Shoulder

A complete shoulder examination is performed in most cases, including the structures indicated below. In specific circumstances, a targeted examination of a specific anatomic structure may be performed (e.g. follow-up scan of the supraspinatus tendon to assess for tear progression)

- ☐ Biceps tendon and muscle
- ☐ Subscapularis muscle and tendon
- ☐ Dynamic exam for biceps subluxation & subcoracoid impingement (as indicated)
- ☐ Acromioclavicular joint
- ☐ Infraspinatus tendon and muscle
- ☐ Teres minor tendon and muscle
- ☐ Posterior glenohumeral joint (including dynamic imaging as indicated)
- ☐ Spinoglenoid notch (region of suprascapular nerve)
- ☐ Supraspinatus tendon and muscle, with subacromial-subdeltoid bursa
- ☐ Dynamic rotator cuff evaluation and impingement testing
- ☐ Suprascapular notch (as indicated) (suprascapular nerve)
- ☐ Extended field of view – supraspinatus & infraspinatus muscle bellies (as indicated)

Advanced

- ☐ Rotator interval
- ☐ Suprascapular nerve
- ☐ Quadrangular space/Axillary Nerve/Posterior circumflex humeral artery

Notes:

1. When evaluating the suprascapular notch, in thin individuals the superior labrum may be visualized by translating the transducer laterally.
2. Transducer compression can assist in identifying rotator cuff tears that are non-retracted or filled with bursa or scar.
3. If a rotator cuff tear is identified:
    a. Determine extent of retraction on LAX view
    b. Determine size in SAX view
    c. Assess for atrophy and fatty degeneration

Elbow

Examination may involve a complete assessment of 1 or more quadrants or may be focused on a specific structure. Note that some structures are included in more than one quadrant.

Anterior:

- ☐ Brachialis muscle
- ☐ Brachial artery and vein
- ☐ Median nerve
- ☐ Pronator teres muscle and tendon
- ☐ Radial nerve (trace to bifurcation as indicated)
- ☐ Brachioradialis muscle
- ☐ Anterior humeroradial joint
- ☐ Radial fossa
- ☐ Dynamic scanning of annular recess of the neck of the radius (supination/pronation)
- ☐ Anterior humeroulnar joint
- ☐ Coronoid fossa
- ☐ Biceps tendon and muscle, including dynamic scanning

Notes:

1. Target structures are scanned proximal and distal as clinically indicated
2. Multiple views of the distal biceps are possible, including:
    a. Anterior midline
    b. Anteromedial
    c. Medial (pronator window)
    d. Lateral
    e. Posterior (via interosseous space)

Advanced

- ☐ Lateral cutaneous nerve of the forearm/lateral antebrachial cutaneous nerve

Lateral:

- ☐ Lateral epicondyle, common extensor tendon and muscles
- ☐ Lateral collateral ligament complex
- ☐ Lateral humeroradial joint (including dynamic imaging as indicated)
- ☐ Radial nerve bifurcation and course through supinator muscle
- ☐ Proximal attachment of brachioradialis
- ☐ Proximal attachment of extensor carpi radialis longus

Notes:

1. .
2. Dynamic testing of the lateral collateral ligament complex may be performed as clinically indicated.

Advanced

- [ ] Superficial radial nerve
- [ ] Posterior cutaneous nerve of the forearm/posterior antebrachial cutaneous nerve
- [ ] Lateral synovial fringe/posterior plica

    When imaging the humeroradial (i.e. radiocapitallar joint) posterolaterally, the lateral synovial fringe is visualized in the joint space. This meniscoid-like structure may become enlarged and produce pain and/or mechanical symptoms, at which time it is referred to as a plica

Medial:

- [ ] Medial epicondyle, common flexor-pronator tendon and muscles
- [ ] Ulnar collateral ligament
- [ ] Dynamic valgus stress of ulnar collateral ligament (as indicated)
- [ ] Humeroulnar joint
- [ ] Ulnar nerve (also included in posterior region scan)
- [ ] Dynamic flexion-extension (as indicated)

    -evaluate for ulnar nerve subluxation
    -evaluate for snapping triceps tendon

Notes:

1. Static examination of the ulnar nerve is facilitated by placing the elbow in an extended position, whereas dynamic testing requires elbow flexion.
2. Evaluation for ulnar nerve subluxation and snapping triceps may include passive flexion, active flexion, and/or resisted extension from a fully flexed position.

