

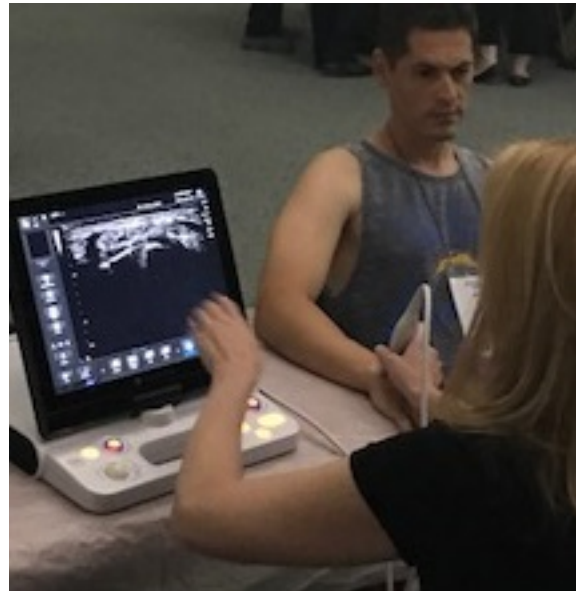
# The Practical Fundamentals of Musculoskeletal Ultrasound

## Hand and Wrist Exam for Rheumatology



# Positioning

- Patient
  - Sitting
  - Hands resting palm down on small table
- Machine
  - Position system to the right of the patient, facing the same direction as the patient
- Sonographer
  - Sit facing patient



# Probe selection and positioning

- Use a high frequency linear or hockey stick probe



- Position indicator side of probe proximally for long axis views
- Position indicator side of probe laterally (ulnar) for short axis views

# Bilateral hand and wrist exam for RA

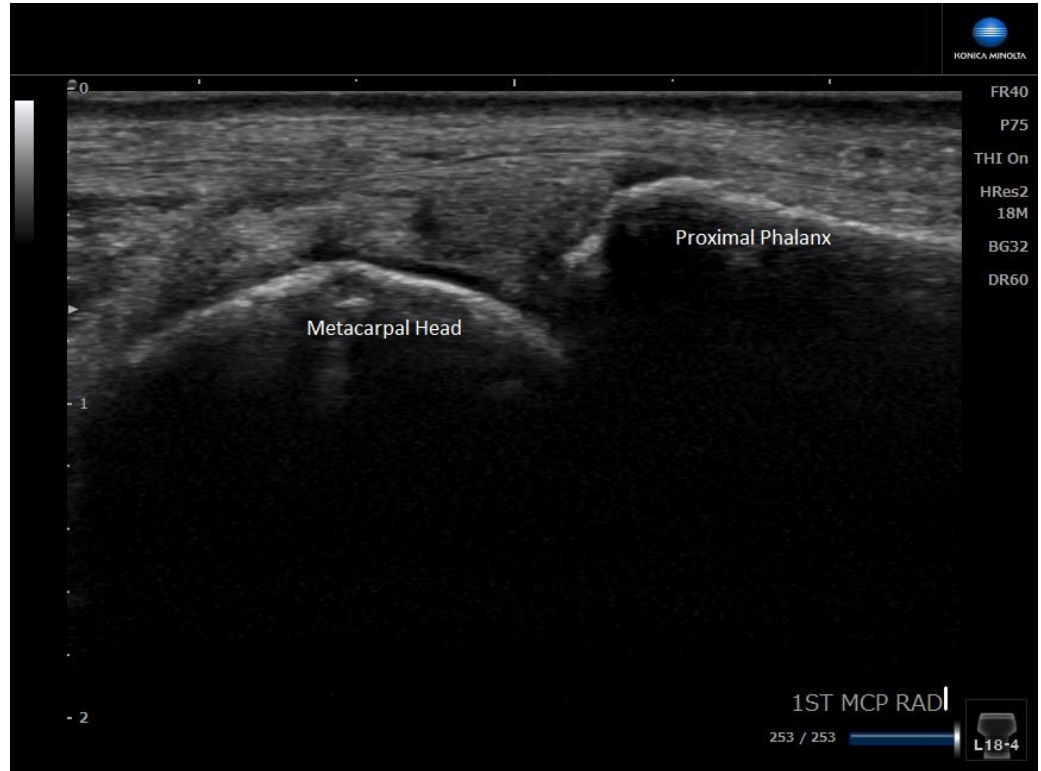
- Hand
  - Metacarpophalangeal (MCP) joints 1 through 5
    - Long axis views
      - Radial
      - Dorsal
      - Dorsal with power Doppler
      - Ulnar
    - Short axis views
      - Dorsal
      - Dorsal with power Doppler

# Bilateral hand and wrist exam for RA

- 1<sup>st</sup> Carpometacarpal joint
  - Long axis
  - Short axis
- Dorsal wrist
  - Short axis
    - Lister's tubercle
    - 4<sup>th</sup> wrist compartment
    - Scapholunate ligament
  - Long axis
    - Radial view
    - Capitate view
    - Ulnar view

