

Standardized scanning protocol

1. **Shoulder** biceps *transverse*
2. **Shoulder** distal biceps *transverse*
3. **Hip** acetabulofemoral recess
4. **Hip** femoral head cartilage
5. **Knee** suprapatellar recess
6. **Knee** parapatellar recess
7. **Knee** patella tendon *transverse*
8. **Knee** max. flexion cartilage
9. **Ankle** tibiotalar recess
10. **Ankle** cartilage talar dome
11. **MTP1** capsular distention + **MTP1** head cartilage
12. **Elbow** lateral radiohumeral recess
13. **Elbow** anterior radiohumeral recess
14. **Elbow** posterior fossa
15. **Wrist** radio-lunate-capitate-metacarpal recess
16. **Wrist** extensor digitorum tendons
17. **Wrist** extensor carpi ulnaris tendon
18. **MCP2** dorsal capsular distention
19. **MCP2** flexion cartilage head
20. **MCP2** volar capsular distention
21. **MCP2** volar flexor digitorum *transverse*

2 measures

1. Shoulder

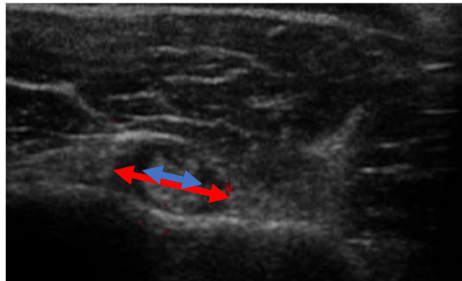
Biceps tendon +
Tendon and bicipital
recess

Transverse scan

Diameter

Max. diameter

between tubercles



2 measures

2. Shoulder

Biceps and biceps +
recess,

Distal part of recess (before
tendon becomes muscle)

Transverse scan

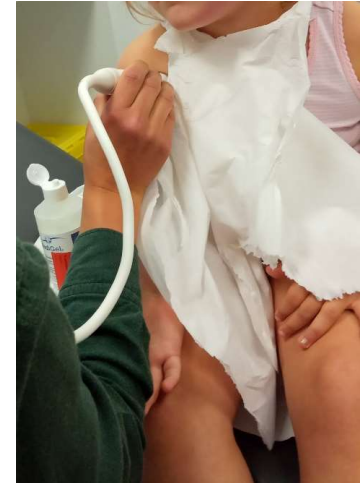
Diameter

Max. diameter

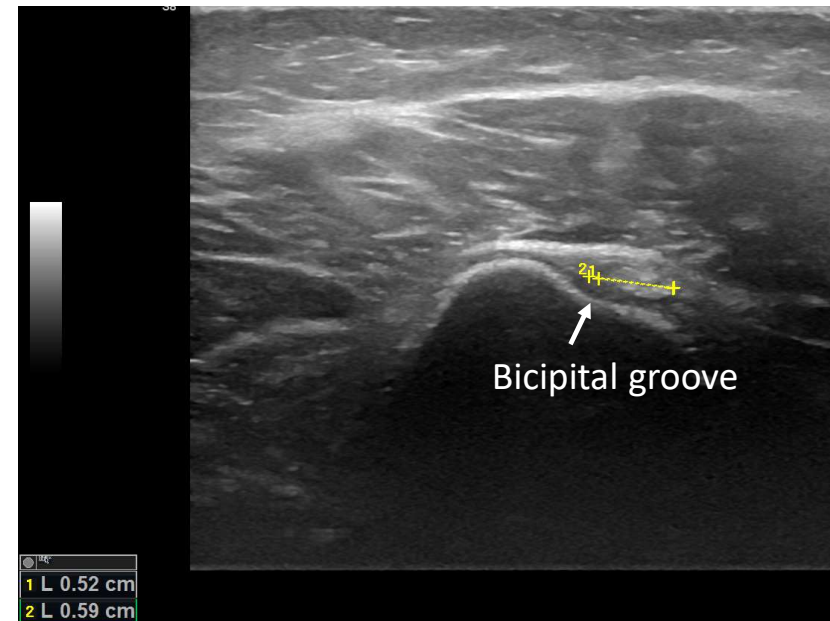
between tubercles

2 measures

12 – 15 MhZ



Child sitting on the edge of the table, elbow flexed 90°, palm of hand directed upwards



