

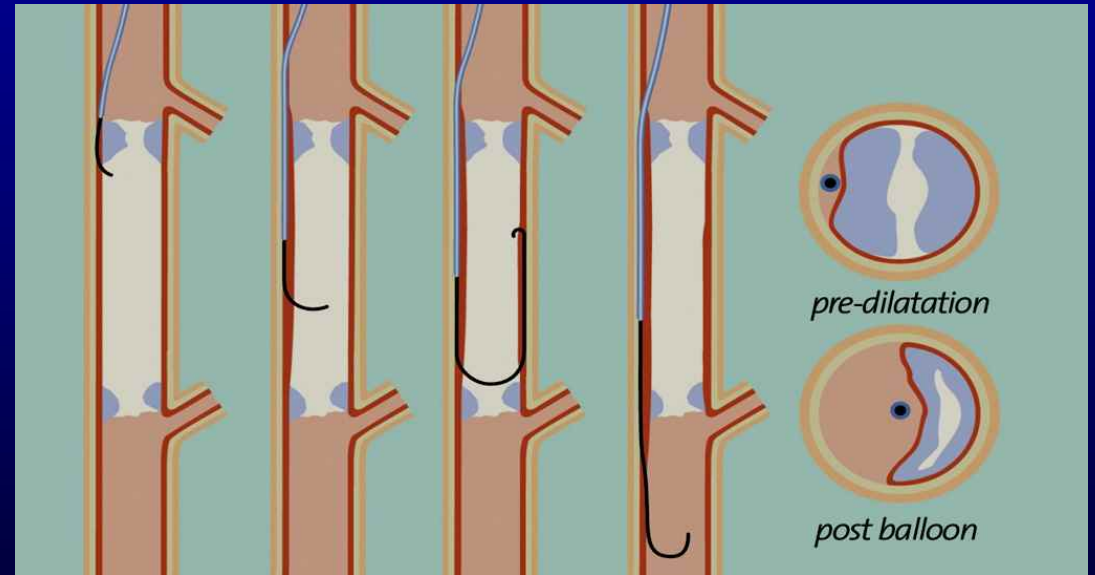
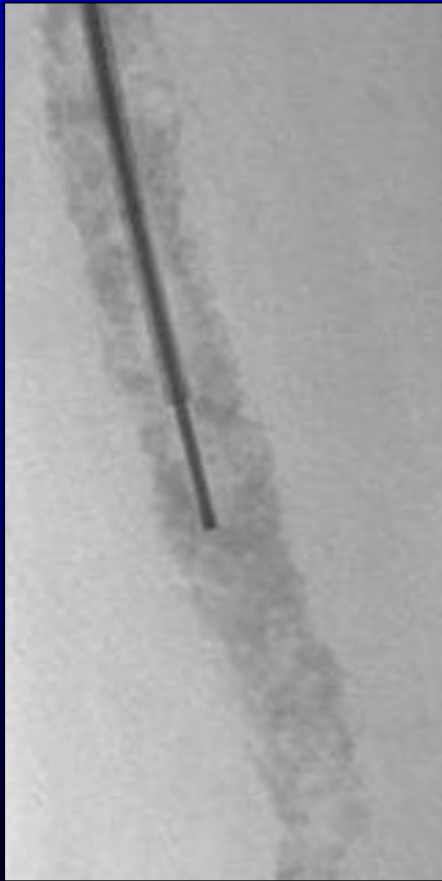
New Devices (and Approaches) in CTO-Treatment



D. Scheinert, MD
Department of Angiology
Park Hospital & Heart Center Leipzig, Germany

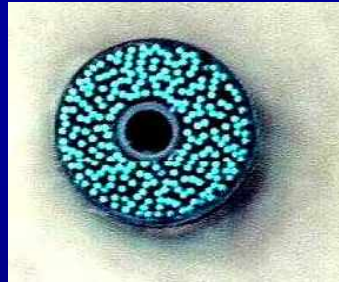
Initial Passage of a SFA-Occlusion

Intraluminal vs. subintimal



Tools for (intraluminal) Recanalization of CTOs

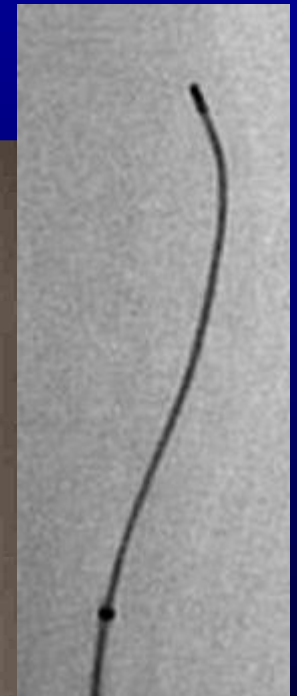
Excimer-Laser



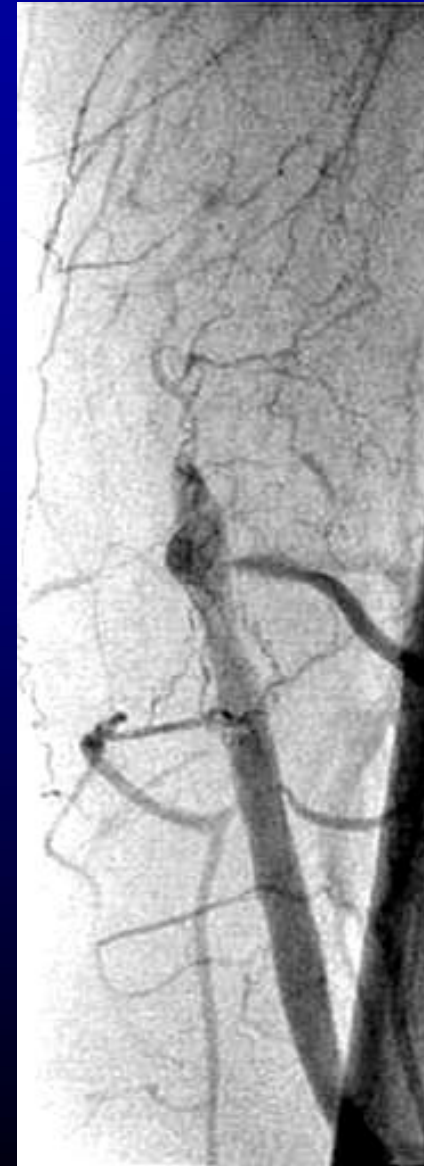
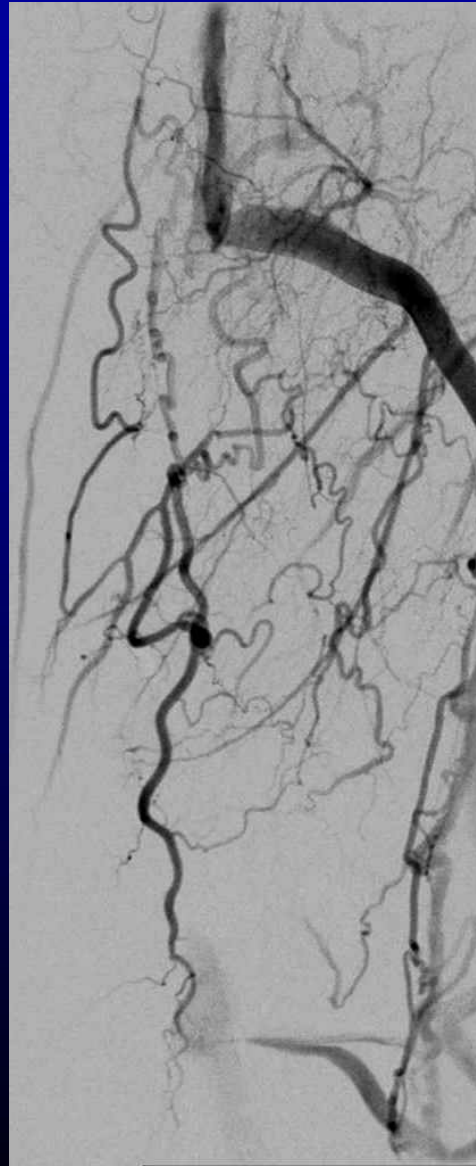
Frontrunner (Cordis)

