What is the Cutneedle and How Does It Facilitate Percutaneous Vascular Access

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Background
What is Cutneedle
Where we are
Where we are going to
Summary

Disclosures
• Research Grant from VB devices

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Seldinger Technique Percutaneous access

Acta Radiologica, 1953

Seldinger Technique Percutaneous access

Dr. Sven Ivar Seldinger (1921–1998)

Acta Radiologica, 1953

Specialists
- Vascular Surgeons
- Interventional Radiologists
- Cardiologists
- ER Doctors
- Nephrologists
- Anesthesiologists

Endovascular procedures
- Percutaneous catheterization
- Percutaneous implantation
- Percutaneous stenting
- Percutaneous biopsies

EVAR / TEVAR

>100 million procedures globally, per year.
Technical concerns

Have you experienced it before?

Safety concerns

EPINet Report for Needlestick and Sharp Object Injuries

2018 Report

(34 US Hospitals included)

- Total Records 1189
- Placing arterial/venous line 1.5%
- Operating Room or Recovery 44.3%
- Unsafe medical device design 58.9%

Objective of Cutneedle® in Vascular Access

Cutneedle allows a simple, precise and safer enlargement of the insertion orifice during Seldinger procedures, without using a scalpel.

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After some design development

2014

2015

2017

Cutneedle® and Cuccth® are registered brands of VB Devices, Barcelona

1) NEEDLE INSERTION
2) GUIDEWIRE INTRODUCTION
3) NEEDLE REMOVAL (UNCLIP)
4) INSERTION ENLARGEMENT
5) RETRIEVE "ARROW-HEAD"
6) INSERT SHEATH

Cutneedle® concept

Cutneedle® concept

Proof-of-concept in ex-vivo model
Phase I Pivotal Trial  
March 2019

Cutneedle®

First in human case

Conventional vascular puncture

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Material selection

Polyurethane (PU)  |  ABS | PC V2.0

- Glycan V2.0: 3000 MPa, 2000 kN
- PC + 10% Glass: 6000 MPa, 4000 kN
- PC + 20% Glass: 8000 MPa, 5000 kN

A keel is added

Design Evolution

Human ex-vivo test
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Seldinger is a universal technique for arterial and venous access, scalpel use is needed so often

Cutneedle represents an easy, precise and safer Seldinger technique without scalpel use

Clinical results will be communicate in future meetings and publications.

Team

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