

INTRODUCTION

- Spinal cord stimulator implantation is generally a very well-tolerated surgery with the majority of cases completed under Monitored Anesthesia Care (MAC), at allow the patients to provide feedback during paresthesia mapping and monitoring neurological complications during implantation. That being said, there are still risks involved, especially with high-risk patient populations.
- We present a case of Negative Pressure Pulmonary Edema (NPPE) and a near-code event in a 60-year-old male who presented for spinal cord stimulator (SCS) placement. (2,3)

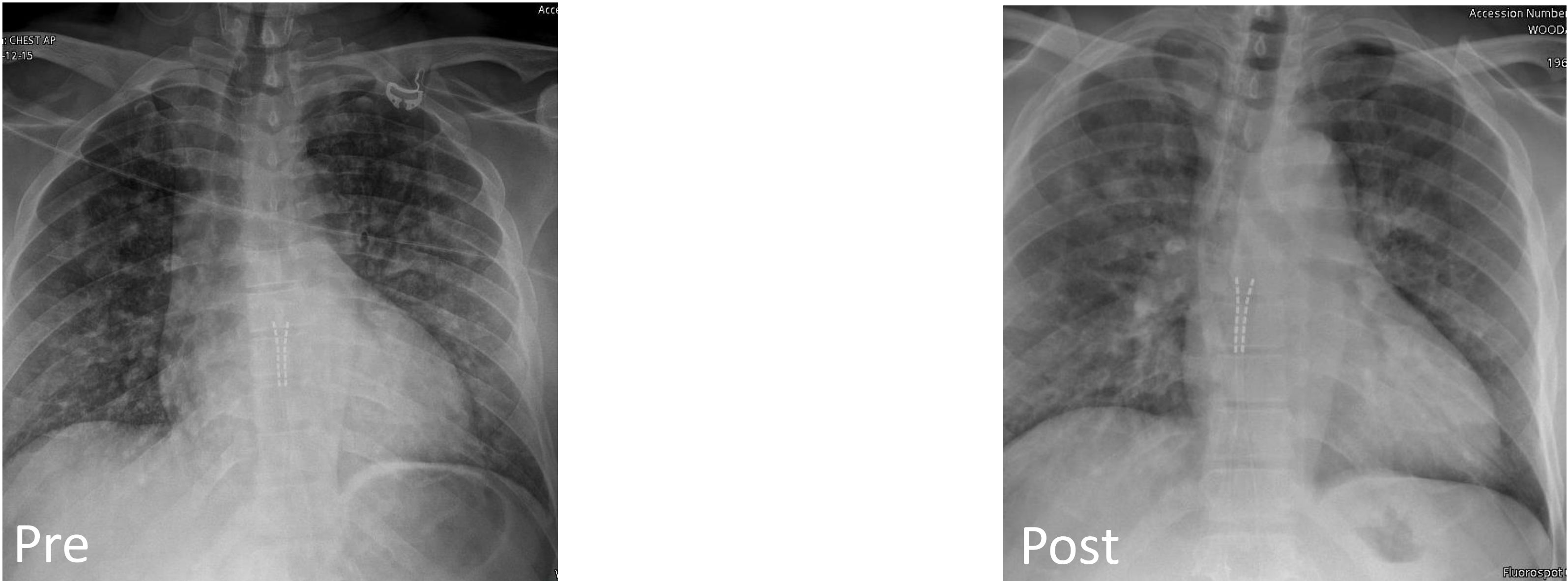
MATERIALS AND METHODS

- This is a case report and does not require IRB approval per UMMC policy and Informed consent was obtained from patient for this presentation (implied in our general consent).

