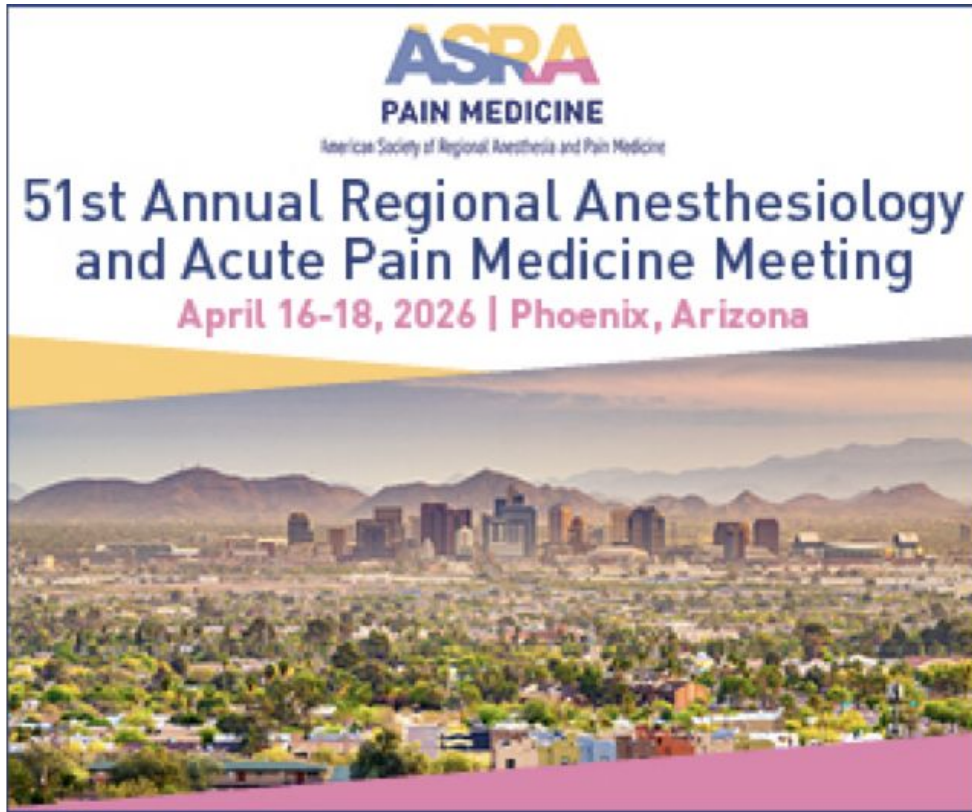


# Blocking More Than Pain - Unexpected Urinary Complications Following Pudendal Nerve Blocks: Two Patient Cases

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## INTRODUCTION

Pelvic pain affects up to 26% of individuals worldwide and causes significant functional, emotional, cognitive, and sexual impairment. Pudendal neuralgia (PN) is a severely debilitating, underrecognized cause of pelvic pain with limited treatment options. Despite variable efficacy, pudendal nerve blocks (PNB) are one of the few validated tools available to manage PN. Data on PNB-related adverse events remains scarce. We present two cases of urinary retention and subsequent urinary tract infection (UTI) following PNB.

## METHODS & MATERIALS

As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per the University of California, San Diego policy. Patient informed consent was obtained for submission of this case report.

## CASE REPORT

**Patient A** is a healthy 47-year-old G0P0 female who presented with a one-year history of pelvic pain described as intermittent vaginal and vulvar burning, worsened by sitting, exercise, and intercourse. She clinically met criteria for PN and underwent PNB under fluoroscopic guidance via a transgluteal approach (Figure 2). At four-week follow-up, she reported initial difficulty assessing analgesic benefit due to development of a UTI one week post-procedure, which she attributed to “diminished” sensation of bladder fullness following the block. She endorsed urinating less frequently, hesitancy with initiation, and inefficient emptying. Despite urinary changes, she reported a subsequent 70% pain reduction (improvement from 7/10 to 2/10 on numerical rating scale) and improved function.

**Patient B** is a 68-year-old G2P2002 female with osteopenia and hypothyroidism and a prior diagnosis of PN refractory to pelvic floor physical therapy and prior PNB. She reported undergoing PNB by an outside provider three months earlier, resulting in complete pain relief for only five hours. She subsequently developed difficulty sensing bladder fullness and was evaluated by Urology, who performed a bladder scan that revealed elevated post-void residual of unclear etiology. She was also diagnosed with a UTI and treated with antibiotics. Although urinary sensation improved, she reported no sustained analgesic benefit.

