An 88-year-old man presented with acute onset back pain following a fall. MRI of the lumbar spine was obtained with T1-weighted sagittal (Figure A) and STIR sagittal (Figure B) sequences. There was signal and height loss on the T1 sequence in a lumbar vertebral body (arrow in A) with corresponding increased signal on the STIR sequence (arrow in B), consistent with marrow edema and an acute lumbar compression fracture. The patient had persistent pain despite appropriate medical management. Therefore, a unipedicular kyphoplasty was performed using radiopaque bone cement (Figures C, D).

Vertebral compression fractures are a common injury in the aging population with a prevalence approaching one-third of patients ages 80 years and older.\(^1,2\) Compression fractures may be described by the part(s) of the vertebral body involved including wedge-shaped, biconcave, or crush-type deformities.\(^1\) These fractures may be detected on a variety of imaging modalities including radiographs, CT, and MR. However, MR is the preferred imaging modality as MR can evaluate for bone edema to help determine the age of the fracture.\(^1\)

Patients with compression fractures who fail to achieve adequate pain control with conservative management may be considered for augmentation procedures such as kyphoplasty and vertebroplasty.\(^2\) These are procedures in which bone cement is injected into the fractured vertebral body. Kyphoplasty is distinct from vertebroplasty as kyphoplasty procedures utilize a balloon catheter to attempt to restore vertebral body height and to create a potential space for the injected bone cement.\(^2\) Given this extra step, it is more common to see restored vertebral body height with kyphoplasty compared to vertebroplasty.\(^3\)

References