Researchers at the University of South Florida have developed a torque device that provides a convenient and more effective way of handling hydrophilic guidewires.

Guidewires are integral to endovascular intervention and assist in positioning and maneuvering through a tortuous stenosis or lesion to a desired location and can be used as a guide for the implantation of a catheter. The most useful guidewire is one with a hydrophilic coating, which renders it extremely slippery and surgeons are tasked with having to insert a guidewire inside a small cavity, which requires a high level of skill and patience. Therefore, the insertion of the guidewire is controlled by a torque device, which allows a surgeon to advance, rotate and grip the wet hydrophilic coating of the guidewire. Despite the many advantages of current torque devices, their design flaws significantly limit their efficiency. First, the skill level and training required to ensure proper handling to be able to use such devices accurately and effectively takes years to master. Another challenge is the need for the assistance from a surgical technician in order to thread the current torque device over the guidewire. This consumes more time as well as increases the risk of error. There is a need for a new guidewire torque device to facilitate in a more controlled manipulation of a guidewire by the vascular surgeons.

USF Inventors have invented a novel torque device for manipulating and controlling a surgical guidewire in longitudinal and rotational directions. The torque device includes an ordered or randomized patterned patch with an adhesive surface that adheres strongly to the thumb and forefinger portion of the surgical glove. When the thumb and forefinger of the operator are pinched together around the guidewire, the patches are capable of gripping and manipulating the guidewire. The current invention further includes a method of positioning a guidewire within a patient or subject using the apparatus.

ADVANTAGES:

- Non-slip adhesive for controlled manipulation of the guidewire
- Time saving
- Reduces error

Parallel patterned surface on the patch and patch adhered to a surgical glove on a user’s hand

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