Fingerprints

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HAND THERAPY NEW ZEALAND
Ringaromi Aotearoa

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Editors' Note

Kia Ora colleagues,

This is the first edition of 2023. In this edition I have included a blog on elbow testing. If you have any material that you would like to share on Fingerprints, please send us an email at fingerprints@handtherapy.org.nz

Nico

Elbow objective testing

By Nico Magni

The elbow is the middle-earth of the upper limb, placed above the realm of the hand and below the realm of the shoulder. As per Tolkien's Lord of The Ring, the scientific literature is full of magical tests with 100% sensitivity and specificity. So how can we decide how to assess our clients? Let's walk through a few steps that you may find useful in clinical practice 💪.

Easy steps

First of all, the subjective assessment is our greatest friend. Knowledge of whether the client presents with a traumatic or non-traumatic condition halves the number of tests that we can perform. At the same time, observation will guide us in determining whether it is safe to perform any tests. For example, if the person is complaining of a traumatic injury associated with bruising and deformity, is it likely that the best thing we can do is refer them for an x-ray (Bunshah et al., 2015).

Would you perform orthopaedic tests on this client? Remember that they can still slap you with their healthy hand! (picture from Bunshah et al., 2015)

In contrast, if the presentation is traumatic but we feel comfortable moving into active range of movement assessment, the elbow extension test may be useful in determining whether we require an x-ray (Appelboam et al., 2008). This is a good screening test, if it's negative, you can be reasonably confident that they do not have a fracture. Physiotutors have created a helpful video about this test that you should watch!

https://www.youtube.com/watch?v=1TILxnuB4P0&ab_channel=Physiotutors

You have now determined whether the client needs an x-ray before proceeding with the physical assessment! Well done! Next you could further exclude special tests by determining the location and type of symptoms they present with. What is the location of pain, pins and needles, numbness, and/or weakness? If you can answer these questions, the number of special tests will reduce to 0 or 2-3. Zero if pain is widespread and it is not following any specific pattern that you can think of. In this case, after your appointment you can brainstorm with yourself and your colleagues. On the other hand, if you have a differential diagnoses in mind, you can get through your classic active, passive range of movement testing followed by a few special tests.

How good are special tests though?

Not so good. The diagnostic accuracy of special tests for the elbow is poor (Zwerus et al., 2018). This means that solely based on the results of special tests for the elbow, we cannot make a diagnosis. Is this surprising? I don't think so. Often the problem is that we do not have a gold standard against which to compare special tests results. For instance, common extensor tendon origin tendinopathy (e.g. tennis elbow) does not have a diagnostic gold standard. Ultrasound and MRI imaging can detect changes within the tendon but not all tendinopathies are symptomatic . In other instances, there is just not enough research to be

confident about the results of an isolated special test (e.g., hook test for distal biceps rupture). This does not mean that we cannot use these tests, we just need to be aware of the limitations and reduce our expectations. This last point means that our subjective and clinical reasoning need to have greater importance compared to special tests when making a diagnosis. For thos of you who like numbers, it simply means that the change in diagnostic probability should be much more affected by subjective and general objective examination compared to isolated results from special tests! For a list of special test for the elbow, have a look at the table by Zwerus et al. (2018). On a final note, be aware of studies showing 100% specific or sensitivity. They often obtain those results because there is a disproportionate number of participants with or without the condition studied. These results are more likely to come from a Harry Potter book rather than reality - ✨ The magic of statistics ✨

Table 1 Conditions and corresponding tests

Condition	Test
Total distal biceps rupture	Hook test Passive forearm pronation (PFP) test Supination-Pronation test Biceps squeeze test/(biceps) belly squeeze test Bicipital aponeurosis (BA) flex test Biceps crease interval (BCI) Biceps crease ratio (BCR)
Total triceps rupture	Triceps squeeze test/(triceps) belly squeeze test
Posteromedial impingement syndrome	Arm bar test Posteromedial impingement test/valgus overload test
Medial collateral ligament (MCL) insufficiency	Moving valgus stress test Valgus stress test/ligamentous instability test Milking manoeuvre
Posterolateral rotatory instability (PLRI)	Table-top relocation test Stand-up test/chair push-up test Push-up test Lateral pivot shift test (awake/under anaesthesia)/ posterolateral rotatory apprehension test Posterolateral drawer test
Lateral epicondylitis/tennis elbow	Cozen's test Polk's test Maudsley's test/middle finger resistance/extension test Mill's test Kaplan sign/test Grip strength test (5%–8%–10% decrease)
Medial epicondylitis/Golfer's elbow	Epicondylitis medialis (shear) test/Golfer's elbow test Polk's test

References

Triceps tendon rupture: an uncommon orthopaedic condition.
Bunshah, J. J., Raghuwanshi, S., Sharma, D. and Pandita, A. (2015).
http://dx.doi.org/10.1136/bcr-2014-206446

Elbow extension test to rule out elbow fracture: multicentre, prospective validation and observational study of diagnostic accuracy in adults and children.
Appelboam, A., et al. (2008).
https://doi.org/10.1136/bmj.a2428

Physical examination of the elbow, what is the evidence? A systematic literature review.
Zwerus, E. L., et al. (2018).
http://dx.doi.org/10.1136/bjsports-2016-096712

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 300 previous synopses searchable by topic and level of evidence. It has been sponsored by HTNZ for 2022 for all New Zealand Hand Therapists. Get the HTNZ Special and you will have full access.

Consent for clients' information and images

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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.

Consent form case study final 15/02/2021

You can download the original document on HTNZ webpage.