Adopted: 3/05

# Imaging Decision Making: Recommended Radiographic Projections

*This document lists the routine, supplemental and alternative projections performed in the Diagnostic Imaging Department at Western States Chiropractic College. This listing is also the recommended protocol to those referring physicians for whom the college provides radiology consultation.*

*We agree with most authorities in the field of radiology that these routine examinations represent the minimum diagnostic series for each listed body part under most circumstances, and should be the starting point for these radiographic imaging studies.*

*The supplemental views listed are performed to extend the scope of the examination when specifically indicated by either the clinical findings or evaluation of the routine examination. The alternate views listed may be substituted for routine projections when warranted by the patient's condition or the specific requirement of the case.*

## Upright/Recumbent Studies

Routine studies of the cervical, thoracic and lumbar spine are taken in the upright position. When full spine films are indicated they are also performed in the upright position. Erect studies provide weight-bearing postural information in addition to demonstrating the anatomical structures. Upright radiography is consistent with the usual practice in chiropractic clinics, which are not always equipped with radiographic tables. This practice provides referring physicians with the information they are accustomed to seeing and provides interns with experience in common chiropractic procedures.

Oblique lumbar projections, as well as lateral and AP axial lumbosacral spot films, are routinely taken recumbent at WSCC. However, these views may be performed in the upright position if a radiographic table is not available. Routine examinations of the torso on larger patients (those having an AP diameter of > 28-30 centimeters) may also be taken recumbent, as this method improves radiographic quality as compared to upright studies under these circumstances.

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**NOTE: This text does not purport to be a guide for positioning, but a listing of views and projections commonly used at WSCC. Any technical information included, such as tube angle or location, is intended only to distinguish one view from another.**

# VERTEBRAL COLUMN

| Body Area | Minimum Series | Alternate Views | Supplemental Views |
|---|---|---|---|
| **Cervical Spine** | AP<br>Lateral<br>AP Open Mouth (Odontoid) | Swimmer's<br>Fuchs/Judd | Swimmer's<br>Obliques<br>Flexion/Extension<br>Lateral Bending APOM<br>Pillars |
| **Thoracic Spine** | AP<br>Lateral | | Swimmer's |
| **Lumbar Spine** | AP/PA<br>Lateral | | Axial AP/PA LS Spot<br>Obliques<br>Lateral L5/S1 Spot<br>Flexion/Extension<br>Traction/Compression<br>Scanogram |
| **AP Full Spine** (for scoliosis evaluation) | AP Projection (initial exam)<br>PA Projection (for subsequent exams) | | Sectional Laterals<br>APOM |
| **Sacrum** | AP<br>Lateral | | |
| **Coccyx** | AP<br>Lateral | | |
| **Sacroiliac Joint** | Bilateral oblique projections (AO/PO) | | AP/PA axial projection |

# LOWER EXTREMITY

| Body Area | Minimum Series | Alternate Views | Supplemental Views |
|---|---|---|---|
| **Pelvis** | AP (erect or recumbent) | | Scanogram (leg length evaluation)<br>Chamberlain Method (for pubic symphysis) |
| **Femur** | AP (distal/proximal)<br>Lateral (distal/proximal) | Cross-table lateral | |
| **Hip** | AP<br>Frog-leg | Cross-table lateral | |
| **Knee** | AP<br>Lateral | Standing PA (bilateral)<br>Cross-table lateral | Tangential Patella ("sunrise")<br>AP/PA Intercondylar Fossa ("tunnel")<br>Weight-bearing AP |
| **Ankle** | AP<br>Medial Oblique (mortise 15-20º)<br>Lateral | | Stress Views<br>Medial Oblique (45º)<br>Lateral Oblique<br>Standing AP |
| **Foot** | AP<br>Medial Oblique<br>Lateral | Standing w/tube angle | Lateral Oblique<br>Tangential Sesamoid (Lewis/Holly views)<br>Weight-bearing Lateral |
| **Calcaneus** | Axial (plantodorsal)<br>Lateral | PA (dorsoplantar) | Coalition View (standing) |
| **Toes** | AP<br>Oblique<br>Lateral | | Opposite oblique (both obliques for trauma) |

# UPPER EXTREMITY

| Body Area | Minimum Series | Alternate Views | Supplemental Views |
|---|---|---|---|
| **Shoulder** | AP internal rotation<br>AP external rotation | Neutral AP<br><br>Inferosuperior projection | Grashey view (glenohumeral joint)<br>Outlet (Neer view)<br>Trans-thoracic (Lawrence view)<br>Y-View<br>Axillary projection |
| **Humerus** | AP<br>Lateral | | Trans-thoracic (Lawrence view) |
| **A-C Joints** | Bilateral Weight-bearing<br>Non-weight bearing | | 15º cephalad (Alexander view) |
| **Clavicle** | AP/PA<br>Axial AP/PA | | |
| **Scapula** | AP<br>Lateral | | Y-View<br>Oblique |
| **Elbow** | AP<br>Lateral | Cross-table Laterals using various hand positions | Obliques<br>Radial Head (Coyle view)<br>Jones<br>Partial extension |
| **Wrist** | PA<br>Lateral<br>Oblique (Anteromedial) | AP<br>Dorsomedial oblique (pisiform) | Ulnar flexion (scaphoid)<br>Ulnar extension<br>Lateral flexion/extension<br>Clenched fist<br>Carpal tunnel<br>Carpal bridge |

# UPPER EXTREMITY continued...

| Body Area | Minimum Series | Alternate Views | Supplemental Views |
|---|---|---|---|
| **Hand** | PA<br>Oblique (Anteromedial)<br>Lateral | AP<br>Mediolateral | Ball catcher |
| **Fingers** | PA<br>Oblique (Anteromedial)<br>Lateral | AP | Opposite oblique (both obliques for trauma) |
| **Thumb** | AP<br>Lateral<br>Oblique | PA | 0º or 15º proximal @ CMC or MCP |

# THORAX

| | | | |
|---|---|---|---|
| **Chest** | PA<br>Left lateral | AP<br>Right lateral | Obliques<br>Axial Apical lordotic<br>Inspiration/Expiration |
| **Ribs** | Frontal (PA/AP) *<br>Oblique (AO/PO) *<br>* Appropriate to area of interest | | Costal Joint AP axial |
| **Sternum** | RAO (Use "Breathing Method")<br>Lateral | LPO | |

# ABDOMEN

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|---|---|---|---|
| **Abdomen** | AP abdomen (KUB)<br>Upright abdomen | Decubitus (Left lateral) | |

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**SOURCES**

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