exertional back and leg pain, leading to less disability and improved functional outcomes. Laminectomy and fusion is usually reserved for patients with LSS and spondylolisthesis. Predictors of a poor surgical outcome include impaired walking preoperatively, depression, cardiovascular disease, and scoliosis. Up to one-quarter of surgically treated patients develop recurrent stenosis at the same or an adjacent spinal level within 7–10 years; recurrent symptoms usually respond to a second surgical decompression.

Neural foraminal narrowing or lateral recess stenosis with radiculopathy is a common consequence of osteoarthritic processes that cause LSS **(Figs. 17-1 and 17-6)**, including osteophytes, lateral disk protrusion, calcified disk-osteophytes, facet joint hypertrophy, uncovertebral joint hypertrophy (in the cervical spine), congenitally shortened pedicles, or, frequently, a combination of these processes. Neoplasms (primary or metastatic), fractures, infections (epidural abscess), or hematomas are less frequent causes. Most common is bony foraminal narrowing leading to nerve root ischemia and persistent symptoms, in contrast to inflammation that is associated with a paracentral herniated disk and radiculopathy. These conditions can produce unilateral nerve root symptoms or signs due to compression at the intervertebral foramen or in the lateral recess; symptoms are indistinguishable from disk-related radiculopathy, but treatment may differ depending on the etiology. The history and neurologic examination alone cannot distinguish between these possibilities. Neuroimaging (CT or MRI) is required to identify the anatomic cause. Neurologic findings from the examination and EMG can help direct the attention of the radiologist to specific nerve roots, especially on axial images. For *facet joint hypertrophy with foraminal stenosis*, surgical foraminotomy produces long-term relief of leg and back pain in 80–90% of patients. Facet joint or medial branch blocks for back or neck pain are sometimes used to help determine the anatomic origin of back pain or for treatment, but there is a lack of clinical data to support their utility. Medical causes of lumbar or cervical radiculopathy unrelated to primary spine disease include infections (e.g., herpes zoster and Lyme disease), carcinomatous meningitis, diabetes, and root avulsion or traction (trauma).