



# Images in Practice: Successful Recapture of Spinal Cord Stimulator Paresthesia Coverage via Generator Reprogramming in a Patient with a Severely Displaced Percutaneous Trial Lead

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## Key Summary Points

Migration of percutaneously implanted leads during spinal cord stimulator (SCS) trial is a significant complication that can substantially decrease the efficacy of spinal stimulation and subsequently affect the overall efficacy of the trial period.

The ability to recognize this via fluoroscopy and troubleshoot accordingly can potentially salvage the trial period still resulting in a successful overall trial.

Interventional pain medicine physicians should be quick to utilize fluoroscopy to assess location of the percutaneous leads during the trial period whenever there is a sudden, acute loss of paresthesia coverage.

## IMAGES IN PRACTICE

Migration of percutaneously implanted leads during spinal cord stimulator (SCS) trial is a significant complication that can substantially decrease the efficacy of spinal stimulation and subsequently affect the overall efficacy of the trial period. The ability to recognize this via fluoroscopy and troubleshoot accordingly can potentially salvage the trial period, and still result in a successful overall trial. The overall

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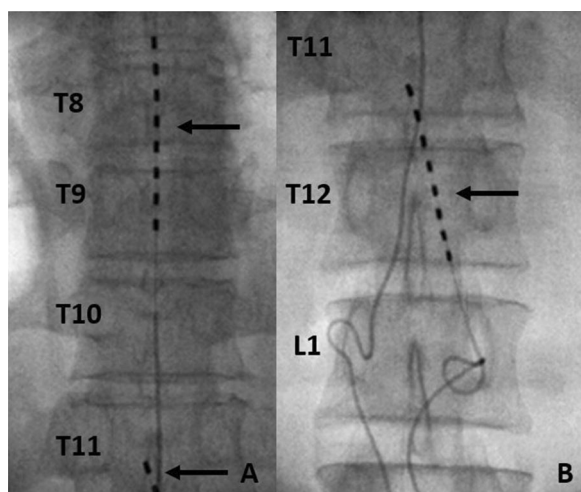
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incidence of lead migration has been reported to be 13–22% [1]. Many factors have been associated with increased risk of migration. These include premature activity after placement, female sex, hardware manipulation, and lead anchoring technique [2].

Figure 1a, b demonstrates the dramatic migration of percutaneous SCS leads on live fluoroscopic imaging during an initial trialing period and successful recapture of paresthesia coverage via reprogramming of the SCS generator. The patient was a 69-year-old male who underwent uncomplicated percutaneous lead implantation for an SCS trial (Fig. 1a), and subsequently experienced an acute loss of paresthesia coverage during physical activity. The patient provided their informed consent to publish the article and all procedures were conducted as part of standard care/treatment. Figure 1b demonstrates a profound caudal migration of the right lead from a T8 level initially to a T12 vertebral level. In this patient, revision of his percutaneous leads was avoided through the successful recapture of paresthesia coverage, using alternative SCS programming. Following reprogramming, the patient noted a



**Fig. 1** **a** Intra-operative anteroposterior fluoroscopic imaging taken during permanent spinal cord stimulator (SCS) generator implantation. These radiographic images demonstrate a maintained position of the right percutaneous lead spanning vertebral levels T8 and T9 and a caudally displaced left percutaneous lead at the vertebral levels T11 and T12. **b** Final displaced position of the left SCS lead

complete return of paresthesia coverage and resultant pain relief. Though lead migration is a relatively common complication of SCS therapy, minor, or as in this case, profound changes in lead position may not necessitate lead revision but rather may be managed through reprogramming. Interventional pain medicine physicians should be quick to utilize fluoroscopy to assess location of the percutaneous leads during the trial period whenever there is a sudden, acute loss of paresthesia coverage.

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