3. Hip

Acetabulofemoral recess

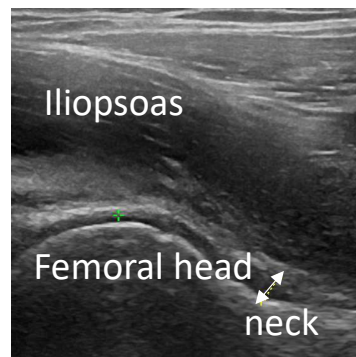
Capsular distention

Longitudinal sagittal

*Distance to joint capsule,
from start femur neck*

Max. distance

8 MhZ



*Child lying on the table,
Legs in extension, slight
external rotation of feet*

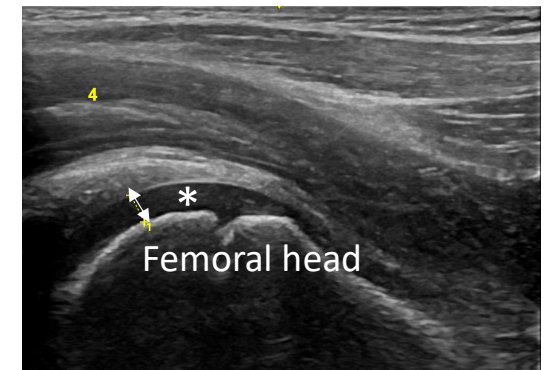
4. Hip

Femoral head: cartilage
thickness

Longitudinal sagittal

Thickness

Max. thickness

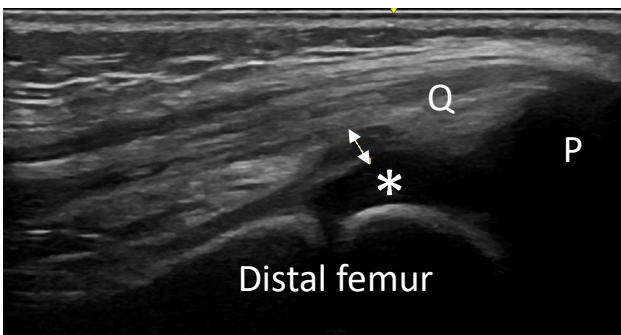


5. Knee

Distention of
Suprapatellar recess
Suprapatellar
Longitudinal sagittal
Flexion 30°
Distance from distal
Femur till recess
Max. distance



Child lying on the table (hips flexed),
30° flexion of the knee



P: patella Q: quadriceps
*: cartilage

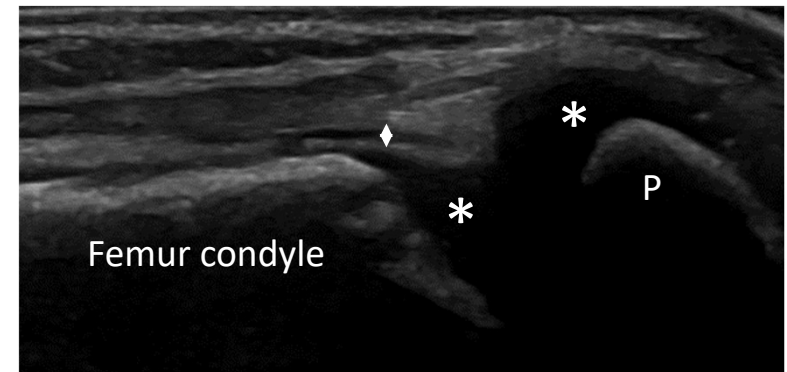
6. Knee

12 – 15 MhZ

Parapatellar recess
Suprapatellar
Transverse scan
(midpatellar)
Extension knee
Distance
Max. distance



