CAPSULE LENGTH TESTS	
Anterior Capsule Length Tests	At 0˚, gently passively externally rotate to limit of movement (structure stretched = ASGHL) Repeat at 45-60 ˚ abduction = MGHL Repeat at 90 ˚ abduction = IGHL Normal extensibility ?90 ˚ ER at 90 ˚ abduction
Posterior Capsule Length Test	**Normal response**: the patient's arm should be able to adduct to 10-15 ˚ past neutral before the scapula moves away from the rib cage **Indications of tightness:** if the scapula moves more than thumb nail's width away from the chest wall before the above range is reached, the posterior capsule is considered tight
External rotator length – assessment	Normal ROM = 40-70 ˚ **Capsule vs. muscle?** Check with contract relax i.e. if change in length then contractile (i.e. muscle)
Internal rotators length – assessment	**Capsule vs muscle?** Check with contract relax i.e. if length change is contractile (i.e. muscle)
SHOULDER IMPINGEMENT TESTS	
Neer's (Forward Flexion) Impingement Test	**Positive Neer's test:** reproduces the patient's pain **Implications:** identifies impingement of the rotator cuff against the coraco-acromial arch; also sensitive for subacromial bursitis
Hawkins Kennedy Impingement Test	**Positive test:** reproduction of pain in internal rotation **Implications:** impingement of structures within the subacromial/ subcoracoid space
Posterior Impingement	**Positive test:** reproduction of patient's pain deep in posterior aspect of the GHJ
ASSESSMENT OF INSTABILITIES	
Sulcus Sign (Inferior humeral head translation test for Inferior Instability	**Positive findings:** Indentation or tethering evident through the skin between the lateral acromion and humerus + increased inferior translation of the head of humerus (HOH) and widening of the subacromial space; **size of sulcus may vary according to laxity**
Load and shift test (AP/PA Instability) / Drawer test.	**Tests** AP humeral head translation; patients with MDI will have an increased translation (grade 1-3)
Subluxation/Relocation Test (also known as Apprehension/ Relocation Test)	**Positive test:** any symptoms of pain, apprehension during movement is positive **Positive test:** any reduction in symptoms or increase in ER ROM
Posterior Instability (Posterior Glide/ jerk test)	**Positive Test: reproduction of pain**, sudden shift, click or jerk of the humeral head as it slips off the glenoid
ASSESSMENT OF LABRAL INJURIES	
O'Brien's Active Compression Test	**Positive findings:** reproduction of patient's pain may be positive for an anterior/superior labral tear if the first manoeuvre (pronated) is more provocative than the second one (supinated)
Biceps Load Test	**Tests for:** A tear in the superior part of the labrum and a tear of the biceps (due to the biceps' origin on the superior glenoid labrum. **NB: watch for apprehension in this position- modify if apprehension +ve**
SPECIFIC TESTS FOR GLENOHUMERAL STRUCTURES	
Speed's Test: Biceps Tendon	**Positive test:** reproduction of pain anterior shoulder over the bicipital groove and/or weakness **Implicates:** pathology of the long head of biceps
Yergason's Test (transverse ligament and biceps tendon)	**Positive test:** subluxation (snapping) of the tendon palpated at the bicipital groove, may also produce pain in anterior proximal shoulder
Empty Can Test (Jobe's test): Supraspinatus strength test	**Positive test:** pain with or without weakness; **tests subacromial contribution to pain**
Teres Minor strength test	Note range achieved and strength (compared to unaffected side
Infraspinatus Strength Test	Rotation Lag sign = positive if the patient's elbow drifts in to the side – indicates weakness of infraspinatus
****Gerber's Lift-off test: Subscapularis strength test***	If patient achieves this actively, therapist may add manual resistance to test strength of subscapularis, comparing sides **NB: watch for patient cheating via elbow**
Abdominal compression test (Belly Press Test – Napolean's test)	Loss of stability to maintain this position indicates weakness subscapularis Note: Useful in the patient cannot get HBB to perform Gerber's Test
SCAPULAR MUSCLE LENGTH AND STRENGTH	
Lower trapezius strength	No right or wrong answer, just important in establishing the muscle activation pattern.
