

# Device for Suturing Tissue to Close Defects

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## Technology description

The invention is a medical device intended to close defects in the cribriform fascia/fascia lata/femoral sheath after the introduction of an access sheath to the femoral artery for trans-catheter procedures in interventional cardiology e.g. Transcatheter Aortic Valve Replacement (TAVR) and Endovascular Aneurysm Repair (EVAR). The invention induces tissue closure in such a way as to induce hemostasis of the underlying femoral artery following procedures that require large-bore femoral access, with an outcome of reducing the invasiveness of femoral artery access closure as well as reducing the length of a hospital stay following these procedures, which increases patient comfort and reduces direct costs to the hospital.

Stanford researchers have designed a non-arterial contact medical device that deploys a fascial suture for large bore femoral access closure. Large bore femoral access is becoming more common as surgical procedures evolve from open surgery to endovascular procedures, especially in interventional cardiology and vascular surgery. This new device adapts the fascia suture technique for use in a percutaneous fashion, which reduces invasiveness, decreases complications associated with the use of existing solutions for large-bore arteriotomy closure, and increases post-procedural patient comfort. In addition, this device is effective even in diseased and calcified vessels, a major factor in the failure of current closure technology.

## Application area

Suture closures- specifically for use in the femoral triangle of human patients after interventional cardiology procedures requiring large-bore access to the femoral artery

## Advantages

Lower procedural invasiveness  
Reduced risk of the following complications:  
access site infection  
reduced risk of stenosis of the artery associated with an immune response to intra-arterial foreign bodies implemented by existing devices  
reduced risk of potential disruption of intra-arterial plaque which can lead to subsequent thrombosis and embolization

Works well on calcified femoral arteries, the case with older population  
Shorter hospital length of stay, thus reducing medical costs  
To date, no such device is on the market

## Institution

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