

## Stress Fractures of the Pelvis

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Postmenopausal females with osteoporosis are at a relatively high risk for stress or insufficiency fractures of the pelvis. The older the patient, the higher the risk. Twenty percent of people over age 70 suffer from fractures caused by weakening of bones from osteoporosis.

Most of us are well aware of stress fractures that involve the femoral neck and pubic bones. Other stress fractures involving the pelvis are not so easily identified, but they are not uncommon. These fractures involve the sacrum and acetabulum. They can go unrecognized, leading to occult fractures and causing serious complications.

Frequently, the patient complains of low back pain and/or hip pain. Pain radiating down one leg is often an associated complaint. The patient will often have a history of steroid therapy, radiation therapy or rheumatoid arthritis. Steroid and radiation therapy both cause osteonecrosis and accelerate the changes associated with osteoporosis. Rheumatoid arthritis is almost always associated with osteopenia due to hyperemia caused by inflammation and pannus formation, which slowly destroys the joint. Often these patients already have compression fractures involving the spine due to osteoporosis.

The two areas in the pelvis that are predisposed to stress fracture and are commonly missed are the supra-acetabular region and the sacral region. Supra-acetabular stress fractures can be seen on routine radiographs as hazy bands of sclerosis immediately above and parallel to the acetabular roof. Stress fractures of the sacrum can be easily missed due to the overlying bowel and poor visualization of the structure due to osteoporosis. A CT scan is often needed to diagnose stress fractures of the sacrum.

Three-phase bone scintigraphy is often used to monitor the healing stress fracture. Generally, after 10 months, the fracture should have essentially healed, but it may take much longer with older patients.

I have managed several patients with stress fractures due to osteoporosis. Generally, if the stress fracture is in a weightbearing area, bed rest is recommended for two weeks. Afterwards, therapeutic exercises are added daily in the form of range of motion, walking and fluttering/kicking, all performed in a pool. The patient is still to remain non-weightbearing for the next two weeks.

The water exercise program is continued, and weightbearing periods are gradually extended, with short walks on level ground. A bone scan should be repeated after six months of therapy, and weightbearing can be extended as long as the bone scan demonstrates significant healing of the fracture. Most stress fractures can be managed conservatively and respond well if diagnosed before an occult fracture occurs.

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