



UniversitätsKlinikum Heidelberg



**HERZ ZENTRUM**  
Universitätsklinikum Heidelberg

LINC live

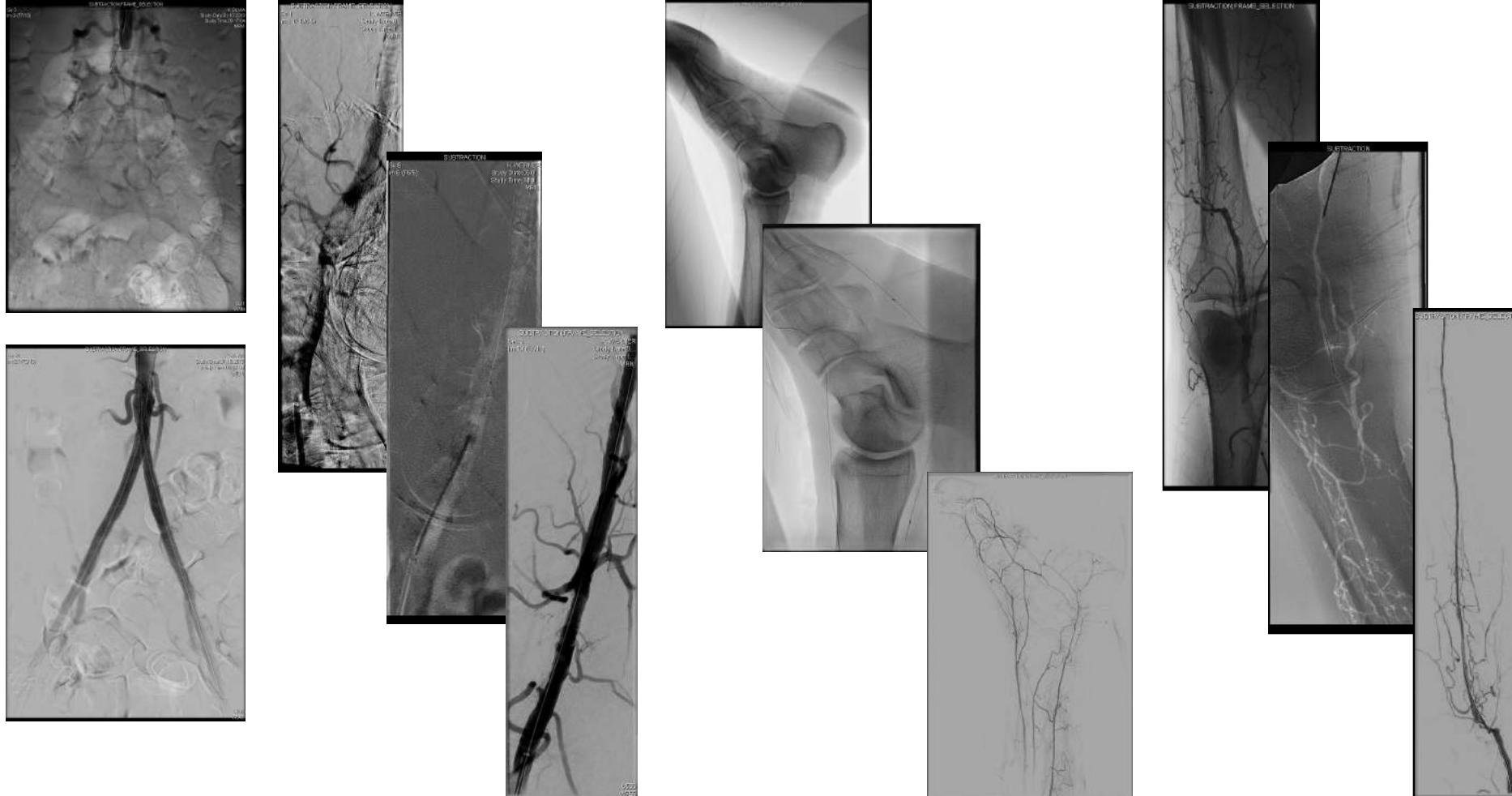
**The recipe to achieve optimal closure**

