Worcestershire Acute Hospitals NHS Trust

Non-surgical management of distal radio ulnar joint instability

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 is intended for use with patients who present with clinical signs of Triangular Fibro Cartilaginous complex (TFCC) injury/ Distal Radio- Ulnar Joint (DRUJ) instability who are attending therapy departments in Worcestershire Acute Hospitals Trust.

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 two years.

- Junior therapists who have undertaken basic training in hand therapy should be supervised by an experienced therapist who has held a caseload in this area within the previous 2 years.

Lead Clinician(s)

Judith Jehring	Band 7 physiotherapist MSK out patients
Mandi Rawlings	Band 7 physiotherapist MSK out patients
Alison Evans	Band 6 physiotherapist MSK out patients
Approved by Hand Therapy Clinical Governance on:	13th March 2024
Review Date: This is the most current document and should be used until a revised version is in place	13th March 2027

Key amendments to this guideline

Date	Amendment	Approved by:

Worcestershire Acute Hospitals NHS Trust

Guideline for therapy intervention in non-surgical management of distal radio ulnar joint instability

Introduction

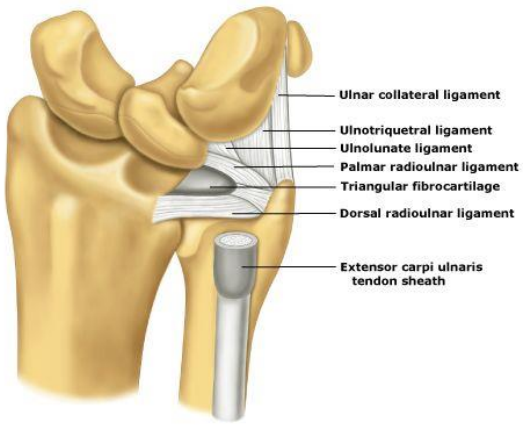
This guideline is intended for use with patients who present with clinical signs of TFCC injury/DRUJ instability who are attending therapy departments in Worcestershire Acute Hospitals Trust.

This is a goal-based guideline, but consideration of tissue healing should be considered when progressing phases. If patients fail to progress at any phase, consider referral to specialist for surgical opinion.

One of the most common causes of ulnar-sided wrist pain is an injury to the **triangular fibrocartilage complex (TFCC)**, which acts as a stabilizer of the **distal radioulnar (DRUJ)** and **ulnocarpal joint (UCJ)**, and functions to distribute compressive forces during axial loading.

Anatomy

The TFCC sits between the ulna and lunate/triquetrum



Made up of

- Articular disc
- Meniscus homologue
- Ulnocarpal ligaments (ulnotriquetral/ulnolunate)
- Dorsal and volar radioulnar ligaments
- Extensor carpi ulnaris (ECU) sheath
- Pronator quadratus (PQ) acts as a dynamic stabiliser

Purpose

- Stabilises the distal radioulnar joint
- Volar portion is tight in pronation to prevent dorsal displacement of ulna
- Dorsal portion is tight in supination and prevents volar displacement of ulna
- Improves the congruity of the joint and the gliding action with the wrist complex

Mechanism of injury

1. Traumatic injury/tear
   - Gymnast, tennis player (with repetitive hyperextension.),
   - Construction worker using power tools. (repetitive supination/ ulnar deviation in extension)
   - FOOSH (fall on outstretched hand)

2. Degenerative.
3. Ulnar Variance may be relevant to injury or degeneration.

Phase	Goals	Management	Progression criteria
Early	**Pain management** **Control oedema** **Early AROM and muscle activation** **Maintain neck and upper limb kinetic chain mobility.**	Activity modification. Consider splinting (dynamic or stabilising depending on individual presentation) Consider taping. Advice on elevation, ice, massage Active ROM exercises at the wrist/RU joints within pain free range. Isotonic activation of short wrist extensors especially ECU and avoiding overactivity of EDC. Maintenance of ROM of the hand and thumb. Isometric ECU and PQ (consider starting in supination as more stable and then progress into other positions) Sensorimotor re-education. All appropriate exercises to maintain kinetic chain. Consider cross education with motor imagery.	Good control of pain and oedema Able to achieve comfortable mid- range isotonic exercises Able to do light activity without splint Improved sensorimotor control

Middle	**Reduction of reported symptoms of pain, oedema and instability ie clicking/catching pains** **Recover full AROM** **Improve strength and quality of movement patterns**	Continue to manage pain and oedema via activity modification and other modalities e.g massage. Continue use of splinting if used in phase 1 for certain activities/exercises - clinically reasoned for individual patients aiming to wean off splinting Aim to progress range of active movement which allows movement to “uncomfortable” but not to pain or clicking (any pain must return to baseline on return to neutral within a short timescale). Consider clinically reasoned manual therapy for any assessed joint hypomobility on the radial side of the wrist. Progress isometric ECU and PQ aiming to increase resistance load. Activation of PQ in supination and ECU in pronation (Reference 1) • Start isometric with theraband • Progress to isotonic with theraband Start closed chain exercises eg • Rolling ball across table • Weight bearing with reduced wrist extension and increase range as pain allows Co-contraction with balls, progress to softmed balls and therabars Progress proprioception into functional exercises e.g. timing and reaction, power ball	Full pain free AROM Able to weight bear without aggravating symptoms (but may still be with reduced extension)

Late	**Return to previous level of function including work related and sport specific rehabilitation if required.**	Progress exercises respecting symptom response, patients' level of strength/neuromuscular control and individual patient goals. Increase loading in progressive wrist extension e.g. exercises in 4-point kneeling, and functional progression e.g push up from chair or floor Progressive strengthening around the wrist with free weights whilst maintaining a stable wrist position/core control of the wrist in upper limb activities. e.g shoulder overhead press. Progressing from short to long lever as neuromuscular control allows Progressive plyometric exercise e.g throwing/catching ball, BOSU bounce/wobble board in 4-point kneeling, wall press with bounce.	

