

Improving Post-operative Follow-up of Continuous Thoracolumbar Dorsal Ramus Nerve Block After Posterior Spinal Infusion for Scoliosis Repair

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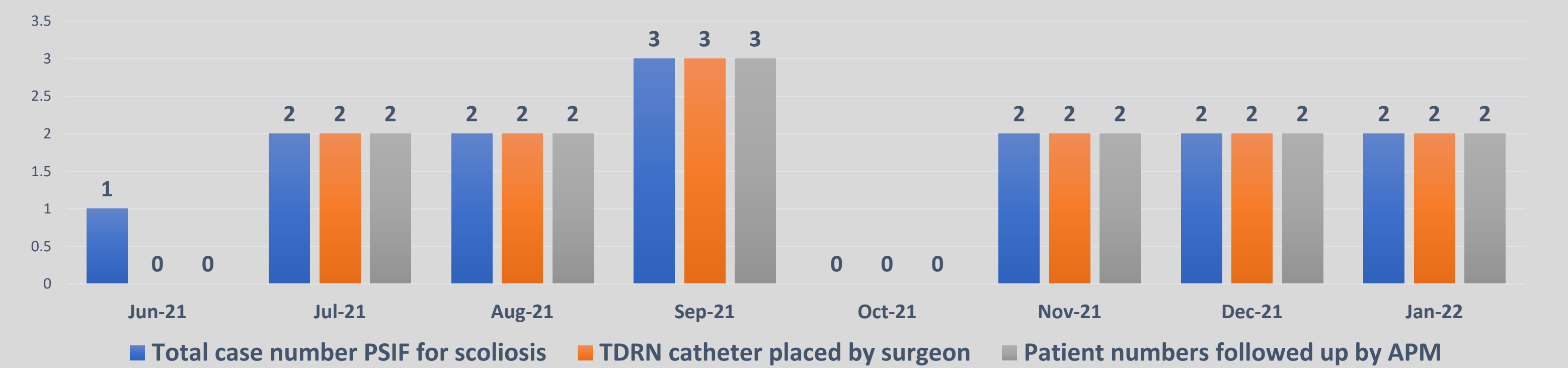
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Introduction

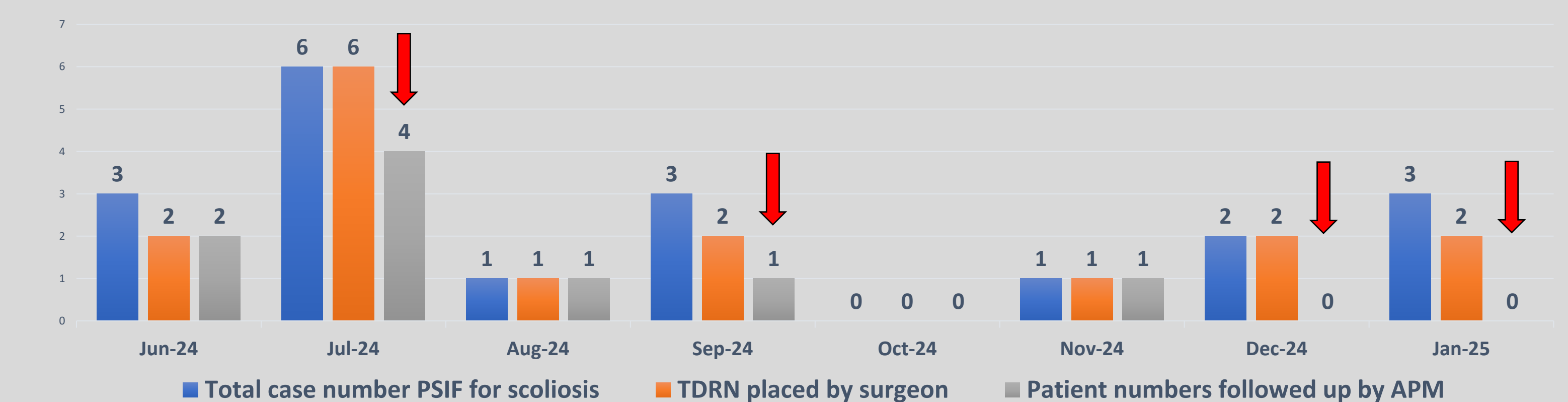
- Continuous thoracolumbar dorsal ramus nerve (TDRN) block with catheters showed excellent post-operative analgesia for scoliosis patients undergoing posterior spinal instrumentation and fusion (PSIF)
- Daily postoperative follow-up by an Acute Pain Management (APM) service is important to address:
 - Inadequate analgesia
 - Complications related to local anesthetics or catheters
 - Elastomeric pump malfunction
 - Feedback for Quality Improvement

