

Supporting technologies — Tuohy needle with Huber point and Lee markings

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FROM: Nickalls RWD. *Notes on thoracic anaesthesia*
revision: 2009 α

Chapter 9

Supporting technologies

9.2 Tuohy needle with Huber point and Lee markings¹

Not only is the modern epidural needle a fusion of three primary ideas, but it actually started life as spinal needle. Edward Boyce Tuohy (1908–1959) was an anaesthetist at the Mayo Clinic (Rochester, Minnesota, USA), interested in continuous spinal anaesthesia (Maltby 2002). Although this technique was first described by Henry Dean in 1906, it was mainly developed during the 1940s by William Lemmon (Maltby, 2002). However Lemmon’s technique was far from ideal since it required the needle to remain in position (tip in the CSF) during anaesthesia in order to allow intermittent top-ups as required.

Tuohy’s idea was to develop a method of introducing a catheter into the lumbar CSF space via a spinal needle to facilitate continuous spinal anaesthesia—the needle itself could then be removed once the catheter was in place. Continuous caudal anaesthesia via a caudal catheter was already fairly widely used, and lumbar subarachnoid catheters were also sometimes used for drainage in meningitis.

In 1944 Tuohy described this technique using an ordinary 15-gauge spinal needle (Maltby 2002), and only later, in 1945, did he decide to incorporate the Huber point (designed by Ralph L. Huber (1890–1953) and made by Becton Dickinson) taking advantage of its lateral opening which allowed the catheter to be directed sideways into the space (Tuohy 1945). In 1949, both MM Curbelo and Charles Flowers described using the Tuohy needle for epidural anaesthesia. Tuohy was later appointed professor of anaesthesia at the Georgetown Medical Centre in Washington, DC.

Finally, we owe the 1 cm markings on the standard Tuohy needle to the English anaesthetist John Alfred Lee (1906–1989). He added them so that anaesthetists would know fairly accurately the depth of the needle tip, and hoped that this small refinement might reduce the number of dural taps (Lee 1960; Maltby 2002).

- Eldor J (1995). Huber needle and Tuohy catheter. *Regional Anesthesia*; 20, 252–253 [cited from Maltby 2002]
- Lee JA (1960). Specially marked needle to facilitate epidural block. *Anaesthesia*; 15, 186. [cited from Maltby 2002]
- Maltby JR (2002). *Notable names in anaesthesia*. (The Royal Society of Medicine Press Limited, London). [ISBN: 1853-155-128.]
 - p. 114–116: Lee’s ‘Synopsis of Anaesthesia’ & Lee epidural needle; John Alfred Lee (1906–1989).
 - p. 216–218: Tuohy needle; Edward Boyce Tuohy (1908–1959).

¹<http://www.nickalls.org/dick/papers/thoracic/hand-tuohy.pdf>

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- Schorr MR (1966). Needles: some points to think about Part II. *Anesthesia and Analgesia*; 45, 514–519 [cited from Maltby 2002]
 - Tuohy EB (1945). Continuous spinal anesthesia: a new method utilizing a ureteral catheter. *Surgical Clinics of North America*; 25, 834–840 [cited from Maltby 2002]