+ Microguide-catheter

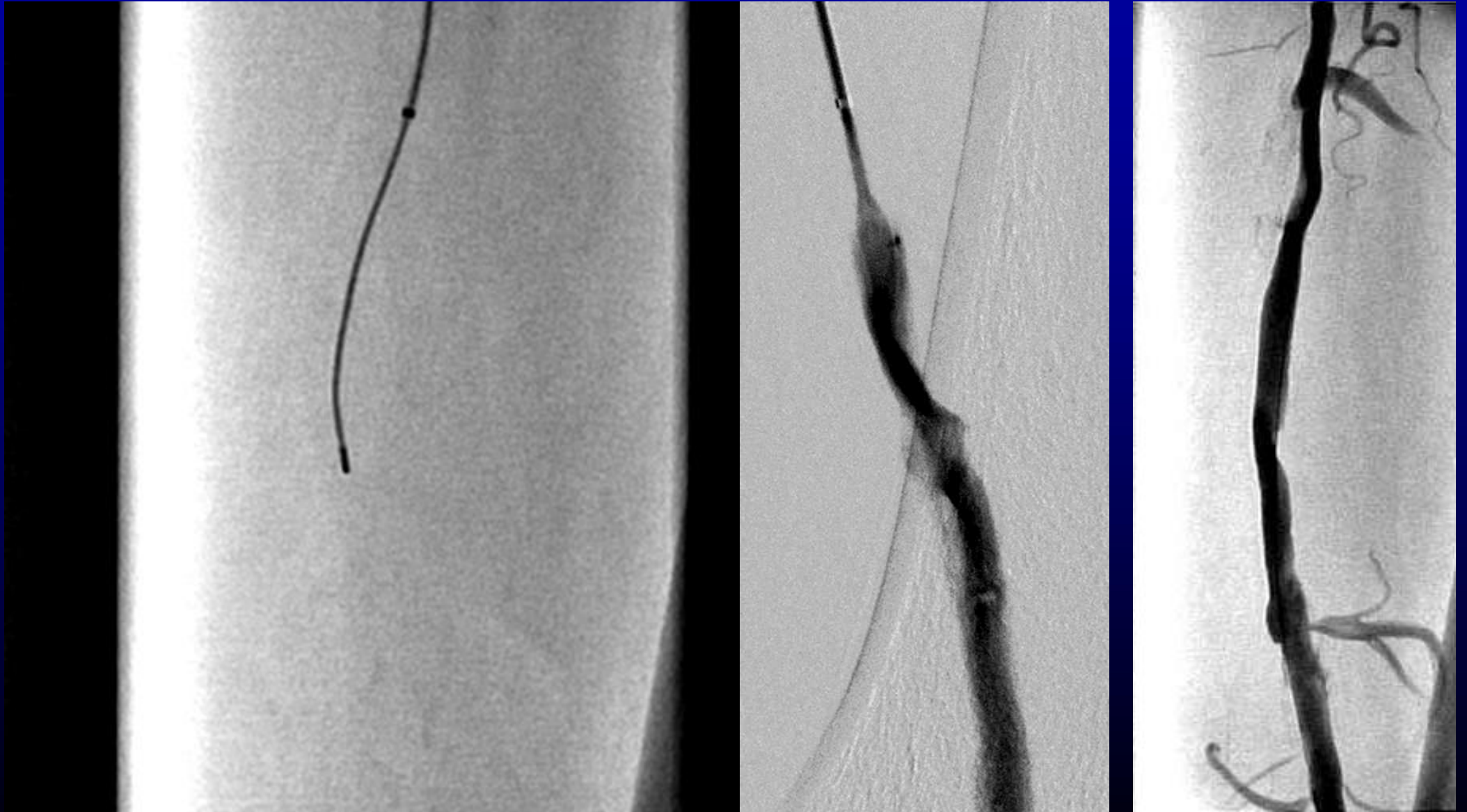
Crossing-profile 3.1 F and 4.5 F



SFA Frontrunner-Recanalization



SFA Frontrunner-Racanalization



Failure of SFA- Recanalization

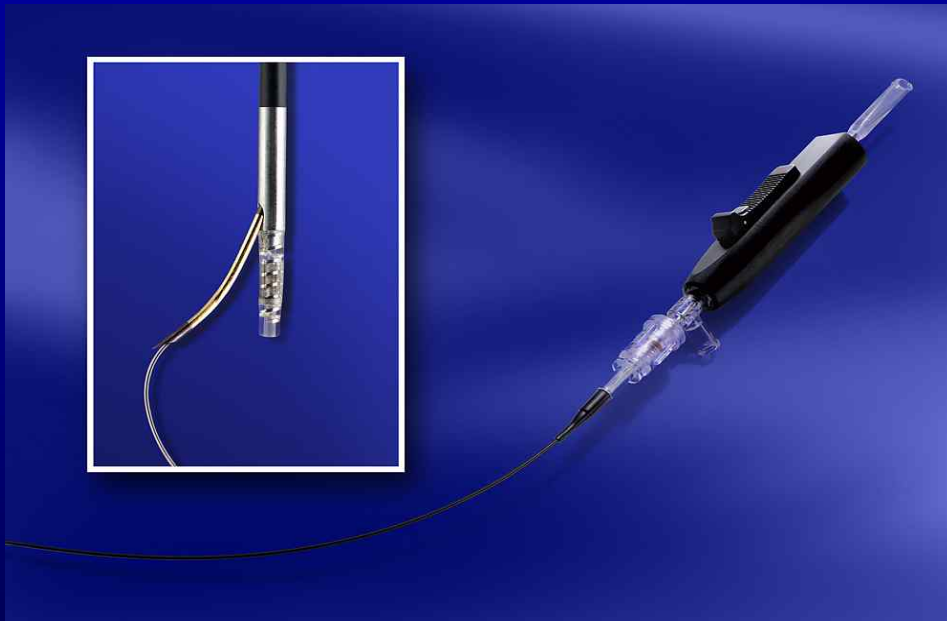


- Degree of calcification
- Failure to reenter the distal patent artery

Problems with Recanalization-Techniques of SFA-Occlusions

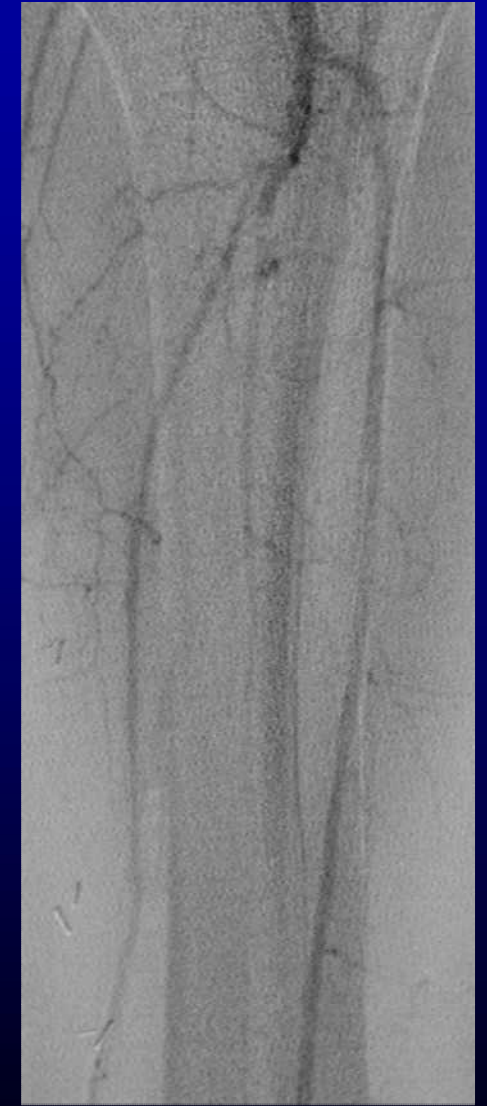
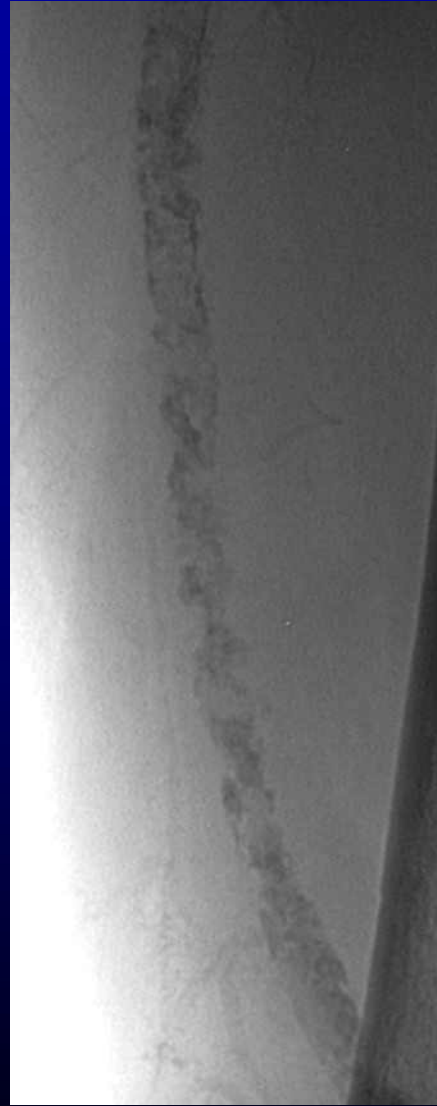
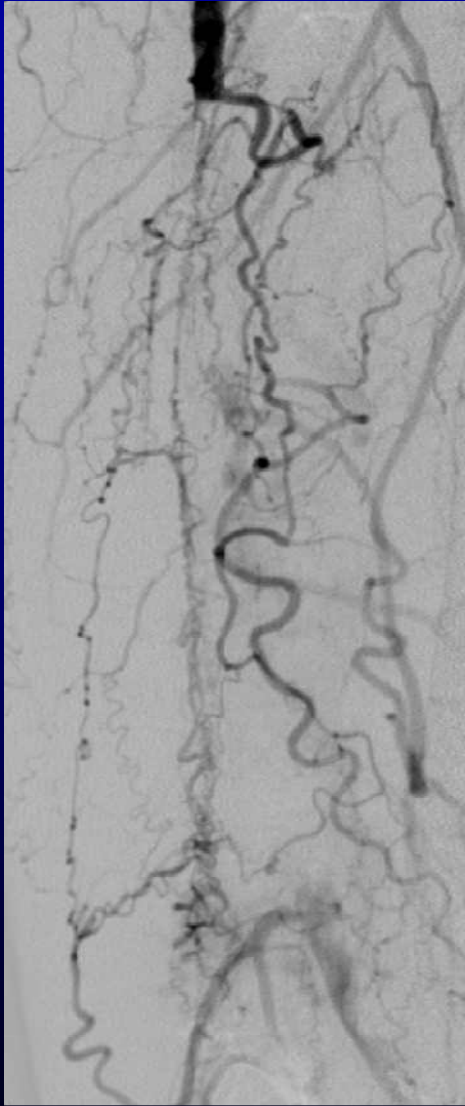
- Unsuccessful procedure in **~ 20 %**
due to inability to re-enter the true lumen after
subintimal passage of the occluded segment
- Time-consuming attempts to achieve distal re-entry
- Distal extension of the dissection with involvement
of the first popliteal segment

Outback Catheter

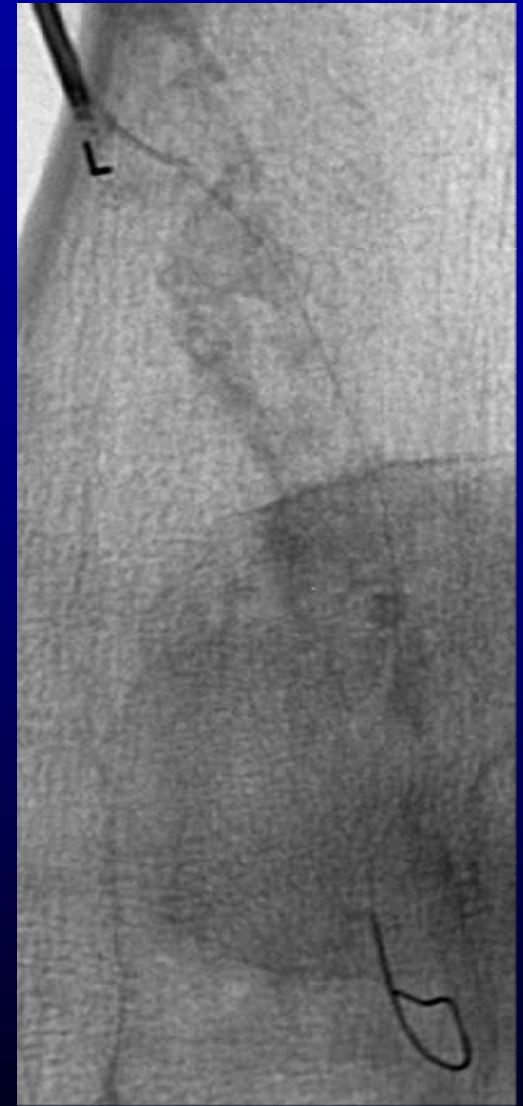
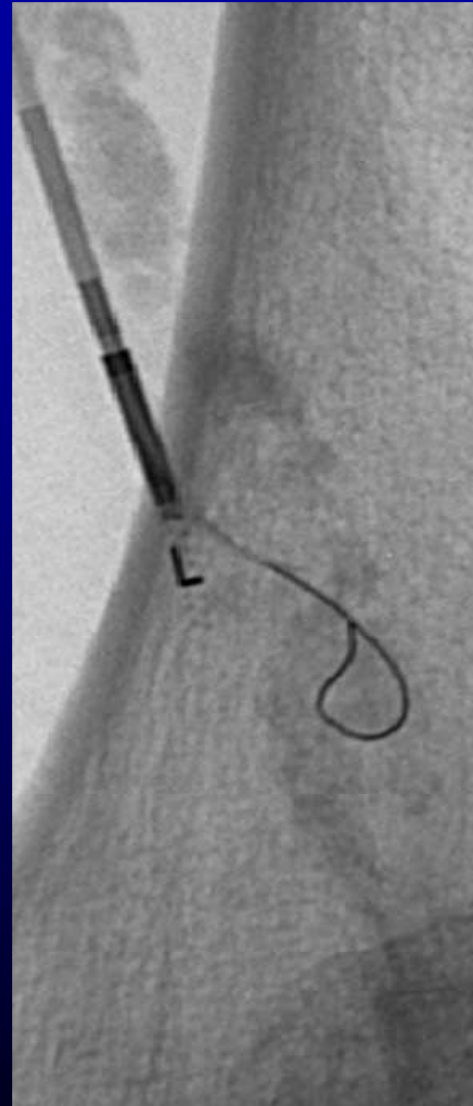
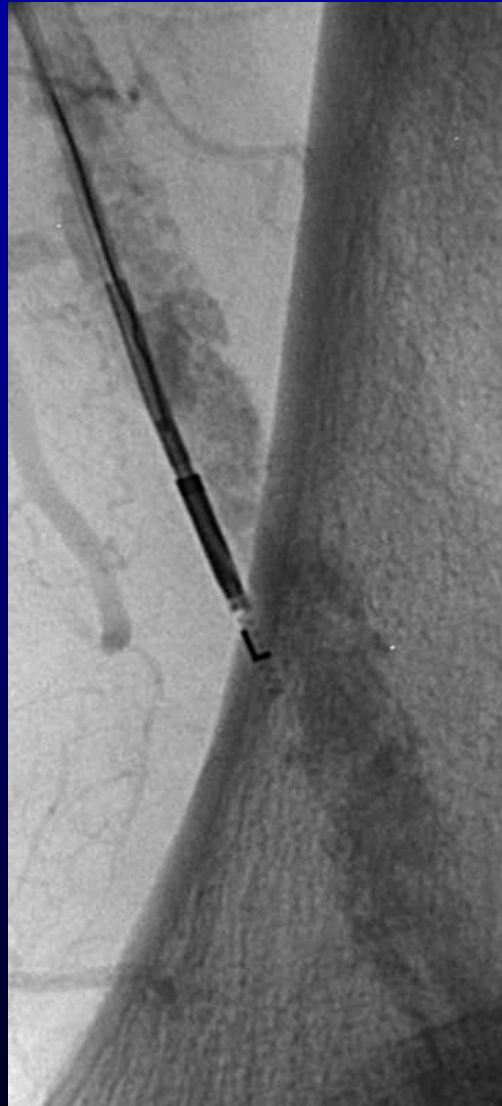
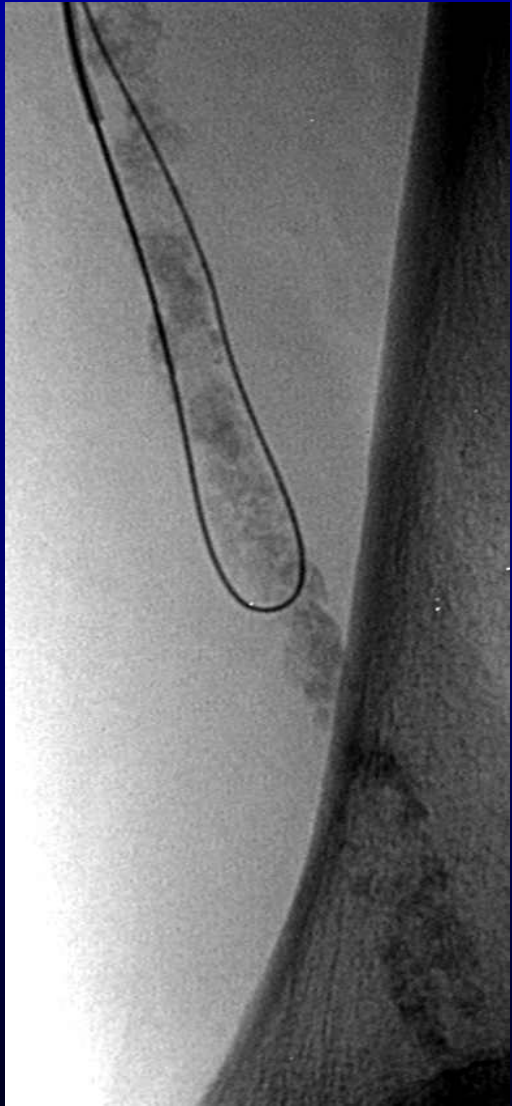


- No integrated IVUS → 6F sheath compatible
- Only one 0.014" guidewire → easy to handle