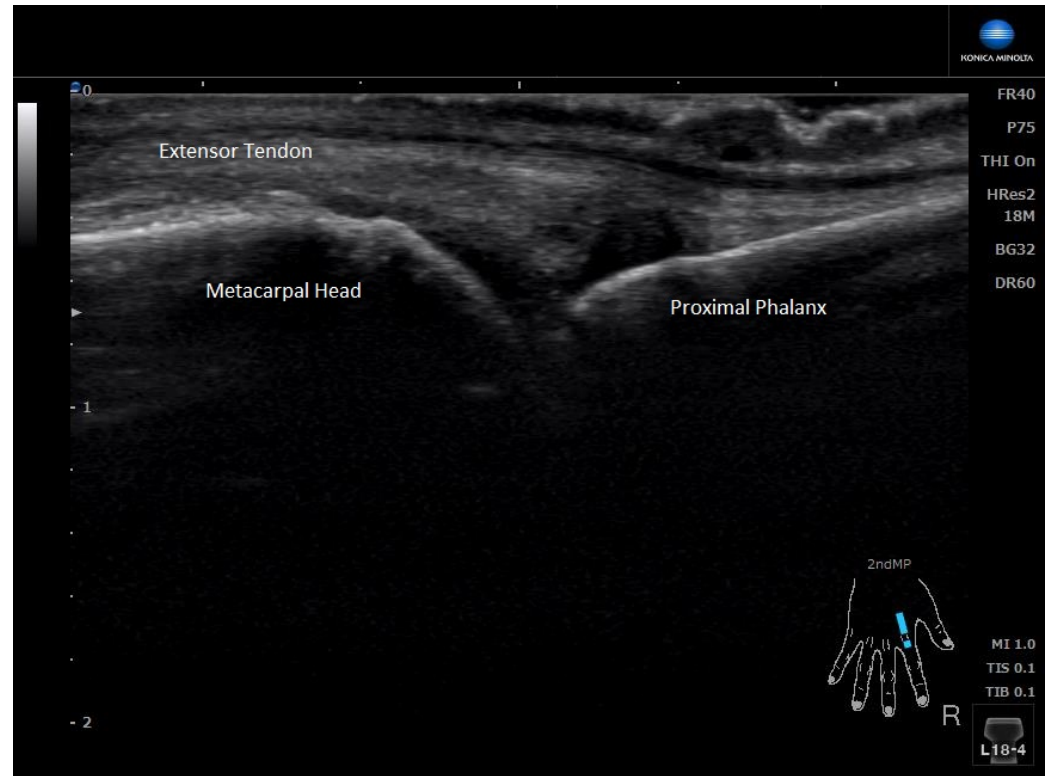
# Metocarpophalangeal joints

- Radial long axis



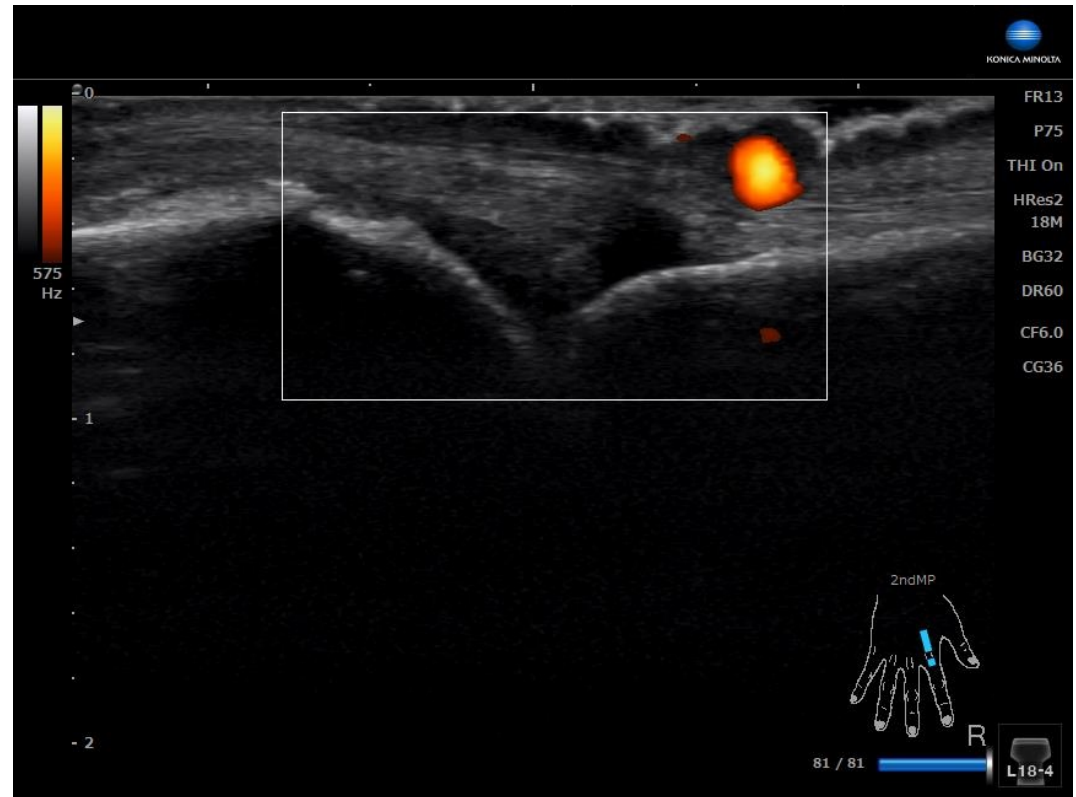
# Metocarpophalangeal joints

- Dorsal long axis



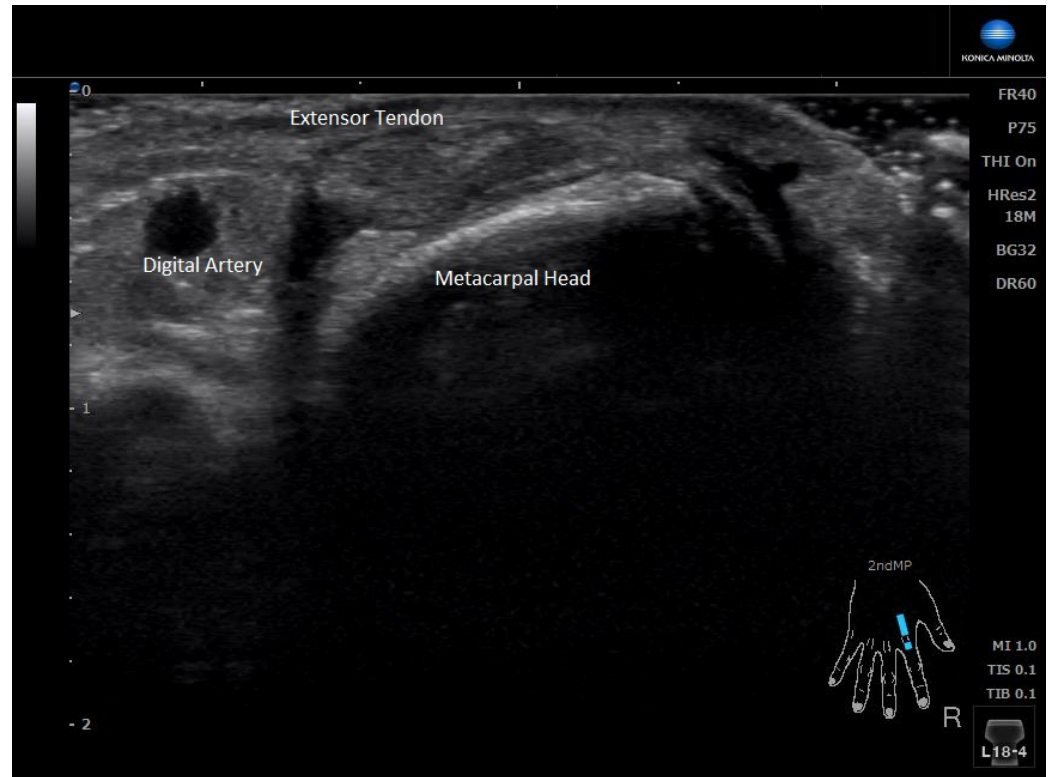
# Metocarpophalangeal joints

- Dorsal long axis with power Doppler