Prof. Dr. Christian Erbel

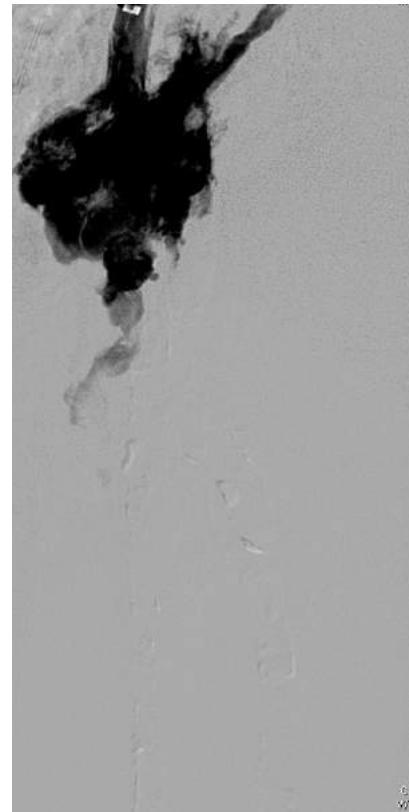
Department of Cardiology, Angiology  
University Hospital Heidelberg

Specialist Practice Brado - Erbel  
Heidelberg

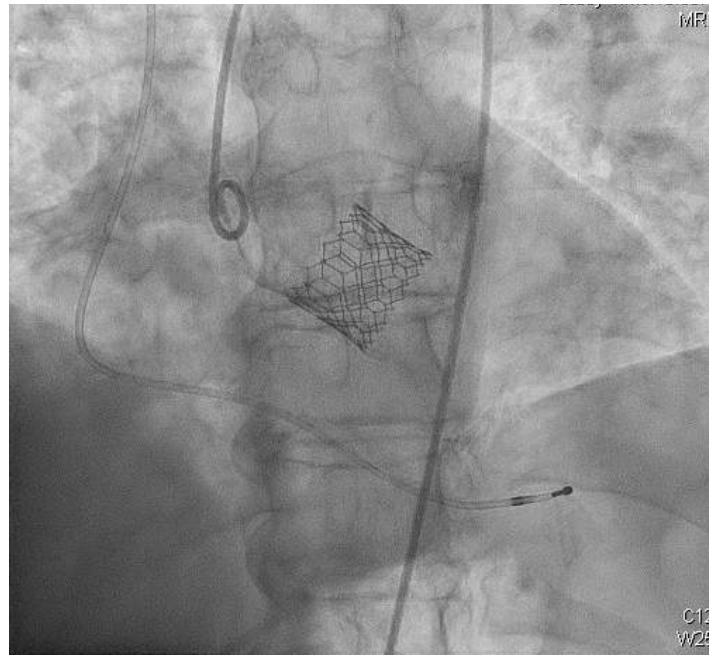
# Endovascular interventions



# Puncture site complications



# Puncture site complications



# The recipe to achieve optimal closure

1. Patient characteristic
2. Optimal puncture
3. Closure device

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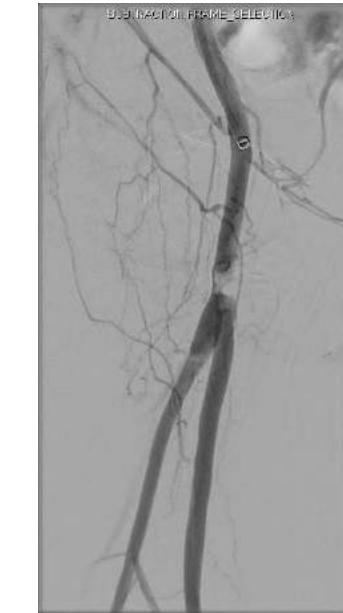
# The recipe to achieve optimal closure

1. Patient characteristic
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# Optimal puncture

## Ultrasound guided puncture (fast and safe):

- Optimal anesthesia of the puncture channel
- Differentiate between vessels
  - Correct direct puncture of the CFA
- CFA morphology
  - Aneurysm
  - Cyst
  - Metastasis
  - Plaque / stenosis
- **Helps to reduce puncture site complications**