Occlusion left SFA – CLI-Patient

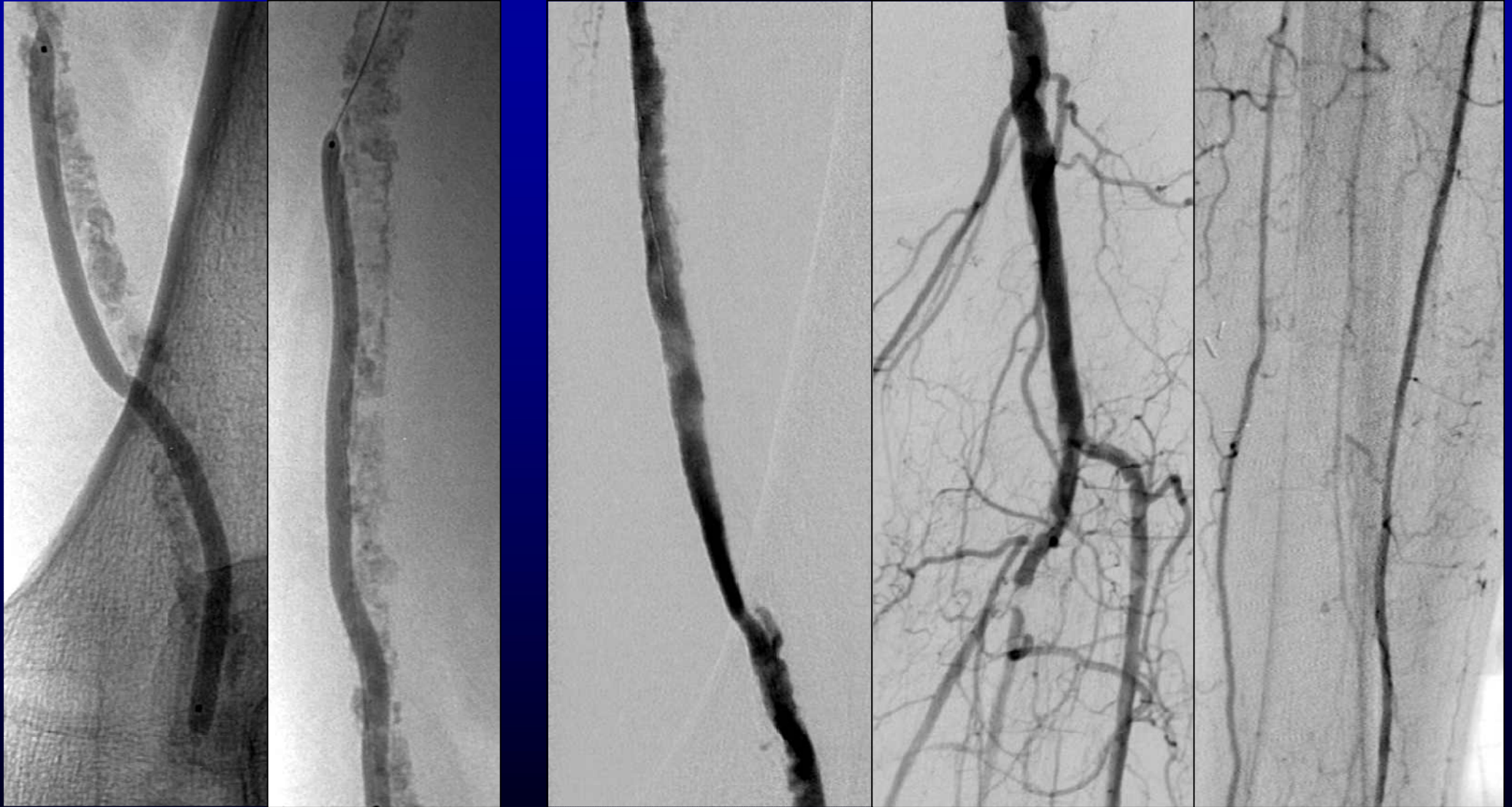


Occlusion left SFA – CLI-Patient



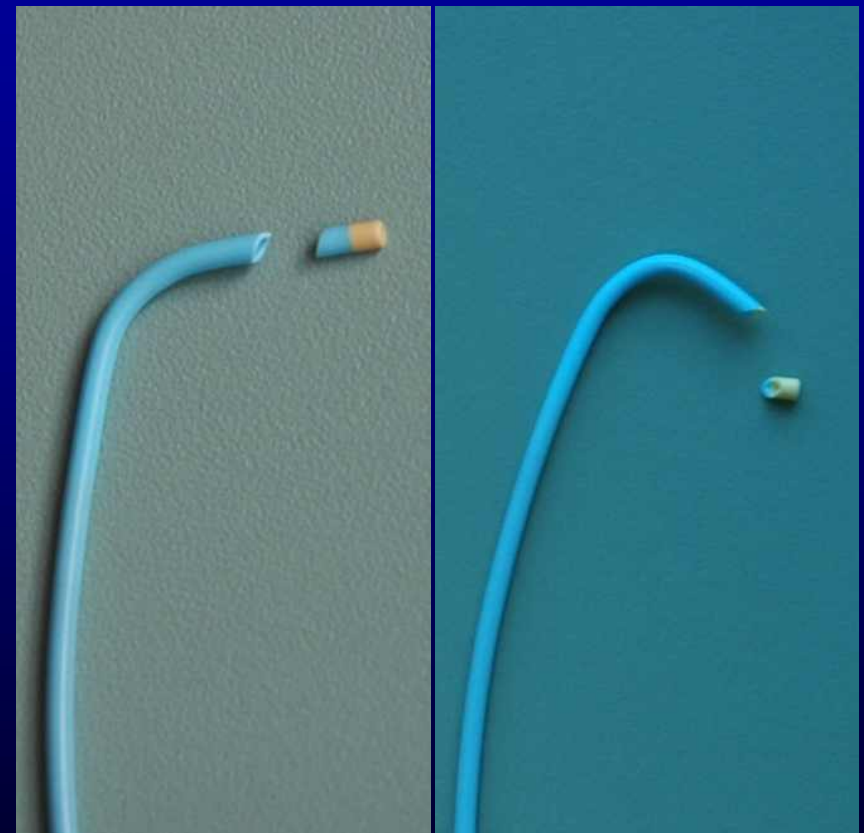
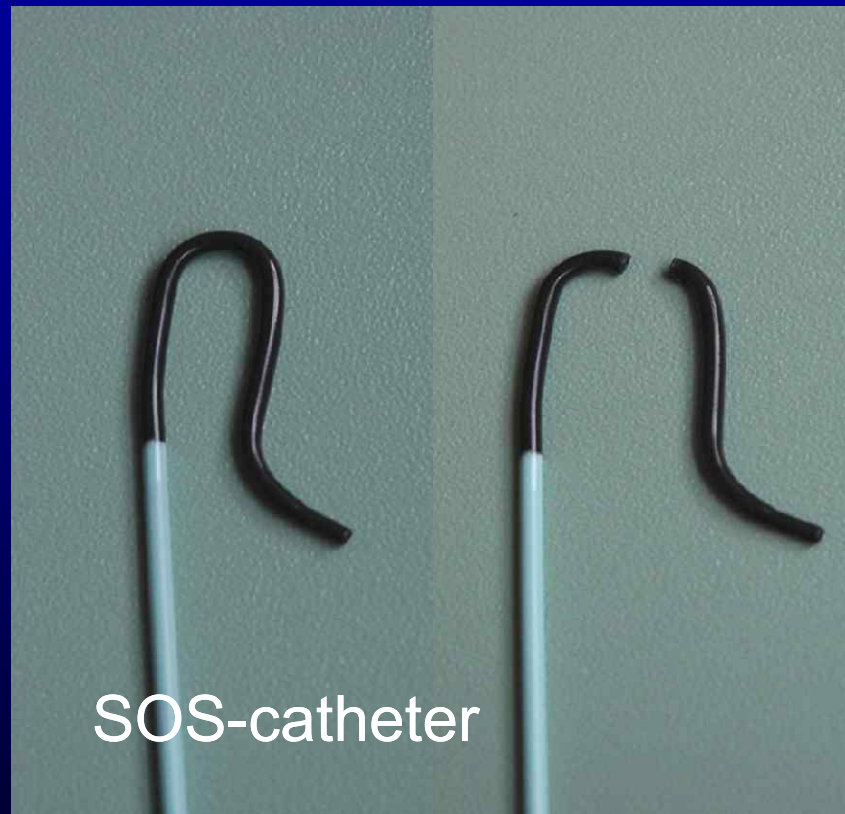
Outback-Catheter

Occlusion left SFA – CLI-Patient

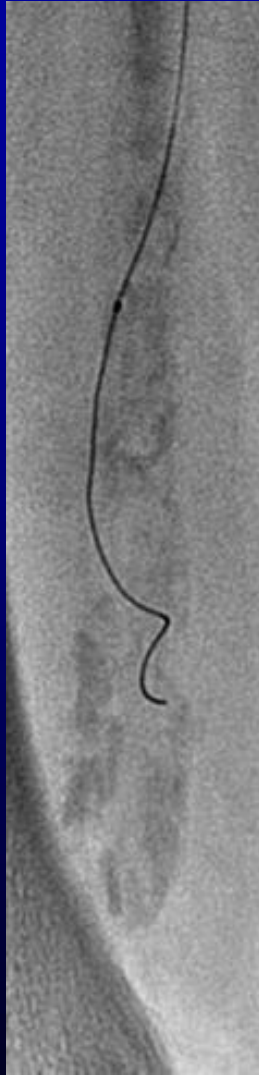
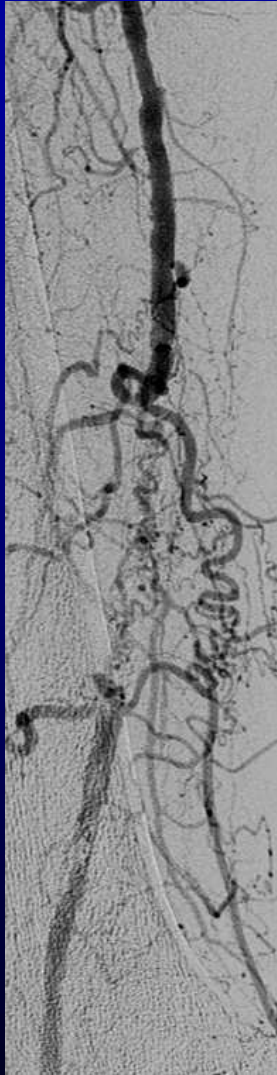


After implantation of nitinol-stents

Tricks for Passage of CTOs of the SFA

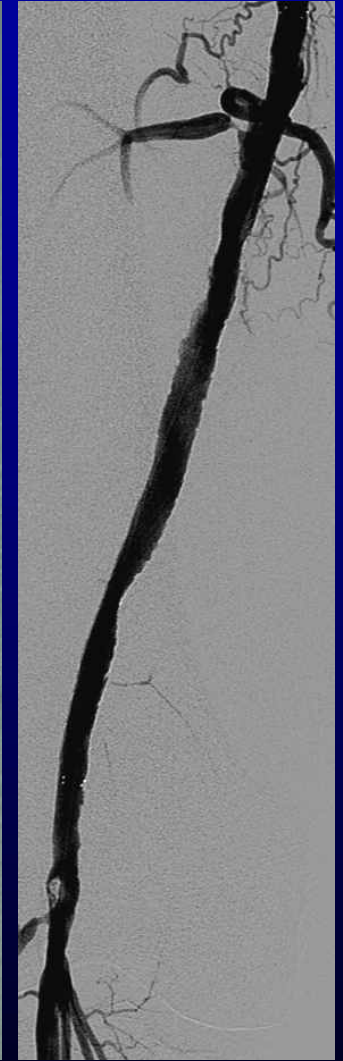
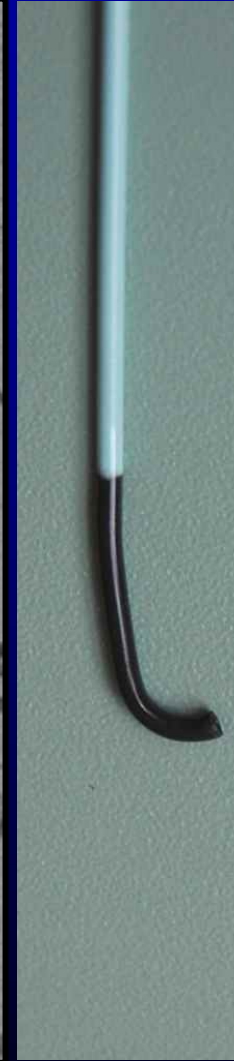
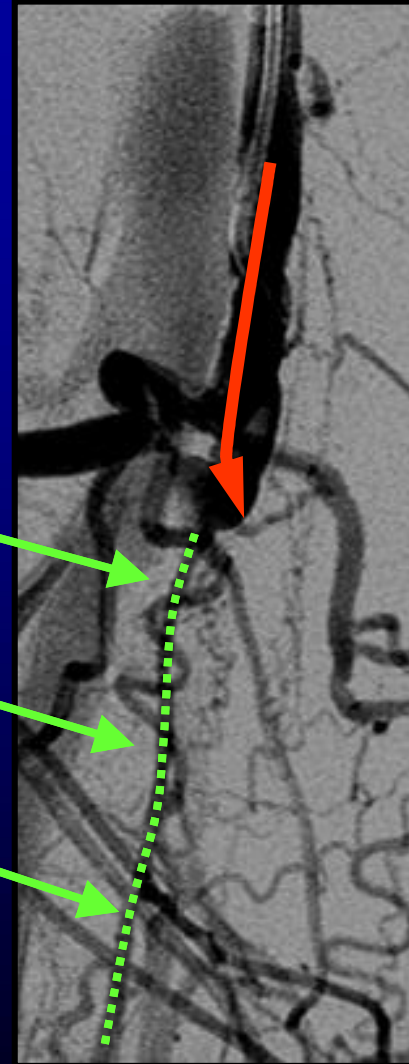