Advanced

- [ ] Medial cutaneous nerve of the forearm/medial antebrachial cutaneous nerve

Posterior:

- [ ] Triceps tendon muscles
- [ ] Olecranon fossa and posterior joint space
- [ ] Olecranon process
- [ ] Olecranon bursa
- [ ] Ulnar nerve (also included in medial region scan)
- [ ] Dynamic flexion-extension (as indicated) (also included in medial region scan)

    -evaluate for ulnar nerve subluxation
    -evaluate for snapping triceps tendon

Notes:

1. Static examination of the ulnar nerve is facilitated by placing the elbow in an extended position, whereas dynamic testing requires elbow flexion.

2. Evaluation for ulnar nerve subluxation and snapping triceps may include passive flexion, active flexion, and/or resisted extension from a fully flexed position.

Wrist and Hand

Examination may involve a complete assessment of 1 or more of the 3 anatomic regions or may be focused on a specific structure. Note that some structures are included in more than one quadrant.

Volar:

- ☐ Carpal tunnel contents
  - ☐ Flexor retinaculum
  - ☐ Median nerve
  - ☐ Flexor pollicis longus tendon
  - ☐ Flexor digitorum profundus and superficialis tendons
  - ☐ Dynamic examination with flexion & extension – tendon & nerve motion
- ☐ Palmaris longus tendon
- ☐ Flexor carpi radialis longus tendon and radial artery
- ☐ Ulnar nerve and ulnar artery within Guyon's canal
- ☐ Flexor carpi ulnaris tendon
- ☐ Joints as clinically indicated (e.g. volar radiocarpal joint)

Notes:

1. All tendons may be traced proximally or distally as clinically indicated.
2. During dynamic finger flexion-extension, both the median nerve and flexor tendons demonstrate longitudinal excursion, although the nerve moves less than the tendons.
3. The region of the flexor carpi radialis and radial artery should be closely examined for the presence of an occult volar wrist ganglion.

Advanced

- ☐ Palmar cutaneous branch of median nerve
- ☐ Accessory muscles/tendons

Ulnar/Medial:

- ☐ Extensor carpi ulnaris tendon and muscle
- ☐ Dynamic examination for extensor carpi ulnaris subluxation
- ☐ Triangular fibrocartilage complex
- ☐ Ulnocarpal joint

Notes:
1. Dynamic assessment of the extensor carpi ulnaris for instability is performed during wrist pronation-supination. The tendon typically becomes unstable in supination.

Dorsal:

- ☐ Extensor retinaculum, 6 compartments, 9 tendons and muscles
- ☐ Dynamic tendon examination – flexion/extension of the fingers (as indicated)
- ☐ Dorsal scapholunate ligament
- ☐ Joints as clinically indicated
  - -Radiocarpal (RC), metacarpophalangeal (MCP), proximal interphalangeal (PIP), distal interphalangeal (DIP)
  - -Dorsal and volar
- ☐ Superficial radial nerve (as indicated)

Notes:
1. Lister's tubercle is a key bony landmark for the dorsal wrist evaluation.
2. All tendons can be traced proximally and distally as clinically indicated.

Advanced

- ☐ Distal posterior interosseous nerve

Radial / Lateral (Supplementary):

- ☐ 1st Extensor compartment
- ☐ Superficial radial Nerve:
- ☐ 3rd over 2nd Extensor compartments (distal intersection)
- ☐ 1st over 2nd Extensor compartments (proximal intersection)
- ☐ Radioscaphoid joint (occult volar ganglion)
- ☐ Scaphoid carpal bone
- ☐ Scaphotrapeziotrapezoid joint (STT joint, as indicated)
- ☐ Thumb carpometarpal joint (CMC joint, as indicated)
- ☐ Thumb A1 pulley (as indicated)
- ☐ Ulnar collateral ligament of the thumb (as indicated)
- ☐ Thumb IP Joint (as indicated)
- ☐ Thumb Nail (as indicated)