Monitoring

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?**
	• Time frame of treatment • General adherence to guidelines • Outcome • Any deviation clarified	Audit	Annually as part of notes audit	Senior Physiotherapists	Results will be discussed in clinical governance group for hand therapy	Annually

References

1. **Rehabilitation in Triangular Fibrocartilage Complex Injuries: treatment Algorithm** Eva Guisola Lerma, Francisco Javier lucas Garcia, Alberto Marquez Carabello, David Santosjuanes Royo.
2. **Effects of Cross-education Training on Grip Strength** B. Koczan and S. Moore Journal of Hand Therapy, 2016-07-01, Volume 29, Issue 3, Pages 368-3. 3. **Does partial activation of the neuromuscular system induce cross education training effect? Case of a pilot study on motor imagery and neuromuscular electrical stimulation** Amandine Bouguetoch1,3 Alain Martin1Sidney Grosprêtre European Journal of Applied Physiology (2021) 121:2337–2348
3. **Rehabilitation in Triangular Fibrocartilage Complex Injuries: treatment Algorithm** Eva Guisola Lerma, Francisco Javier lucas Garcia, Alberto Marquez Carabello, David Santosjuanes Royo.
5. **Cross-Education for Improving Strength and Mobility After Distal Radius Fractures**: A Randomized Controlled Trial Charlene RA Magnus, Cathy M Arnold, Geoffrey Johnston, Vanina Dal- Bello Haas, Jenny Basran, Joel R Krentz, Jonathan P Fartling ACRM 2013; 94:1247-55
6. **Stability of the Distal Radioulna Joint: Biomechanics, Pathophysiology, Physical Diagnosis, and Restoration of Function What We Have Learned in 25 Years** Indiana Hand centre William B Kleinman MD
7. **Rehabilitation of Distal Radioulnar joint instability** Hand Surgery and rehabilitation 36 (2017) 314-321 G. Mesplie, O. Leger, S. Lemoine, D. Ricarrere. C. Geoffroy
8. **Foveal TFCC Tear classification and treatment** New Advances in wrist and small joint arthroscopy Andrea Atzei, Riccardo Luchetti
9. **Distal radius fractures in the Athlete** Springer Current reviews in Musculo skeletal medicine Casey Beleckas, Ryan Calfee
10. **Early outcomes of 'The Birmingham Wrist Instability Programme': A pragmatic intervention for stage one scapholunate instability** Martin K. Holmes, Sarah Taylor, M. BrewsterP ublished 17 January 2017MedicineHand Therapy

Contribution List

Contribution List

This key document has been circulated to the following individuals for consultation;

Designation
Consultant orthopaedic surgeons at WAHT:
Mr David Knox
Ms Sarah Henning
Mr Ankur Munjal
Mr Gabor Simon

This key document has been circulated to the chair(s) of the following committee's / groups for comments.

Committee
Hand therapy clinical governance meeting- An Van Hyfte chairman- Physiotherapists and Occupational Therapy hand therapy specialist group

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page.

NHS Worcestershire Acute Hospitals NHS Trust

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Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	V	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Judith Jehring**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Judith Jehring	**Team Lead Band 7 Physiotherapist MSK OPD Kidderminster**	**judith.jehring@nhs.net**
Date assessment completed	**11.09.2024**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** Non-surgical management of distal radio ulnar joint instability			
What is the aim, purpose and/or intended outcomes of this Activity?	To ensure evidence based hand therapy is carried out on these injuries			
Who will be affected by the development & implementation of this activity?	❑	Service User	❑	Staff
	V	Patient	❑	Communities
	❑	Carers	❑	Other _____
	❑	Visitors	❑	
Is this:	❑ Review of an existing activity V New activity ❑ Planning to withdraw or reduce a service, activity or presence?			

What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	We have looked at guidelines from specialist hand therapy units at Queen Elizabeth Birmingham, Pulvertaft hand centre, Derby and research literature available on the BAHT website (British Association of Hand Therapists)
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	Discussed with consultant Orthopaedic surgeons who deal with upper limb hand injuries Discussed with occupational therapist and Physiotherapists specialising in Hand Therapy
Summary of relevant findings	Guideline written in accordance with best practice found in literature and specialist hand therapy units

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		V		
Disability		V		
Gender Reassignment		V		
Marriage & Civil Partnerships		V		
Pregnancy & Maternity		V		
Race including Traveling Communities		V		
Religion & Belief		V		
Sex		V		
Sexual Orientation		V		
Other Vulnerable and		V		

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)				Neutral impact
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		V		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	N/A	**N/A**	**N/A**	**N/A**
How will you monitor these actions?	**N/A**			
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	**N/A**			

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	JC Jehring
Date signed	11.09.2024
Comments:	
Signature of person the Leader Person for this activity	JC Jehring
Date signed	11.09.2024
Comments:	

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.