

Title:

Arterial Coupler

Reference Number: U-4804

Invention Description:

Everyday microvascular surgeons repair and reconnect damaged blood vessels. Successful manual suturing to repair small blood vessels requires a highly trained surgeon, expensive equipment, such as a microscope, and extensive amounts of time in the operating room. This technology describes the development of a microvascular arterial anastomotic device, which is a significant improvement compared to suturing. The simple design of the coupler allows for effortless repair of the damaged blood vessels within minutes, which reduces time, cost, recovery and the need for repeated surgeries.

Market Applications:

Hand-sewn anastomosis remains a widely used technique used in microsurgery. In contrast, the newly developed arterial coupler represents a practical alternative to existing manual suturing. The arterial coupler device will find broad application in reconstructive, plastic, transplantation and replantation surgeries. Additionally, this device can be used under extreme stress conditions, such as those found in third world countries and combat situations.

Features, Benefit & Advantages:

The advantages of a new arterial anastomotic device compared to the current hand suturing technique are:

- significantly reduces surgical time to complete the arterial anastomosis
- minimizes human error and surgeon fatigue associated with manual suturing
- easy to use device will significantly reduce the amount of specialized training required to complete microvascular repair
- specifically developed for arteries, which are challenging to repair, as well as veins

Intellectual Property:

Two provisional patent applications have been filed with the USPTO.

Development Stage:

This technology is part of an active and ongoing research program that has been demonstrated to work in proof-of-concept experiments and includes a working prototype. It is available for developmental research support and licensing under either exclusive or non-exclusive terms

Related Research & Publications:

- Dr. Gale web page: <http://www.eng.utah.edu/~gale/>

- Dr. Agarwal web page:
http://www.hci.utah.edu/patientInformation/bios/agarwal_j.jsp

U of Utah Researcher(s):

Bruce Gale, Associate Professor of Mechanical Engineering, University of Utah
Jay Agarwal, MD, Assistant Professor of Plastic Surgery, University of Utah

Key Words:

Microarterial device, anastomosis, arterial coupler, microsurgery

Licensing Contact:

Name: Olena M. Gligorich, Ph.D.

Title: Licensing Agent

Email: olena@tco.utah.edu

Direct Phone: 801-213-3576