Tricks for Passage of CTOs of the SFA

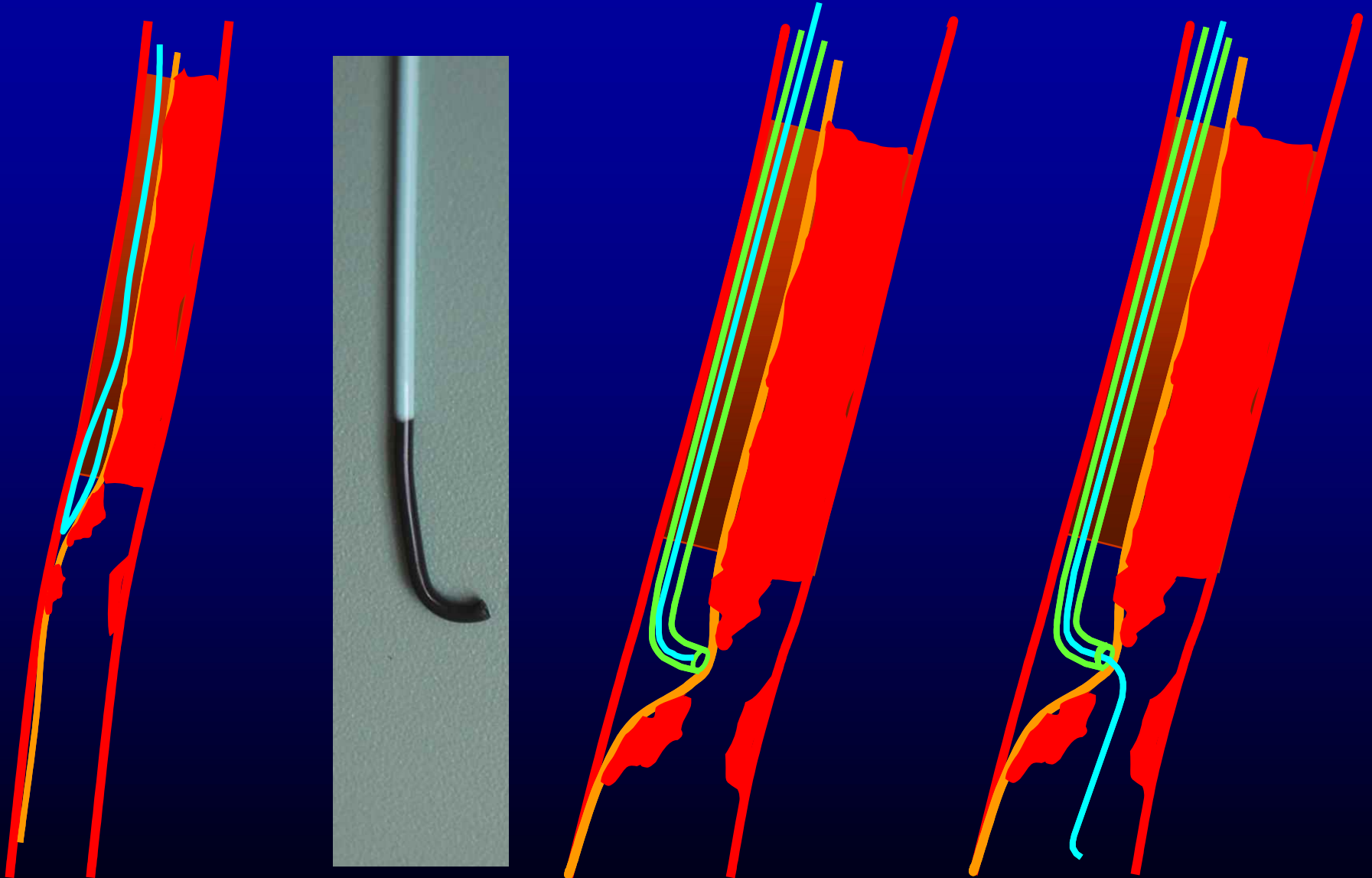


Perforation

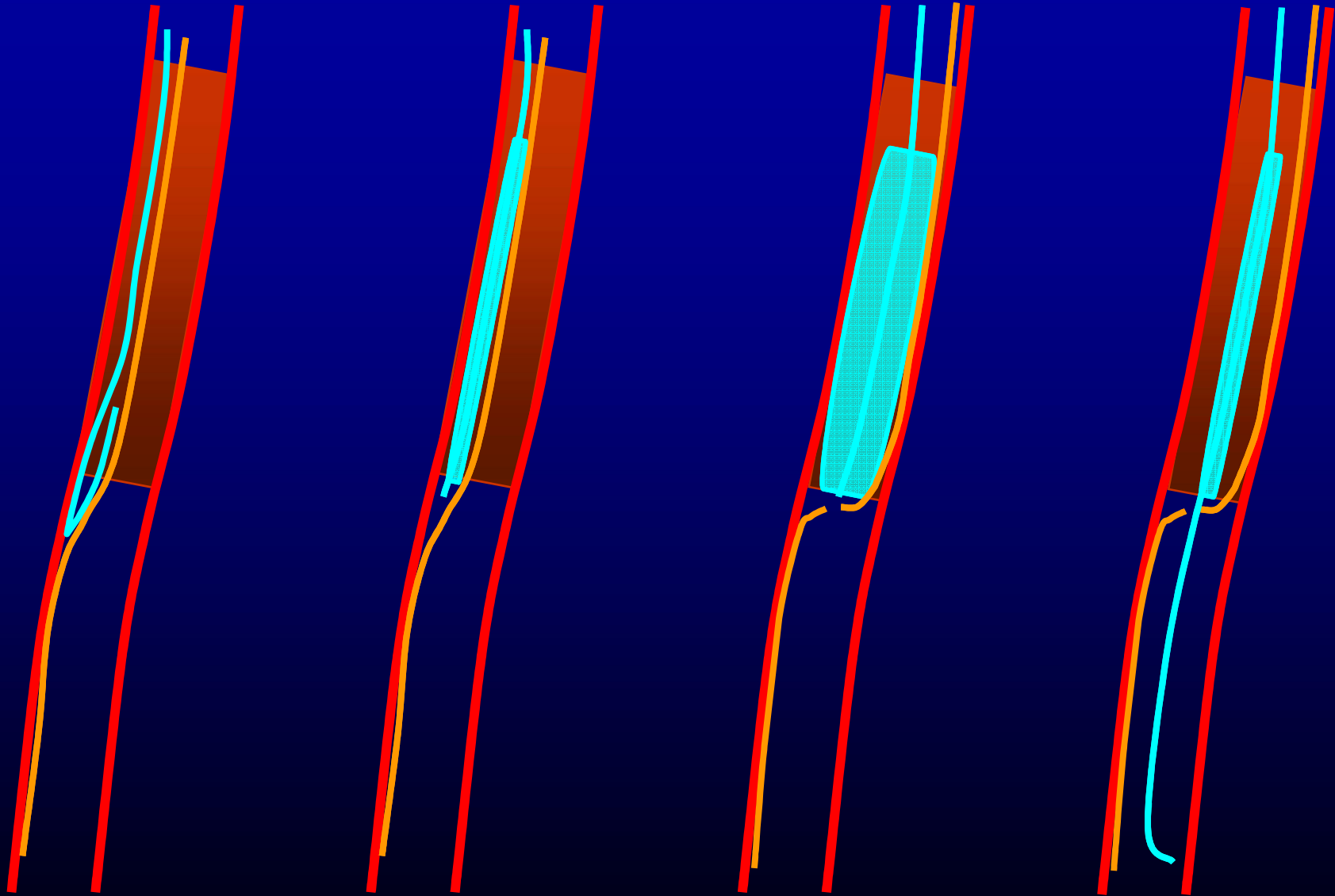
Channel created
by first
attempt to pass
the occlusion



Tricks for Passage of CTOs of the SFA



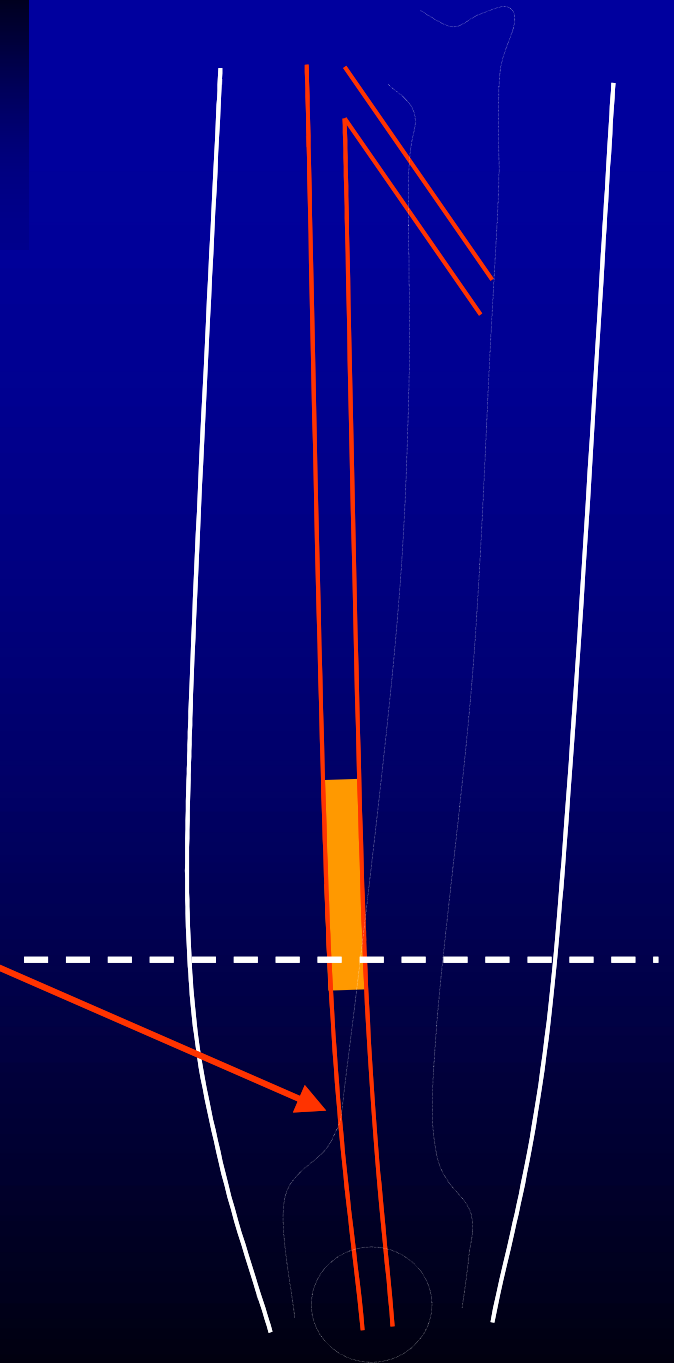
Tricks for Passage of CTOs of the SFA



Balloon-dilatation within the occlusion before guidewire-passage

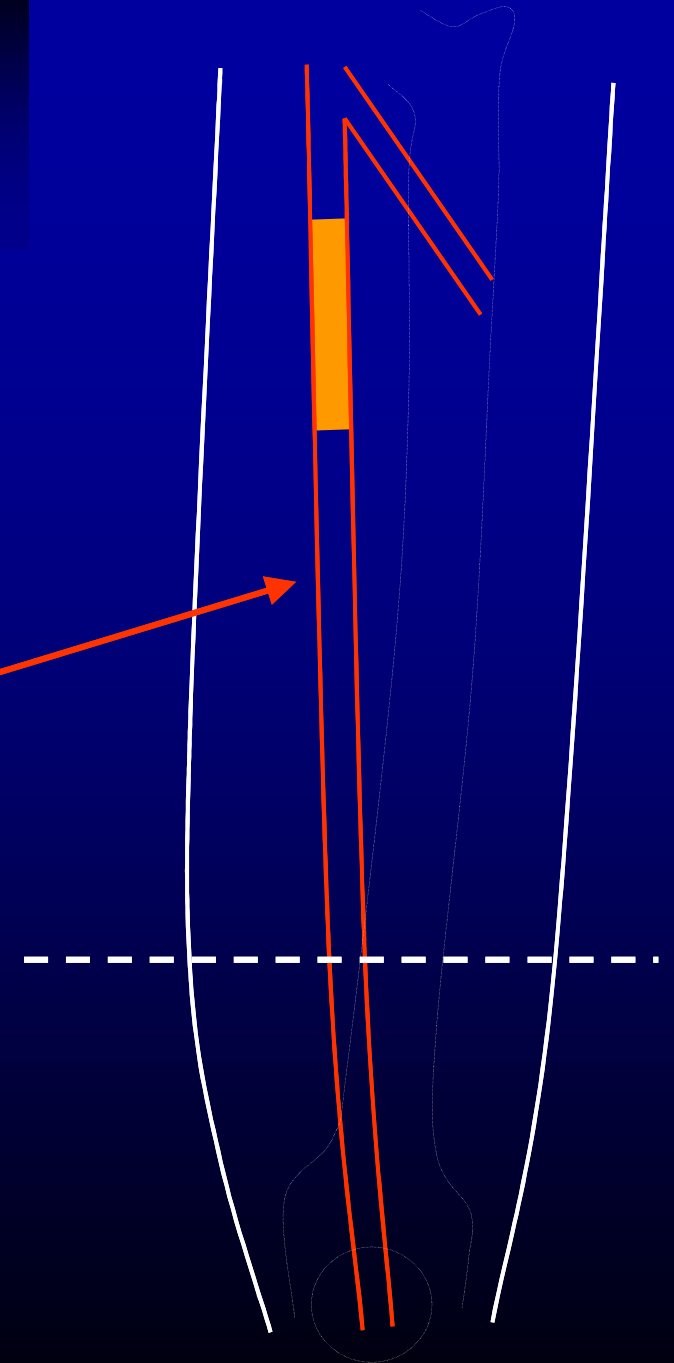
Retrograde Approach for CTOs of the SFA

- In case of antegrade failure
- 4 Fr. sheath
- Puncture from dorsal
- Patient in prone position

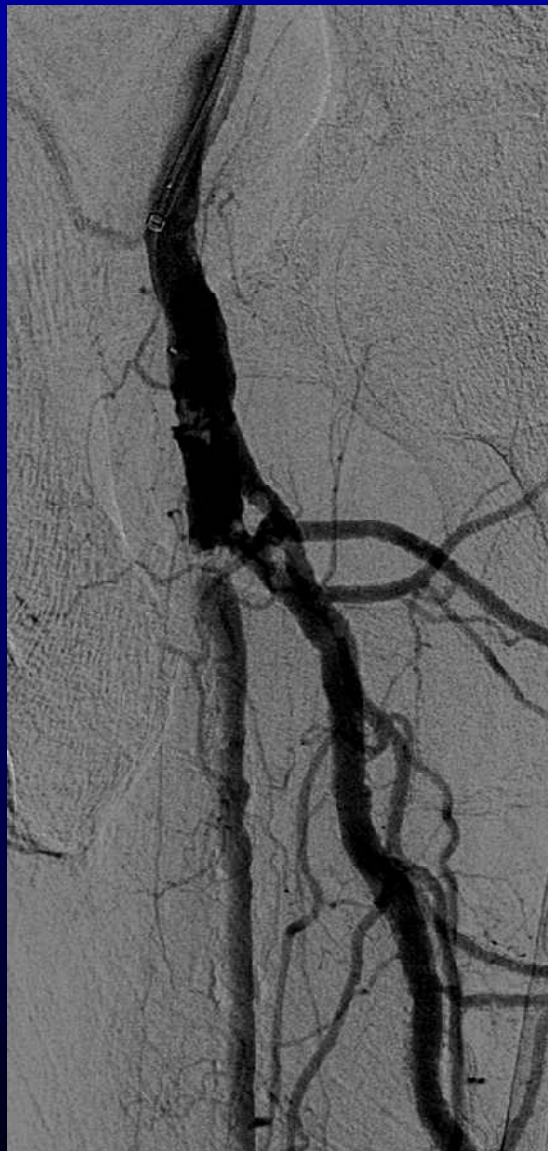


Retrograde Approach for CTOs of the SFA

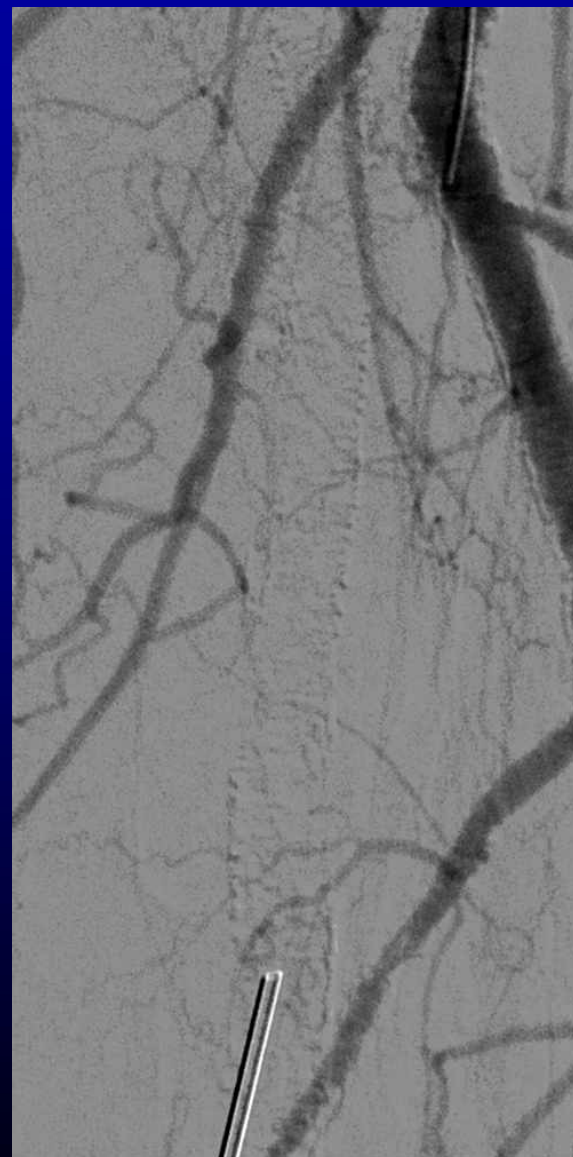
- In case of antegrade failure
- 4 Fr. sheath
- Puncture from ventral
- Patient in supine position



