Worcestershire NHS
Acute Hospitals NHS Trust

Guideline for Therapy Intervention with Repair Extensor Tendon zone III-IV

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 3-4 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.

This guideline is for use by the following staff groups :

- Therapists who have undertaken a period of supervised practice in this field within the previous 2 years. And Supervising/senior therapists to work towards British Association of Hand Therapists (BAHT accredited training at Level II in Elective, Trauma and Hand Therapy).

Lead Clinician(s)

An Van Hyfte	Senior OT
Approved by Accountable Director on:	5th September 2014
Review Date: This is the most current document and is to be used until a revised version is available	30th June 2020

Key amendments to this guideline

Date	Amendment	By:
29th September 2007	Approved by the OT Clinical Governance Group	
July 10	Added 'Patient will commence a course of ultrasound treatment as appropriate' to 2 weeks post repair	AVH
15th July 2010	Reviewed by the Hand Therapy Clinical Governance Group	
April 2012	No amendments made to guideline following review.	A Van Hyfte
July 2014	Alteration to the exercise regime.	A Van Hyfte
December 2016	Documents extended for 12 months as per TMC paper approved on 22nd July 2015	TMC

November 2017	Document extended whilst under review	TLG
December 2017	Sentence added in at the request of the Coroner	
March 2018	Document extended for 3 months as approved by TLG	TLG
7th March 2018	Document reviewed and re-approved by Clinical Governance Group	Alison Hinton
3rd March 2020	Document extended for 3 months whilst under review	An Van Hyfte

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Introduction

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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.

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.

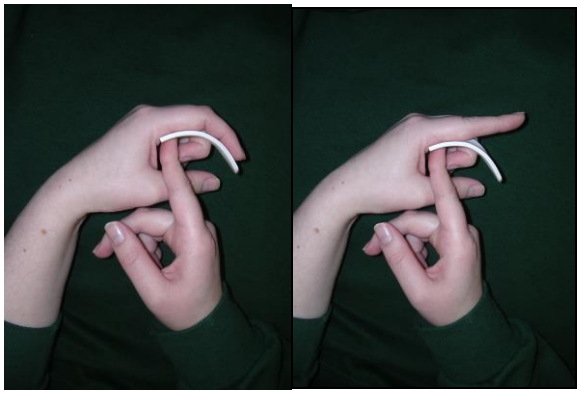
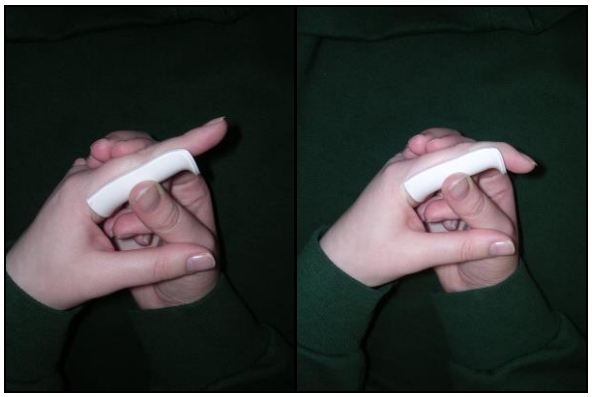
Patients Covered

- Any patient able to comply with the Early Controlled Motion (ECM), following an extensor tendon repair zone III-IV.
- 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- full extension 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.
3-7 days post repair  Exercise splint 1  Exercise splint 2 **Advice given**	• To be seen by a therapist. • Remove the surgical dressing and theatre POP. Apply a lighter dressing to any of the wound areas. • **Splinting:** Provision of full gutter splint, immobilising PIP and DIP in full extension. The wrist and MCP joints are free to move. This splint is to be worn constantly but replaced by exercise splints to carry out exercise regime as prescribed by therapist. Aim to carry out the exercises hourly, but can be altered at therapist discretion. **Exercise splints:** Splint 1 allows 30º flexion at PIP and 25º at DIP joint. During exercises the digit is supported by proximal phalanx. PIP is actively flexed and extended within controlled range of splint. Splint 2 immobilises the PIP joint only, allowing isolated distal joint motion. PIP joint is blocked dorsally while the splint is held in place. The DIP is flexed to 30º. • Patient is advised to position the forearm in elevation when sitting/sleeping using pillows. • Hand hygiene advice: to wipe down hand using commercially available antiseptic wipes with the hand supported on a flat surface, and the splint removed.

	• Patient is advised to maintain range of movement on wrist, and uninvolved joints regularly. • Patient is advised not to use the affected hand for any activity i.e. work/ driving/lifting/housework • Splinting information leaflet to be given to the patient • Follow up appointment to be booked in 1 weeks time.
2 weeks post repair	• To continue with exercise and splinting regime. If no lag exists at PIP, exercise splint 1 is adjusted to allow 40º PIP joint flexion. • **Post suture removal** : • Scar massage is introduced using a non perfumed moisturiser. Patients are taught to use circular motions along the scar working distal to proximal to help the reduction of oedema. • Patient will commence a course of ultrasound treatment as appropriate.
3 weeks post repair	To continue with exercise/ splinting regime and scar management. If no lag at PIP joint, exercise splint 1 is adjusted to 50º PIP joint flexion. Do not alter splint if lag in extension is present.
4 weeks post repair	If no lag exists at the PIP joint, wear of gutter splint during the day may gradually be decreased but to be continued at night. If no lag exists, a controlled and gradual increase in PIP and DIP joint active flexion and extension is encouraged. Exercise splint 1 adjusted to allow 60º PIP joint flexion and 35º DIP joint flexion. However, if lag persists, continue with day time splinting until week 6
6-8 weeks post repair	Discontinue all splinting unless a persistent lag is present. If lag persists continue night and intermittent daytime extension splinting. Encourage light functional use of the hand. Continue with scar management.

Week 8 and upward	Strengthening programme if required. If lag persists continue night and intermittent daytime extension splinting. The patient may drive.
Week 12 and upward	The patient can return to manual work. Playing of sports as recommended by the consultant/therapist.
General considerations	Be aware that patients can be allergic to the splint materials, and this requires monitoring.

STANDARDS	%	Clinical Exceptions
All patients who have had an extensor tendon repair in zone III-IV	100	Patients who are unable to safely follow the regime instructions e.g. those with cognitive impairment. 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
- **The Queen Victoria hospital NHS Trust,** Hand therapy protocols, 2004
- **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

Contribution List

Key individuals involved in developing the document

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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