# Spiral thrombectomy catheter

## Gentle, minimally invasive removal of clots from peripheral vessels

# Technology

According to the VITAE study, venous thromboembolism (VTE) is one of the most common causes of death (500,000 patients a year in Europe). Each year, more Europeans die from VTE than the combined number who die from breast cancer, prostate cancer, HIV/AIDS and road accidents. The European Society of Cardiology Guidelines (2014) recommend catheter techniques for the treatment of fresh iliofemoral venous thromboses or of pulmonary embolism. Treatment with blood-thinning agents and compression stockings alone is not sufficient to prevent a post-thrombotic syndrome after deep vein thrombosis (250,000 patients a year). This new multifunctional catheter removes clot material over its entire plastically deformable outer wall, before a stent is implanted. Some 8,000 vascular catheter interventions are performed each year at the University Heart Center Freiburg alone (ca. 500,000 catheter interventions a year in Europe), among these many in the venous system.

### Innovation

- Reliable elimination of the embolism source by lengthwise expansion of the catheter
- clot material is drawn into the catheter, shorn off and immediately aspirated
- Gentle vessel dilation, no late complications caused by traumatic manipulation of the vessels
- Suitable for long clots (several cm) and large vessels (6-15 mm diameter)
- Reduction of catheter exchanges and thus also radiation exposure
- Moderate costs of catheter set

### Predominant Application

- Elimination of sources of embolism and prevention of post-thrombotic syndrome
- Gentle percutaneous and minimally invasive vascular recanalization in cases of deep and long-distance vein thrombosis in the pelvic and leg veins
- Treatment of pulmonary embolisms

### Development Status

Functional model

### Responsible Scientist

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### Branch

Angiology, Vascular Surgery, Translational Vascular Medicine, Venous Thrombectomy

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