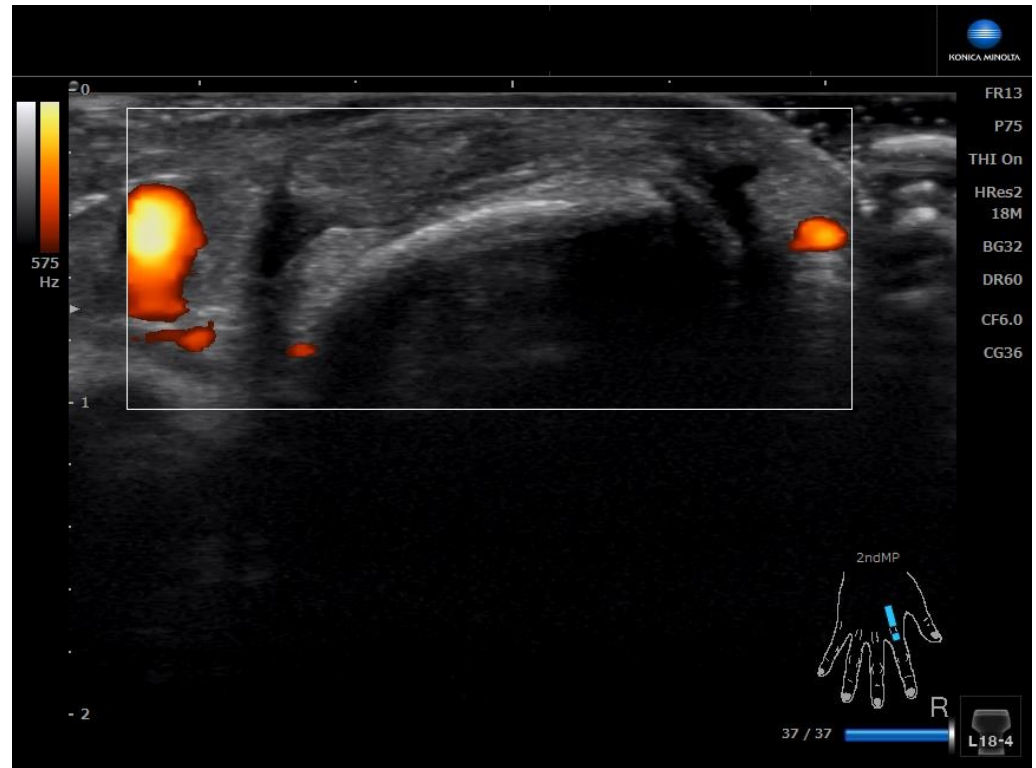
# Metocarpophalangeal joints

- Dorsal short axis



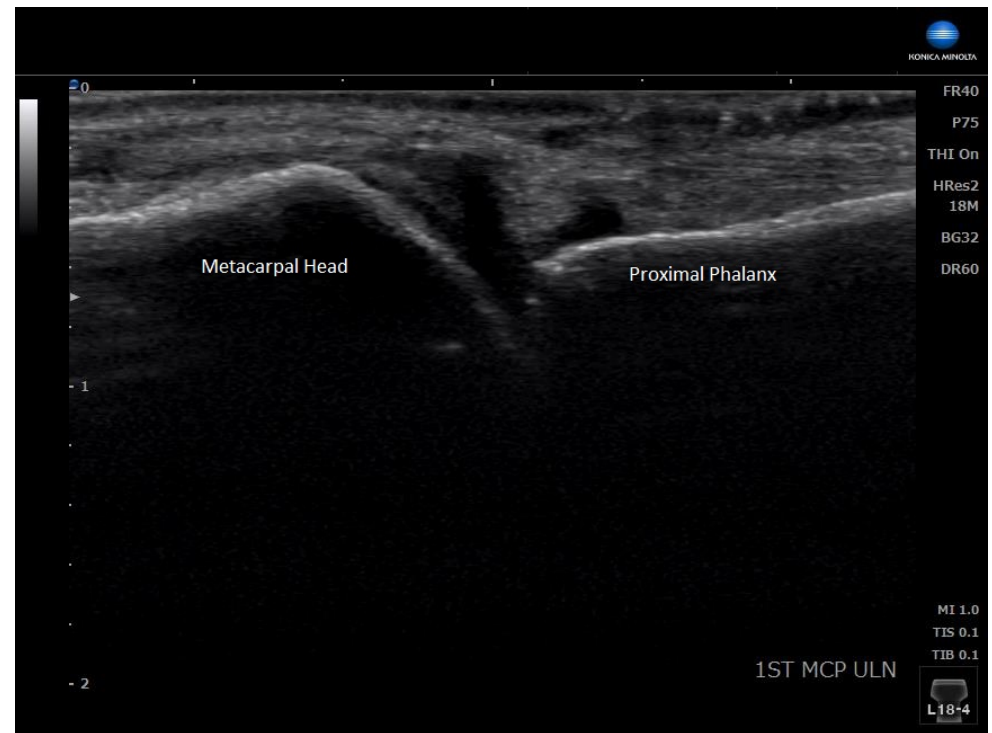
# Metocarpophalangeal joints

- Dorsal short axis with power Doppler



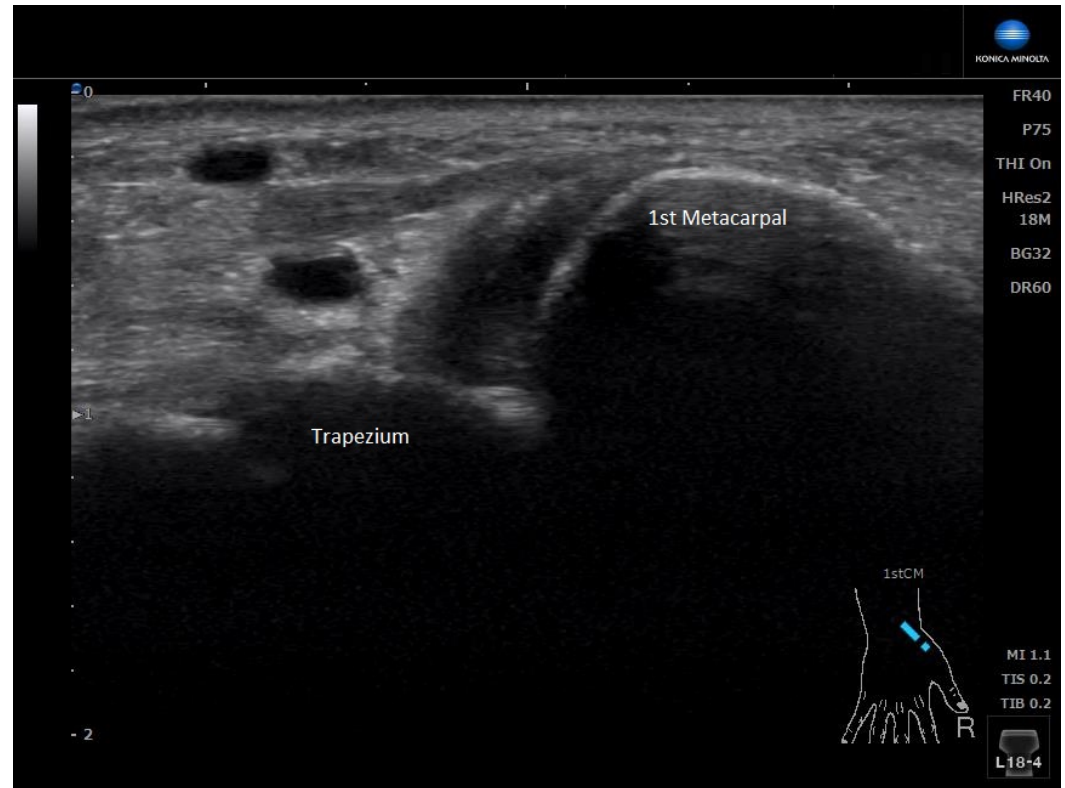