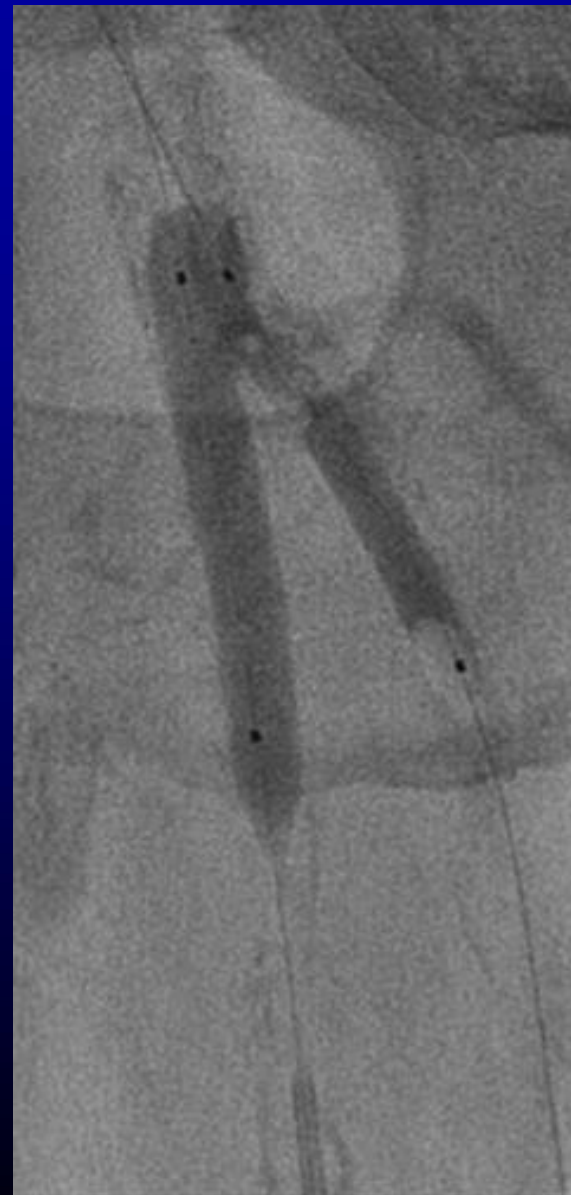
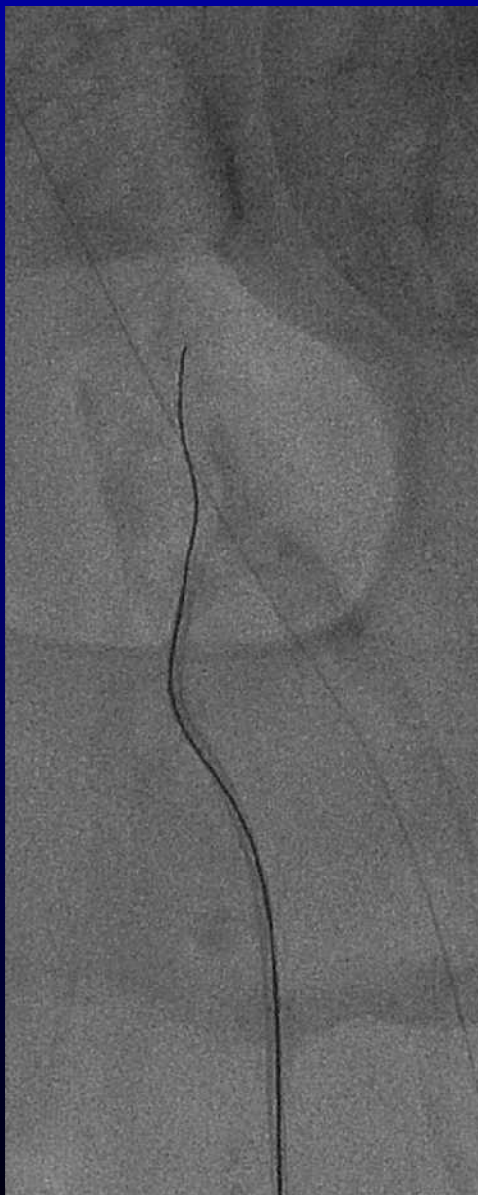
Short calcified Occlusion left SFA



Occlusion left SFA – CLI-Patient



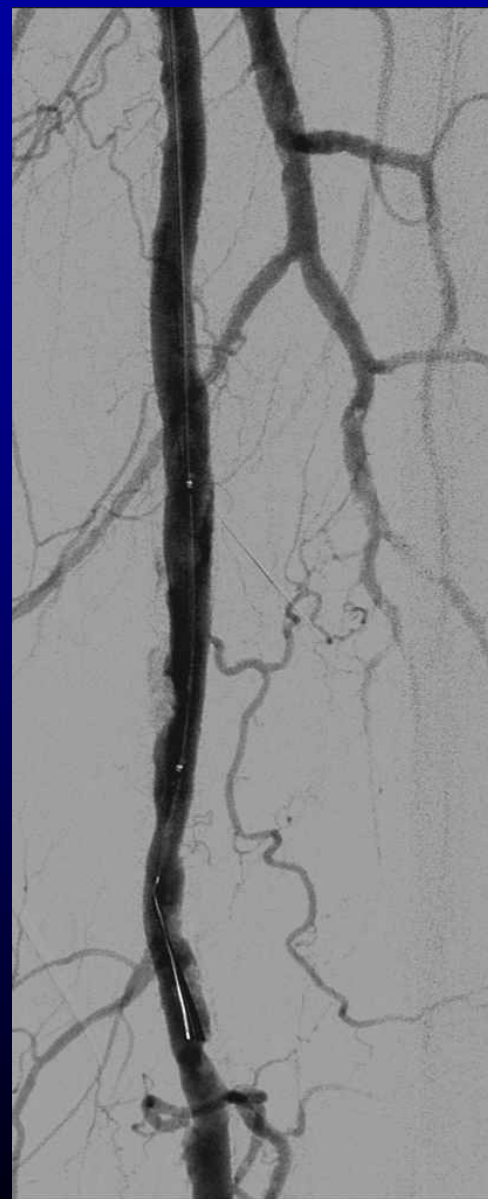
Occlusion left SFA – CLI-Patient



Occlusion left SFA – CLI-Patient

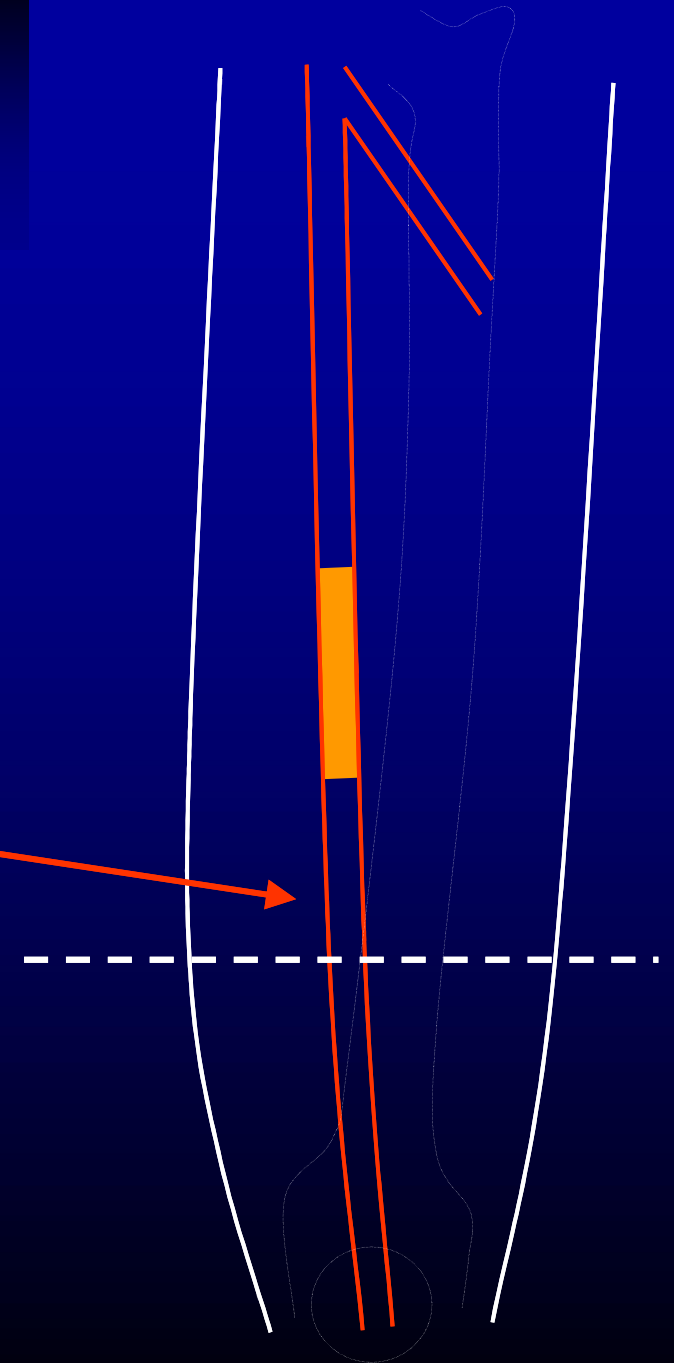


Occlusion left SFA – CLI-Patient

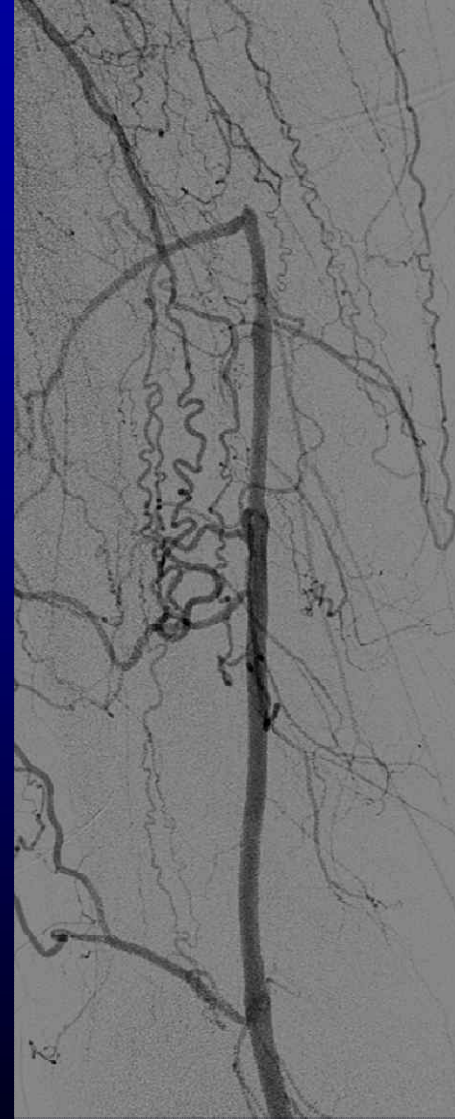
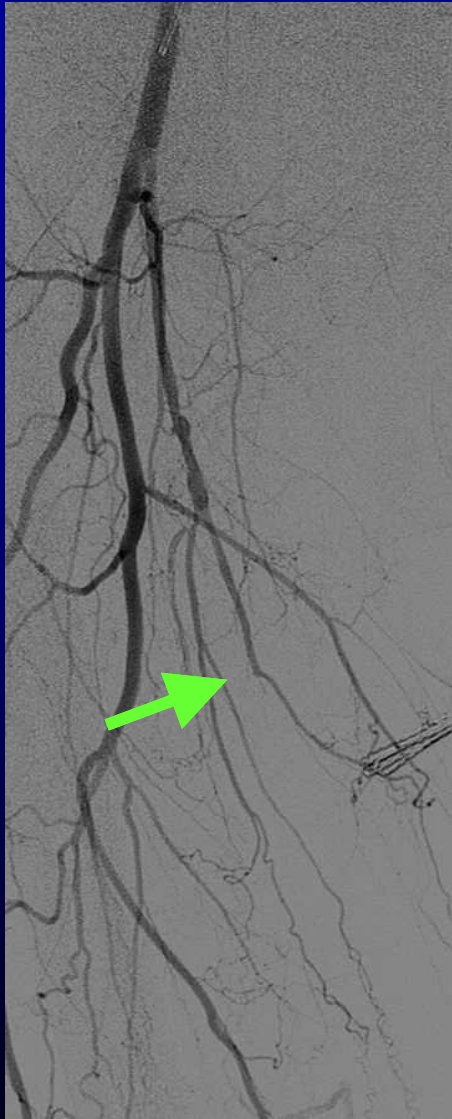


Retrograde Approach for CTOs of the SFA

- In case of antegrade failure
- 4 Fr. sheath
- Puncture from ventral
- Patient in supine position



Retrograde SFA-Recanalization



Failure to recanalize from antegrade

Retrograde SFA-Recanalization

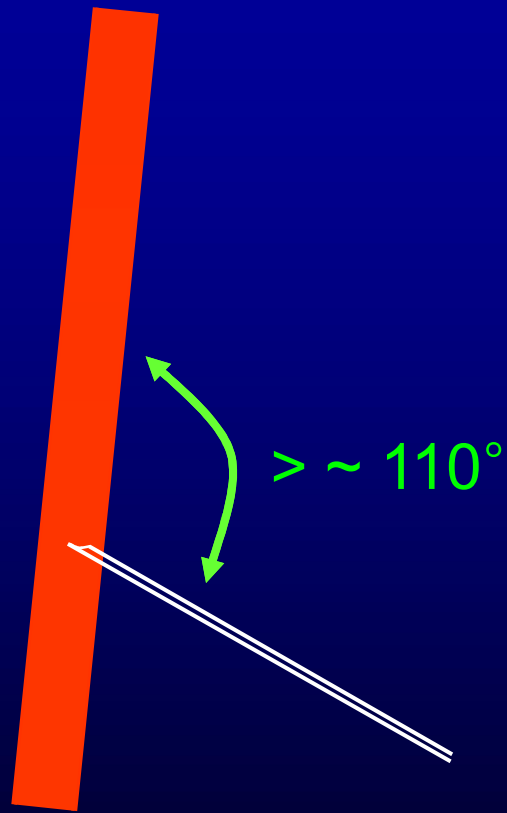
- 21 Gauge needle
- 7cm length

Micro-Puncture set
(COOK)