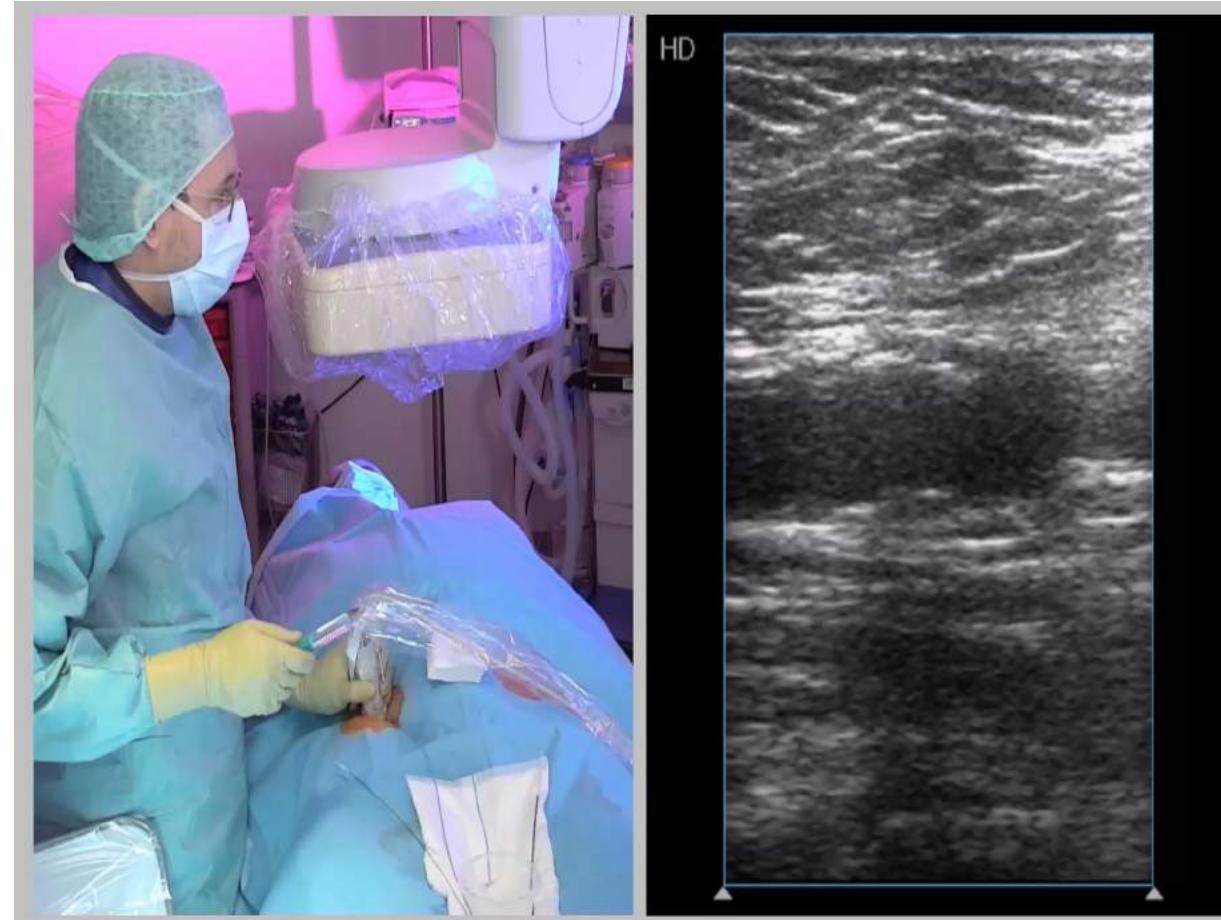
# Ultrasound guided puncture (fast and safe)

**Helps to reduce puncture site complications**

Why?

- No AV-fistula
- No malpuncture of the nerve or small site arteries
- Closure device success rate increases
  - Puncture in plaque free area
  - no puncture of the bifurcation or aneurysm etc.
- Direct check of the success of the closure device

# Ultrasound guided puncture



# The recipe to achieve optimal closure

1. Patient characteristic
2. Optimal puncture
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Active Approximation  
Devices

