NHS
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GUIDELINE FOR POST OPERATIVE THERAPY INTERVENTION AND REHABILITATION OF RHEUMATOID PATIENTS FOLLOWING METACARPOPHALANGEAL (MCP) JOINT REPLACEMENT SURGERY AND SOFT TISSUE REALIGNMENT

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

Swanson silicone elastomer intramedullary stemmed implants are used by hand surgeons to correct deformity, for pain relief, and to improve hand function and cosmesis in patients suffering from inflammatory arthropathy. Post-operative rehabilitation requires specialist knowledge and skills in order to achieve optimum outcome.

All rheumatology patients undergoing elective MCP joint replacement surgery and soft tissue realignment within Worcestershire Acute Hospital Trusts are covered by this guideline.

THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUPS :

- Qualified Occupational Therapists who have undertaken additional training in splinting and hand rehabilitation. Minimum of level I BAHT (or equivalent).

- A minimum of 6 months rheumatology experience, to include pre and post-operative interventions.

Lead Clinician(s)

Alison Hinton — Occupational Therapist
Rachel Chapman — Occupational Therapist

Approved by Hands Clinical Governance Group on: 28th February 2019

Review Date: 28th February 2021
This is the most current document and should be used until a revised version is in place

Key amendments to this guideline:

Date	Amendment	By:
18.05.2011	Splinting and exercises can start between 2-5 days post-surgery, with consent of the consultant.	
18.05.2011	Approved by therapy clinical governance on	Van Hyfte, Ann

15.05.2013	Reviewed by therapy clinical governance group Addition of wrist exercises to maintain ROM as long as no other contraindications exist.	Alison Hinton
30.04.15	Reviewed by therapy clinical governance group. Minor alterations made to improve the flow of the document, but no changes made to content.	Alison Hinton
16/05/2017	Guideline amended to include an alternative static splinting regime, which may be used if a patient is unable to tolerate or adhere to the dynamic regime or clinical reasoning determines that the static regime would be preferable.	Alison Hinton
28th February 2019	Agreed no content changes and document is still up to date. Approved for two years	Therapy Clinical Governance Meeting

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INTRODUCTION

Swanson silicone elastomer intramedullary stemmed implants are used by hand surgeons to correct deformity, for pain relief, and to improve hand function and cosmesis in patients suffering from inflammatory arthropathy. Post-operative rehabilitation requires specialist knowledge and skills in order to achieve optimum outcome.

COMPETENCIES REQUIRED

- A qualified Occupational Therapist who has undertaken additional training in splinting and hand rehabilitation. Minimum of level I BAHT (or equivalent).

- A minimum of 6 months rheumatology experience, to include pre and post-operative interventions.

PATIENTS COVERED

- All rheumatology patients undergoing elective MCP joint replacement surgery or soft tissue realignment within Worcestershire Acute Hospital Trusts.

- Exception: single joint replacements for OA will be treated with protective resting splint and active ROM, with the permission of the consultant.

GUIDELINE: Dynamic splinting regime.

<table>
<tr><th>Time</th><th>Intervention</th></tr>
<tr><td>Day 1

Day 2

Day 2-5</td><td>Day of operation.

• Initial assessment
• De-bulk plaster back-slab dressing; inspect and dress wound.

• <u>Splinting:</u>

i) Fabricate volar night resting splint in comfortable extension; with MCP joints and all interphalangeal joints in slight flexion.

Variants:
The resting position will depend on the severity of joint changes associated with Rheumatoid Arthritis.

Finger separators may be applied to ensure correct neutral alignment of each operated finger.

ii) Fabricate dorsal dynamic outrigger splint with radial pull applied to each finger to maintain the operated fingers in neutral alignment (when in extension) while allowing maximum MCP joint flexion. Place wrist in 20° extension as able.

The palmar bar of dynamic splint should allow MCP joint flexion

The ring and little fingers require special attention in terms of regaining flexion as the flexors are weaker in the little finger. Consider using less tension in the outrigger for the ring and little finger.

Variants: Adapt splint if other surgical procedures have been carried out at the same time or consider using the static regime.

<u>Advice:</u>

• Advise patient to wear splints for 24 hours a day. The resting splint at night and/or during the day for rest/ pain relief, during personal care and outdoors; and the dynamic splint during the day.