Current Problem

- From June 2021 to January 2022, 14 patients underwent PSIF, 13 of 13 scoliosis patients received TDRN catheters and were followed by the APM service with 100% follow-up rate



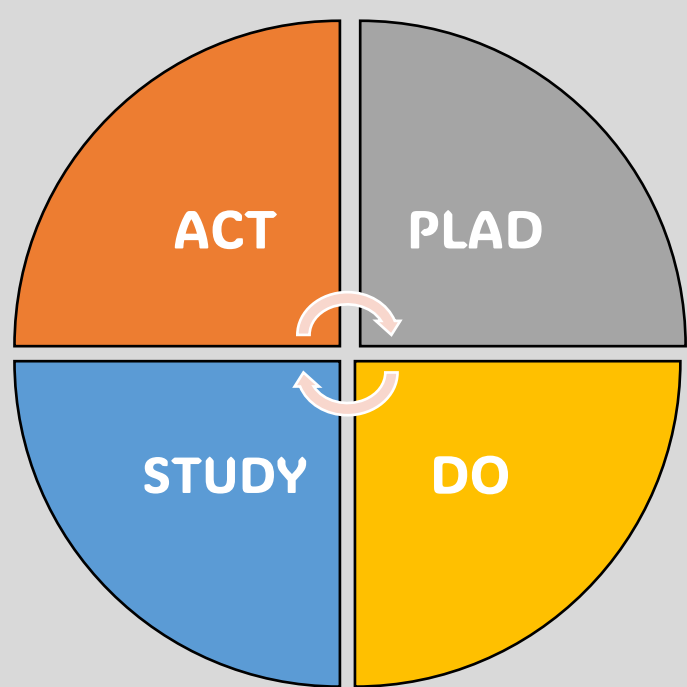
- From June 2024 to January 2025, 16 scoliosis patients received TDRN catheters; only nine patients were followed up by APM after PSIF, for a 57% follow-up rate