Serratus anterior strength	Checking for winging of the scapular
Upper trapezius strength	Assesses strength, symptoms provocation and symmetry
Upper trapezius muscle length	The length is tested by feeling resistance over lateral third of the clavicle
Levator scapular muscle length	Resistance is palpated over the superior medial border of the scapula, comparing right and left
Latissimus dorsi muscle length	Normal length is when the arm reaches the level of the patient's ear without the lateral border of the scapula moving greater than one thumb nail's width from the chest wall
Pectoralis minor muscle length	Normal length is when the posterior acromion touches the bed

Neurodynamic Tests		
ULNT1	***Median Nerve*** ***Quick Test:*** Shoulder flexion + wrist extension.	***Testing Process:*** Start position: Facing towards patient, patient in neutral abduction. → Add shoulder depression → Add shoulder abduction to 90-100 → Add external rotation → Add forearm supination → Add wrist and finger extension → Add elbow extension → Sensitise the movement by asking the patient to laterally flex their neck away/towards. ***Normal responses to UNNT1:*** - Stretching sensation in the anterior shoulder, cubital fossa, forearm and first 3 digits; tingling sensation in the hand in the distribution of the median nerve - Sensitising manouevre: symptomatic response increases in intensity when cervical contralateral side flexion is added and decreases with cervical ipsilateral side flexion- - With addition of cervical contralateral side flexion, the ROM of elbow extension might be reduced ***Pathological responses to ULNTs:*** - Typically, a pathological response would be the reproduction of symptoms in the same anatomical region as the patient's symptoms. This may not be specifically "the same pain" as the patient describes, as the stimulus imparted by the test is different from the stimulus of functional movement. - Other responses include a perceived resistance to movement (due to protective muscle activity) and a decrease in range of limb movement compared to the asymptomatic limb. With the addition of sensitising manoeuvres, the symptoms response would be greater and the range of motion would be less.
ULNT2a	***Median Nerve*** ***Quick Test:*** Shoulder flexion + wrist extension	***Testing Process:*** Starting position: Facing away from the patient → Add shoulder depression w/ thigh or hip. → Add shoulder (whole arm) external rotation → Add elbow extension → Add forearm supination → Add wrist + finger extension → Add arm abduction (45) → Sensitise the movement by asking the patient to laterally flex their neck away/towards. ***Indications:*** Neurodynamic test used in preference to ULND1 when patient does not have adequate shoulder abduction ROM or when symptoms are more peripherally located, e.g. in the carpal tunnel ***Normal responses to UNNT:*** - Stretching sensation in the anterior shoulder, cubital fossa, forearm and first 3 digits; tingling sensation in the hand in the distribution of the median nerve - Sensitising manouevre: symptomatic response increases in intensity when cervical contralateral side flexion is added and decreases with cervical ipsilateral side flexion- - With addition of cervical contralateral side flexion, the ROM of elbow extension might be reduced ***Pathological responses to ULNTs:*** - Typically, a pathological response would be the reproduction of symptoms in the same anatomical region as the patient's symptoms. This may not be specifically "the same pain" as the patient describes, as the stimulus imparted by the test is different from the stimulus of functional movement. Other responses include a perceived resistance to movement (due to protective muscle activity) and a decrease in range of limb movement compared to the asymptomatic limb. With the addition of sensitising manoeuvres, the symptoms response would be greater and the range of motion would be less
ULNT2b	***Radial Nerve*** ***Quick Test:*** Ask patient to hang arm by side, make a fist holding their thumb, then extend their elbow and point the thumb away from the body (internal rotation) and depress their shoulder. Shoulder extension may sensitise the test.	