## DISCUSSION

The pudendal nerve plays a key role in micturition through sensory and motor modulation of bladder and urethral function. It is specifically responsible for conveying information related to bladder fullness and urethral sensation, as well as modulating bladder contractions and external urethral sphincter activity to facilitate efficient voiding. Transient disruption of pudendal nerve activity may contribute to urinary retention and increase UTI susceptibility from urinary stasis. Only one cohort study has evaluated retention following intrapartum PNB. Although causality cannot be established, these cases highlight a potential complication of PNB. No studies have examined this association in the pelvic pain setting, underscoring the need for further prospective investigation and systematic safety assessment in an inherently marginalized pain subgroup.

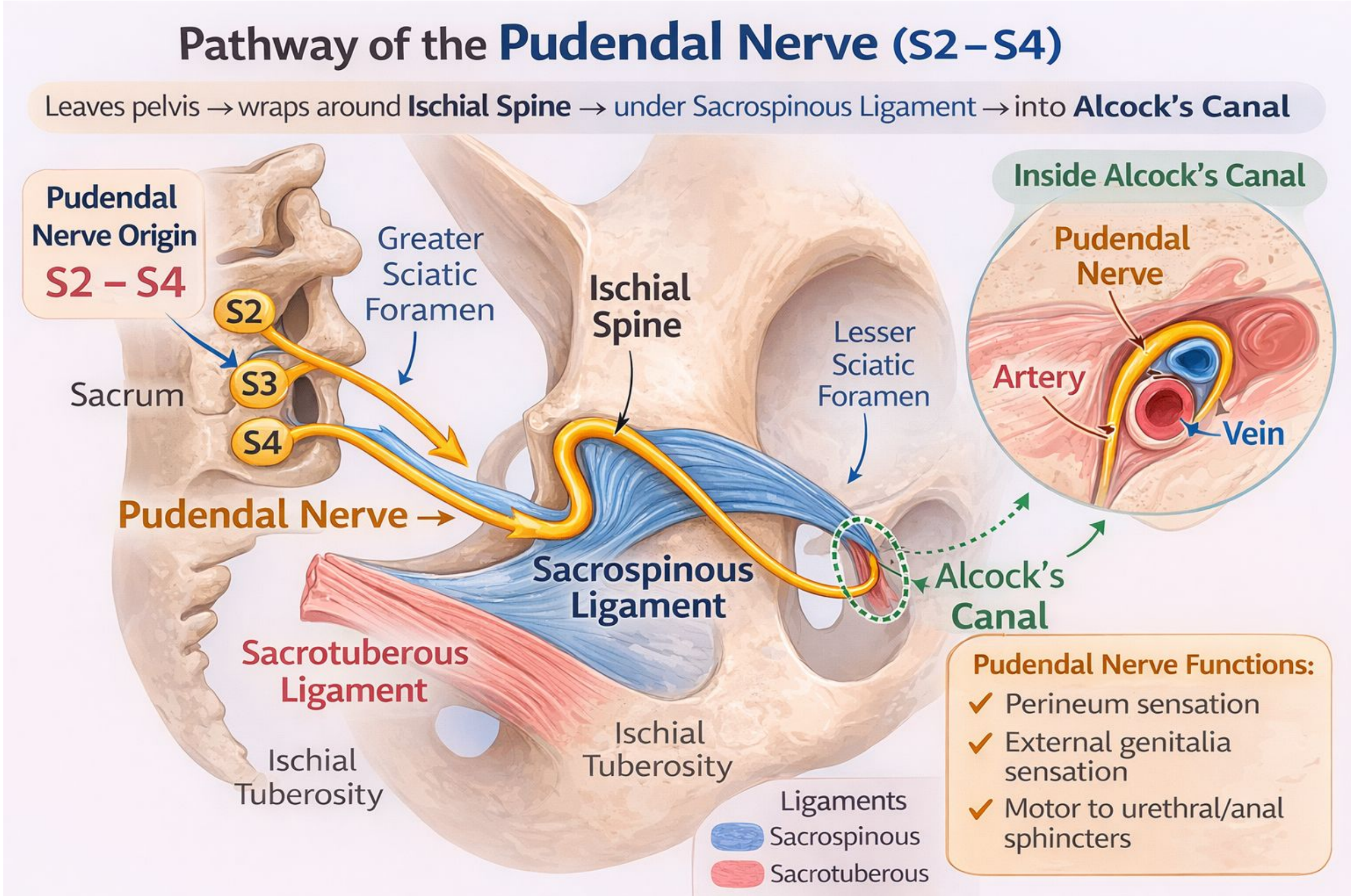


Figure 1. Schematic demonstration of pudendal nerve course as well as various important functions of this nerve



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Figure 2. Fluoroscopic image of pudendal nerve block done via typical transgluteal approach. Needle is seen contacting the tip of the ischial spine, and walking off medially at the level of the sacrospinous ligament