Quality Improvement Methods

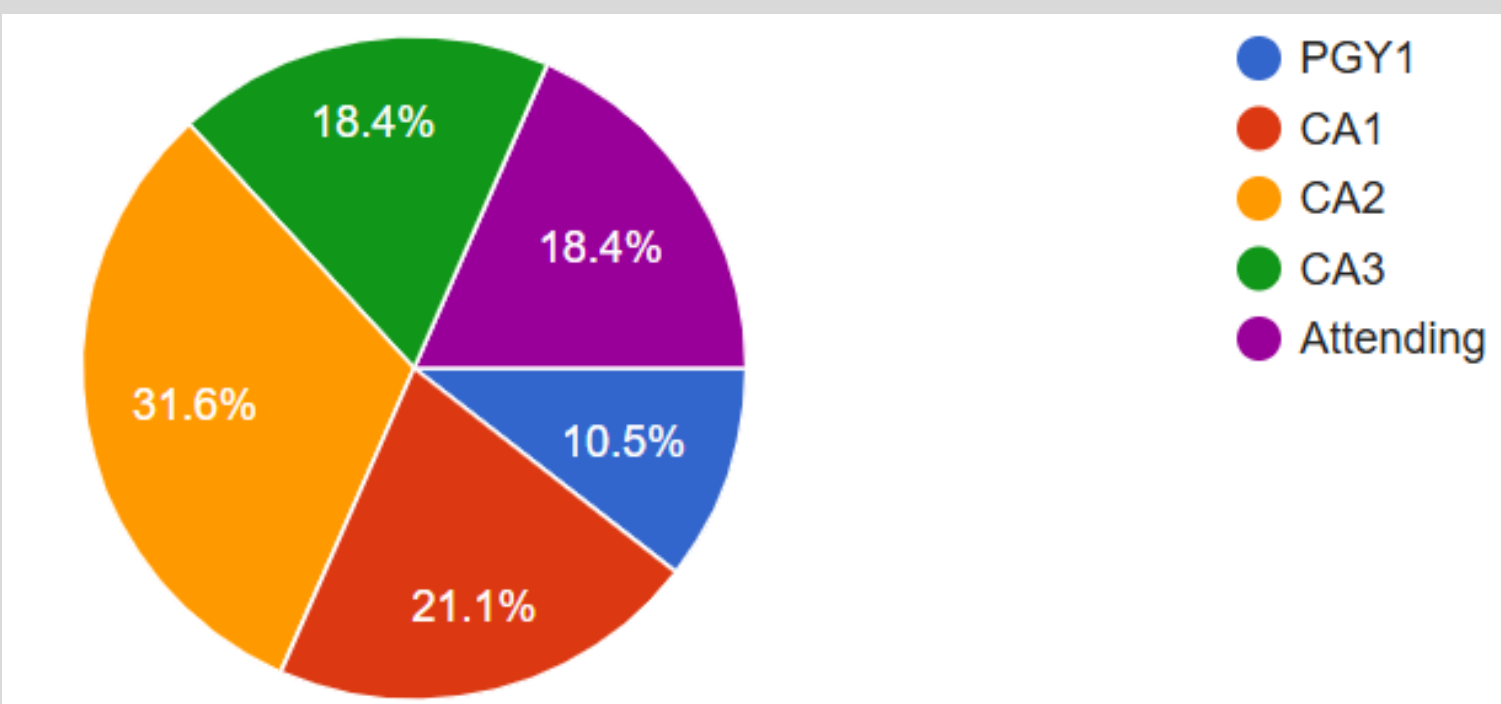
Pre-intervention Questionnaire

- Target: Anesthesia providers
- Purpose: Identify the potential reasons that scoliosis patients who received TDRN catheters were not followed by the APM service after PSIF

