

An Extraforaminal Approach to Dorsal Root Ganglion Stimulation in a Sacralized L5

Ibrahim Samarra'e, M.D.; Johnathan Goree, M.D.
Department of Physical Medicine and Rehabilitation
Department of Anesthesiology
University of Arkansas for Medical Sciences, Little Rock, AR

Introduction:

DRG stimulation is a technique that is a mainstay in the treatment of complex regional pain syndrome (CPRS). NACC gives DRG stimulation grade A recommendation for treatment of:

- CRPS I or II of lower and upper extremity
- Focal neuropathic pain syndromes with identified pathology

NACC also states that DRG stimulation is superior to standard tonic SCS for unilateral focal pain

Dorsal root ganglion (DRG)

- A cluster of sensory cell bodies that transmits input from the PNS to CNS
- location makes it amenable to epidural access techniques
- identified radiologically as lying at the caudal aspect of the neuroforamen between the pedicles on the AP view and posterior to posterior portion of the vertebral body

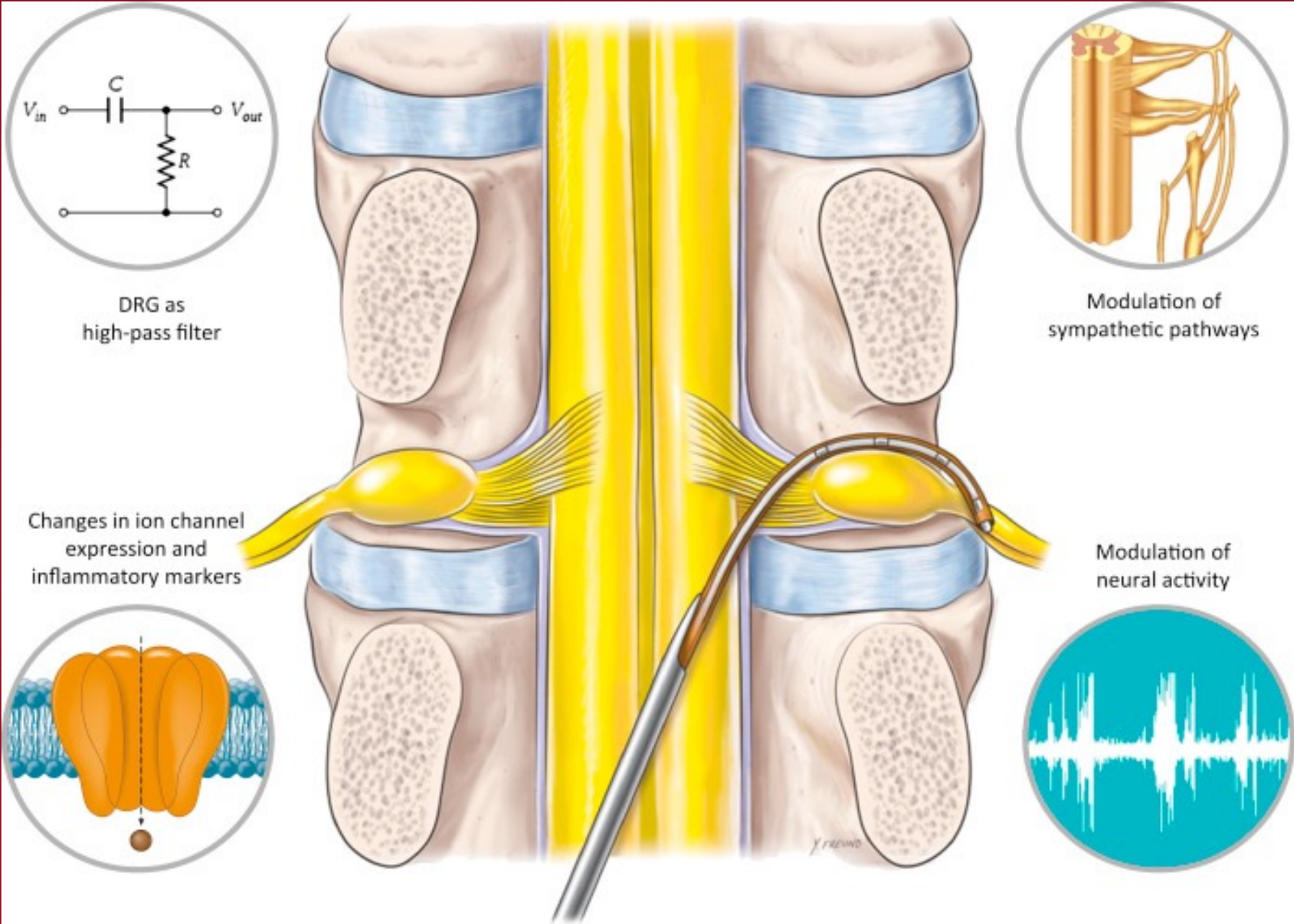


Image from ScienceDirect

In some instances, the DRG lead cannot pass through a neuroforamen due to some anatomical barrier. In the past, the level above or below was targeted with the hope that there is coverage due to nerve root overlap. This can provide some relief, but it is not directly targeting the nerve root of interest. **In this case report, we present a case of a patient with a sacralized L5 and successful extraforaminal DRG stimulation.**

Lead placement for dorsal root ganglion stimulation using an extraforaminal approach

