



*Thank you to Michael Newson from PRP Hunter for contributing this issue.*

## FACET JOINT ARTHROPATHY: THE ROLE OF NUCLEAR MEDICINE

While there are many causes of spinal pain, inflamed or active facet joints can be the primary cause of non-discogenic pain. A nuclear bone scan is a valuable aid in the diagnosis of this condition. A three-phase bone scan with SPECT/CT will demonstrate focal accumulation of radiotracer at the site of osteoblastic bone repair adjacent to the articular surface of the joint. Patients with localised back or neck pain may have CT evidence of arthropathy in facet joints at multiple levels. SPECT/CT imaging can determine which facet joints are actively inflamed in order to target specific therapy. Modern imaging technology allows differentiation between facet joint arthropathy and other pathologies, such as pars interarticularis stress fractures or tumour of the vertebral posterior elements. If an active facet joint is demonstrated on a bone scan, that joint may be targeted with a steroid/local anaesthetic injection under imaging guidance.

### CASE 1:

#### 61-YEAR-OLD MALE WITH RIGHT-SIDED NECK PAIN RADIATING INTO THE RIGHT ARM

Bone scan demonstrates focal avid uptake of radiotracer in the cervical spine on the right in the planar images (**Fig. 1**). SPECT/CT imaging shows active facet joint arthropathy on the right at C3/C4 (**Fig. 2**).



Figure 1: Bone scan

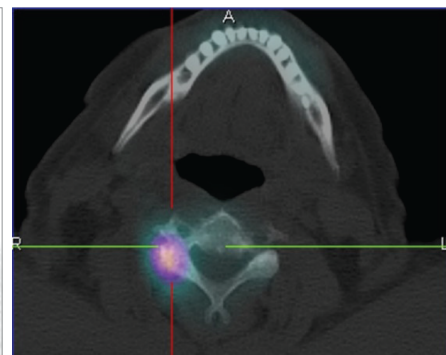
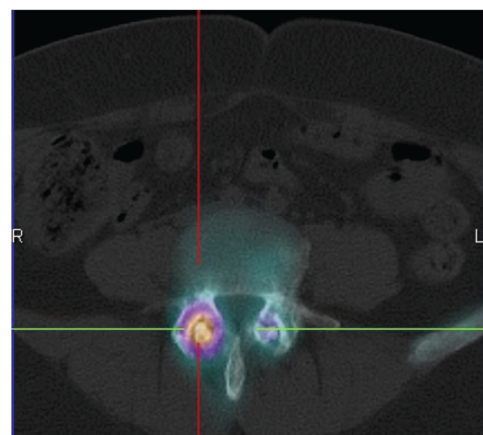
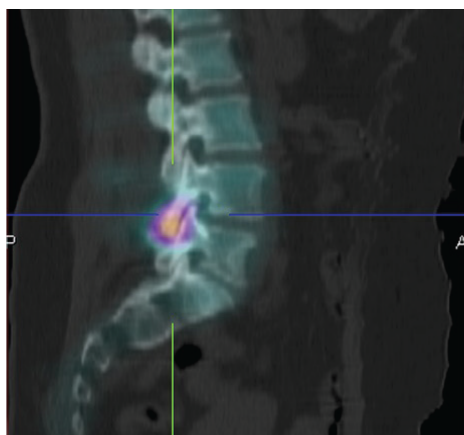


Figure 2: Axial SPECT/CT

### CASE 2:

#### 52-YEAR-OLD FEMALE WITH CHRONIC LOWER BACK PAIN FOR INVESTIGATION

Imaging shows avid focal increased uptake of radiotracer in the right facet joint at L4/5.



As nuclear medicine is a functional imaging modality, the bone scan is useful in demonstrating which facet joints are currently active. This is particularly helpful in patients that have multiple levels of facet joint degeneration.