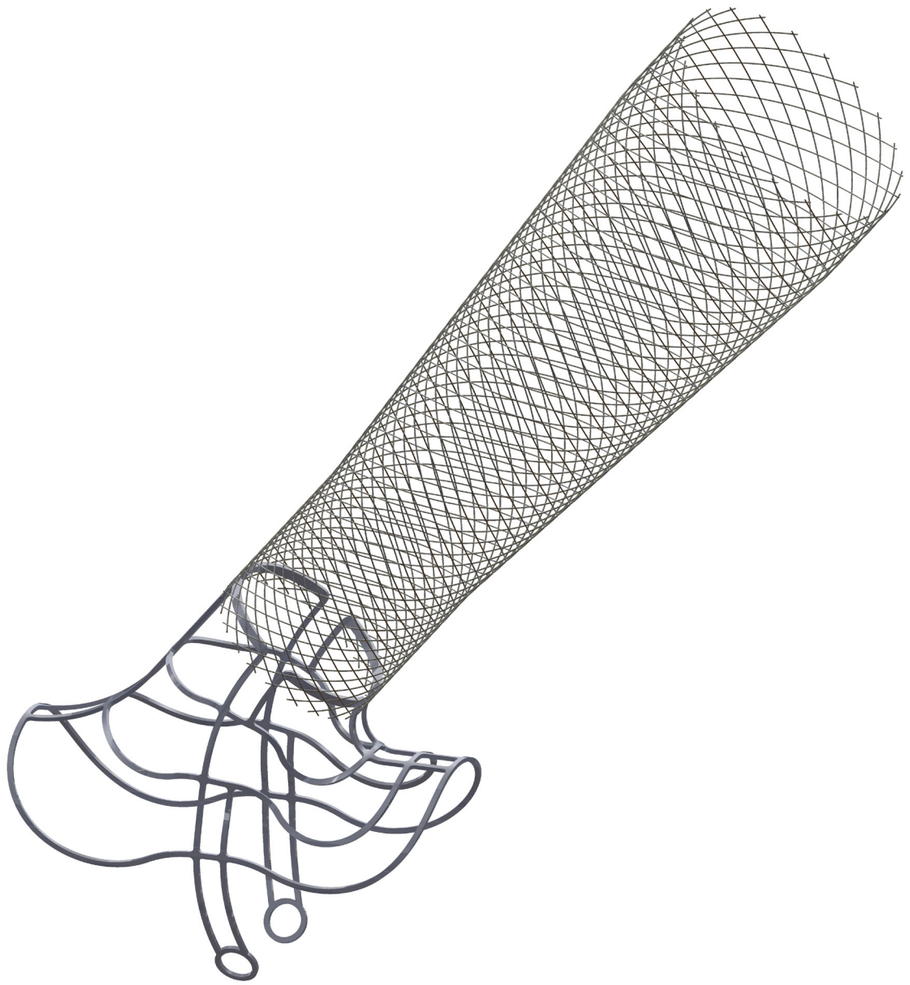
VasQ™

Improving Vascular Access

CE 0344 CE 0297

The **VasQ** is not available in the US

Innovative External Support for Outstanding AV-Fistula Performance



Upper Arm Fistula	Model Selection Table	
Model	Vessel diameter D (mm)	PN
5B	2.5 ≤ D ≤ 4.8	FG0009
6B	4.8 < D ≤ 5.5	FG0010
7B	5.5 < D ≤ 6.0	FG0011

Forearm Fistula	Model Selection Table	
Model	Vessel diameter D (mm)	PN
1R	2.0 ≤ D ≤ 3.2	FG0018
2R	3.2 < D ≤ 3.7	FG0019
3R	3.7 < D ≤ 4.1	FG0020

Accessories	
Description	PN
Laminate Model Selection Tool Upper Arm	FG0016
Laminate Model Selection Tool Forearm	FG0017

LB0056RevO8

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Arteriovenous (AV) Fistula

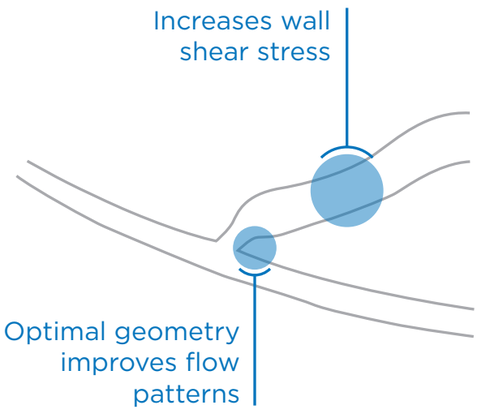
The preferred vascular access

The surgically created arteriovenous (AV) fistula is the standard of care and preferred access for hemodialysis. The AV fistula is constructed by suturing together an artery and a vein so that the arterial pressure in the anastomosis dilates the vein, enabling accommodation of two needles needed for hemodialysis. A newly created fistula must mature (i.e., undergo dilation and remodeling) to be functional for dialysis, a process that takes 6-8 weeks.

