Abstract
Lumbar discography, a useful modality for evaluating patients with lower back pain, is performed under fluoroscopy with posteroanterior and lateral fluoroscopic imaging. Despite use of fluoroscopy, needle placement into the L5–S1 disc may be difficult, especially in the presence of degenerative changes. We describe use of angled posteroanterior fluoroscopy with the fluoroscopy beam directed 30° to 40° caudally in a prone patient for clear visualization of the L5–S1 disc space. Use of this radiographic view aids in accurate needle placement and might decrease both procedure duration and fluoroscopic exposition.

Lumbar discography has been one of the common diagnostic modalities for evaluating patients with lower back pain, though its application remains controversial.1 Discography is a valuable test in selected patients, especially as it provides physiologic information about the role a given intervertebral disc plays in a patient’s symptoms.2,3 The main values of discography may include direct determination of internal disc rupture and its correlation with associated symptoms, which may not be detected by T2-weighted magnetic resonance images.4

Technique Description
The patient is placed in the prone position on a fluoroscopy table (Figure 1). The entrance point for needle insertion for the L5–S1 discography can be marked 5 centimeters lateral to the L5 spinous process (Figure 2). After the skin is prepared, it is anesthetized with 1% lidocaine. The fluoroscopy beam is then oriented caudally at approximately 30° to 40° with respect to the table (Figure 1). This needle insertion for the L5–S1 disc is marked 5 centimeters lateral to the L5 spinous process (Figure 2). After the skin is prepared, it is anesthetized with 1% lidocaine. The fluoroscopy beam is then oriented caudally at approximately 30° to 40° with respect to the table (Figure 1). This...
view best displays the height and contour of the L5–S1 disc. With angled PA fluoroscopic control, a left paramedian approach can be taken to insert a 22-gauge spinal needle directly into the L5–S1 disc (Figure 3). Lateral fluoroscopic imaging can be used to confirm needle placement. After needle placement is confirmed, contrast medium is injected into the L5–S1 disc.

**Discussion**

Needle placement for discography at the LS junction remains a technical challenge because of the unique anatomy of the region. There is a transition in the curvature of the spine from a lordosis of the lumbar spine to a kyphosis of the sacrum. A standard AP plain film of the LS junction shows the superimposition of the anteroinferior portion of the LS vertebral body, L5–S1 disc and of the posteroinferior portion of the S1 vertebral body. This view therefore represents the oblique view of the LS junction and may result in a false sense of accurate needle position. A needle that seems to be in the L5–S1 disc on PA fluoroscopic imaging may not be in the disc space on the angled PA view because of the anteroinferior inclination of the L5–S1 disc.

The angled PA view of the LS junction, with the x-ray beam directed at the center of the L5–S1 disc and parallel to the inferior endplate of the L5 vertebra or the superior endplate of the S1, represents the true PA view of the LS junction. This fluoroscopic imaging best displays the height and contour of the L5–S1 disc space and allows accurate placement of a needle into the L5–S1 disc. It also decreases discography and fluoroscopy duration and avoids unnecessary injury to surrounding tissues from repeated needle placement.

**Authors' Disclosure Statement**

The authors report no actual or potential conflict of interest in relation to this article.

**References**