Knee in full extension



12 – 15 MhZ

7. Knee

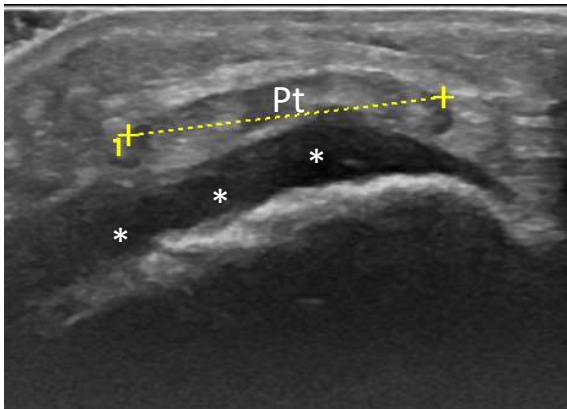
Patellar tendon

Infrapatellar Transverse scan

Flexion 30°

Diameter

1/3rd distal from origin



Pt: patellar tendon



Child lying on the table (hips flexed), 30° flexion of the knee

8. Knee

Maximal flexion

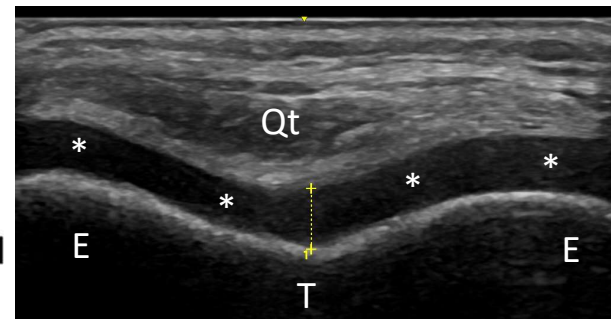
Cartilage trochlea (= middle, not at condyles)