A clear unmet need

AV fistulas often fail to mature

Studies over several decades have consistently demonstrated that native mature fistulas have superior longevity, spanning 4 to 5 years, and require minimal secondary interventions compared with other access types. However, despite the clear benefits of mature fistulas, early failure occurs in over 40% of fistulas. Early failure is often due to clotting and thrombosis of the fistula which is caused by turbulent flow patterns around the anastomosis region. Later failures are associated with exposure of the vein to high pressure and wall tension. These pressures cause a thickening of the intimal layer, called intimal hyperplasia, subsequently leading to a narrowing (stenosis) of the vessel lumen. Dember et al, 2008[1] report a failure rate of 53.4% at 120-150 days after fistula placement.



The need for innovation

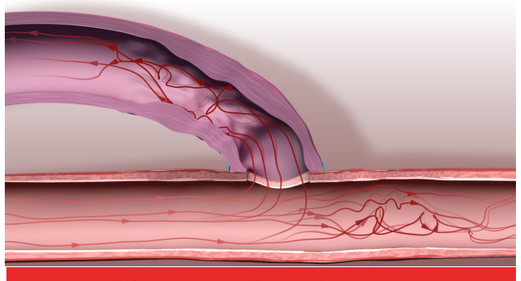
The technique for AV fistula placement has not changed significantly since its introduction in 1966. Given the high failure rates and the lack of a better vascular access, there is a strong need for a new solution that addresses the root causes of AV fistula failure.

VasQ™ Technology

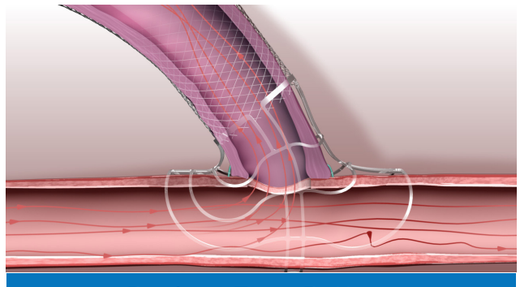
A revolution in AV fistula care

VasQ™ was designed to improve maturation and patency of AV fistulas.
The **VasQ™** provides external support thereby addressing the root causes of fistula failure:

- Regulate flow by constraining and shaping optimal geometrical parameters of the fistula.
- Reinforce and shield the vulnerable perianastomotic vein against high pressure and wall tension.



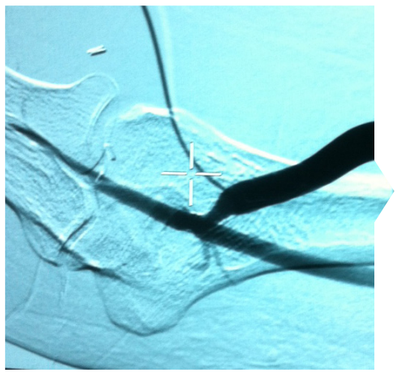
Disturbed Flow Pattern

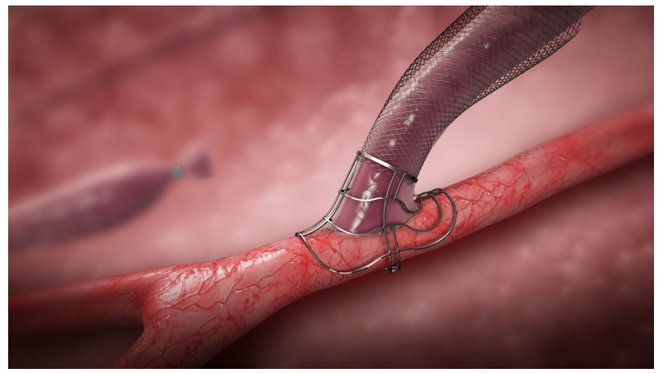


Desired Flow Pattern

No change to current surgical paradigms

- Designed for implantation during fistula placement, **VasQ™** can easily be incorporated into the current procedure.
- The anastomosis is constructed in a routine manner without any intervention or interference.
- The placement of the **VasQ™** around the anastomosis is quick and does not prolong procedure duration.
- There is no contact of the **VasQ™** with the blood circulation.





VasQ™ targets vessel segments which are immediately proximal and distal to the anastomosis, where turbulent flow and intimal hyperplasia are most significant and where frequent stenosis and occlusions occur, aiming to:

- **Control** geometrical configuration
- **Control** flow patterns

Both of which:

Promote unidirectional flow at the anastomotic region

- **Reduce** wall tension in the vein
- **Increase** wall shear stress

Both of which:

Prevent intimal hyperplasia

Thus:

An external support device **increases** fistula functionality

[1] Dember LM, Beck GJ, Allon M, Delmez JA, Dixon BS, Greenberg A, Himmelfarb J, Vazquez MA, Gassman JJ, Greene T, Radeva MK, Braden GL, Ikizler TA, Rocco MV, Davidson IJ, Kaufman JS, Meyers CM, Kusek JW, Feldman HI: Effect of clopidogrel on early failure of arteriovenous fistulas for hemodialysis: a randomized controlled trial. JAMA 299: 2164–2171, 2008