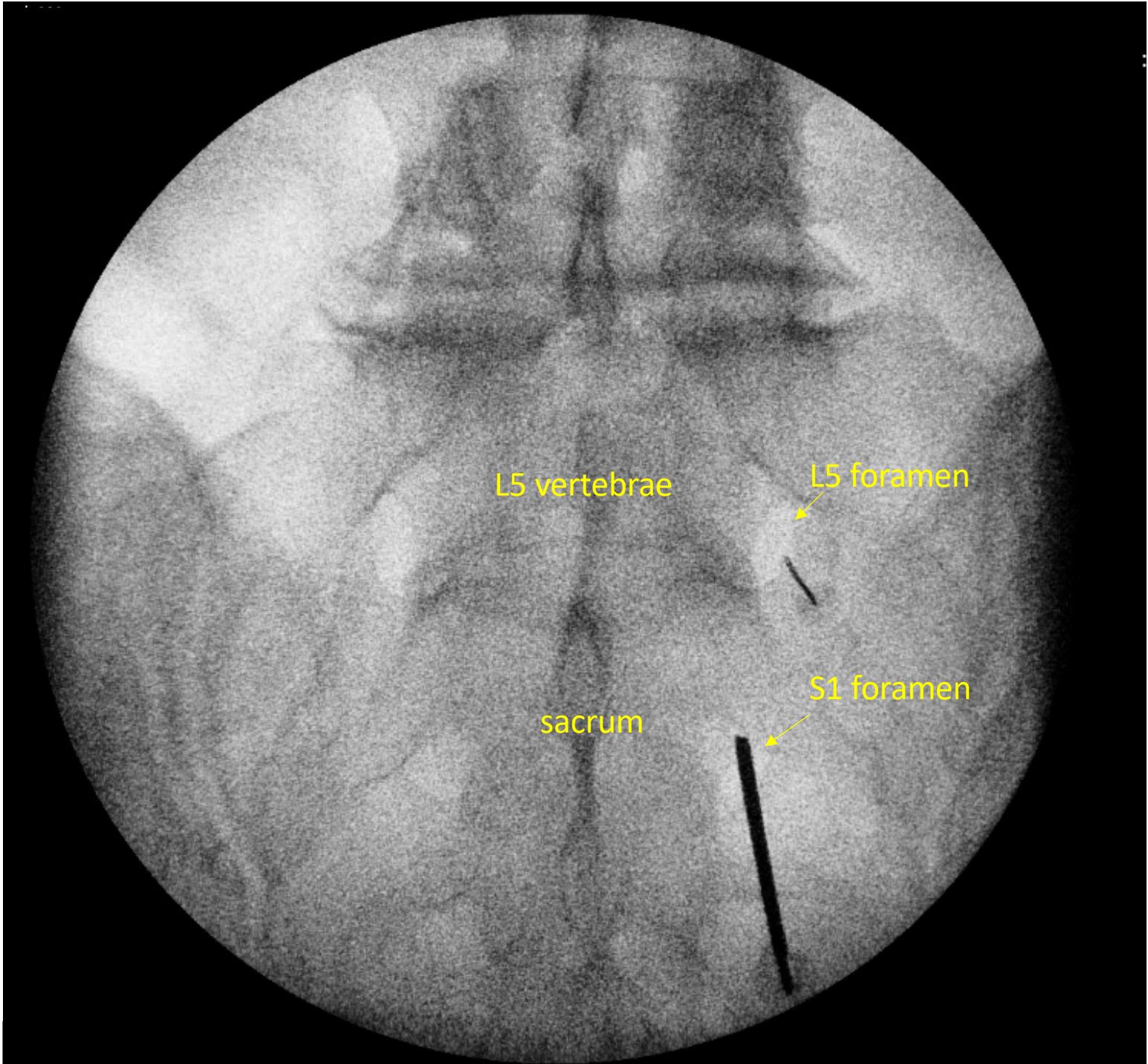


Image A

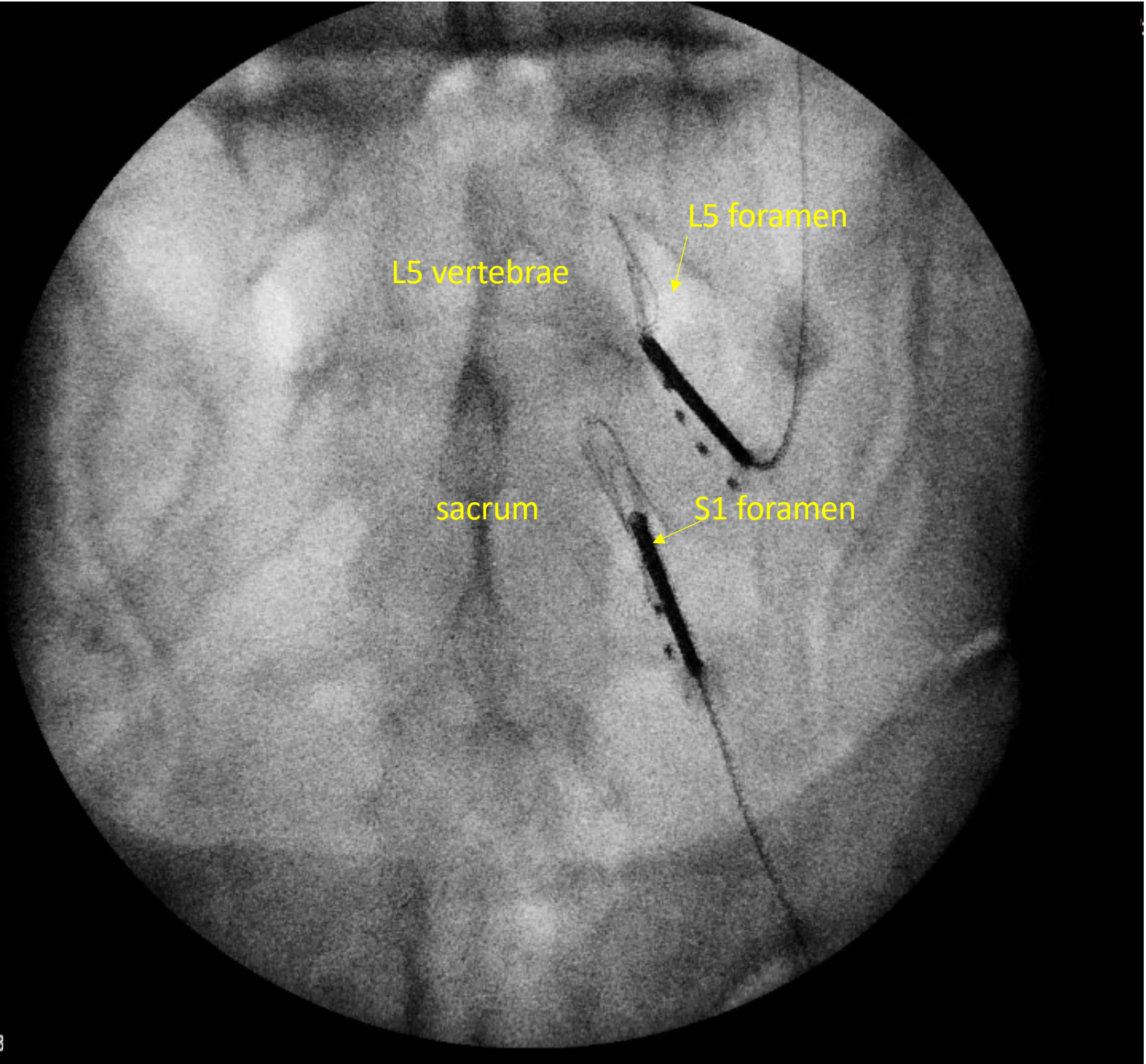


Image B

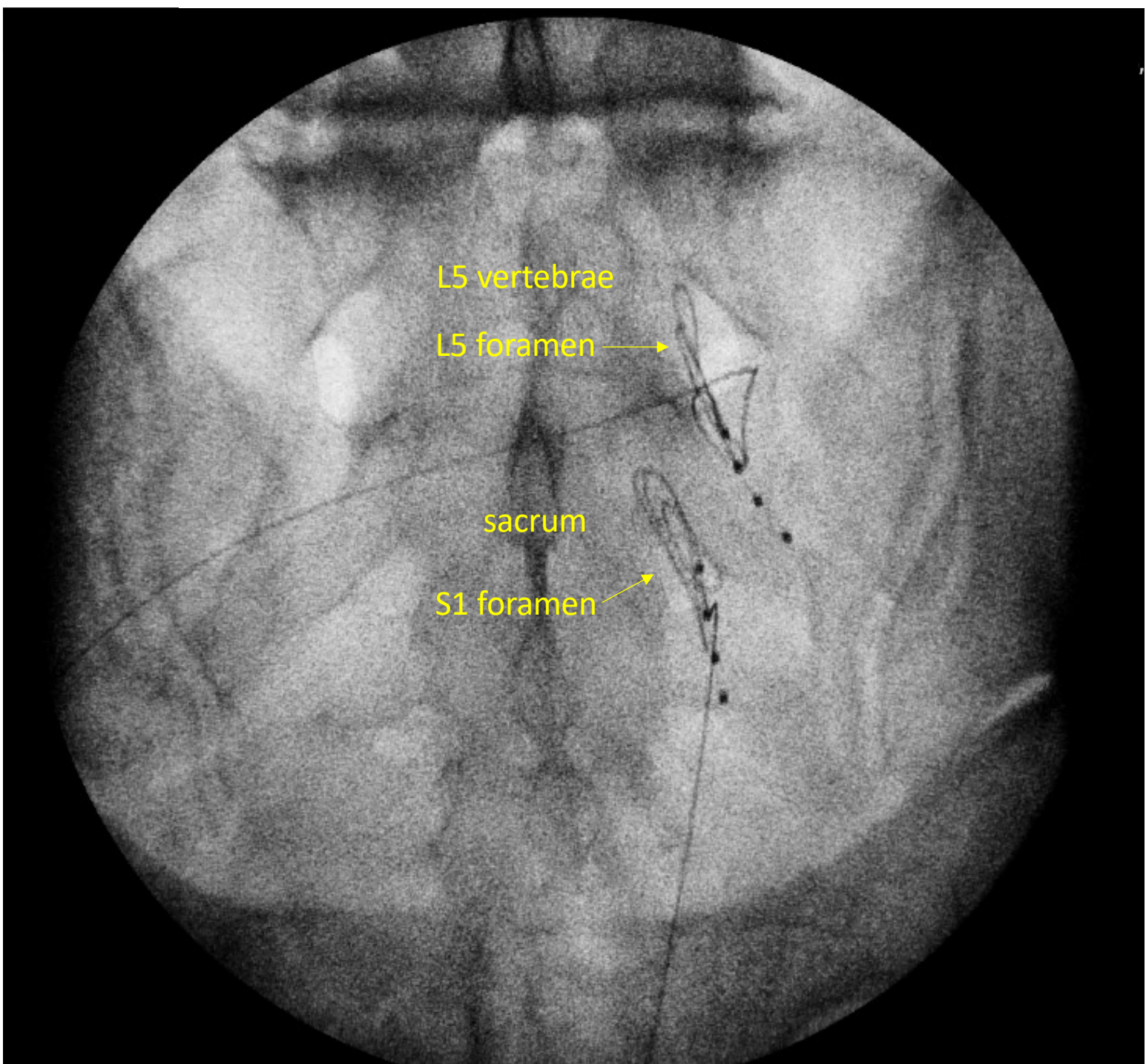


Image C

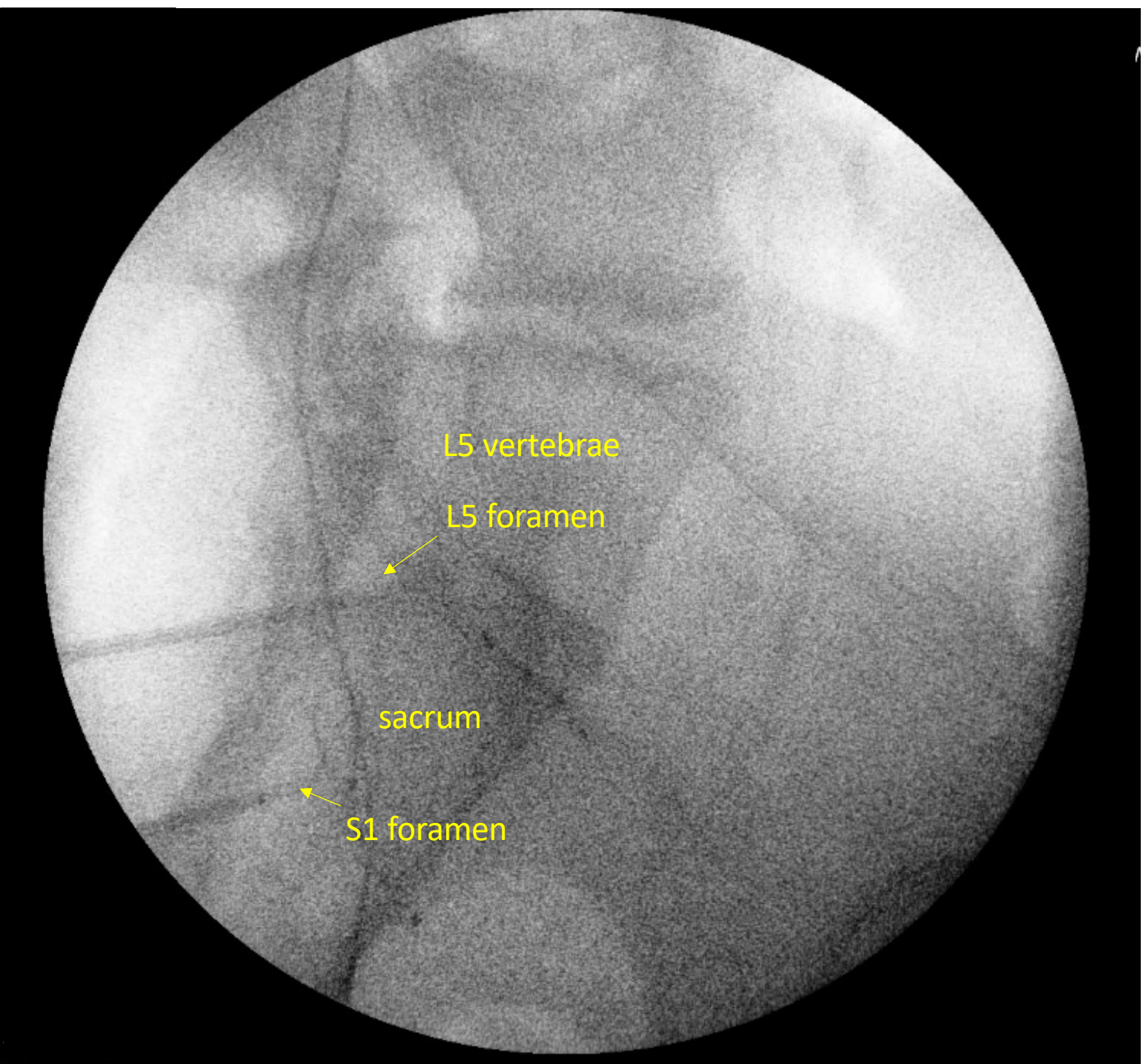


Image D

Image A: AP view of sacralized L5 body with 22G spinal needle in the L5 foraminal opening and placement of 14G Tuohy needle in S1 foramen

Image B: AP view of L5 and S1 DRG leads placed prior to needle removal

Image C: AP view of L5 and S1 DRG leads with needles removed

Image D: lateral view of L5 and S1 DRG leads



Scan with phone camera for full abstract

Results:

One week after procedure, patient reported:

- 80% pain relief from his baseline
- previously rated 8/10 pain reported as 3/10
- increased activity and improved functionality

Discussion:

Anatomical barriers and previous surgeries can preclude practitioners from using the traditional anterograde approach for DRG stimulation. In this case report, we illustrate a patient with a sacralized L5 who had successful trial lead placed with a sacral and extraforaminal approach. This is a promising technique which can help providers with DRG stimulation for patients who have a sacralized L5 vertebral body.

References:

Scan QR code for complete list of references

Plain radiographs illustrating sacralized L5 in this patient

