

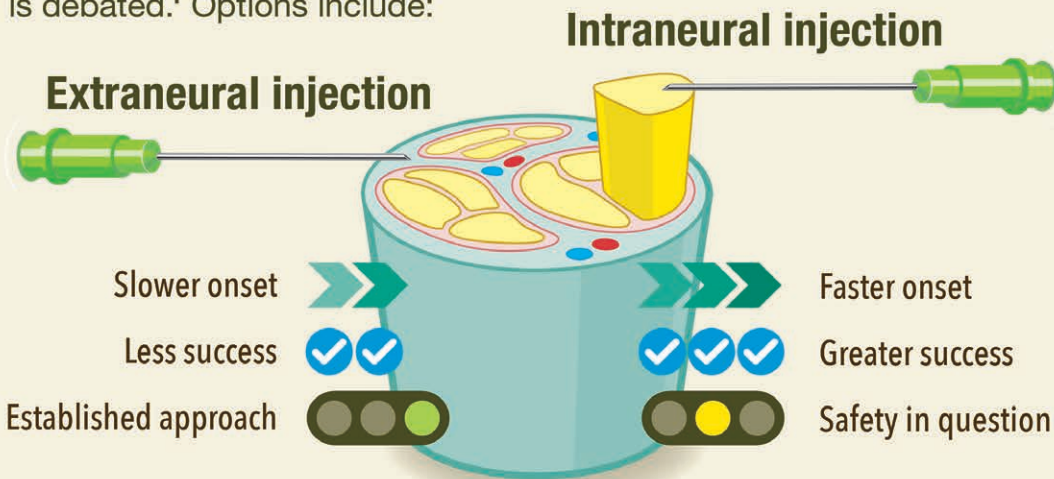
ANESTHESIOLOGY



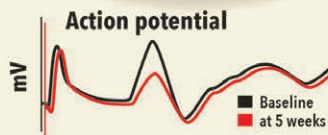
How Low Can You Go?

Minimum Dosage and Safety of Intraneural Sciatic Nerve Blocks

The ideal location for local anesthetic injection for sciatic nerve blocks is debated.¹ Options include:



5 weeks after a 15 ml extraneural injection, axonal dysfunction is observed with a significant reduction in action potential amplitude.²



Similarly, 5 weeks after a 15 ml intraneural injection, axonal dysfunction is observed with a significant reduction in action potential amplitude.²

Cappelleri *et al.*¹ determined the **minimum intraneural volume** to achieve a sciatic nerve block:



Despite the reduced intraneural volume utilized, axonal dysfunction with reduced action potential amplitude was observed at both 5-week and 6-month follow-ups.

While the persistent electrophysiologic changes observed did not have any associated clinical symptoms, additional study of longer-term outcomes for intraneural injections is necessary.

Infographic created by Jonathan P. Wanderer, Vanderbilt University Medical Center, and James P. Rathmell, Brigham and Women's Health Care/Harvard Medical School. Illustration by Annemarie Johnson, Vivo Visuals. Address correspondence to Dr. Wanderer: jonathan.p.wanderer@vanderbilt.edu.

1. Cappelleri G, Ambrosoli AL, Gemma M, Cedrati VLE, Bizzarri F, Danelli GF: Intraneural ultrasound-guided sciatic nerve block: Minimum effective volume and electrophysiologic effects. *ANESTHESIOLOGY* 2018; 129:241-8

2. Cappelleri G, Cedrati VL, Fedele LL, Gemma M, Camici L, Loiero M, Gallazzi MB, Cornaggia G: Effects of the intraneural and subparaneural ultrasound-guided popliteal sciatic nerve block: A prospective, randomized, double-blind clinical and electrophysiological comparison. *Reg Anesth Pain Med* 2016; 41:430-7