

# WRIST EXAMINATION

## **Look**

- Dorsum, side, palmar- palmar flex wrist to exacerbate dorsal swellings
  - Deformity e.g. radial deviation after colles, prominent ulna
  - Swellings e.g. ganglion
  - Scars, muscle wasting
- 

## **Feel**

- Start radial side & move in a circle around wrist;
  - Palpate for tenderness of :
    - APL, EPL- de Quervain's
    - Anatomical snuffbox- scaphoid
    - Distal Radioulnar joint
    - lunate- locate by dorsiflexing wrist
    - ulnar styloid
    - Hook of hamate
    - Pisiform- pisiform triquetral degen
    - Guyons canal
    - Over median nerve
- 

## **Move**

- Dorsiflexion- palms together, lift up elbows. Normal 75 degrees
  - Palmar flexion- Dorsum of hands in contact, drop elbows. Normal 75 degrees
  - Radial deviation- in neutral pron-sup. Normal 20 degrees
  - Ulnar deviation- Normal 35 degrees
  - Pronation-supination-elbows by sides ask patient to hold pen, measure angle between vertical and pen
  - -pronation 75 degrees
  - -supination 80 degrees
- 

## **Special Tests**

### **Pseudostability test**

- hold patients hand in right hand and forearm with left, normal wrist clunks on palmar displacement of hand on forearm. Nonspecific test. Resistance to movement = pseudostability and may be due to wrist pathology.

## DRUJ

**1. Piano key sign-** for instability = ballottement of ulnar head, (prominence of ulna)

### **2. squeeze and turn test-**

- The examiner stabilises the patient's forearm with one hand while with the other hand, he grasps the patient's hand as if for a vigorous handshake. When the patient resists forced passive rotation, or when there is active rotation against resistance, pain usually is elicited. If the pain is caused by compressing the ulna against the radius, it is mostly suggestive of chondromalacia.

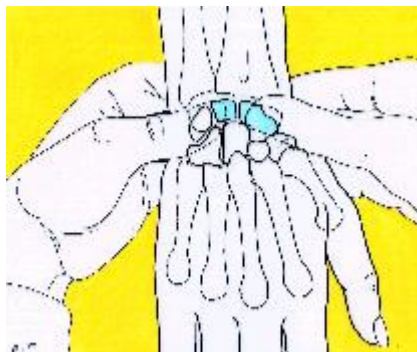
**Ulnar impingement test-** For TFCC - shake hands with patient; ulnar deviate wrist whilst rotating the forearm. Pain = positive.

## **CARPAL INSTABILITY TESTS**

### **A. Scapholunate instability**

#### **1.scapholunate ballotment**

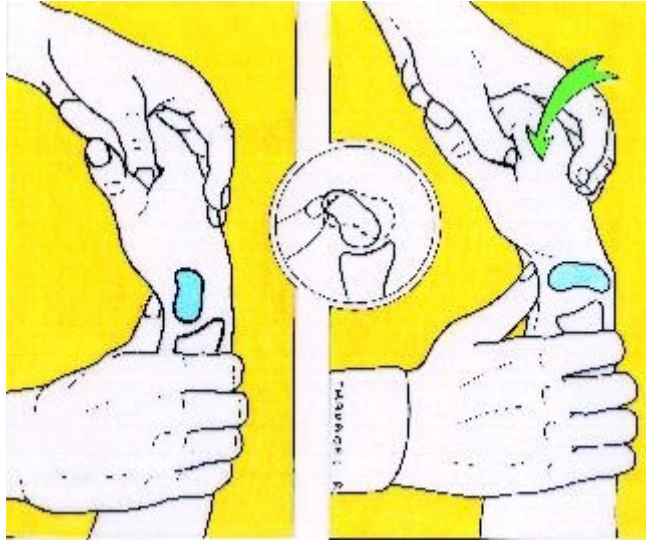
- Using both index fingers and both thumbs, stabilise the lunate between thumb and index finger of one hand and the scaphoid between the thumb and index finger of the other; the scaphoid pushed in a volar to dorsal direction; discomfort in this area suggests the possibility of injury to the Scapholunate Ligament (SLL).