distal femur

Transverse scan

Thickness

Max. thickness



E: epicondyl

T: trochlea

*: cartilage

Qt: quadriceps tendon

Maximal flexion of the knee



9. Ankle

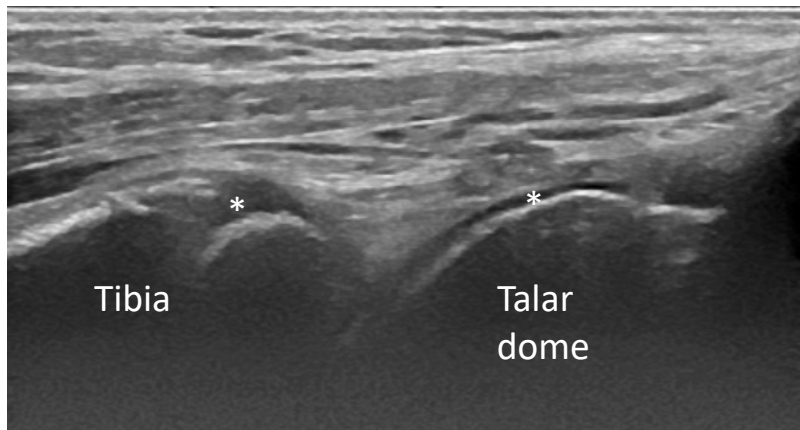
Tibiotalar recess

*Longitudinal
sagittal scan*

Distance

Max. distance

*Child lying on table,
knee 90-120° flexed,
foot flat on table*



10. Ankle

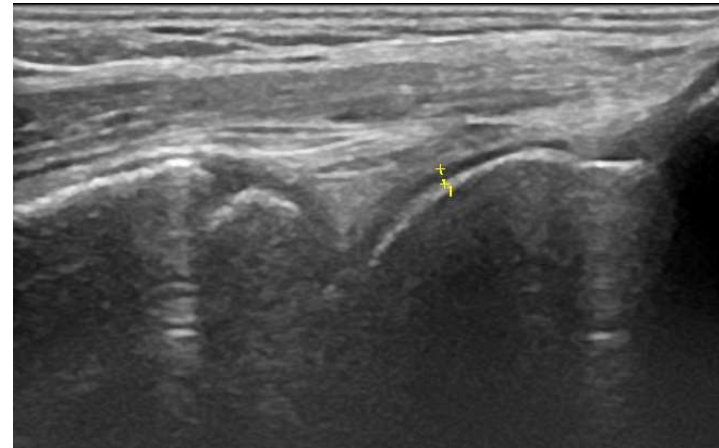
Cartilage thickness

talar dome

*Longitudinal
sagittal scan*

Thickness

Max. thickness



12 – 15 MhZ

*: cartilage

9 and 10 can be assessed on same image

11. MTP1

Capsular distention of
MTP1 joint

*Longitudinal sagittal
(midline over metatarsal 1)
max. distention*

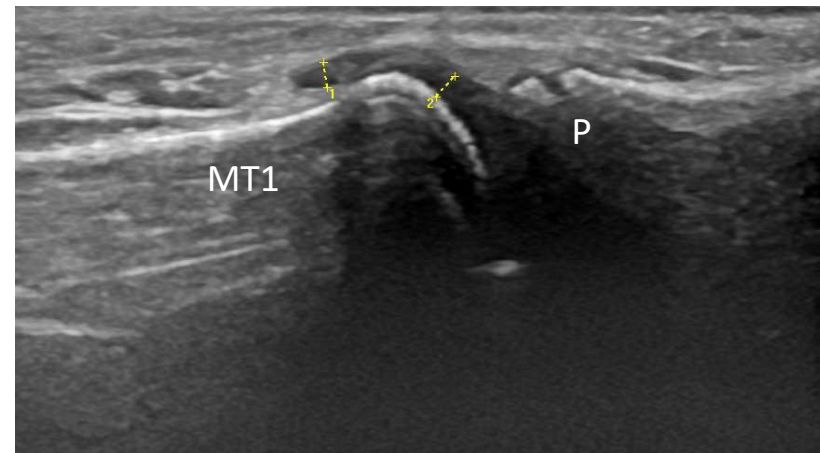
*Child lying on table, knee 90-120°
flexed, foot flat on table*

11. MTP1

MTP head cartilage
thickness

*Longitudinal sagittal
(midline over metatarsal 1)
Thickness
Max. thickness*

2 measures on 1 image



MT1: metatarsal bone 1
P: proximal phalanx

15 MhZ

12. Elbow

Lateral radiohumeral
recessus

Longitudinal radial scan

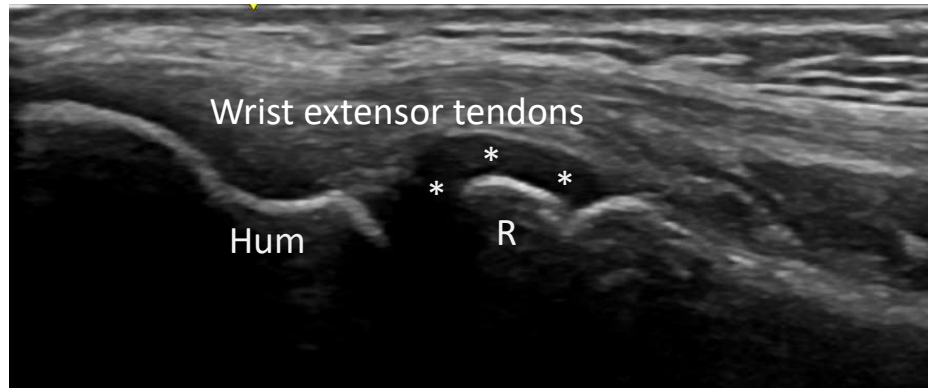
Distance

Max. distance



Elbow in 30° flexion, forearm on table or supported by sonographer

12 – 15 MhZ



Hum: capitulum humerus R: Radial head
*: cartilage

13. Elbow

*Anterior radiohumeral
recessus*

Longitudinal sagittal

Distance

Max. distance



Elbow in extension (not forced)