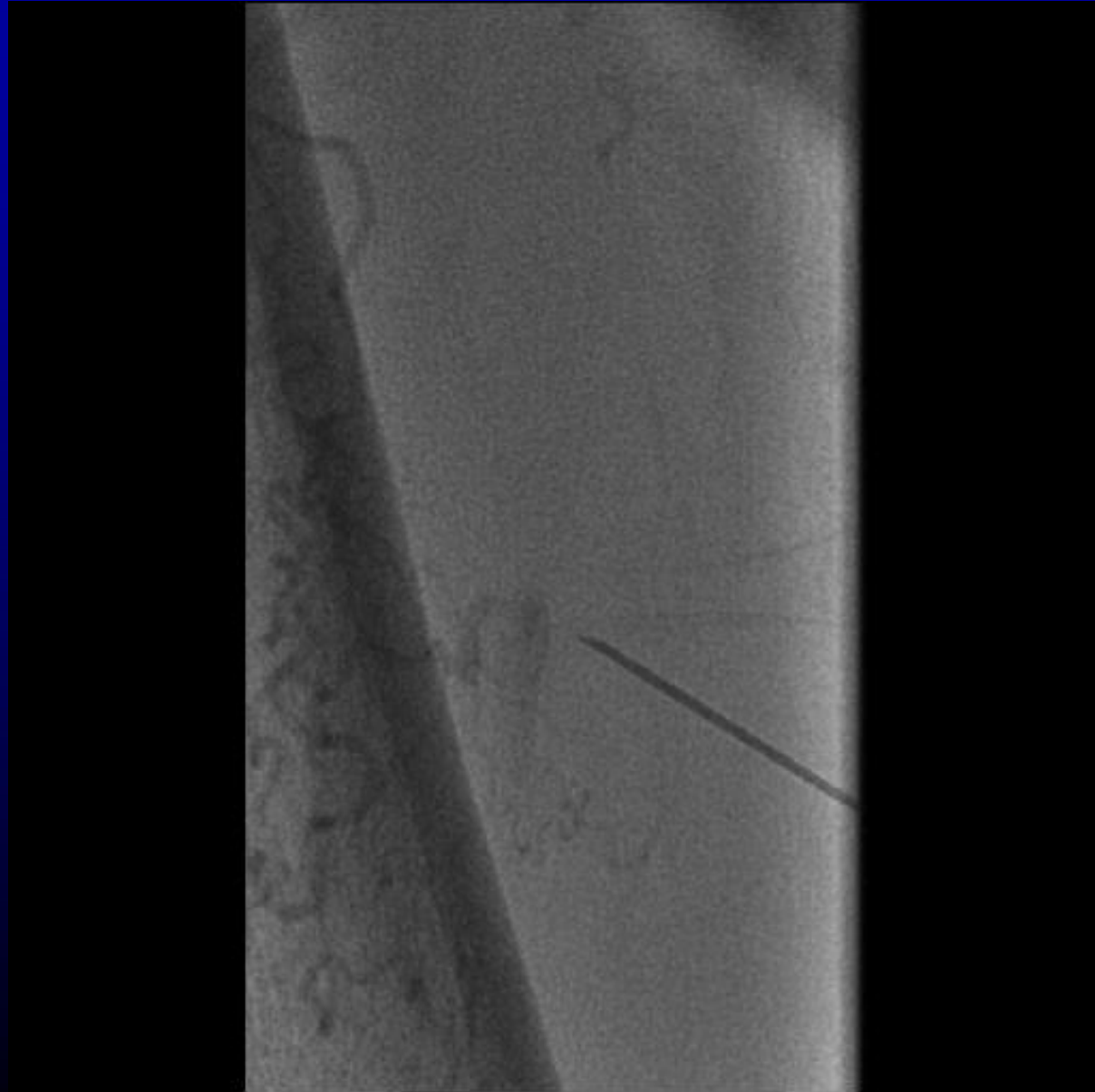
LAO



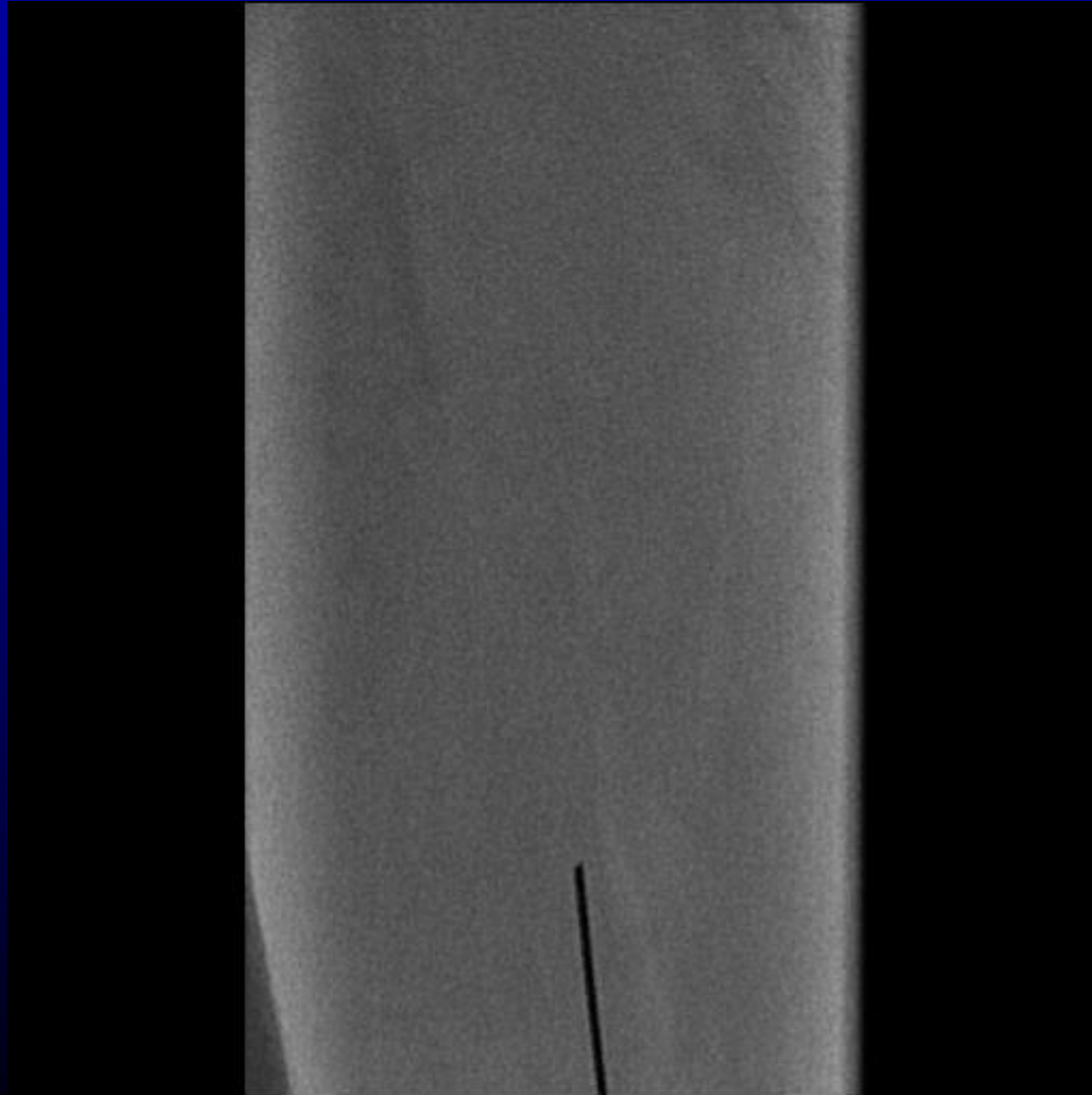
Retrograde SFA-Recanalization



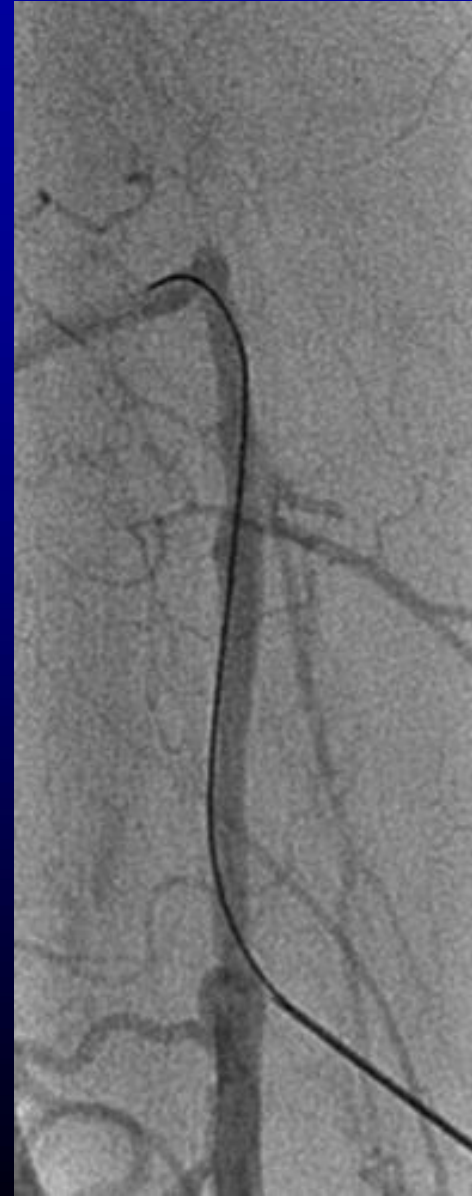
RAO



Retrograde SFA-Recanalization



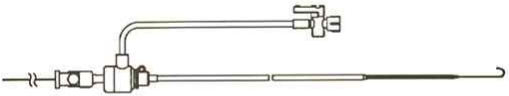
Retrograde SFA-Recanalization



4F Sheath for Retrograde SFA-Approach

ST. JUDE MEDICAL

MAXIMUM™ **4F**
HEMOSTASIS INTRODUCER (1.33 mm)

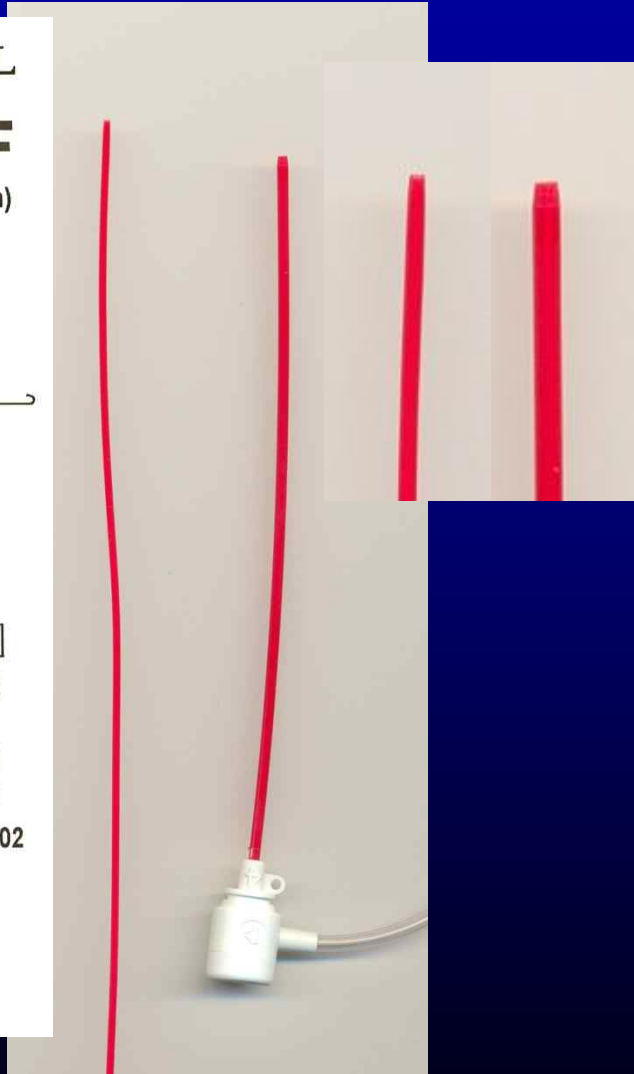


REF: 406259 LENGTH: 12 cm LOT: 9999

MAX. GUIDEWIRE O.D.: .035" (.889 mm) 2010-02

CONTENTS 1

4F Sheath, 4F Dilator
.035" 50 cm DDJ G.W. & Accessories



0.035"

RADIFOCUS® INTRODUCER II
INTRODUCTEUR II / EINFÜHRUNGSSCHLEUSE II
INTRODUCTOR II / KIT INTRODUTTORE II
INTRODUCER II / INTRODUCER II

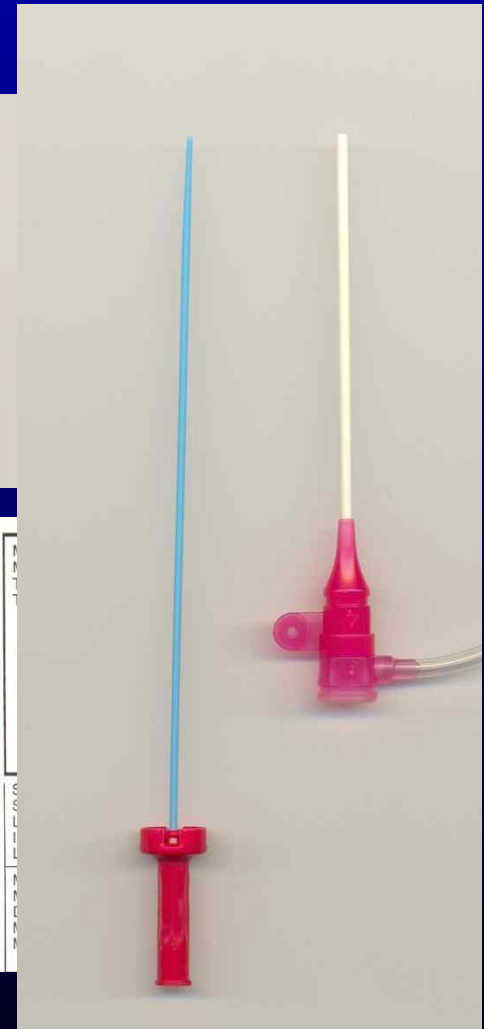
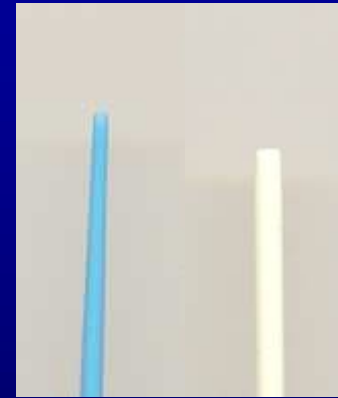
SIZE : TAILLE :
GRÖÙE : TAMAÑO :
MISURA : MAAT :
STORLEK : **Fr.4**

REF: RS * B40G07SQ

CONTENTS: Sheath / Dilator / Mini guide wire

CONTIENT: Gaine / Dilateur / Mini guide

INHALT: Schleuse / Dilator /
Mini - Führungsdraht



0.025"

Retrograde SFA-Recanalization

4F Sheath
(St. Jude)

