



Fingerprints

September 2023



HAND THERAPY NEW ZEALAND
Ringaromi Aotearoa

Table of Contents

[Editors' Note](#)

[HTNZ Christchurch Conference Sept 2023: "BUMPING ELBOWS"](#)

[Educational opportunities](#)

[Consent for clients' information and images](#)

Editors' Note

Kia ora colleagues,

This is the third edition for 2023. Thanks to Elaine Duguid from Tāmaki Hands who has kindly agreed to share her feedback and summary about the 2023 HTNZ Annual Conference. If you have any material that you would like to share on Fingerprints, please send us an email at fingerprints@handtherapy.org.nz

Nico

HTNZ Christchurch Conference Sept 2023: “BUMPING ELBOWS”

By Elaine Duguid

Our last in-person conference was 4 years ago in Wellington. This conference, as well as being great for our clinical education and CPD, was about re-connecting: with many smiles, hugs and catch-up conversations observed between sessions 😊. Here is my brief overview & nuggets that I noted from these sessions...

Reminder for those who attended, hand-outs and recordings are available to access for 2 months



Christchurch Town Hall Pam Hewit photo

Wednesday 30th August: Anatomy Workshop & Clinical Pearls evening

I couldn't attend these, but general feed-back was very positive. Clinical Pearls is a great forum for presenting your ideas in a less formal set-up, I would encourage contributing for next conference!

Thursday 31 August

[1 Anatomy of the elbow - Stephanie Woodley](#)

Knowing the underlying anatomy is our foundation for assessment, diagnosis and treatment planning. Stephanie is always clear and gives insight into some of the anatomical variations found in different textbooks.

- The trochlea distal prominence determines carrying angles and when the elbow is flexed, you “lose” this carrying angle.
- Humero-ulnar joint most stable position is 90° flex and neutral forearm
- Capsule not overly strong: reinforced with ligaments
- Fat pads are nociceptive, and squashed with elbow flex/ext
- Anatomy prompt for Superficial flexor muscles: position pisiform to med epicondyle of opposite arm starting with the thumb they are: PT, FCR PL, FDS, FCU
- ECRB workhorse of the wrist (inserts base 3rd MC) and is aggravated when wrist held in flexion and if EDC overworks
- ECRB origin is tendinous, ie no muscle component, so less healing
- Radio-humeral synovial plica/fold has abundant nerve endings: pathophysiology not well understood, may cause clicking/locking

- Radial Nerve branches at lateral epicondyle
- Radial Tunnel syndrome presents with pain with resisted supination (test with pronated forearm)
- Ulnar Nerve compression, commonly at cubital tunnel aggravated with elb flex (can also be at osbournes lig and arcade of struthers)

2 The biomechanics and rehabilitation of elbow instability - [Dr Aviva Wolff](#) See hand out

(incoming president ASHT)

- “How do we successfully initiate early ROM to avoid jt stiffness without jeopardising the stability of the elbow joint? “
- Stability v mobility: you can always have further surgery for stiffness cp more complicated surgery for reconstruction work
- “Varus protection program for the unstable elbow” JHT 2006: 19: 238-244
- Most stable position for radial head: pro and flex ie sup and ext most unstable
- Need conversation with surgeon to know stable range ie safe arc of motion
- Post op recon of PRLI/ radial head replacement: elb flex 120 and full pro for critically severe instability, can be 90 flex for less instability...look at position of radial head in relation to lat humerus on XR
- Optimal time to initiate ROM: 3-5 days
- Ax pt supine sh in elev: with pro forearm, flex elb: short arc f/e with your hands on med/lat epicondyle and olecranon
- Education in varus protected positions for functional activities
<https://www.hss.edu/rue/elbow-stability-daily-activities.asp>