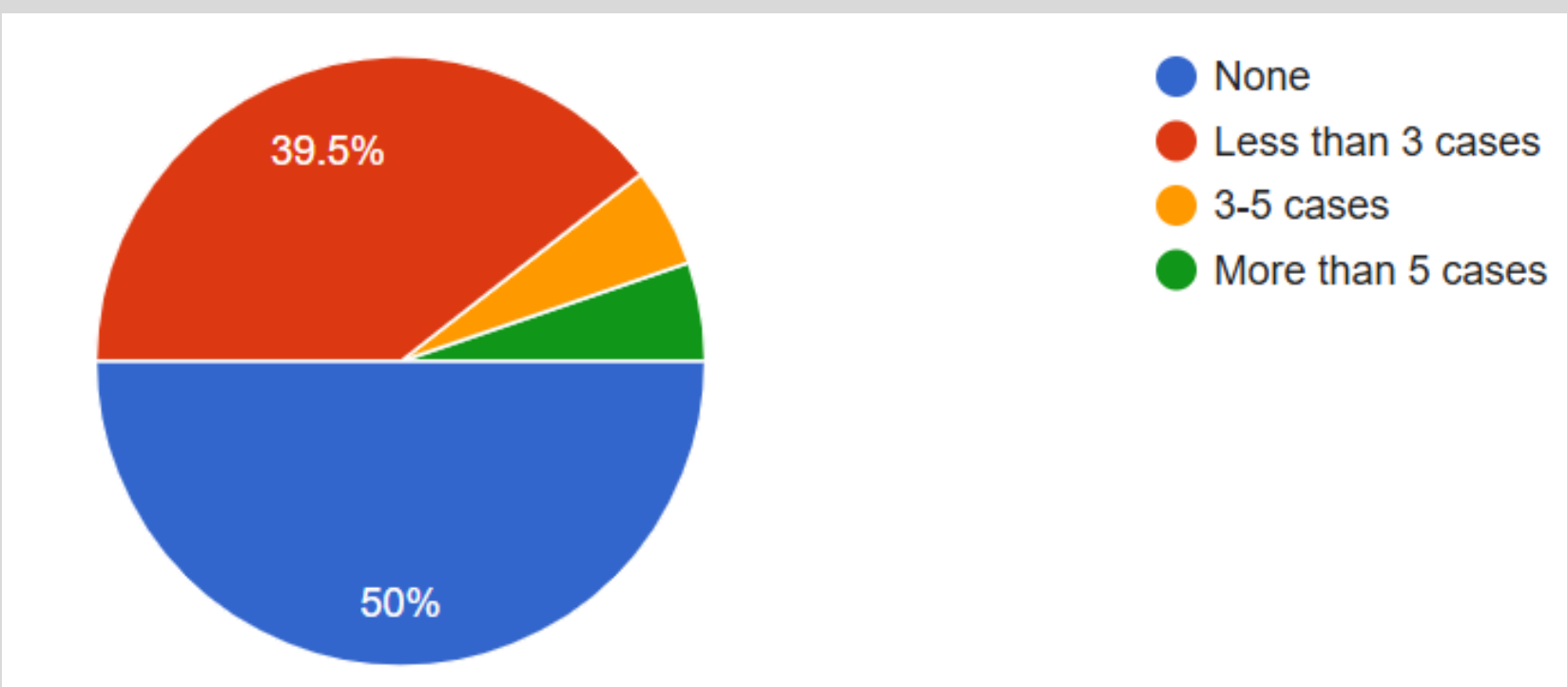


Key Questionnaire Data Part One

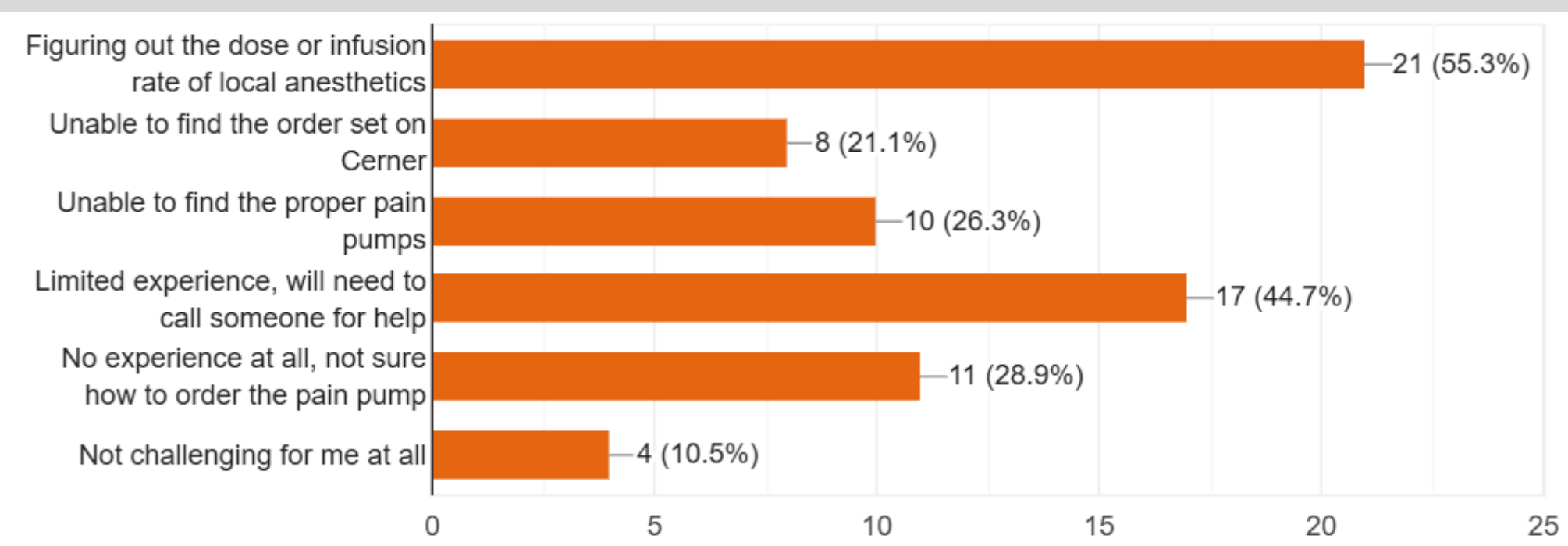
- Anesthesia Providers Responding:



- How many PSIF surgeries for scoliosis did you do in the past 6 months?



- What are the challenges for you when placing orders for pain pump/infusion?