Hum: capitulum humerus R: Radial head
*: cartilage

14. Elbow

Posterior fossa/recessus

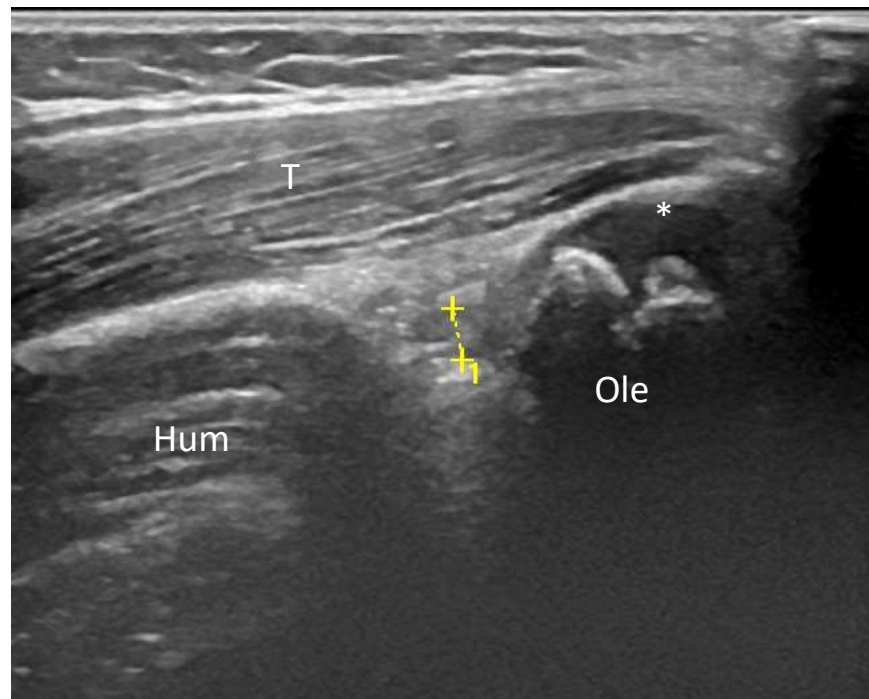
Longitudinal sagittal

Distance

Max. distance



Hand flat on table, elbow flexed 90°, elbow directed towards sonographer



12 – 15 MhZ

Hum

T: triceps
Hum: humerus
Ole: olecranon
*: cartilage

15. Wrist

Radiolunate – lunate capitatum – capitatum-metacarpal recess

Longitudinal midline

sagittal scan

(over metacarpal 3)

Distance

Max. distance

3 measures



Hand and wrist flat on table, avoid radial or ulnar deviation of the hand



R: radius
Lun: os lunatum

Cap: os capitatum
Meta: 3rd Metacarpal bone

12 – 15 Mhz

16. Wrist

Extensor digitorum tendons
(comp IV): tendon and sheet

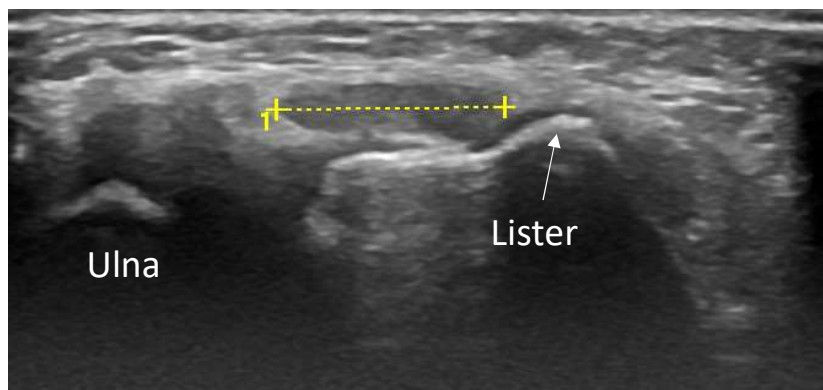
*Transverse midcarpal
(over metacarpal 3)*

