected duration of scenario: 45mins with ongoing technical feedback throughout procedure

EQUIPMENT AND CONSUMABLES

White board to facilitate faculty instruction

Inco pad / sheet

Non-sterile gloves



Clinical waste bags
 Number 15 scalpel blade
 Barron knife handle
 Sharps bin
 Cork board
 Pigs trotter – available from Fresh Tissue supplies - £8 each
 Kidney dish
 Travers retractor
 Gilles toothed forceps
 Adson forceps
 McIndoe scissors
 4 x Mosquito clips
 2/0 PDS suture
 2/0 Ethibond suture
 4/0 Nylon / Ethilon
 Straight Mayo scissors
 3/0 Monocryl
 Cats paws skin retractors
 Skin hooks
 Small Langenbeck retractors
 Paper and pen for writing on note

PARTICIPANT BRIEFING

Dissect out a large tendon – transect it and then go on to perform a Kessler style repair using Ethibond.
 Mark a 1 x 1 cm spot on the pigs skin of the trotter – excise this and perform a rhomboid skin flap to facilitate skin coverage.

FACULTY BRIEFING

There are two activities to be performed using the materials available:

- 1) Flexor tendon repair
- 2) Excision of a skin lesion and closure using a rhomboid skin flap

ADDITIONAL INFORMATION

The purpose of this simulation is to train generic techniques – continuous, interrupted, subcuticular, dissection and knot tying as well as the Kessler tendon repair technique.

Pay particular attention to the learners' tissue handling skills – how skin edges are grasped as well as the use of the Barron scalpel for sharp dissection.

DEBRIEFING

DEBRIEFING RESOURCES

Tendon repair workshop <http://www.youtube.com/watch?v=MROsS7mbutA>

Tendon repair techniques http://www.wheelsonline.com/ortho/tendon_repair_techniques

SURGERY > TECHNICAL SCENARIO > TENDON REPAIR

INFORMATION FOR PARTICIPANTS

KEY POINTS

Minimal skin handling
Techniques to diminish tension across the wound to promote healing
Zones of tendon injury
Steps of Kessler tendon repair
Steps of rhomboid skin flap
Operation note – include post-op care

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.
- Use suitable methods of retraction.
- Handle tissues gently with appropriate instruments.
- Assist helpfully, even when the operation is not familiar.

WORKPLACE-BASED ASSESSMENTS

There is a PBA for Flexor tendon repair available via the ISCP website – it can be used in modified form in this simulation.

Plastic Surgery PBA: Flexor Tendon Repair		
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)	[] Tick this box if this PBA was performed in a Simulated setting .	
Subtype (tick which applies, if any)	[] HAND Module 4	

* 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 perioperative process to the patient and/or relatives or 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 e.g. nutritional status		
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			
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. Makes appropriate skin markings and incises skin		
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)	Checks vascularity of skin flaps	
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:

Assessor training? No
 Written
 Web/CD
 Workshop

Time taken for feedback mins

Not at all Highly

Trainee satisfaction with PBA 1 2 3 4 5 6 7 8 9 10

Assessor satisfaction with PBA 1 2 3 4 5 6 7 8 9 10



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?