***Testing Process:*** Starting position: Facing patient's feet. → Add shoulder depression w/ hip or thigh. → Add whole arm internal rotation → Add elbow extension → Add forearm pronation → Add finger flexion → Add abduction → Sensitise the movement by asking the patient to laterally flex their neck away/towards. ***Indications:*** Key neurodynamic test used for pain in a radial nerve distribution, usually associated with lateral aspect of forearm pain and conditions such as de Quervain's tenosynovitis, "tennis elbow" or lateral epicondylalgia, post humeral fracture and pain originating from the C5-8, (T1) nerve roots. ***Normal responses to ULNT2b:*** In a study by Yaxley and Jull (1991), the testing sequence was as follows: shoulder girdle depression, elbow extension, glenohumeral internal rotation, forearm pronation, wrist and finger flexion followed by glenohumeral abduction. All test movements were performed to the end range of a firm tissue resistance. Range of glenohumeral abduction was measured and sensory responses recorded. The mean range of glenohumeral abduction was 41.45˚ +/– 4.06˚ The most common sensory responses to the final position of the radial nerve NTPT/ NDT were: - A strong painful stretch over the radial aspect of the proximal forearm, often accompanied by a stretch pain in the lateral aspect of the upper arm - A strong stretch in the biceps brachii and occasionally over the dorsal aspect of the hand
ULNT3	***Ulnar Nerve*** ***Quick Test:*** Ask patient to put their hand upside down on their ear and then lift the elbow up	***Testing Process:*** Starting Position: Facing the patient, patient rests elbow on the therapists hip. → Add shoulder depression (hand over patients scapula) → Add neutral abduction → Add shoulder external rotation → Add elbow flexion → Add forearm pronation → Add wrist extension → Add finger extension (ensure the 4th and 5th fingers are extended. → Walk patients arm up into abduction → Normal response is for the patients hand to reach their own ear (approx. 100 in 10 horizontal extension) → Sensitise the movement by asking the patient to laterally flex their neck away/towards. **NOTE**: Can be performed in pronation or supination → Pronation is more sensitive. ***Indications:*** Key neurodynamic test used for pain in an ulnar nerve distribution, usually associated with altered sensation/ pain down the ulnar side of the forearm to the ring and little fingers as well as pain in the cubital tunnel or Guyon's canal. Associated with pain/ irritation of (C7), C8-T1 nerve roots.

Upper Limb Myotome Testing		
C1	***Supine Position***	Resisted Chin Tuck
C2	***Supine Position***	Resisted chin poke
C3	***Supine Position***	Resisted neck lateral flexion
C4	***Supine Position***	Resisted shoulder elevation
C5	***Supine Position***	Resisted shoulder abduction
C6	***Supine Position***	Resisted elbow flexion
C7	***Supine Position***	Resisted elbow extension
C8	***Supine Position***	Resisted extension DIP of the Thumb (point thumb to nose/thumbs up) Or Resisted finger flexion of 2nd, 3rd, 4th and 5th digits (curl fingers keeping MCPs extended)
T1	***Supine Position***	Resisted phalangeal adduction with MCP's in 90 flexion. PIP's and DIP's fully extended (beak position; check for thumb cheating)
Upper Limb Reflex Testing		
C5, C6 Biceps	***Supine Position***	With the patients elbow partially flexed, therapist places thumb over the distal biceps tendon and taps the dorsal surface of their own distal phalanx with the reflex hammer
C6 Brachioradialis	***Supine Position***	With the patient's elbow flexed around 45-60 and in the mid-pronation/supination position (the forearm resting on the therapist's arm), therapist taps the radius with the reflex hammer.
C7 Triceps	***Supine Position***	With the patient's elbow flexed to 90 and the forearm resting on the patients abdomen, therapist taps the triceps tendon with the reflex hammer.
C8 Pronator Quadratus	***Supine Position***	With the patient's elbow flexed to 90 and in some supination, therapist taps the anterior radius with the reflex hammer.
Nerve Palpation		
Median Nerve	***Quick Palpation:*** Medial to the biceps tendon at the elbow, indirectly at the carpal tunnel (wrist)	***Course:*** → Medial to brachial artery in lower half of arm → behind bicipital aponeurosis, in front of brachialis → crosses anterior aspect of elbow, then passes between two heads of pronator teres, then deep to FDS → at wrist is between FDS and FRC → passes deep to flexor retinaculum to enter the hand
Radial Nerve	***Quick Palpation:*** Mid humerus in the radial groove, radial sensory nerve on the lateral aspect of the forearm	***Course:*** → Between long and medial head of triceps. In radial groove on the shaft of the humerus → Between brachialis and Brachioradialis just about the elbow → Crosses anterior aspect of the elbow → Divides in the superficial and deep branches →Deep branch winds around the neck of the radius to past the forearm, passes between the two heads of supinator. → Runs on posterior surface of the interosseous membrane.
Ulnar Nerve	***Quick Palpation:*** Pisiform (Guyon's canal), behind the medial epicondyle ("Funny bone").	***Course:*** → Medial to brachial artery in arm (more medial then median nerve) → passes through the medial head of triceps to the lie between the medial epicondyle and the olecranon (funny bone) → descends on medial forearm on FDP → enters hand passing anterior to flexor retinaculum, runs around medial side to the hook of hamate.