• Verbally explain wearing precautions for both splints and issue patient with written leaflets
- O.T. Department Splinting Leaflet
- MCP replacement information leaflet.

• Emphasise use of elevation for oedema control at all times during the day and night.</td></tr>
</table>

	• Hand hygiene - Gentle cleansing of the hand using non-perfumed wipes without the splint on is advised. Ensure patient is aware not to wash across unhealed wounds. Ensure complete dryness of the skin prior to replacing the splint. **Exercises/Function** • Instruct patient to wear the dynamic splint during exercises and not to use their hand for any functional activities. Check the patient is coping with Personal Activities of Daily Living (PADL) and consider assistive devices if appropriate. **Active Exercises to be done hourly** in the dynamic splint: • Composite flexion • MCP joint flexion with IP joint extension (Intrinsic Plus) • IP flexion with MCP joints in extension. Exercises should be carried out 5 times every hour, building up to 10 times every hour as tolerated. **Variant:** Be aware of any other procedures that may have been carried out. Patients that have undergone extensor tendon rebalancing may benefit from avoidance of passive flexion or extremes of flexion. **Pain** • Reinforce use of pain medications. • Advise patient to contact Therapist if pain or swelling increases. • Issue patient with follow up therapy appointment.
Week 1 post surgery	**Splints** • Check both splints for pressure areas, fit and alter as required. • Check alignment of fingers and angle of pull in the dynamic splint. Ensure 90° angle of pull on proximal phalanx. • Ensure patient is achieving good flexion of MCP joints. **Oedema Management** • Reinforce elevation as for Day 5.

<table>
<tr><td></td><td><u>Exercises/Function</u>

• Check all above exercises and encourage as for day 5.</td></tr>
<tr><td>2 weeks post-surgery</td><td>Sutures to be removed at clinic or GP surgery, at the Surgeons discretion

<u>Scar</u>

• When the wound is closed, commence scar massage and advise patient to apply a non-perfumed moisturising cream to the hand and scar. Patients should be taught to use circular motions along the scar to help reduce oedema and prevent adhesions.

<u>Splints</u>

• Check both splints and make adjustments as required.
• Ensure fingers are in good alignment within the dynamic splint, correct ulnar deviation as required and ensure it allows 70° MCP joint flexion if achievable.

<u>Oedema</u>

• Should now be resolving.
• Reinforce elevation; teach retrograde massage technique and/or use of Co-flex tape if swelling continues to be an issue.

<u>Exercises/Active Range of Movement/Function</u>

• Introduce passive exercises as healing allows
• 3 Times per Day:
Remove dynamic splint. Move each finger to full range of Movement ensuring flexion of MCP joint, within pain limits
3 repetitions each finger.
• Aim now to gain 70° flexion in each MCP joint. If patient is not achieving this then may require additional flexion work
• Commence radial finger walking exercises
• Ensure patient is maintaining ROM at wrist</td></tr>
<tr><td>4-5 weeks post-surgery</td><td>• Continue to monitor scar, oedema, and splints as before. Patient should still be continuously wearing a splint during each 24 hour period.

<u>Exercises/AROM/Function</u>

Continue with all exercises – monitor patient achieving 70° flexion, especially in the little finger.</td></tr>
</table>

<table>
<tr><td>Week 6 onwards</td><td>Review by Hand Surgeon and remove dynamic splint.

<u>Variant</u>

• May retain dynamic splint for a further week or two if ulnar drift is a problem. Night splint to be worn for a further 12 weeks

<u>Exercise</u>

• If flexion remains a problem continue with active/ passive flexion as previously. IP joints may require blocking using volar finger gutter style splints during the hourly exercises, or consider periods of time in a flexion glove style splint.

• If extension lag is evident the night splint may need to be adjusted

<u>Therapy</u>

• Check joint protection with patient and teach good alignment of fingers during function.

• Provide in-line ulnar drift splint if ulnar drift is present.

• Commence gentle strengthening work using a sponge. Two repetitions once or twice a day within pain range.

• Commence grip retaining in Therapies Department using remedial activities –

• Ensure patient does not use lateral pinch until 12 weeks post-op; encourage tripod/precision grips.