# Metocarpophalangeal joints

- Ulnar long axis



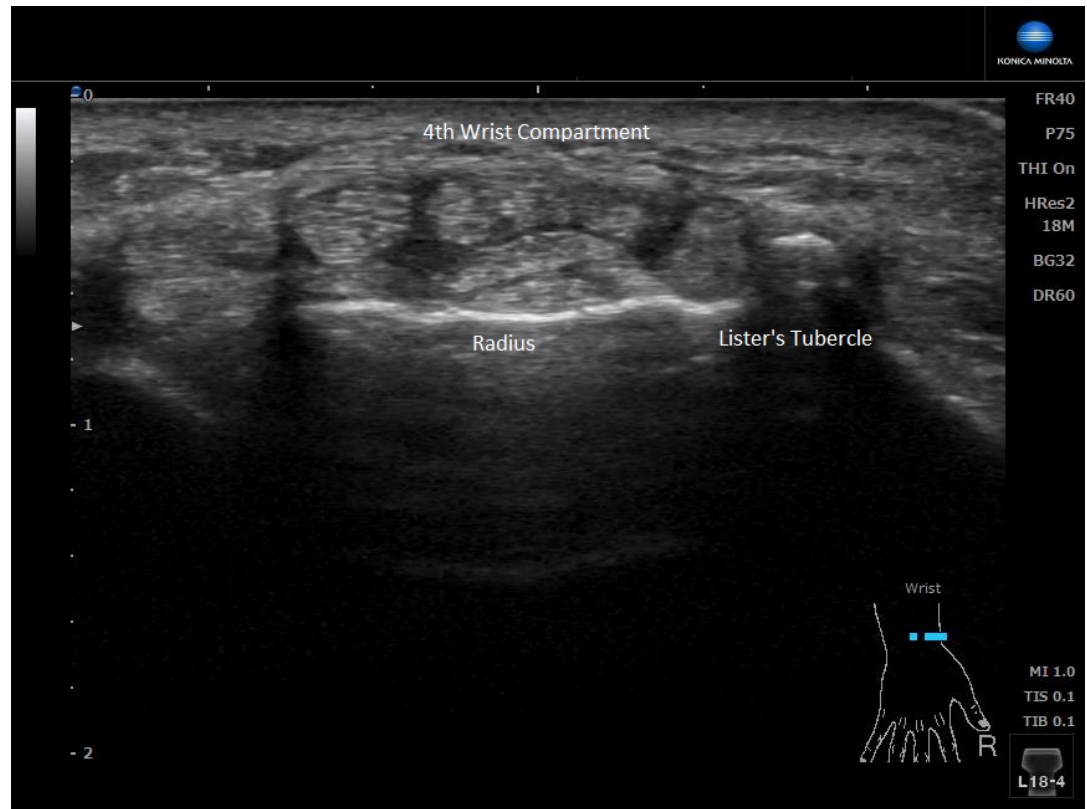
# 1<sup>st</sup> CMC joint

- Dorsal long axis



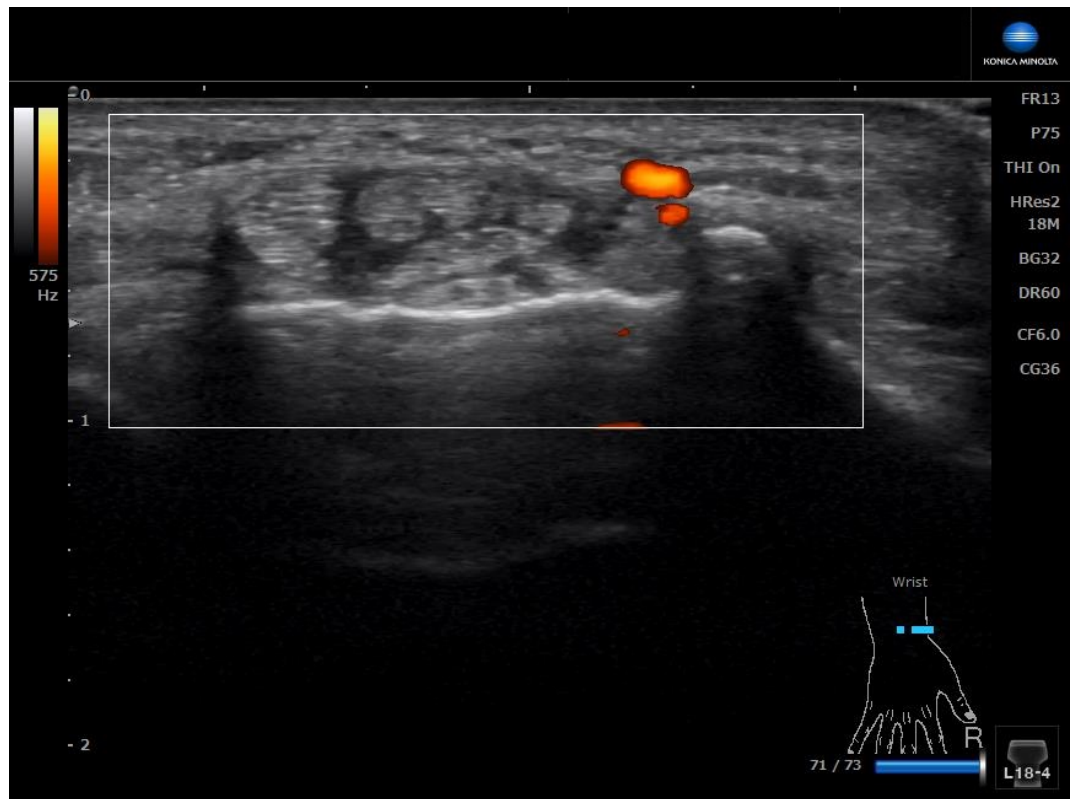
# Dorsal wrist

- Short axis



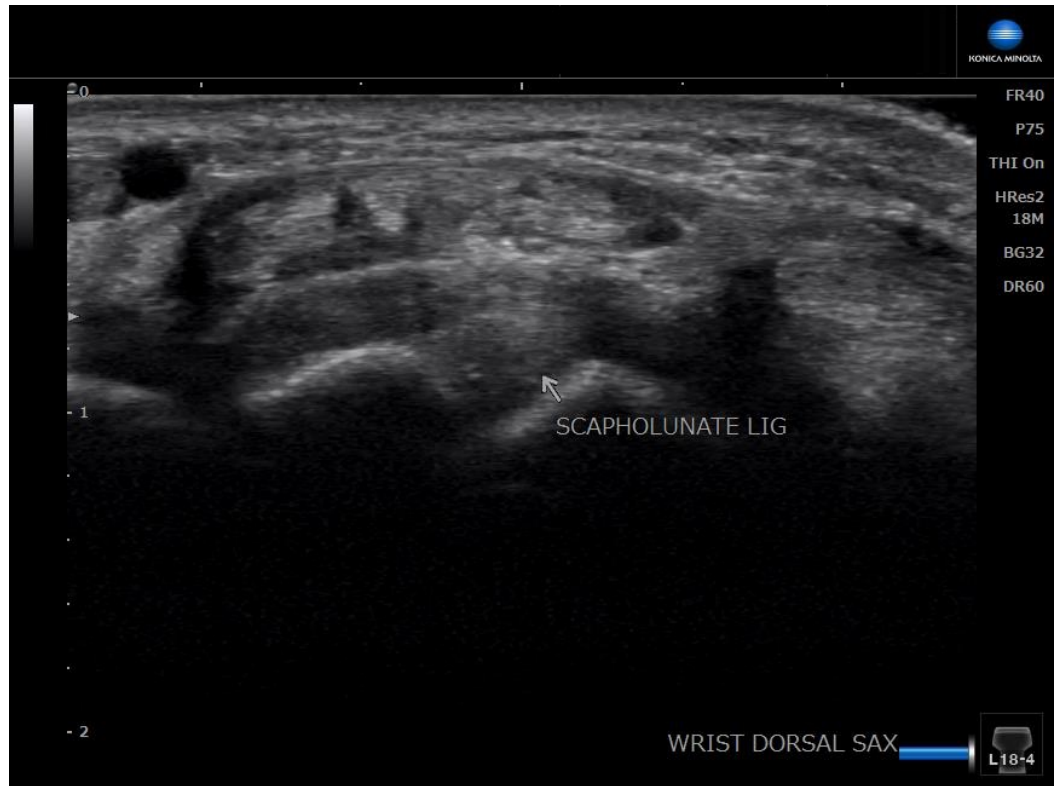