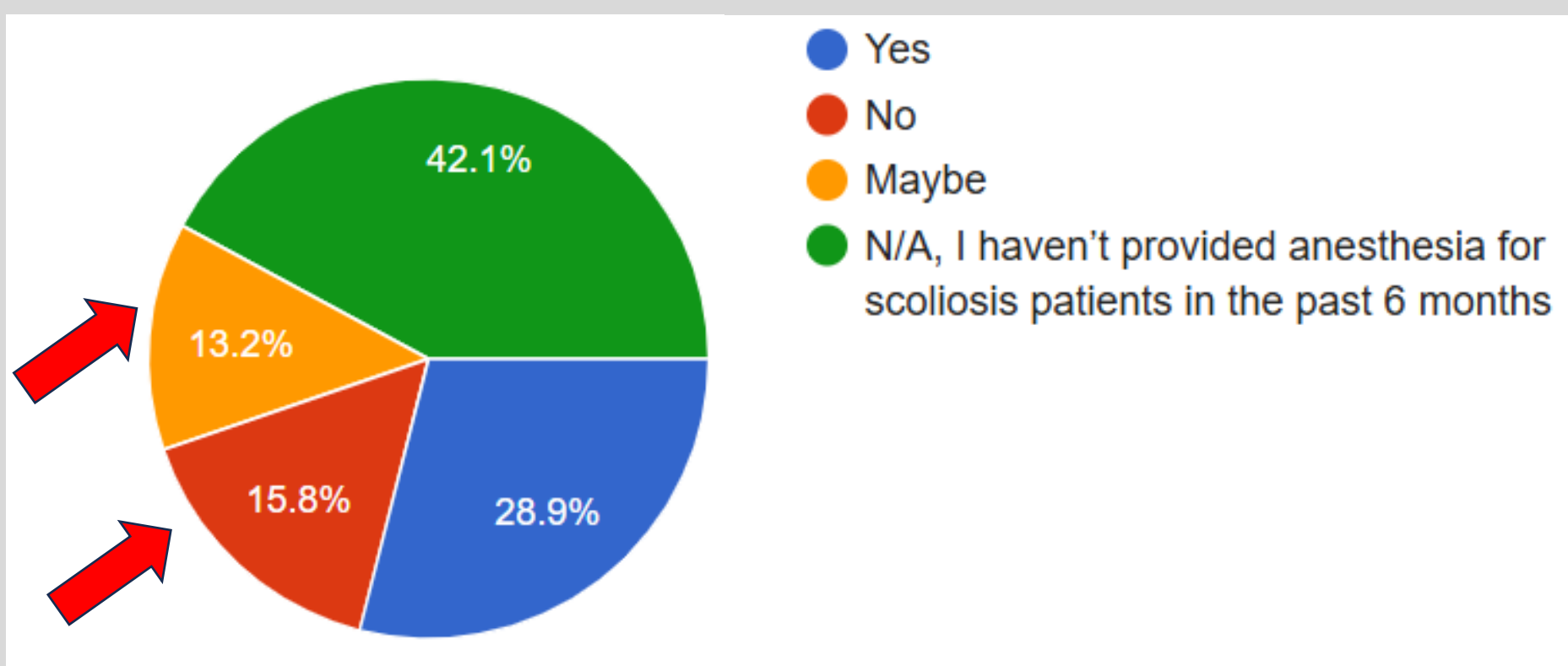


Key Questionnaire Data Part Two

- Two Orders in EMR when patients receive TDRN catheters:

- Local anesthetics infusion order set
- Consult to Acute Pain Service: Adds the patient to the “APM list” in EMR

- Did you place an acute pain consult after placing the local anesthetics infusion for scoliosis patients in the past 6 months?