2 Nerve injuries - how nerve transfers can improve recovery - [Jeremy Simcock](#) See hand-out

- Can be an option for pts who couldn't manage with tendon transfer rehab, eg rural.
- Often get a grade better than tendon transfer, but can depend if nerve crossing a jt
- Used for those with Spinal injuries, brachial plexus injuries & peripheral nerve injuries
- Nerve transfers undertaken 6-9 month post injury
- For PIN palsy tendon transfer produces tenodesis to achieve function ie wr ext with finger flex, cp nerve transfer can produce wr & finger ext in neutral wr, leaving tendon transfers to produce LKG.
- Often team work within the surgeons
- Outcomes still good with older pt (> 50yo)
- Nerve transfers can normally be safely moved after 10days ie when it is comfortable
- Ideally if the nerve has complete weakness and hasn't recovered after 2months then they should be ref to hand surgeon
- Motor end plates degenerate after 1 year

3 Rehabilitation for elbow stiffness and elbow splint demonstration - [Dr Aviva Wolff](#)

- Stiff elbow post MUA often goes back to pre-op level before gaining further range: rebound phenomenon.
- Ideally prevent the stiffness: maintain jt range with early ROM, even short arc

- Capsule can block range both e/f by hypertrophic scarring acting as both block on one side and tether on the other. So release needs to be on both sides
- Splint use: Sleep in extension splint and max 90 mins x4/day for flex end range splint

Fabricating Dorsal Immob splint (trough): see hand-out

- Pts supine
- Measure dorsal length and mark x3 widths
- 3.2 eziform, Stockinette
- Padding to create space: s/a on stockinette, then another layer of stockinette (light-bulb moment for Lyndall!)
- Hint hole punch double thermoplastic to enable hole right thru!

Fabricating Static Progressive Elbow Flex Splint: see hand-out

- For static progressive elbow splint, use the dorsal immob splint and draw ½ moon around dog ears at elbow joint to allow flexibility of splint and med/lat condyles padding not reqd
- Rem to warn pt of UN symptoms
- Pull out gap at olecranon to give space for progressing flexion: can use wide velcro/nrx/neoprene for straps

Fabricating Static Progression Ext Splint *Not yet received this handout*

- Measure flex length and x3 width measures with 5-8cm portrait hole volar elbow
- Anything more than 50 lack of ext, consider serial static splint (used rarely eg for spasticity) or consider making a turnbuckle splint

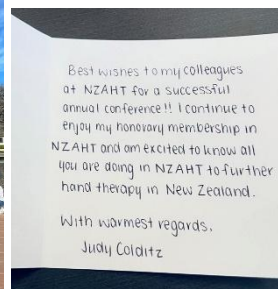
Overall suggested approximate splint wearing time: 4-6 hrs flex splint, 6hrs ext splint every 24 hrs

4 Quantitative Techniques for Assessment and Treatment of Upper Extremity Movement and Function: Possibilities, Challenges and Opportunities - [Dr Aviva Wolff](#)

See hand-out, has new tech info & Ax ideas for musicians

4 Ortho Trauma - [Alex Malone](#)

See hand-out



HTNZ photos

Friday 1st September

5 A musician centred approach to assessment of performance related upper extremity injuries - [Dr Aviva Wolff](#)

- Learn common terms of their musical instrument before the patient arrives using Google 😊
- 10% of US pop have had musician injury
- Many risk factors, so Ax: posture/playing/habits and Rx the cause, not the symptoms
- Rx: stretch tight muscles, strengthen weak ms
- Remember muscles work optimally at mid-length
- Ms strength: shift control from small muscles (fast twitch) to large muscles.
- Pianists: look for a curved hand to ensure lumbrical use rather than just long flexors
- Ms imbalance influences neural tension
- Assessment of Playing Posture in Sitting and Standing
 - Static Standing
 - Static Playing
 - Slow Playing
 - Fast Playing

6 A musician centred approach to management of performance related upper extremity injuries - [Aviva Wolff.pdf](#)

See hand out

- Piano, hands should be positioned slightly lower than elbow
- Wedge to sit on brings pt closer to instrument
- Luthiers make chin rests for violin

6 Management of Musician's Dystonia and Maladaptive Neuroplasticity - [Dr Aviva Wolff](#)

See hand out

- Dystonia: drill down sensory tests

7 Ulnar nerve pathology and management - [Blair York](#)

See handout

- If nerve compression thought to be at Guyons canal : ncs to confirm (DD other nerve pathology eg UMN)
- Cubital tunnel reduces by 50% with elbow flex

