

RETAINED EPIDURAL CATHETER AND MANEUVERS TO ASSIST IN REMOVAL



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INTRODUCTION

- Rate of epidural catheter entrapment is roughly 0.0015%
- Increased rates in laboring patients
- Uncommon complications that can lead to entrapment include knotting, migration into a blood vessel, and migration into dura
- Few case reports exist on best management of an entrapped catheter
- The following is a case report of a retained epidural catheter in a parturient following delivery

CASE REPORT

A G2P0101 29-year-old female at 39w5d gestation presented in spontaneous labor. PMH was negative for scoliosis or other anatomical abnormalities. Shortly after admission, epidural was placed easily and with good pain relief using 18-gauge 9-cm Tuohy needle at L4/L5 interspace. There was crisp loss of resistance to saline and 5cm catheter was left in the space. Catheter threaded easily without significant resistance or paresthesia. Negative aspiration and negative test dose. Patient delivered uneventfully 3 hours later. Three providers (attending and resident anesthesiologist) could not remove catheter, despite efforts with continuous traction and position changes with flexion and extension. Patient without paresthesia or back pain throughout.

If unable to remove an epidural catheter easily with continuous traction, try leaving the catheter in place for multiple hours. Then, attempt removal in lateral decubitus position with flexion.



<https://www.cambridge.org/core/books/abs/essential-clinical-anesthesia/spinalanesthesia/A16A51E271FC06DF7D2AC6942B03F5C9>

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Six hours after these initial attempts, resident anesthesiologist positioned patient in left lateral decubitus in spinal flexion and catheter came out with minimal traction. Patient reported no issues throughout the anesthesia course.

DISCUSSION

- Deep epidural catheter placement is the leading cause of entrapment
- In the absence of knotting, increased muscle tension is next most likely cause
- Preventative measures: no more than 5 cm in epidural space, and midline (rather than paramedian) approach
- Management: 1) Continuous gentle traction 2) Abort attempt and try again several hours later, with patient's back in flexion (same position as placement), then 3) Lateral decubitus position
- If unable to remove: obtain imaging with fluoroscopy, CT with contrast, or MRI if epidural is MRI compatible
- Surgical removal if catheter breaks during above attempts

CONCLUSION

Catheter entrapment is a rare complication of epidural placement. Risk can be minimized by leaving 5 cm or less in the epidural space. If continuous traction fails, successful removal can occur without surgical intervention using the techniques described above.