



Filters applied: Full text. [Clear all](#)

FULL TEXT LINKS



[Br J Neurosurg.](#) 2023 Feb;37(1):116-120. doi: 10.1080/02688697.2021.1935732. Epub 2021 Jun 7.

# From textbook to patient: a practical guide to train the end-to-side microvascular anastomosis

[Jafeth Lizana](#)<sup>1 2</sup>, [Nicola Montemurro](#)<sup>3</sup>, [Nelida Aliaga](#)<sup>4</sup>, [Walter Marani](#)<sup>2 3</sup>, [Rokuya Tanikawa](#)<sup>2</sup>

Affiliations

PMID: 34092156 DOI: [10.1080/02688697.2021.1935732](#)

## Abstract

Microvascular anastomosis is one of the most challenging neurosurgical techniques. Mastering this technique allows to perform intracranial bypass with arteries of small caliber usually placed in deep narrow surgical fields. The aim of this paper is to describe step by step end-to-side microanastomosis training method by using polyvinyl alcohol (PVA) hydrogel tubing as it is easily reproducible. The tubing comes in sizes from 0.3 mm to 5 mm and has a texture and consistency similar to real vessels. This is based on the Teishinkai Hospital anastomosis technique. Continuous practice in microvascular anastomosis is of great importance in training vascular neurosurgeon. The PVA hydrogel tubing

3:26



described in this article are useful and cost-effective material in the training of microvascular anastomosis. This practical guide model is easy to set up for repeated practice, and will contribute to facilitate 'off-the-job' training by young neurosurgeons and the development and maintenance of microsurgical skills in both resident neurosurgeons and experts who wish to master the various levels of anastomosis technique. There is no shortcut to master this technique, only hard work and perseverance.

**Keywords:** Microvascular anastomosis; PVA tubing; anastomosis; bypass; microvascular procedures; neurosurgical training.

## LinkOut – more resources

### Full Text Sources

[Taylor & Francis](#)

### Other Literature Sources

[figshare](#)

### Miscellaneous

[NCI CPTAC Assay Portal](#)

3:26