# Dorsal wrist

- Short axis with power Doppler



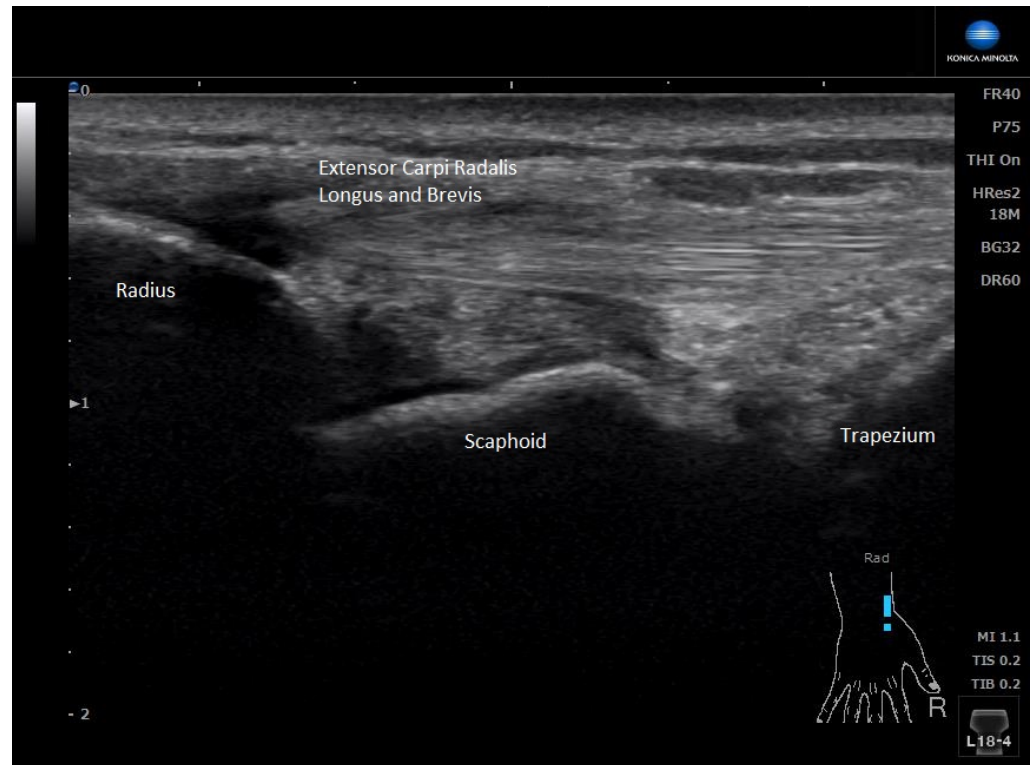
# Dorsal wrist

- Scapholunate ligament



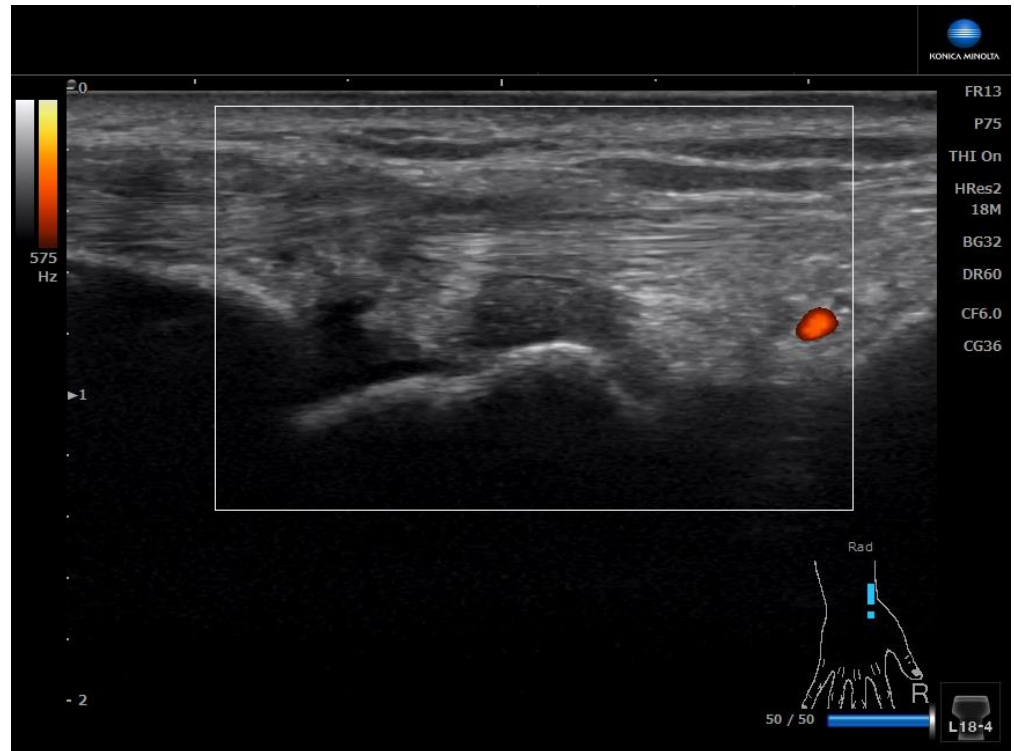
# Dorsal wrist

- Radial long axis



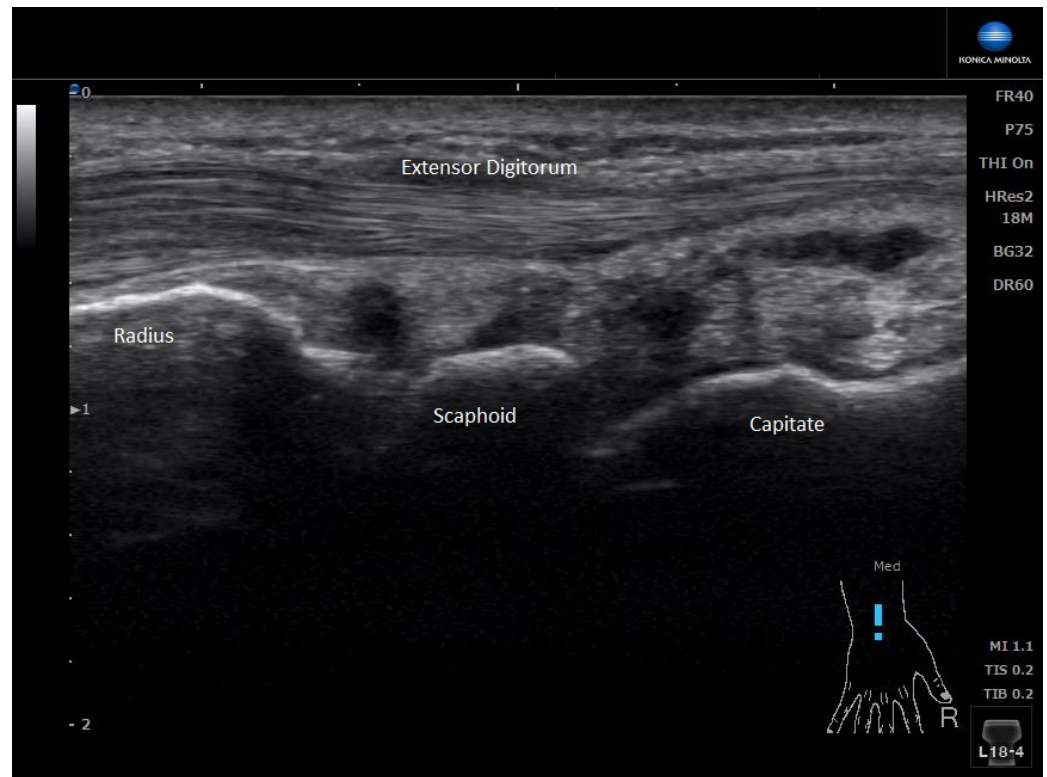