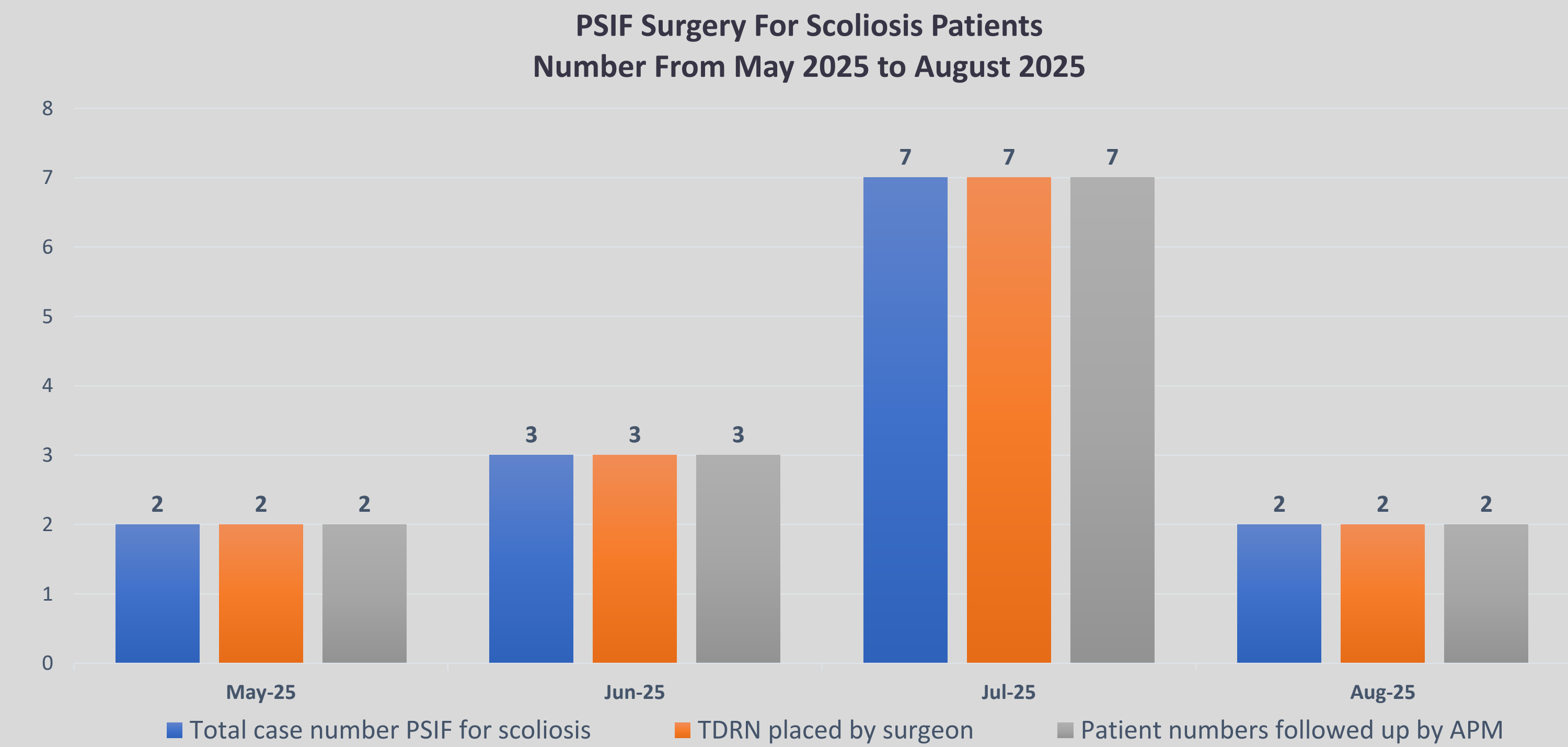
- Conclusions of the questionnaire

- Most anesthesia providers had limited experience due to limited case numbers
- Missing “Consult to Acute Pain Service,” in EMR: Omitted the patient from the APM list and patients were missed out follow-up by the APM service.

Intervention

- We reached out to the EMR group in February 2025 and requested the “Consult to Acute Pain Service” to be added to the “Local anesthetics infusion order set” as a pre-selected component
- Our goal was to integrate two orders into one and simplify steps for the anesthesia providers
- Once the local anesthetic infusion order set was initiated, the patients with TDRN catheter were added to the APM patient list immediately

Post-intervention Outcome



References

- Feasibility and Efficacy of Preoperative Epidural Catheter Placement for Anterior Scoliosis Surgery. **Anesthesiology** 2010; 113:353–9;
- Thoracolumbar Dorsal Ramus Nerve Block Using Continuous Multiorifice Infusion Catheters: A Novel Technique for Postoperative Analgesia After Scoliosis Surgery. **International Journal of Spine Surgery**, 2020 Apr 30;14(2):222-225