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Worcestershire NHS
Acute Hospitals NHS Trust

Guideline for Therapy Intervention with Repair Extensor Tendon zone V-VII

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

This guideline covers the post operative care of patients with an extensor tendon repair throughout zones 5-7 for patients attending therapy departments within Worcestershire. Extrinsic finger extensors are divided into seven zones, thumb extensors are divided into five zones. Characteristics of the extensor tendon vary at each level, dictating variations in treatment.

All patients following an extensor tendon repair should be referred to occupational therapy /physiotherapy (as soon as is practical) after surgery for hand rehabilitation. The referral should describe the full patient diagnosis, the operation details and level of injury.

Lead Clinician(s)

An Van Hyfte	Senior Occupational Therapist
Approved by Accountable Director on:	6th September 2017
Review Date: This is the most current document and is to be used until a revised version is available	6th September 2019

Key amendments to this guideline

Date	Amendment	By:
September 2007	Approved by OT and Clinical Governance Group	
July 10	Added 'Post suture removal patient will commence a course of ultrasound treatment as appropriate' to 2 week post repair.	AVH
April 2012	No amendments made to guideline following review.	A Van Hyfte
July 2014	Alteration to the exercise regime	A Van Hyfte
17th July 2014	Reviewed by the Hands Clinical Governance Group	
December 2016	Documents extended for 12 months as per TMC paper review	TMC
6th September 2017	Reviewed by Hands Clinical Governance Group. Minor amendment to clarify that removal of splint at week 4-6 is at the discretion of the therapist	
December 2017	Sentence added in at the request of the Coroner	

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Competencies Required

- Therapists who have undertaken a period of supervised practice in this field within the previous 2 years.

- Supervising/senior therapists to work towards British Association of Hand Therapists (BAHT accredited training at Level II in Elective, Trauma and Hand Therapy).
- Adherence to the Trusts guidelines on wound management and infection control aseptic technique for Therapists.

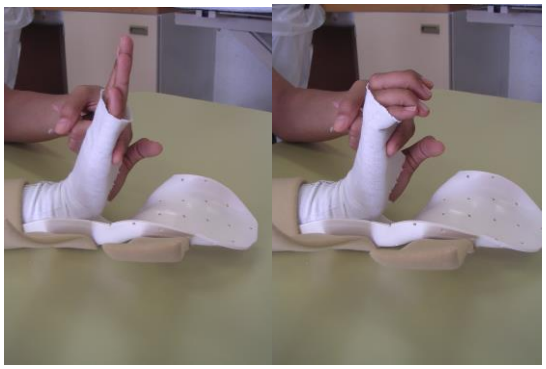
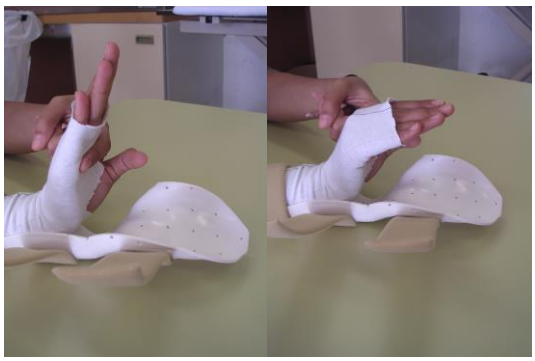
Patients Covered

- Any patient able to comply with the Early Controlled Motion (ECM), following an extensor tendon repair zone V-VII.
- For longitudinal extensor division no protective splinting is necessary. Start early gentle mobilisation.

Exclusions

Patients unable to comply with the regime should be discussed with the referring consultant, and an individual regime agreed.

Guideline

Time	Intervention
In theatre	• Following the repair, a volar based POP is applied to the forearm and covers the full extent of the digits. • The positioning should be: Wrist- 30º extension MCP joints- 20° flexion IP joints- full extension If there is a clinical reason for a variation in the positioning, it must be clearly documented on the therapy referral.
24-48 hours post repair  Picture 1  Picture 2	• To be seen by a therapist. • Remove the surgical dressing and theatre POP with a septic technique. Apply a lighter dressing to any of the wound areas. • **Splinting:** Provision of volar forearm based extension splint with 30º wrist extension, 20° MCP flexion and full IP extension. Splint to be worn continuously. • **Exercise:** Remain in splint. Remove hand and finger straps only. - Passively lift individual fingers into full extension, sustained hold for 10-20 seconds and relax into splint. - Actively extend each individual finger. - Passive wrist extension - Passively extend wrist and perform active intrinsic DIP/PIP flexion (picture 1). - Passively extend wrist and perform active intrinsic MCP flexion (picture 2). Aim to carry out each exercise 5 times hourly. However, this can be altered at therapist discretion. • **Advice and education**. - Maintain ROM in shoulder and elbow - Do not extend fingers against strap - Do not use hand - Do not force finger into flexion - Oedema control - Provision of information leaflet. Cover splint with plastic bag while showering.