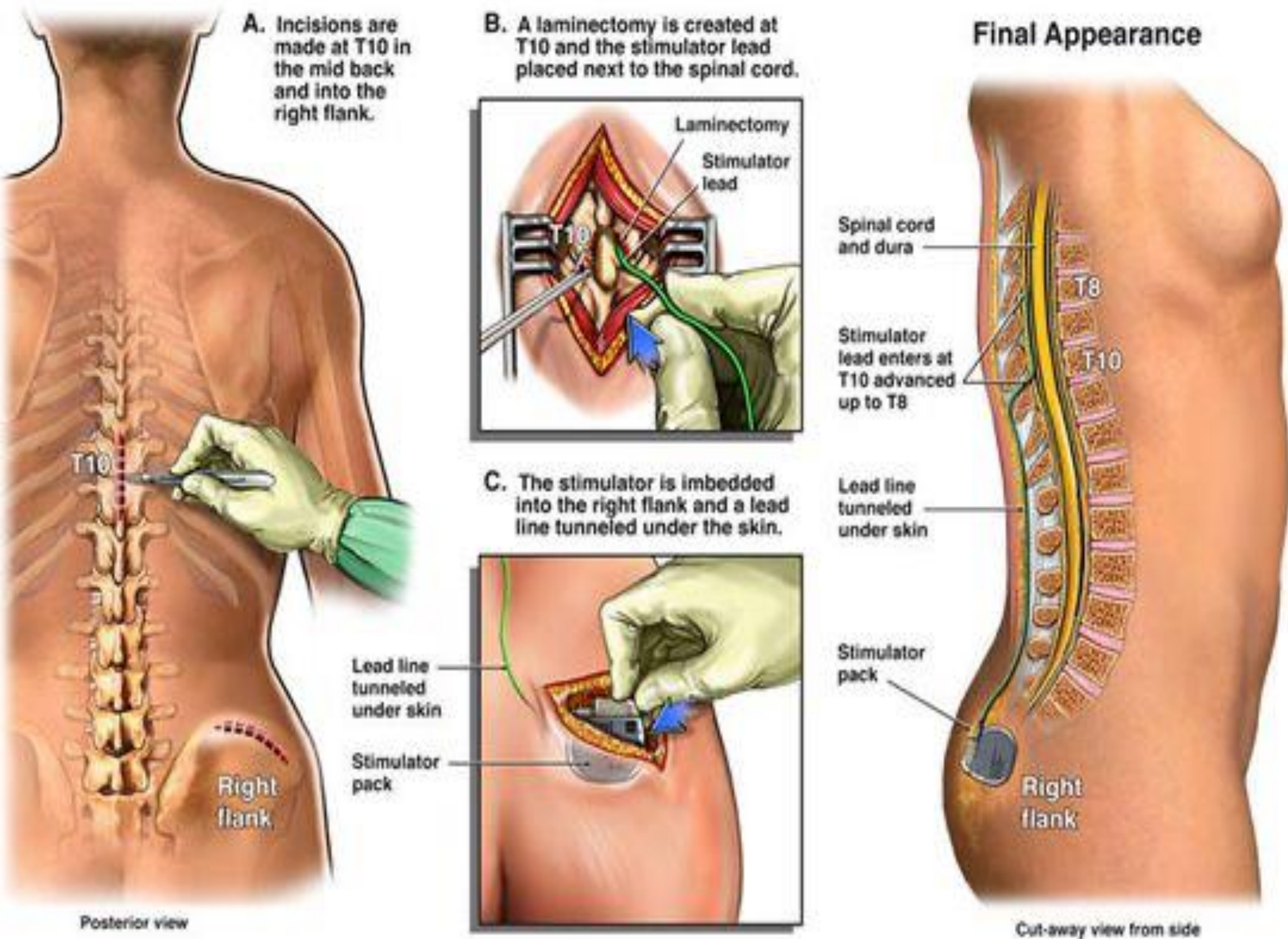
CASE REPORT

- Patient: 60-year-old male with history of post-laminectomy syndrome and chronic low back and extremity pain.
- Procedure: Permanent placement of a spinal cord stimulator (SCS).
- Intraoperative Event:Midway through closure, patient developed acute airway obstruction due to oversedation.
- This caused negative pressure pulmonary edema and severe bradycardia (heart rate dropped to 28 bpm).
- Patient required 0.2 mg Atropine and 0.5 mg Epinephrine.
- Positive pressure mask ventilation with 100% oxygen and chest compressions were initiated for less than a minute before return of spontaneous circulation.
- Postoperative Care: Chest X-ray showed increased broncho-vascular markings and patchy bilateral opacities. (Figure 1) (1)
- In the PACU patient would continue to cough up pink sputum but maintained oxygen saturation >98% on 2L oxygen.
- Admitted for overnight observation and diuresis. (4)
- Discharged on antibiotics: Cefalexin and Trimethoprim/Sulfamethoxazole for 10 days. (5)
- Follow-up: Ten days later, patient reported dramatic pain relief and no signs of infection or cardiopulmonary symptoms.

CHEST XRAY PRE AND POST (Figure 1)



STEPS OF SPINAL CORD STIMULATOR IMPLANTATION



DISCUSSION

- **Intraoperative Sedation Risks:** This case emphasizes the importance of vigilant monitoring of sedation levels, particularly in patients undergoing prone surgeries with limited access to the airway. Even small oversedation can precipitate airway compromise, with potentially severe consequences.
- **Negative Pressure Pulmonary Edema:** NPPE, though rare, should be considered in cases of sudden intraoperative airway obstruction. Early recognition and supportive care, including oxygenation, positive pressure ventilation , and diuresis, are critical.
- **Cardiac Resuscitation in the OR:** Bradycardia and cardiovascular instability during surgery require prompt pharmacologic intervention and, if needed, brief CPR. Rapid recovery in this case demonstrates the effectiveness of early recognition and treatment. (1,2)
- **Antibiotic Stewardship:** Postoperative antibiotics were used here to prevent infection, possibly due to the complexity of the intraoperative events. This may not be routine for all SCS placements but can be considered on a case-by-case basis. (5)
- **Efficacy of Spinal Cord Stimulation:** Despite the complications, the successful placement of the SCS led to a dramatic improvement in pain control, reinforcing the utility of this procedure in managing chronic pain syndromes like post-laminectomy syndrome. (3)

REFERENCES

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