Surgical device designed for special cases of aortic anastomosis

Technology #cu12244

Aortic anastomosis is a surgical technique that replaces a diseased aorta. The aorta is the largest artery in the body and its function is necessary for proper blood circulation. Diseased aortas can be fatal for the patient if left untreated. Unfortunately, surgical procedure to treat such conditions has high mortality and morbidity rates. Moreover, certain patients may have aortic ends that are not circular, requiring the surgeon to adjust his/her technique. This device is a surgical stapler designed to relieve the surgeon from performing excess, time consuming sutures. Consequently, this device may be able to reduce the surgical time necessary for aortic anastomosis performed on patients with a noncircular aortic end.

Proposed tool decreases surgery time and increases safety

The proposed surgical device is a modification on a previously patented surgical device designed specifically for aortic anastomosis surgery, known as the Circular Stapler. However, the current model is made for patients whose aortas do not end in a circle and therefore, not compatible with the Circular Stapler. The revised stapler will be able to maneuver more easily to staple the aortic edge with the Dacron tube graft. Current proposed models show that the stapler will be able to automatically advance rows of staples, increasing accuracy and speed over traditional sutures. Therefore, this device not only has the potential to increase surgical recovery outcomes, but also designed to address a specific patient need.

The proposed device is in its conceptual stages.

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Applications:

- Designed to be used for aortic anastomosis surgeries, when the aortic end is not circular
- Can be used for models to practice surgeries
- Can be used for veterinary use
Advantages:

- Used for special cases when the patient’s aortic end is not a circle; the previous Circular Stapler cannot be deployed for these cases.
- Decreases surgery time
- Should increase recovery from surgery
- Should decrease surgery mortality and morbidity rates

Patent information:

Patent pending
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