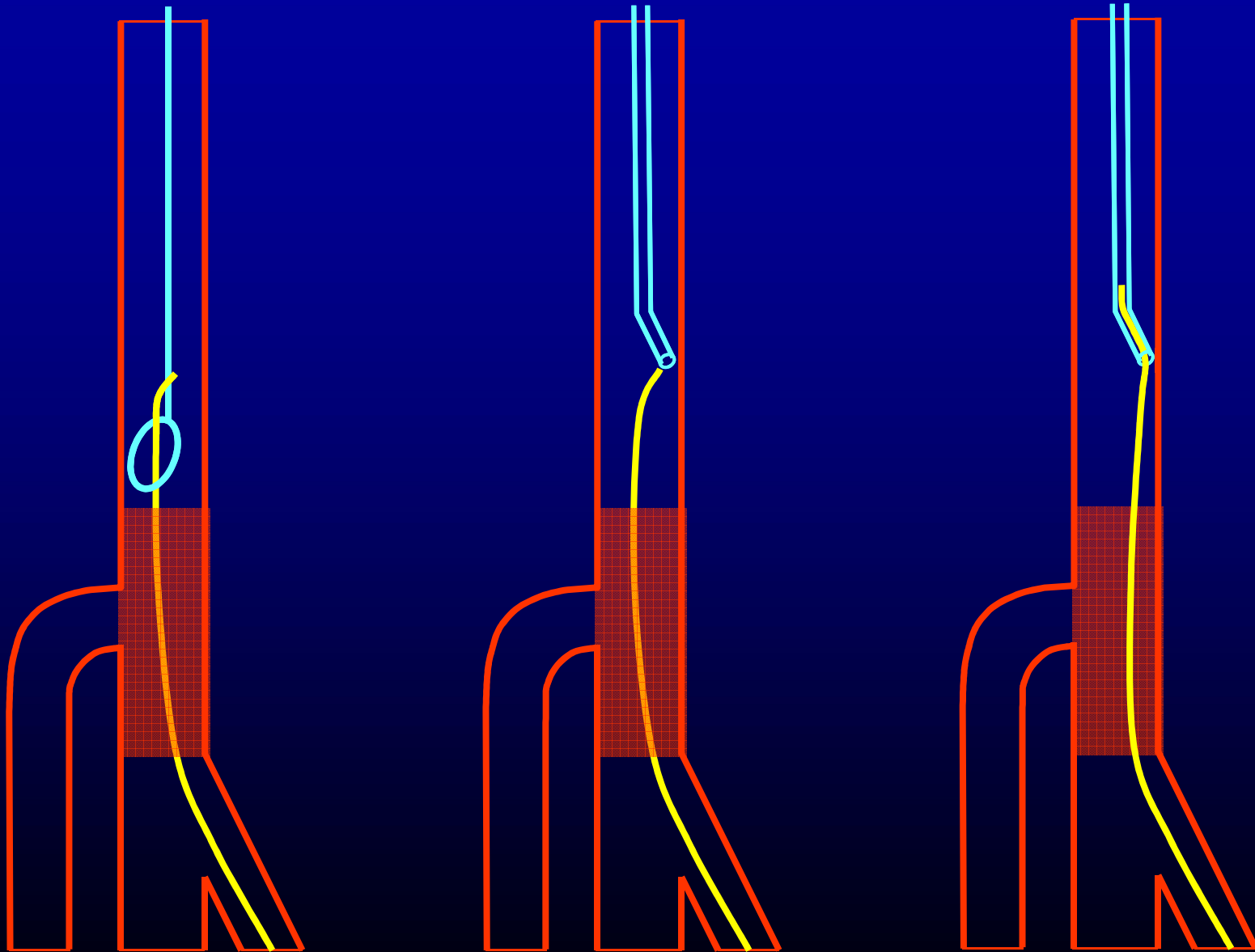


Retrograde SFA-Recanalization

4F Judkins Right
for snaring the wire



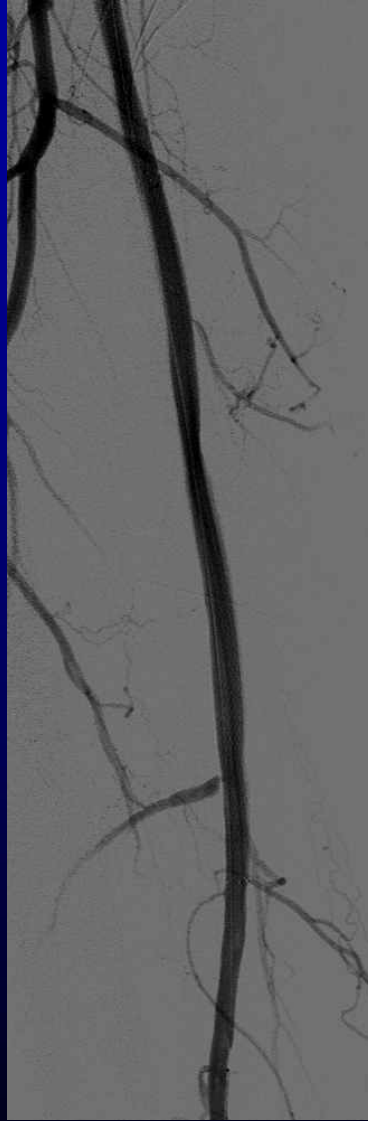
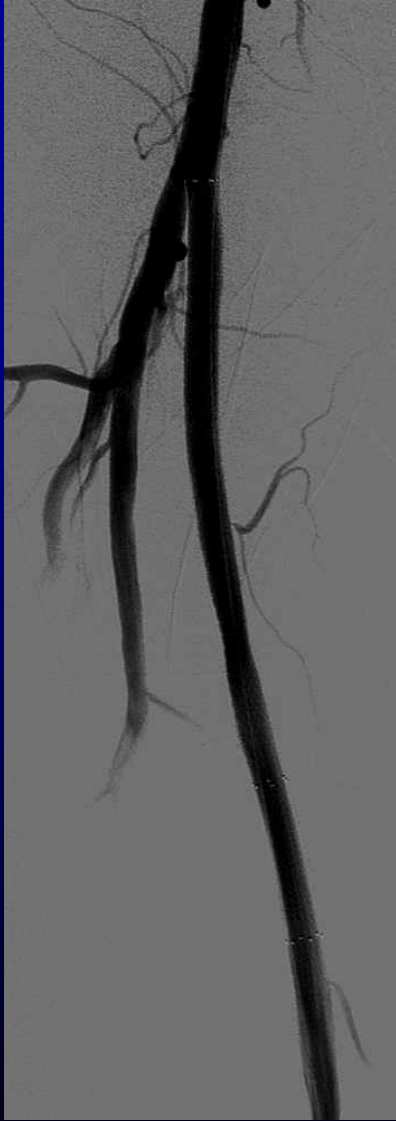
“Snaring of the Retrograde Guide-Wire”



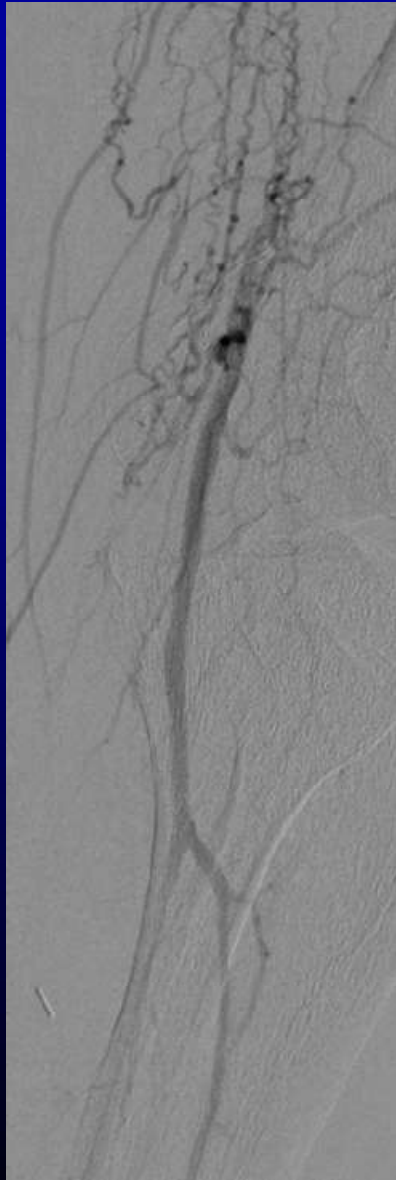
Retrograde SFA-Recanalization



Retrograde SFA-Recanalization

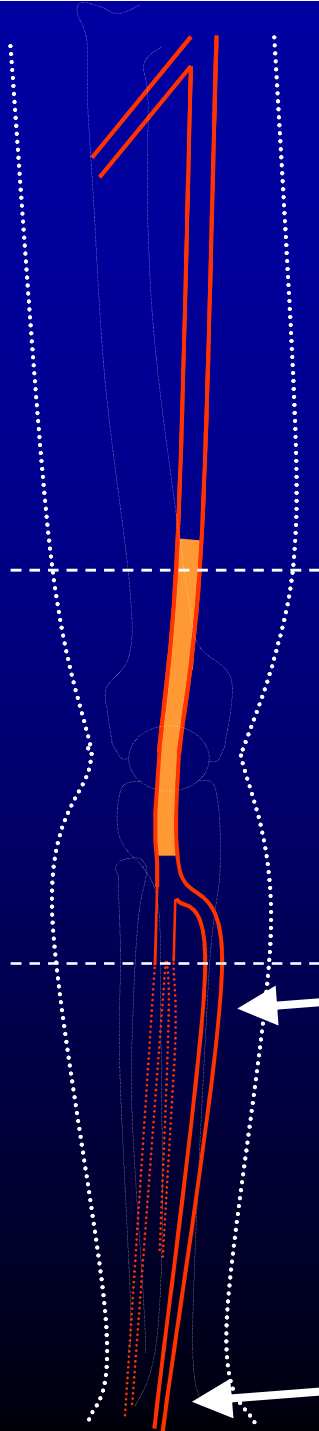


Double-Balloon Technique for the SFA



Retrograde Approach for infrainguinal CTOs

- Patient in prone position



- high anterior tibial artery

- pedal puncture

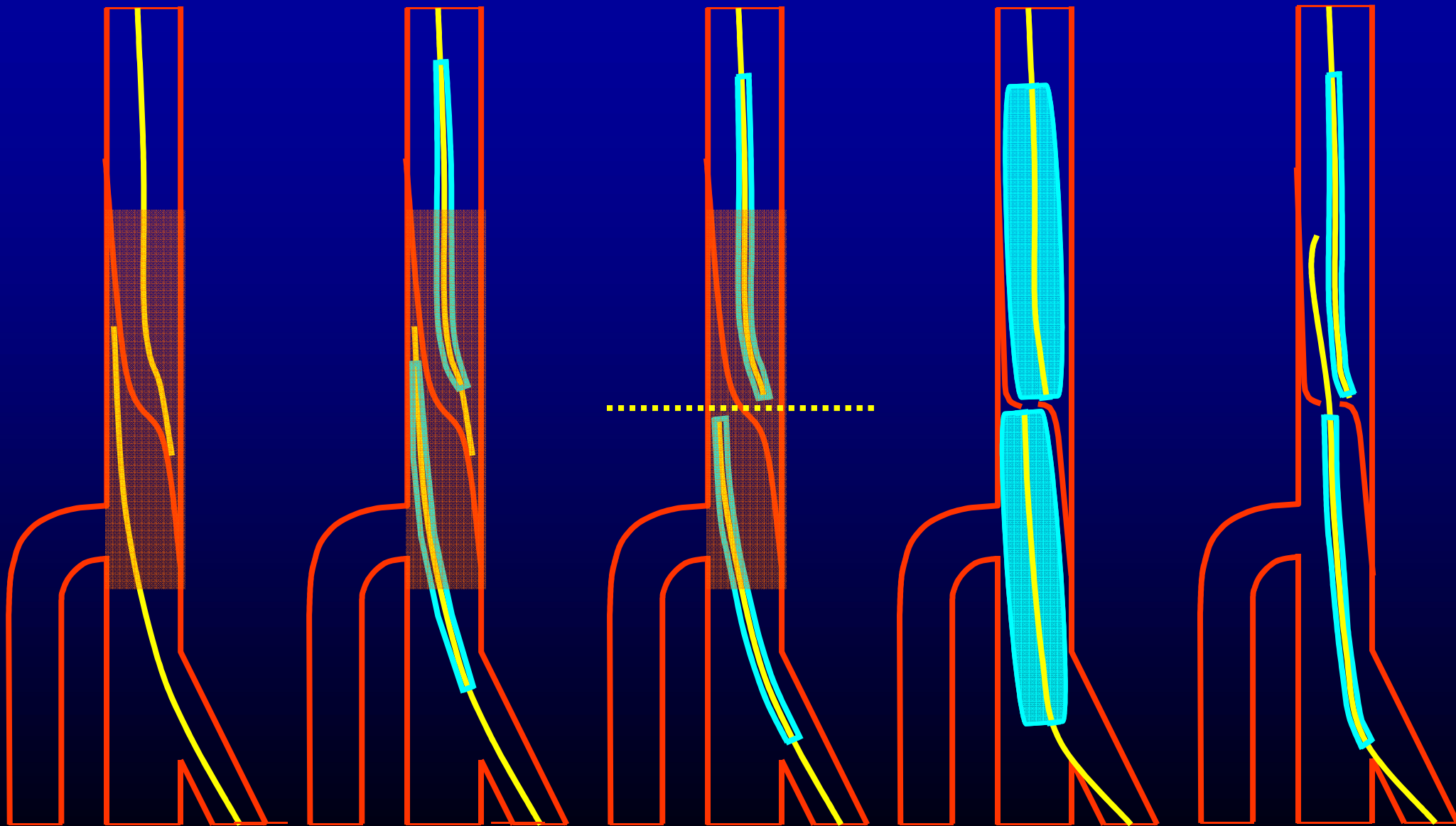
Higher Puncture of the ATA with 4F sheath



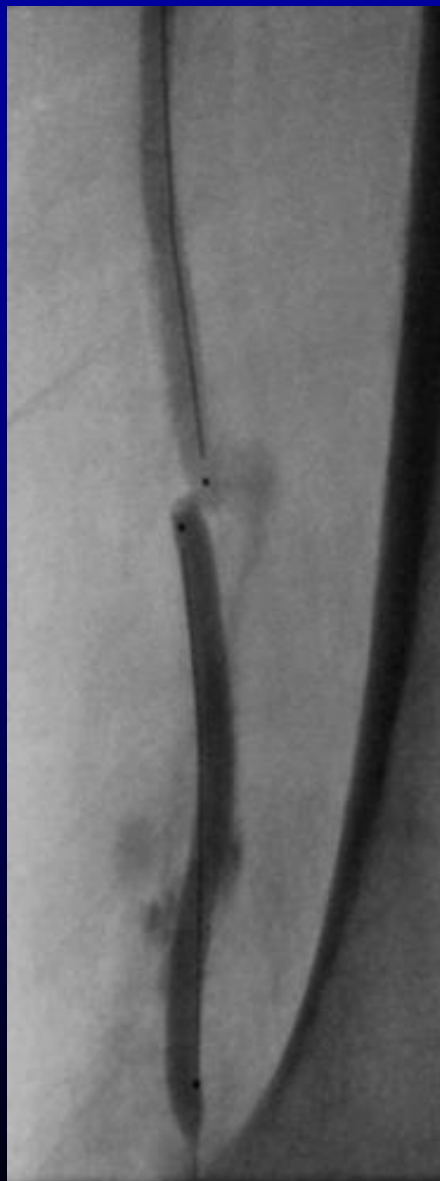
Unsuccessful retrograde Wirepassage



“Rendezvous-Technique”



