



Figure 1: Configuration used in forming anastomotic devices

## TECHNOLOGY READINESS LEVEL

4

### Seeking

Investment | Licensing | Research

### Keywords

- Anastomotic
- Suture
- Graft
- Blood Vessel
- Cardiac
- Surgery

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## Technology Summary

The resection and replacement of the aorta for aneurysmal disease and dissection is a common operation in which the use of handsewn anastomosis to connect vascular grafts to native blood vessels remains the standard of care. The time to create this anastomosis is often long and suture line bleeding is common and can be very difficult to manage. For that reason, it is important to identify a method and device that decreases the complexity of the operation, intraoperative and perioperative bleeding, and the time on cardiopulmonary bypass.

## Application & Market Utility

Handsewn anastomosis procedures are used in a plethora of surgeries. Among these surgeries are heart failure, resection of aortic aneurysms, and other situations where connecting blood vessels is required. The inventor, in response to the problems common with said surgeries, has presented a device that creates a rapid sutureless anastomosis between native aortic tissue and a graft material. Currently, it is estimated that the market for anastomosis devices is approximately \$3 billion as of 2022. Looking forward, the market is expected to grow to \$4.4 billion as of 2027.

## Next Steps

Handsewn anastomosis remains a product with many unanswered issues. For that reason, the next step of the invention would be to license the technology to a company that specializes in anastomosis devices.



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