7 Advanced clinical reasoning in elbow disorders - [Dr Leanne Bisset](#)

No hand out

- Don't push through Pain with exercises as it doesn't help and there is no evidence for it (Yeesss, great to hear this!)
- CSI is destructive in tendons
- Radial head p/a or lat glide thru elb f/e for TE
- Nociplastic Pain = pain persists beyond time of injury ie more than 3 months due to modulation causing chronic pain

-

8 Taping techniques to prevent and manage overuse injuries - [Dr Aviva Wolff](#)

See hand-out

Aviva recommended resources

- 1) Book: Length, Strength and Kinesio Tape, Muscle Testing and Taping Interventions Thuy Bridges, Clint Bridges
- 2) Alison Taylor OT, CHT

8 Sign language in hand therapy rehab - [Laurinda-Lee Grady](#)

No hand-outs

- Online sign language : <https://www.nzrelay.co.nz/index>
- also consider app use for the deaf



WS Medical word quiz

Saturday 2nd September

Workshops

9A International Education with [Debby Schwartz](#) - Orficast Orthosis Training

- see WS Medical website/you tube for demonstrations
- Orficast & Orficast More Splint Demonstrations
- Finger Cylinder Splint: 3cm wrap distal-prox, both corners over material. Use coban to pad for fusiform swelling
- Anti-claw: 6cm orficast More doubled for anti-claw RF&LF,
- Butterfly Orficast More: square, concave curve one corner and slit opp corner
- Modified munster: Orficast More 30cm wide & 6cm reinforce, hole for thumb: pinch, reinforce epicondyles, trim x4 straps

10B It's not just a finger – Prosthetic options for partial finger and partial hand amputees –
Artificial Limb Centre

See hand out

- <https://www.pw.co.nz/>
- refer early rather than too late, we can refer: <https://www.pw.co.nz/services/forms/>
- *Partial Finger / Partial Hand Prosthetic Options*
 - *Cosmetic /Protective*
 - *Passive*
 - *Body powered*
 - *Myoelectric*

11C CRPS – [Tracey Pons](#)

See hand-outs

- Rather than say to a patient “be careful” when managing an injury say “be sensible, it’s safe to
- North Island specialists: Jackie Clark/Cath Pollard (Tracey South Island)
- Use of cannabis: at this moment in time we don't know what harm it's doing: IASP doing trial, results out about 4 years
- Take selfie of movt or doing slightly painful activities
- IASP 2020 x4 categories CRPS diagnostic criteria. Future? Adding hyposensitivity ie numbness tbc
- Use of GMI: Retuning sensory motor cortex
- Do not give anti-inflammatory meds for #'s

Liverpool prevention for CRPS protocol Gillespie et al, 2016

1. Do not immobilise DRF excessively or unnecessarily.
2. Ensure plasters are well-fitting and comfortable avoiding over-flexion, sharp edges and ensuring there is no restriction to MCPJs.
3. Encourage hourly full range composite grip/release exercises, to control swelling in elevation.
4. Encourage light function and attention to limb while in plaster.
5. All verbal information given is to be supported with a patient information leaflet.
6. All advice given is to be recorded in patient notes.
7. Patients reporting tight and/or restrictive plasters should always have their plaster changed.
8. Patients requesting repeated change of plaster or reporting ‘claustrophobia in plaster’ to trigger immediate referral to specialist physiotherapist within fracture clinic.

Free papers

Congratulations to Miranda Buhler whose paper 'Musculoskeletal integrated telehealth hybrid model of care for carpal tunnel syndrome' was awarded the Julie Rouse Memorial Prize for 2023 😊

ABSTRACTS

Musculoskeletal integrated telehealth hybrid model of care for carpal tunnel syndrome

Dr Miranda Buhler¹, Assoc Prof Meredith Perry¹, Prof Pauline Norris²

1University Of Otago School of Physiotherapy, 2University of Otago School of Pharmacy

Background

Carpal tunnel syndrome (CTS) is a common yet difficult to comprehend condition which in Aotearoa New Zealand often has a multitude of referral pathways, frequently declined work-related injury claims, and long wait times or high cost care, making it hard for workers, Māori, Pacific, and rural patients to access care. This work presents a patient experience-informed model of integrated musculoskeletal care and service evaluation tools that aim to support equitable access and outcomes for people with CTS.

