



## *CAR Standards for Performance of the Thoracic (Dorsal) Spine*

### **First adopted: June 2000**

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### **I. INTRODUCTION**

Radiography of the thoracic spine is a proven and useful initial procedure for evaluation of the thoracic vertebrae, including the pedicles, and for the disk spaces and the paravertebral spaces. This standard outlines the principles for the performance of high quality thoracic spine radiography.

All radiographic examinations should be performed in accordance with the CAR Standard for General (Plain) Radiography.

### **II. GOAL**

The goal of the radiographic examination of the thoracic spine is to identify anatomic abnormalities or disease processes of the thoracic spine and soft tissues.

### **III. INDICATIONS**

A. Indications for radiography of the thoracic spine include, but are not limited to:

1. Trauma to, or potentially involving, the thoracic spine.
2. Back pain in the thoracic region.
3. Pain radiating around the chest wall.
4. In children, limping or refusal to bear weight, suspected congenital anomaly of the thoracic spine, syndromes associated with spinal abnormalities and evaluation of scoliosis and kyphosis.
5. Current or prior surgery to the thoracic spine.
6. Evaluation of a thoracic spine abnormality seen on another imaging study, e.g. bone scans.
7. Arthritis.
8. Osteoporosis; compression fractures
9. Follow-up of previous thoracic spine abnormality.
10. Evaluation of primary and secondary malignancy.

### **IV. SPECIFICATIONS OF THE EXAMINATION**

A. Complete Thoracic Spine Examination

1. Anteroposterior and lateral views are the standard two views in evaluating the thoracic spine. The technique recommended for AP and lateral views of the thoracic spine:
  - 10o off lateral projection
  - "breathing" technique may be used for AP and lateral projections. Shallow breathing technique requires an exposure of at least 2 seconds to provide optimum visualization of the vertebrae.
2. Additional views may be helpful in completing the evaluation in selected cases, e.g. swimmer's, obliques, thoracolumbar, or coned down views.

If general radiography is not sufficient to resolve the questions, other studies should be performed to complete the evaluation, such as CT, MRI, or skeletal scintigraphy.

B. The Following Quality Control Procedures Should be Applied to all Thoracic Spine Radiography

1. The examination should completely demonstrate the entire thoracic spine, or the levels of clinical interest in a limited exam.
2. If prior thoracic spine films are available, they should be compared.

#### **REFERENCES**

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