# Dorsal wrist

- Radial long axis with power Doppler



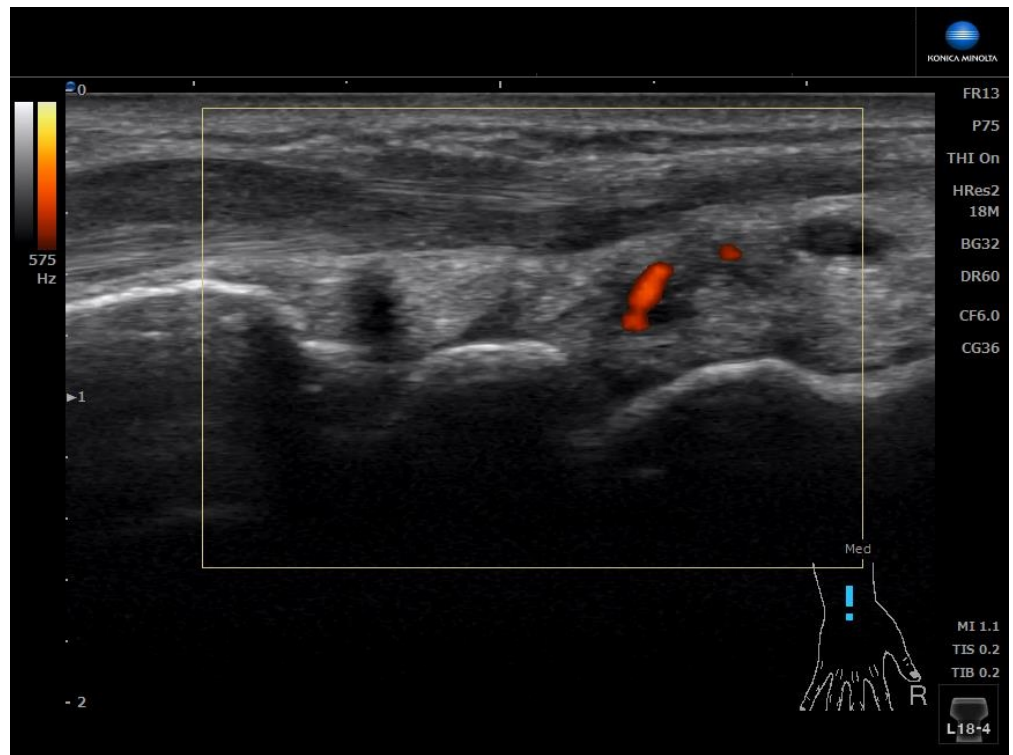
# Dorsal wrist

- Capitate long axis



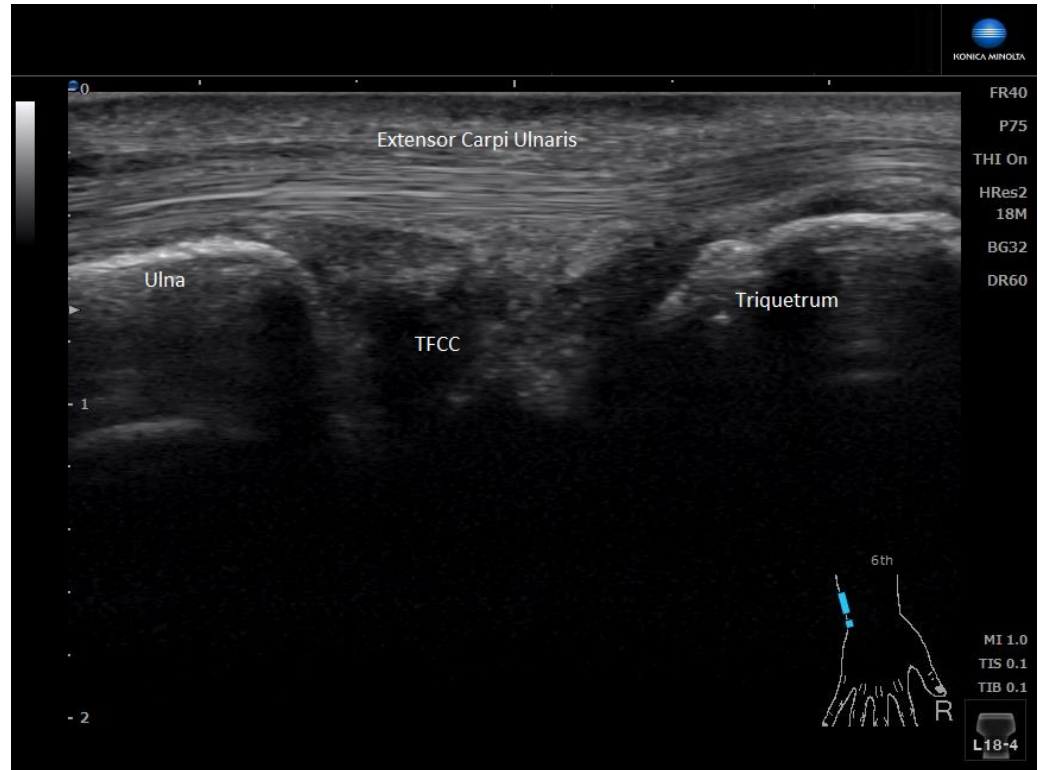
# Dorsal wrist

- Capitate long axis with power Doppler



# Dorsal wrist

- Ulnar long axis



