




National University of Health Sciences General Policies

Title: Scoliosis Radiography and Interpretation	Page	1	of	2
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POLICY STATEMENT

Conventional radiography is an essential tool during the assessment and clinical management of patients with scoliosis. Careful attention to the production of the radiograph, and any measurements made thereon, are necessary for proper decision-making. For example, an error, as small as, 2-3 mm (especially in the young patient) can result in failure to accurately estimate the leg length difference to be expected by skeletal maturation.

The following procedural statement itemizes the expected conventions that should be followed whenever obtaining and interpreting scoliosis related studies:

ADULTS:

1. Anteroposterior and Lateral Projections:
 - Direct the CR to the area of suspected scoliotic apex (center vertebra)
 - The cephalic and caudal limiting vertebrae of the scoliosis must be incorporated on the same film
2. Modified Chamberlain's View:
 - Required whenever a significant leg length inequality is suspected or noted
 - Obtained in the upright weight-bearing position with the ankles aligned under the hip joints
 - The CR is directed horizontally at the femur heads.
3. Lateral Bending Recumbent Views:
 - Usually, these are special views in the adult.
 - The protocol is the same as for the children.

CHILDREN:

1. Anteroposterior and Lateral Projections:
 - Direct the CR to the area of suspected scoliotic apex (center vertebra)
 - The cephalic and caudal limiting vertebrae of the scoliosis must be incorporated on the same film.
2. Riser's Sign:
 - When it is not possible to image the iliac crests on the AP projection, a separate film should automatically be added to the series so that Riser's sign may be determined.
 - Otherwise, the pressure of the Riser's sign should be checked on the film that includes the scoliosis
3. Lateral Bending Recumbent Views:
 - These views are taken supine with the patient in maximum lateral bending in order to determine maximum passive flexibility of the spine
 - The technologist manually positions and blocks the patient in maximum lateral flexion
 - The CR is placed at the level of the apex of the curve
 - Interpretive information of value includes any change in Cobb angle from neutral position to each end-point bending, and the evaluation of intersegmental kinematics.
4. Recumbent Scanogram:
 - The patient is positioned supine with a meter rule placed in the midline.
 - The rule must be located proximally so as to ensure coverage of the femoral heads, as well as the sub-talar joints distally
 - The legs must be parallel
 - With close collimation, separate images are sequentially exposed at the level of the acetabuli, knee joints, and ankles, on a single 14 X 17 cassette
 - The most helpful interpretation is a direct bilateral measurement and comparison of the length of each long bone (femur and tibia), and a survey for pathology especially at the diaphyses
 - In cases where abnormality other than leg length inequality is evident, additional views should be added automatically, as deemed appropriate

ADDITIONAL CONSIDERATIONS:

- Interpretation of pelvic unleveling in the upright neutral posture and comparison to any degree of length inequality is helpful
- When inconsistency exists, a separate pelvic view should be ordered to assess any structural deficit of the pelvis or femoral neck angle
- Further, any anomaly of the vertebral architecture may be imaged by a spot view if necessary