Positioning and Planes for Extremity CT Exams

**SHOULDER CT**

Positioning
- Pt supine
- Affect arm by side with palm up
- Contralateral arm above head

Coverage
- From above AC joint to the bottom of the scapula.
- If there is a shoulder prosthesis, scan to include the distal end of the humeral component.
- Field of view (FOV) just wide enough to include entire scapula and proximal humerus.

Prescribe coronal plane off of axial images parallel to supraspinatus muscle

Prescribe sagittal plane off axial images with line parallel to bony glenoid.
- Image from scapular wing through deltoid muscle.
Positioning and Planes for Extremity CT Exams

ELBOW CT

Positioning
• Patient supine
• Arm by side or raised above head
• Palm up

Coverage
• From distal humeral metadiaphysis to the radial tuberosity.

Coronal Imaging Plane
• Prescribe plane parallel to anterior humerus at condyles.
• Scan through entire elbow.

Sagittal Imaging Plane
• Prescribe plane perpendicular to coronal plane
• Scan through entire elbow.
Positioning and Planes for Extremity CT Exams

WRIST CT

Positioning
• Patient prone
• Arm over head (“Mighty Mouse Position”)
• Arm as straight as possible
• Wrist centered in gantry

COVERAGE
• Prescribe plane parallel to distal radius.
• Scan from proximal metacarpals through distal radial/ulnar metaphysis.

Coronal Imaging Plane
• Prescribe plane parallel to line drawn from ulnar styloid through radial styloid.
• Scan through entire wrist

Sagittal Imaging Plane
• Prescribe plane perpendicular to coronal plane
• Scan through entire wrist
Positioning and Planes for Extremity CT Exams

HIP CT

Positioning
- Patient supine
- Legs flat on table

Scanning Plane
- Prescribe plane parallel to acetabular roof
- Scan from acetabular roof through lesser trochanter

Coronal Imaging Plane
- Prescribe plane parallel femoral heads.
- Scan from ischium through pubic symphysis

Sagittal Imaging Plane
- Prescribe plane perpendicular to coronal plane.
- Scan from acetabulum through greater trochanter.
Positioning and Planes for Extremity CT Exams

KNEE CT

Positioning:
- Patient Supine with feet first into scanner
- Keep knees extended, side-by-side.
- Tape the feet together with toes pointing up to help keep the knees from moving.
- Slide patient so that the knee being scanned is in the center of the table

Scanning Plane
- Prescribe plane parallel to axis of the tibial plateau.
- Scan knee from suprapatellar region to the proximal tibia

Coronal Imaging Plane
- Prescribe plane with line parallel to femoral condyles. Image entire knee.

Sagittal Imaging Plane
- Prescribe plane perpendicular to coronal plane
- Scan from the medial to the lateral femoral condyle.
Positioning and Planes for Extremity CT Exams

ANKLE CT

Positioning:
• Patient supine
• Center in scanner both feet or foot of interest (use foot holder, if available). If imaging both feet, bring them together
• Toes pointing straight up.
• Foot inverted slightly

Scanning Plane
• Prescribe plane parallel to axis of calcaneus.
• Scan ankle from distal tibia through beyond the inferior calcaneous

Coronal Imaging Plane
• Prescribe plane perpendicular to axial imaging plane. Scan ankle from calcaneus through metatarsal bases.

Sagittal Imaging Plane
• Prescribe plane with line bisecting calcaneus.
• Scan through entire foot.