• Encourage light functional use of hand, upgrading activities gradually.</td></tr>
<tr><td>Week 7-8 onwards</td><td>• Upgrade strengthening activities to include therapeutic putty (soft) or play dough or soft ball.

• Check all function and work issues.

• Discharge if no further problems.</td></tr>
</table>

GUIDELINE: Static splinting regime

The static splinting regime may be considered in the following instances:

1. If the individual has undergone additional surgery where a dynamic splint regime would be contraindicated.
2. If the individual has weak intrinsic muscles and would struggle to achieve flexion in a dynamic splint.
3. If the individual has ROM deficits into flexion or extension the regime can be modified to prescribe one splint over the other for longer periods.
4. If the individual is unable to tolerate or adhere to the dynamic splinting regime.

Time	Intervention
Day 2 -5	De-bulk plaster back-slab dressing; inspect and dress wound. **Splinting:** • Fabricate two volar splints: • Splint 1: Wrist is positioned in 30° extension; MCPS in 70° flexion to maintain collateral ligament extensibility IPJ s in full extension. • Splint 2: Wrist is positioned in 30° extension; MCPs in full extension; IPJs in full extension. **Advice:** • The splints should be alternated every 24 hours • Verbal explanation of wearing precautions; issue splinting and post-op care leaflets. • Emphasise use of elevation for oedema control. • Gentle cleansing of the hand using non-perfumed wipes without the splint on is advised. Ensure patient is aware not to wash across unhealed wounds. Ensure complete dryness of the skin prior to replacing the splint. • Avoid functional use of the hand for first 4 weeks **Exercises:** • Splints should be removed every hour for exercises to include: • Active wrist ROM • Flexion/extension of MCP and IPJs • Radial finger walking Exercises should be carried out 5 times every hour, building up to 10 times every hour as tolerated.

Week 1-2	• Splint check – splints may be remoulded to obtain desired joint positions in response to removal of dressings and resolution of oedema. • Review exercises. *At 2 weeks sutures to be removed at clinic or GP surgery, at the Surgeon's discretion.* **Scar** • When the wound is closed, commence scar massage and advise patient to apply a non-perfumed moisturising cream to the hand and scar. Patients should be taught to use circular motions along the scar to help reduce oedema and prevent adhesions.
Week 4:	• At this stage, at the discretion and assessment of the therapist splints should be used for protection when vulnerable and at night; however the splints may be retained for longer if ulnar drift is present. • Continue with exercises • Introduce passive exercises as required. • Discuss and reinforce joint protection techniques
Week 6 onwards:	• Commence strengthening exercises • Encourage functional activities and grade appropriately • Consider the use of an MCP ulnar drift splint for support in functional activities.
Week 8 – 12:	• Return to work (dependent on occupation) • Upgrade strengthening exercises • Return to driving • Splints may be discontinued after 12 weeks.

GENERAL CONSIDERATIONS

1. A therapist should be familiar with Splinting Health and Safety Guidelines. Refer to Health and Safety Trust Policy and Wound care and aseptic technique.

2. Consider pre-operative serial extension splinting. For example, patients presenting with flexion contractures or extension lag.

3. Therapists should have a working knowledge of general healing principles.

4. Some patients will gain range of movement with this surgery whereas others will have the same range of movement but the arc of motion will be in a more functional range.

MONITORING TOOL

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	General adherence to the guideline	Audit of adherence to the guideline will be completed annually as part of the Therapy documentation audit	Once a year	Senior therapists in physiotherapy and occupational therapy out-patients departments	Clinical governance for therapies and clinical governance for hand therapy.	Annually (Dec) after completion of the notes audit

References

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Circulated to the following CD's/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
	Consultant Rheumatology

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:**		
	Age	No	
	Disability	No	
	Gender reassignment	No	
	Marriage and civil partnership	No	
	Pregnancy and maternity	No	
	Race	No	
	Religion or belief	No	
	Sex	No	
	Sexual orientation	No	
2.	**Is there any evidence that some groups are affected differently?**	N/A	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and / or justifiable?**	N/A	
4.	**Is the impact of the policy / guidance likely to be negative?**	N/A	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the policy / guidance without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this key document, please refer it to Assistant Manager of 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 Assistant Manager of 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