*Scapholunate Ballotment Test*

#### **2. Kirk Watson's scaphoid shift test-**

- Examiner opposite patient, both elbows on table as if arm wrestling ipsilateral arms. Examiners thumb on scaphoid tubercle, index finger on scapholunate ligament to palpate clunk. SLL initiates scaphoid flexion on radial deviation of wrist. Completion of flexion of scaphoid caused by pressure from surrounding bones.
- Normal- can feel scaphoid flexing in radial deviation, thumb pushed away
- SLL injury- pressure of examiner's thumb prevents initiation of flexion of scaphoid , then Clunk occurs on sudden pressure from bones. Patient may withdraw hand with pain 'apprehension test'
- Must compare to opposite wrist.
- N.B. 20 % of normal people have positive test
- ***[Watson HK, Ashmead D4, Makhlof MV: Examination of the scaphoid. J Hand Surg Am. 1988; 13: 657-660.]***



Kirk-Watson Test

Original Description by Watson:

'The patient is approached by the examiner as if to engage in arm wrestling, face to face across a table with diagonally opposed hands raised (right to right or left to left) and elbows resting on the surface in between. With the patient's forearm slightly pronated, the examiner grasps the wrist from the radial side, placing his thumb on the scaphoid tuberosity (as if pushing a button to open a car door) and wrapping his fingers around the distal radius. The examiner's other hand grasps at the metacarpal level, controlling the wrist position. Starting in ulnar deviation and slight extension, the wrist is moved radially and slightly flexed with constant thumb pressure on the scaphoid. This radial deviation causes the scaphoid to flex. The examiner's thumb pressure opposes this normal rotation, causing the scaphoid to shift in relation to the other bones of the carpus. This scaphoid shift may be subtle or dramatic. A truly positive test requires both pain on the back of the wrist (not just where you are pressing on the scaphoid tuberosity), and comparison with the opposite wrist is essential.'

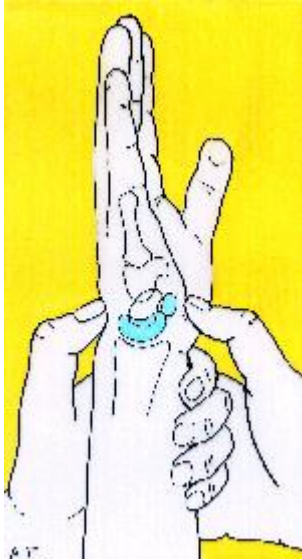
**B. Lunotriquetral instability**

**1. Lunotriquetral ballotment test (Reagan test)** - stabilise the lunate between thumb and index finger of one hand and the triquetrum between the thumb and index finger of the other; the pisiform and triquetrum are pushed in a volar to dorsal direction; discomfort in this area suggests the possibility of injury to lunotriquetral interosseous ligament [**Reagan D.S., Linscheid R.L., Dobyys J.H. Lunotriquetral sprains: J Hand Surg Am 1984; 9:502-514.**]



Reagan Test

**2. Kleinman shear test (shuck test)**- Examiner opposite patient, contralateral thumb over dorsum of lunate, index finger over pisiform. Attempt to squeeze thumb and index finger together. Pushing the pisiform dorsal arouses pain in the lunotriquetral joint.



*Kleinman Shuck Test (Examiner's thumbs used in this illustration instead of index finger & thumb)*

**Tests to distinguish causes of radial pain (to be done early if tenderness on radial side of wrist)**

De Quervain's tenosynovitis- Finkelstein's test- ulnar deviation, thumb in palm  
Thumb CMC joint- Press over CMC joint and circumduct thumb with axial pressure  
STT joint- Resisted pronation causes pain  
Wartenburg's (superficial radial nerve irritation) Tinel's test

**Phalen's Test for Carpal Tunnel Syndrome**

- Elbows on the table allowing the wrists to passively flex. If symptoms provoked within 60 secs then positive
- 61% sensitivity, 83% specificity

**Tinel Test**

- Tapping lightly over the nerve reproduces symptoms in the nerve's sensory distribution.
- Always assess from distal to proximal.
- 74% sensitivity, 91 % specificity

## ***Wrist Pain - Differential Diagnosis***

<b>Location</b>	<b>Cause</b>
<b>Radial</b>	De Quervain's tenosynovitis
	OA 1st CMCJ
	STT OA
	scaphoid non-union
	ganglion
<b>Dorsal/ Central</b>	Ganglion
	Keinbock's disease
	Scapholunate dissociation
	Intra-osseous ganglion
	SLAC
<b>Ulnar</b>	Distorted DRUJ after distal radius fracture
	DRUJ OA
	TFCC tear with ulnar impaction
	Unstable DRUJ
	Piso-triquetral OA
	Hamate hook fracture non-union