Methods

Findings from qualitative interviews with 19 patients with experience of CTS informed a clinician workgroup in the design of a CTS HealthPathway. Processes and resources, including patient-rated outcome (PROMs) and experience measures (PREMs) were tested with a smaller workgroup of patients in co-design activities.

Results

The pathway involved centralised referral, replacement of nerve conduction studies with a mandatory CT symptom questionnaire, triage by hand therapy advanced clinician and orthopaedic nurse, clear criteria for surgical vs non-surgical care, hybrid telehealth (video or telephone)-first physiotherapy input, early information provision, and remote splint fitting. PROMs included knowledge of CTS, confidence in self-management, the GROG, and the symptom scale of the Levine questionnaire.

Conclusions/Practice implications

Patients value quality communication and early access to information tailored to their condition. Best practice non-surgical care for CTS can be implemented in brief interventions. This musculoskeletal integrated telehealth hybrid model of care has good potential to improve equitable access and outcomes for people with CTS; evaluation is planned to understand its impact.

Thumb carpometacarpal osteoarthritis survey of practice

Dr Miranda Buhler¹, Dr Nico Magni², Ms Magdalena Schnetzler³

1University Of Otago School of Physiotherapy, 2Auckland University of Technology, 3Physiotherapist in private practice

Purpose

This study aimed to establish how physiotherapists, occupational therapists and nurses in Aotearoa New Zealand assess and treat people with thumb carpometacarpal (CMC) osteoarthritis (OA).

Methods

Invitation to participate in an anonymous online survey of practice was disseminated through professional organisations, social media, and networks for physiotherapists, occupational therapists, hand therapists, and nurses November 2022 to March 2023. Quantitative responses were analysed using descriptive statistics. Free text responses were analysed using content analysis. Responses from clinicians ≤ 10 years and >10 years' experience were compared statistically; characteristics of practice between professional groups were compared descriptively.

Main findings

Of $n=105$ survey respondents (physiotherapists 69%, occupational therapists 26%, nurses 5%), 75 were Hand Therapy New Zealand members and 56% had >10 years' experience. Two-thirds saw ≥ 5 CMC OA patients per month; median number of treatments typically delivered was 4 (range 1-20). Pain (most commonly using the NRS), function (QuickDASH), ROM, strength, and differential diagnosis were the most common domains assessed, treatment expectations and job satisfaction the main psychosocial aspects. Splinting, specific muscle retraining (targeting FDI, APB, OP and avoiding EPL, addP), and education/advice were the most common treatments. Clinicians >10 years' more commonly assessed dynamic stability and articular integrity and less commonly used interventions of taping and compression therapy. Severity, co-morbidities, and cost influenced practice variations.

Principle conclusions

Practice is in line with international guidelines, but specificity of treatments is an evidence gap.

Integrative review of evidence for non-pharmacological treatment of upper limb Complex Regional Pain Syndrome

Mrs Grace Griffiths, University of Otago

Purpose: *Complex Regional Pain Syndrome (CRPS) most frequently affects the upper limb, with high associated disability. Non-pharmacological approaches are recommended as the first line of treatment. This review aimed to critically appraise and synthesise literature exploring nonpharmacological treatment for upper limb CRPS, to guide upper-limb-specific management.*

Methods: Using an integrative review methodology, 13 databases were searched to identify published studies on non-pharmacological management of upper limb CRPS. The Crowe Critical Appraisal Tool guided quality ratings for included studies, and analysis employed a qualitative descriptive approach.

Main Findings: From 236 abstracts reviewed, 113 full texts were read, and 38 articles selected for inclusion. Interventions were classified as sensory retraining (n=13), kinesiotherapy (n=7), manual therapies (n=7), physical modalities (n=6), and interdisciplinary programmes (n=5). All studies measured pain intensity, and most (n=24) measured physical parameters such as strength, movement, or perceptual abilities. Few measured patient-rated function (n=13) or psychological factors (n=4). Quality ratings ranged from 30% to 93%, with a median of 60%.