1 week post repair	Patient to continue with regime. Review by OT/Physio. • Exercise check • Check splint
2 weeks post repair	• Patient to continue with splinting and exercise regime. • Start scar management post suture removal. • Post suture removal patient will commence a course of ultrasound treatment as appropriate
4 -6 weeks post repair	• **<u>Splinting:</u>** - The splint may be removed during the day at the discretion of the therapist. This will be dependent on the presence of an extensor lag and individual patient progress. - Wear splint at night and when vulnerable. • **<u>Exercise:</u>** - wrist flex/ extension exercise - active tendon glide - composite flexion - ongoing scar management • **<u>Advice and education</u>** - Introduce light use of the hand in ADL's. - Do not lift anything heavier than a mug of fluid. - No passive flexion of wrist and fingers. - The patient can return to work if he has a sedentary job.
6 -8 weeks post repair	• **<u>Splinting:</u>** discontinue all splinting unless extension lag present. • Ongoing scar management and exercise regime if patient hasn't achieved full flexion. • Patient may drive if full flexion achieved.
10 -12 weeks post repair	• Strengthening programme if required • Commence gentle passive flexion and continue with scar management if full flexion hasn't been achieved. .

Week 12 and upward	The patient can return to manual work and contact sports as recommended by the consultant/therapist.
Summary general management	**<u>Scar management</u>** • Once the stitches are removed and the wound is closed (with no signs of infection). Scar massage is introduced using a non perfumed moisturiser (E45 or aqueous cream) • Patients are taught to use circular motions along the scar working distal to proximal to help the reduction of oedema. • Wounds dressed as per Trust Policy. **<u>Oedema control</u>**- • Patients are taught to elevate the arm at every opportunity, keeping the hand above heart level. At night they are advised to prop the arm up on pillows. **<u>Hand Hygiene-</u>** • Patients are taught to place the hand/forearm on a flat surface (maintaining the position of hand held in a splint). The hand/forearm should be wiped with hypo allergic wipes (alcohol based). **<u>General considerations-</u>** • Cotton stockinet (**not** tubigrip) can be worn under the splint to absorb perspiration. • Be aware that patients can be allergic to the splint materials, and this requires monitoring. • If the patient has nerve involvement and sensation loss, care is required when applying materials which can be over 60°

Monitoring Tool

STANDARDS	%	Clinical Exceptions
All patients who have had an extensor tendon repair in zone V-VI.	100	Patients who are unable to safely follow the regime instructions e.g. those with cognitive impairment or poor motivation to comply. Their treatment will be discussed on an individual basis with their consultant.

How will monitoring be carried out?	Continuous
When will monitoring be carried out?	As treatment occurs
Who will monitor compliance with the guideline?	O.T Clinical Specialist in Rheumatology/Hands

References

- **Occupational Therapy Risk Assessment COSSH**; WAHNHST (1999). Elliott J.
- **Derbyshire Royal infirmary NHS Trust,** Hand rehabilitation protocols. June 2004
- **Queen Victoria NHS Trust,** Hand therapy unit. Clinical Guidelines 2002.
- **Hand Therapy Protocols Alexandra Hospital/Worcester Royal Hospitals;** WAHNHST (2002) Worcestershire Hand Therapies Group
- **Rehabilitation of the Hand: Surgery and Therapy Forth Edition** Mosby (1995) Hunter James, MD; Mackin Evelyn, PT; and Callahan Anne, MS-OTR/LCHT
- **Journal of hand surgery;** 2003, volume 3, p 224-227; “Dynamic splinting after extensor tendon repair in zones V-VII”; S. Bruner, M. Wittemann, A. Jester, K. Blumnenthal, G. German.
- **Journal of hand surgery,** May 2005, p 175-179; “Extensor tendon rehabilitation: a prospective trial comparing 3 rehab regimes”; N.W. Bulstrode, N. Burr, A.L. Pratt, A.O. Grobbelaar.
- **British Journal of hand therapy,** Volume 5 no1, 2000, p 10-15; “Early controlled motion following extensor tendon repair: a critical review”; Jacki Hunt.

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Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy/guidance affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the policy/guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**	No	
6.	**What alternatives are there to achieving the policy/guidance without the impact?**	No	
7.	**Can we reduce the impact by taking different action?**	No	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	no
2.	Does the implementation of this document require additional revenue	no
3.	Does the implementation of this document require additional manpower	no
4.	Does the implementation of this document release any manpower costs through a change in practice	no
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	no
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval