

Rubber Tipped Go Around

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Technology description

Description

Proximal and distal control of blood vessel is essential in vascular surgery. Current techniques require circumferentially dissecting and placement of umbilical tape or silicone vascular loop around the vessel. Using this technique, the surgeon can pull on the encircling loop and apply a vascular clamp or place a tourniquet around the free ends of the loop. To encircle a large vessel, surgeons dissect the visible circumference and then pass a clamp behind the remainder of the vessel. Most surgeons approach this by "spreading", opening and closing clamp repeatedly. Unfortunately, this procedure can often cause serious tears to major arteries and veins. Additionally, once clamp is around the artery or vessel wall, soft tissue or even the vessel itself can get trapped in the jaws of the clam when it is closed to pull through the vascular tape. An alternative technique, oscillation of the clamp back and forth with slow subsentimeter strokes, often allows the clamp to find the path of least resistance and efficiently, safely separates the vessel from the connective tissue. University of Pennsylvania researchers have created a device designed to incorporate this oscillation technique. The device is shaped like a cane with the last third of the "handle" made of silicone or rubber. The silicone/rubber handle surrounds a metal trocar that extends nearly to the tip of the instrument. Within the shaft of the instrument will be a flexible wire ending in the trocar over which the rubber tip is loaded. Note that the very distal blunt tip will remain firm and flexible, and similar to the Fogarty vascular clamp insert, these smoothly tapered tips are disposable. Additionally, to ensure the tip fits precisely against the barrel, a shaft locking mechanism will be included. Once the tip has cleared the other side of the vessel, the lock would be released, and the inner wire can be advanced causing the tip to extend beyond the barrel. To retrieve the vascular tape, either a "catch" on the inner core used to snare the loop or rubber tipped dissector could be used in an identical manner.

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