Principal Conclusions: Methodological quality of non-pharmacological treatment approaches for upper limb CRPS is overall poor. Despite the impact of CRPS on wellbeing and function, psychological factors and functional outcomes are infrequently addressed. Movement, desensitisation, and graded functional activity remain the mainstays of intervention. Further robust research is required to determine which aspects of treatment have the greatest influence on which symptoms, and when and how these should be introduced and progressed, and whether these successfully address people's treatment priorities.

Diagnostic accuracy of the clinical examination for identifying a triangular fibrocartilage complex (TFCC) injury

Mrs Rebecca Tuhi¹, Dr Steve White², Dr Julie Collis³, Associate Professor Alain Vandal⁴

1Handworks, 2Auckland University of Technology, 3Swinburne University of Technology, 4Auckland University

Purpose: TFCC injuries are a common cause of wrist pain. There is little published research that has investigated the accuracy of the clinical diagnosis of this injury. A pilot study was undertaken to investigate the reliability and diagnostic accuracy (DA) of TFCC diagnostic tests, and to determine which clinical factors best predict the presence of TFCC injuries.

Methods: Twenty-three participants were prospectively assessed. Specialist diagnosis informed by MRI findings was utilised as the criterion measure. Predictors from the patient history and physical examination were included in a logistic regression (LR) model using the lasso.

Main Findings: High levels of inter-rater reliability were found for the grind, ulnar fovea sign and piano key and GRIT diagnostic tests. However, the DA of these tests were limited.

LR identified a combination of nine variables that demonstrated 100% accuracy at predicting the

presence of a TFCC injury within the test cohort. These were: male gender, strain mechanism of injury; intermittent pain; the absence of crepitus; higher pain intensity during pronation-based activities; pain with supination-based activities, decreased passive radial deviation; increased pronation range of motion; increased grip strength in a neutral position.

Principal Conclusions: This study provides evidence that individual diagnostic tests have insufficient accuracy to use as stand-alone tests. In contrast, the preliminary model demonstrates how combinations of test findings can enhance the DA of the clinical examination. These findings are preliminary and need to be confirmed by similar studies undertaken in a different population before clinicians can be confident that the model we have proposed can be used clinically with confidence.



Educational opportunities

Below are a series of resources for educational purposes that the HTNZ Education committee and us have identified in the last period:

Online Journals

Hand Therapy New Zealand offers access to several fantastic journals. If you haven't already done so, head over the [Journal page](#) and try accessing any of the resources available (e.g. Journal of Hand Therapy). If you do not have a log in, contact admin@handtherapy.org.nz to receive a unique login code. The benefit of having access to these journals is that if you find an article on [HandyEvidence](#) that you like or you just want to search for information in the journals, you can often access the full text.

Anatomy Standard

This resource contains anatomy images, which are free to reproduce for non-commercial use. You can access [Anatomy Standard](#) online and cruise through several upper limb anatomical layers. Thanks to Tom Adams from AUT who pointed this resource out.

HandyEvidence

Nico's website reviews and assesses three clinically relevant scientific articles on Hand Therapy every week. In addition, it contains a database of over 500 previous synopses searchable by topic and level of evidence. It has been sponsored by HTNZ for 2023 for all New Zealand Hand Therapists. Get the [HTNZ Special](#) and you will have full access.

Consent for clients' information and images



HAND THERAPY NEW ZEALAND
Ringaromi Aotearoa

Consent form – use of clinical case information and images

I, (*patient's name:* _____) consent to the use of information and images including photographs or videos from my hand therapy assessment and treatment to be used for (*mark agreement by clicking on box or print and tick*)

- Educating clinicians relevant to hand therapy
- Educating clinical students
- Service audit
- Publication in professional or scientific journal

I understand that the information and images will not have my name attached to them and will not obviously identify me in any way.

Patient Details:

Name: _____ Tel: _____

Email: _____

Signed: _____ Date: Click or tap to enter a date.

Clinician Details:

Name: _____ Tel: _____

Email: _____

Organisation: _____

Hand Therapy New Zealand membership Full Associate Membership No. _____

Signed: _____ Date: Click or tap to enter a date.

You can download the original document on [HTNZ webpage](#).