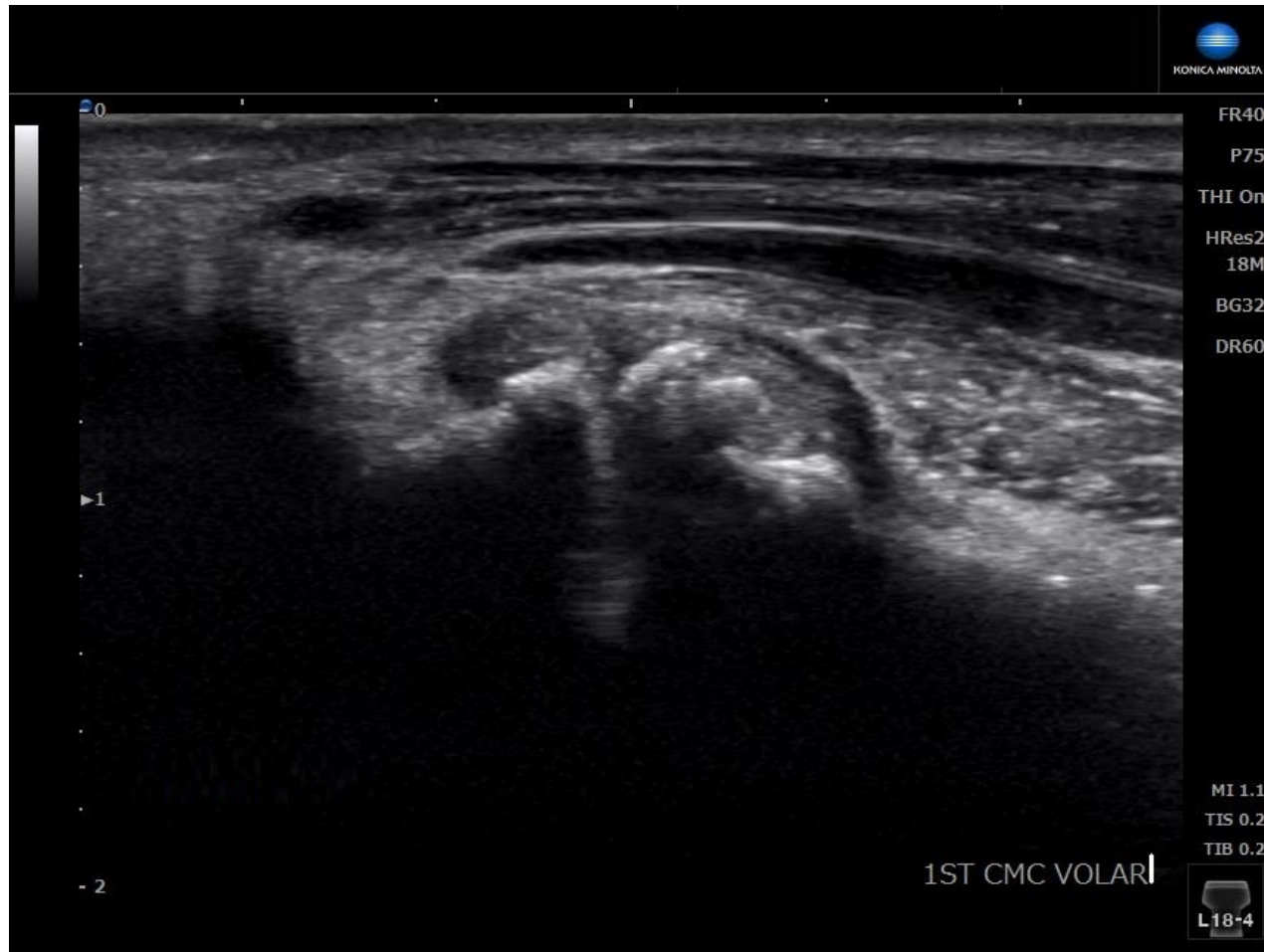
# Konica Minolta HS1 RA Protocol Package

- Streamlined protocol with image annotation
- Customizable
- Reporting capability

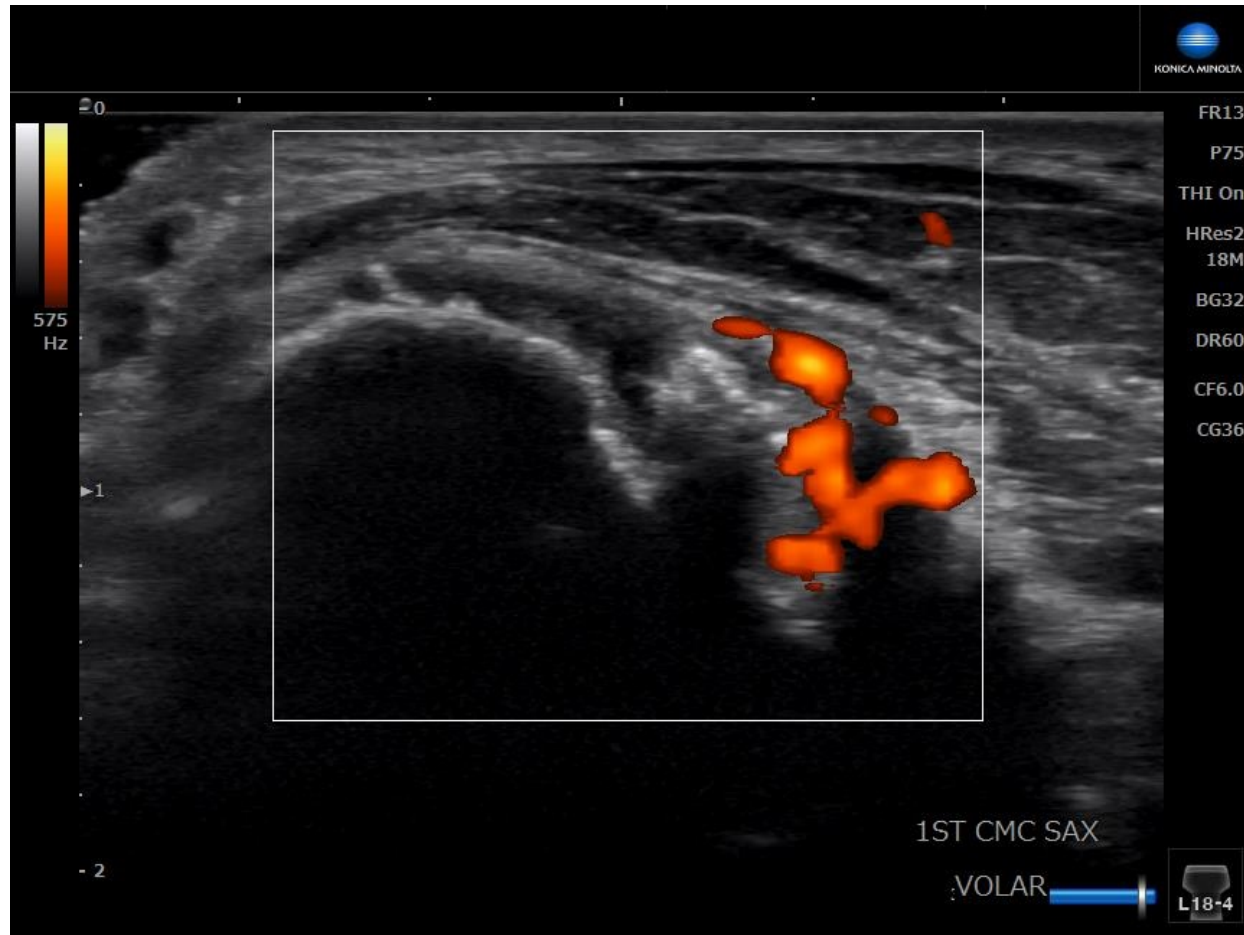
# Common pathology

- Joint effusion
- Synovial proliferation and synovitis
- Tenosynovitis
- Rheumatoid nodules
- Ganglion cysts
- Cartilage thinning
- Cortical irregularities
  - Bony erosions
  - Osteophytes

# Cortical irregularities



# Synovitis with power Doppler



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