Max. diameter

At Lister tubercle

2 measures

12 – 15 MhZ



17. Wrist

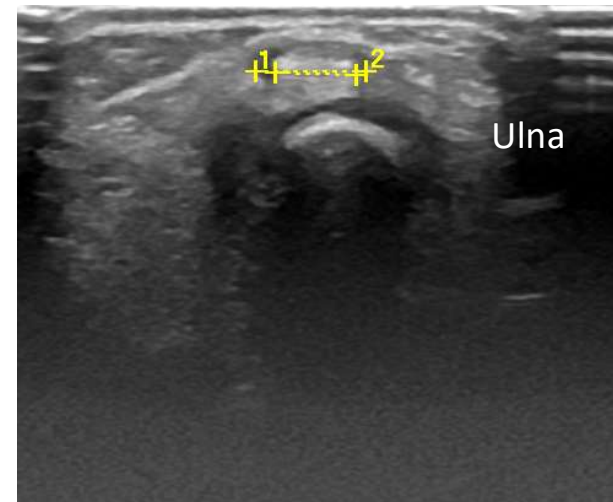
Extensor carpi ulnaris tendon
(comp VI): tendon and sheet

Ulnar transverse scan

Diameter

At ulnocarpal joint

2 measures



18. MCP2 dorsal

Synovial distention

Longitudinal midline

Sagittal scan

distance

Max. distance



19. MCP2 dorsal

Flexion of MCP

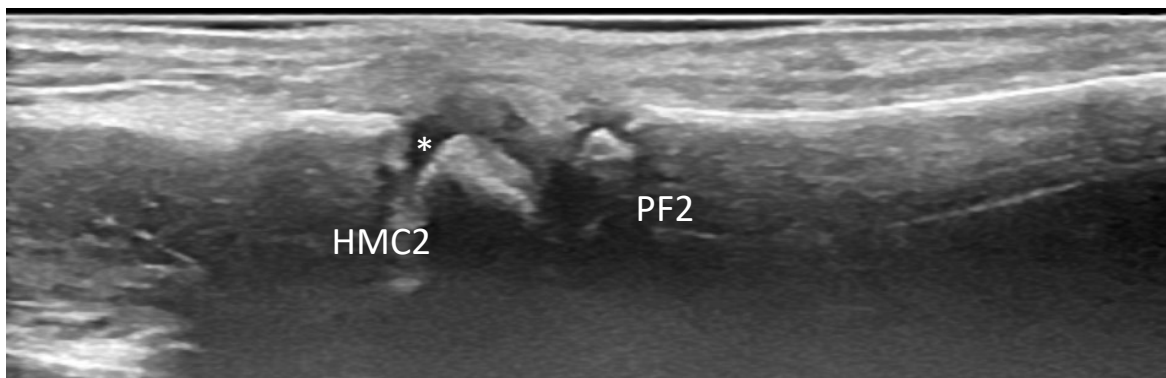
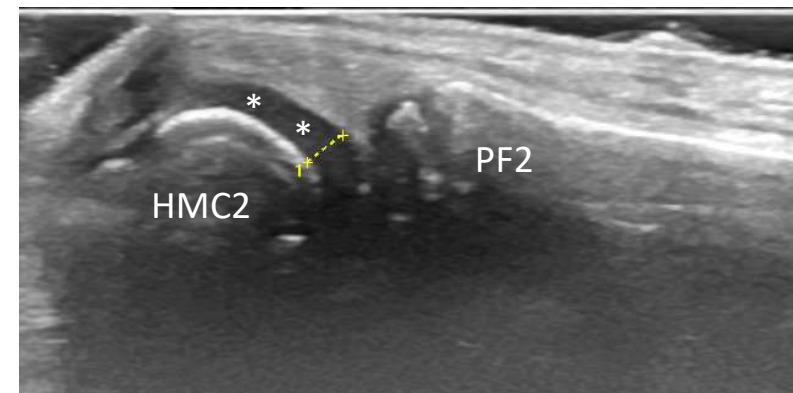
Cartilage metacarpal
head