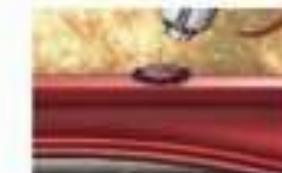
**Angio-Seal**



**Perclose**



**Starclose**



Passive Approximation  
Devices

**Duett**



**Exoseal**



**Mynx**



Unique Devices

**Arstasis Axera**



**Boomerang  
Catalyst III**

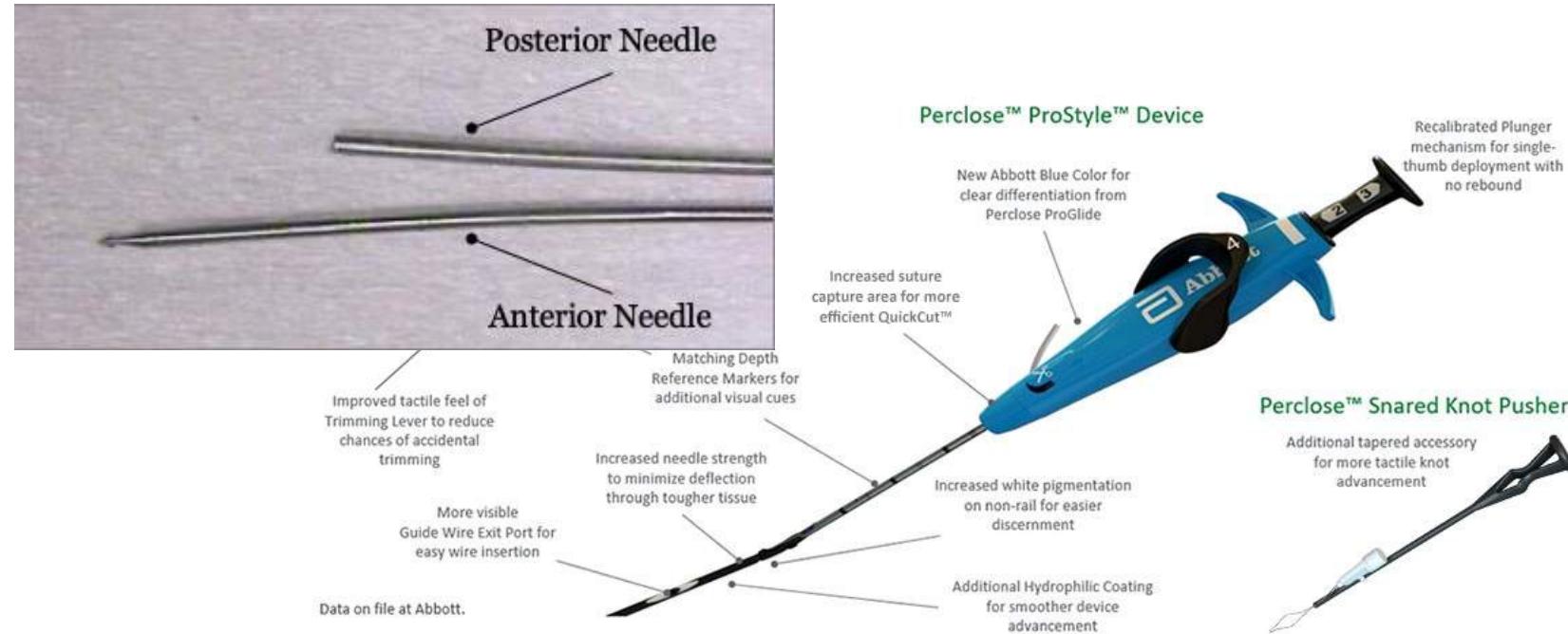


**FISH**



# Perclose™ ProStyle™ SMCR System

- Most important improvement:
  - higher tensile-strength needles for more reliability in complex, challenging anatomy



# Conclusion

- Manual compression seem to be inferior to closure devices
- Ultrasound guided puncture can help to prevent bleeding or stenosis or AV-fistula
- Beside other closure devices the new ProStyle device might help to further reduce puncture site complications



Angiologie, Uniklinik Heidelberg



Gemeinschaftspraxis Brado - Erbel

• **Vielen  
Dank!**

### Versorgungsumfang:

- 1. Angiologische Ambulanz inkl. Wundversorgung**
- 2. Endovaskuläre Eingriffe bei:**
  - 2.a. Arterie** – pAVK II-IV - u.a. Leriche Syndrom, AFC-Stenosen, Aortenstenose, A. Subclavia, Nierenarterie, Unterschenkeleingriffe
  - 2.b. Vene** – chron. Venenverschlüsse, akute Thrombosen
  - 2.c. Endovaskuläre AV-Fistelanlage**
  - 2.d. Minimal invasive Varizenbehandlung** – Schaumskl., Radiofrequenz
  - 2.e. Lungenembolie** – akut und subakut