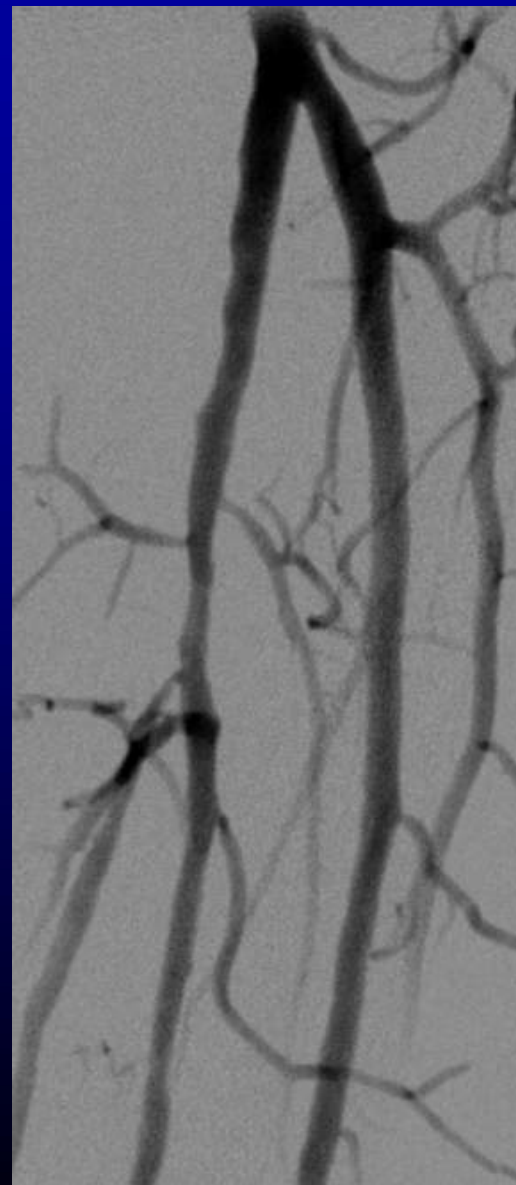
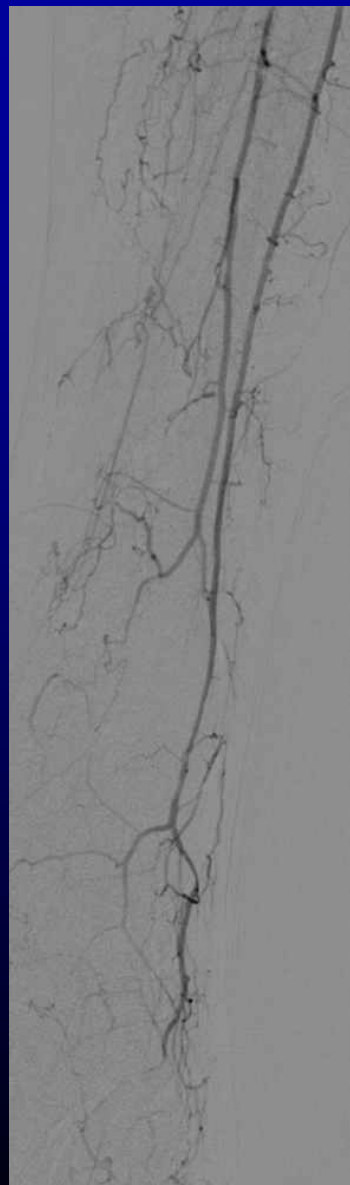
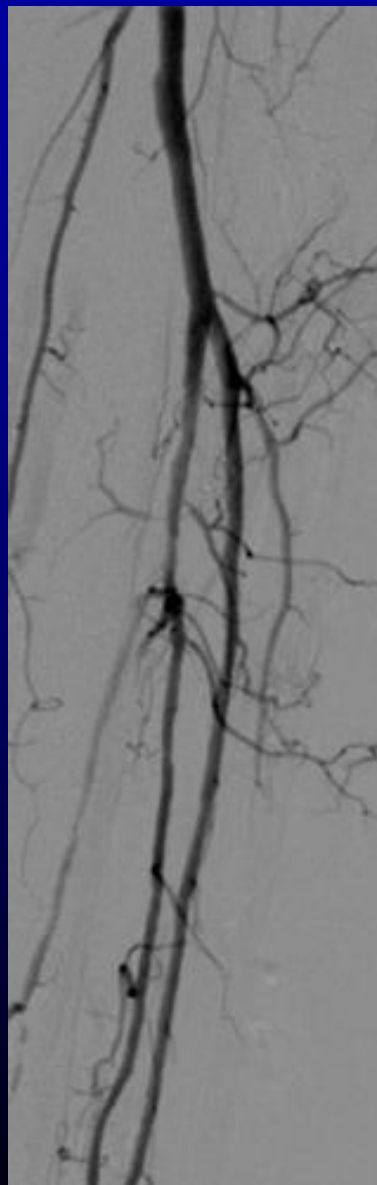
Double-Balloon Technique



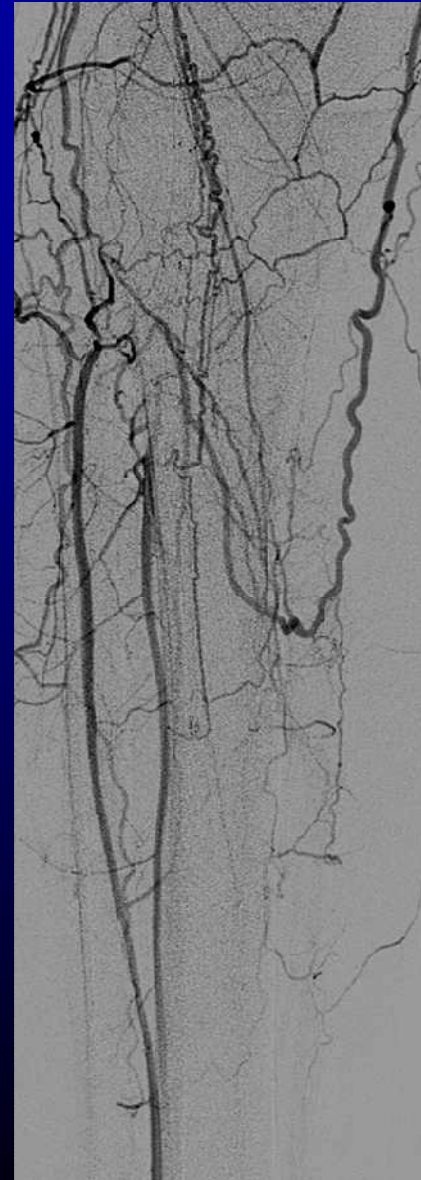
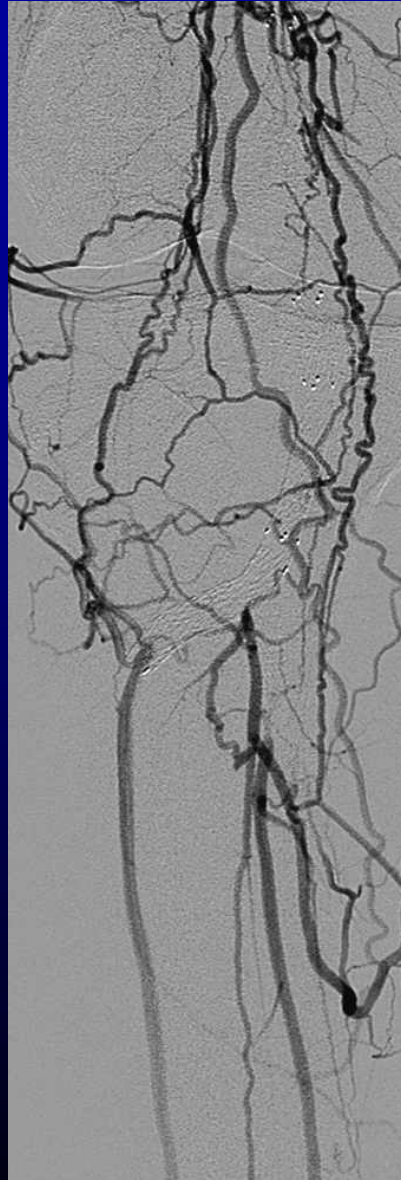
Hemostasis of the ATA



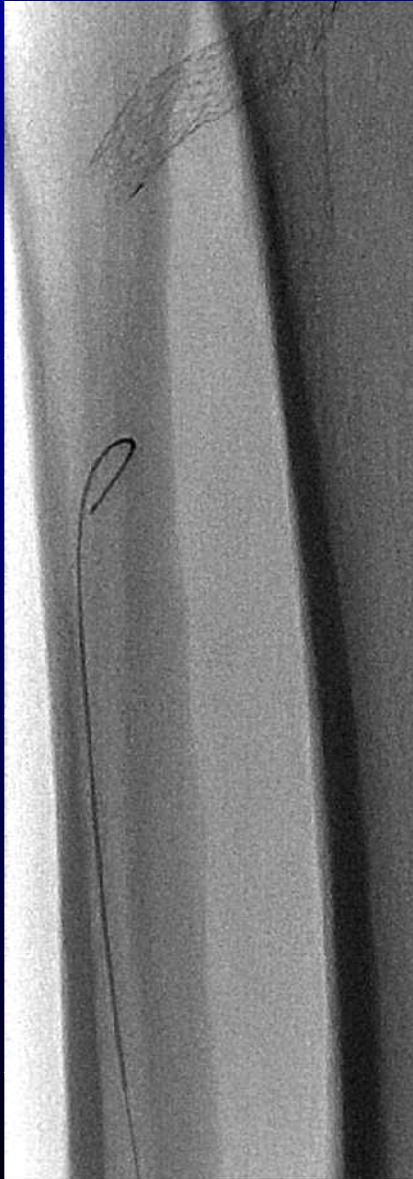
Result



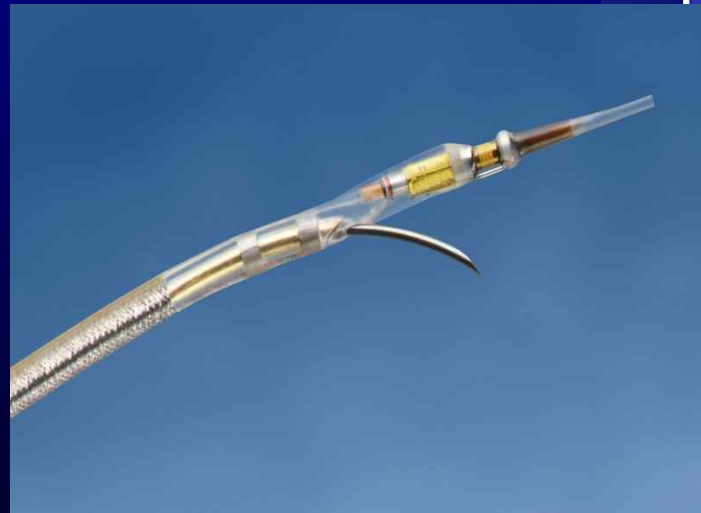
In-Stent Occlusion right Apop



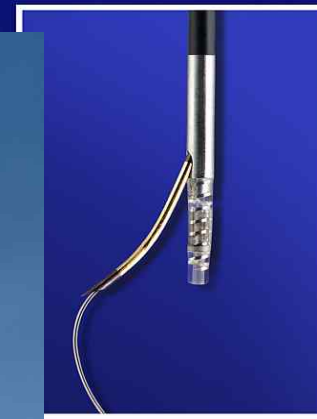
Failure to pass the Stent from antegrade



Double-Balloon Technique

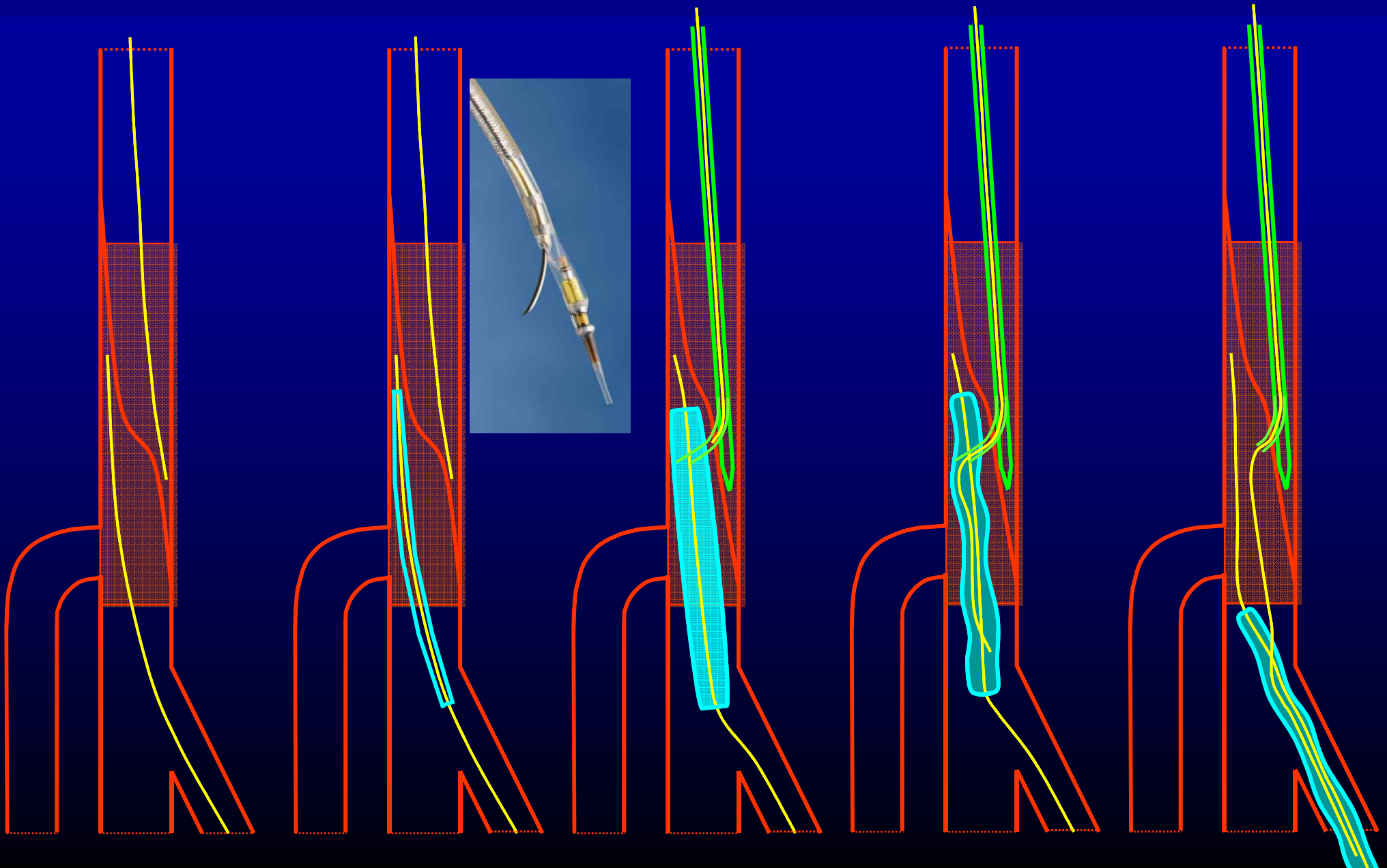


Pioneer



Outback

Recanalization-Techniques for Complex CTOs



Reentry-Device for In-Stent Occlusions



Reentry-Device for In-Stent Occlusions



Reentry-Device for In-Stent Occlusions



Reentry-Device for In-Stent Occlusions



Final Result



Recanalization-Success of Fem-pop CTOs

- up to **100 %** with the appropriate techniques and skills
- Re-entry devices are extremely useful making the procedure successful, safe and quick
- Alternative approaches are valuable and should always be considered as an option