Longitudinal midline

Sagittal scan

Thickness

Max. thickness



HMC2: metacarpal head 2

PF2: head of proximal phalanx 2

*: cartilage

15 Mhz

20. MCP2 volar

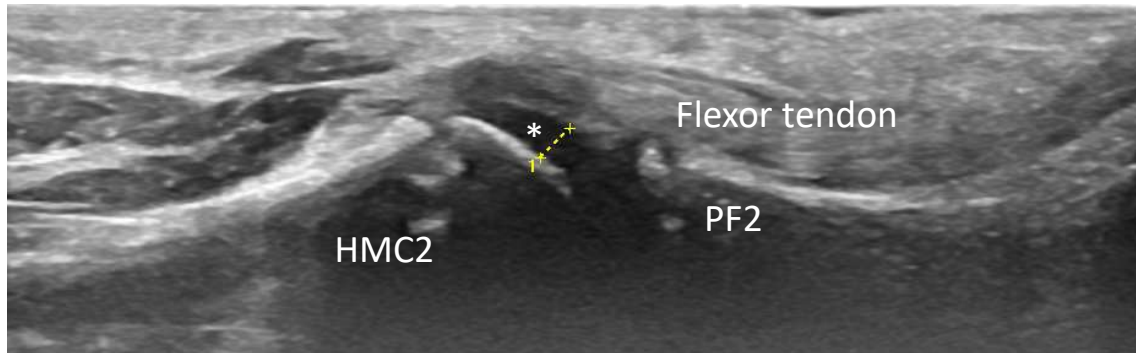
Capsular distention

Longitudinal midline

sagittal scan

Distance

Max. diameter



20. MCP2 volar

Cartilage metacarpal
head

Longitudinal midline

Sagittal scan

Thickness

Max. thickness

*Dorsum hand on table
Forearm in full supination*



HMC2: metacarpal head 2

PF2: head of proximal phalanx 2

*: cartilage

15 MhZ

21. MCP2 volar

Flexor digitorum tendon (profundus + superficialis)
(measure just proximal to MCP2 joint)

incl. surrounding sheet

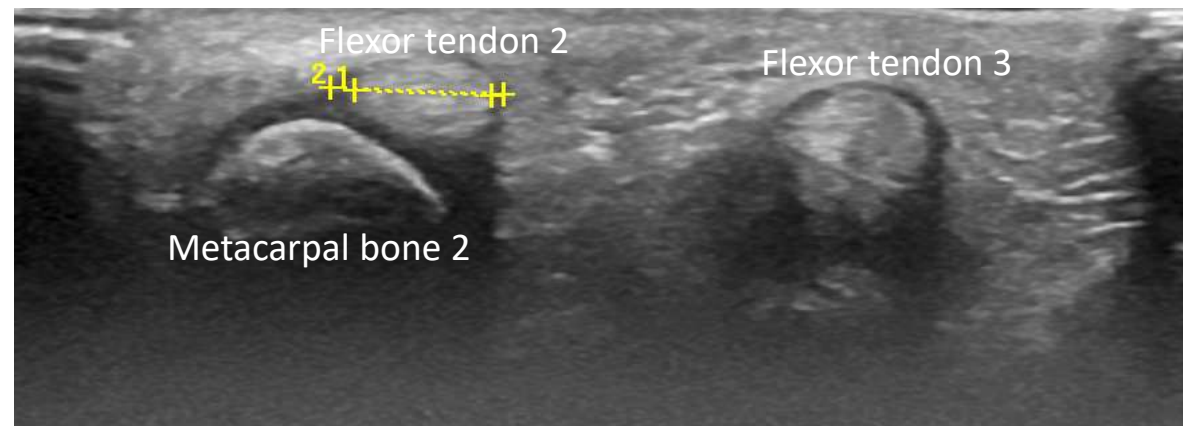
Transverse scan

Diameter

Max. diameter

2 measures

15 MhZ



*Dorsum hand on table
Forearm in full supination*

