

Morning Roundtable Forum
Meet the Experts over Breakfast
Lower Extremity Intervention

Cutting Edge of BTK CTO Revascularization

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Wiring methods for BTK-CTO

1. Antegrade wiring

- Tactile sensation-guided wiring
- Duplex echo-guided wiring
- Knuckle wire technique

2. Bi-directional wiring with distal puncture

- Dorsalis Pedis
- distal ATA
- distal PTA
- distal PA
- Digital arteries
- Plantar artery

3. Bi-directional wiring using collateral channel

- Trans-collateral angioplasty (TCA)
- Trans-pedal arch angioplasty (TPA)

Case : 80's female

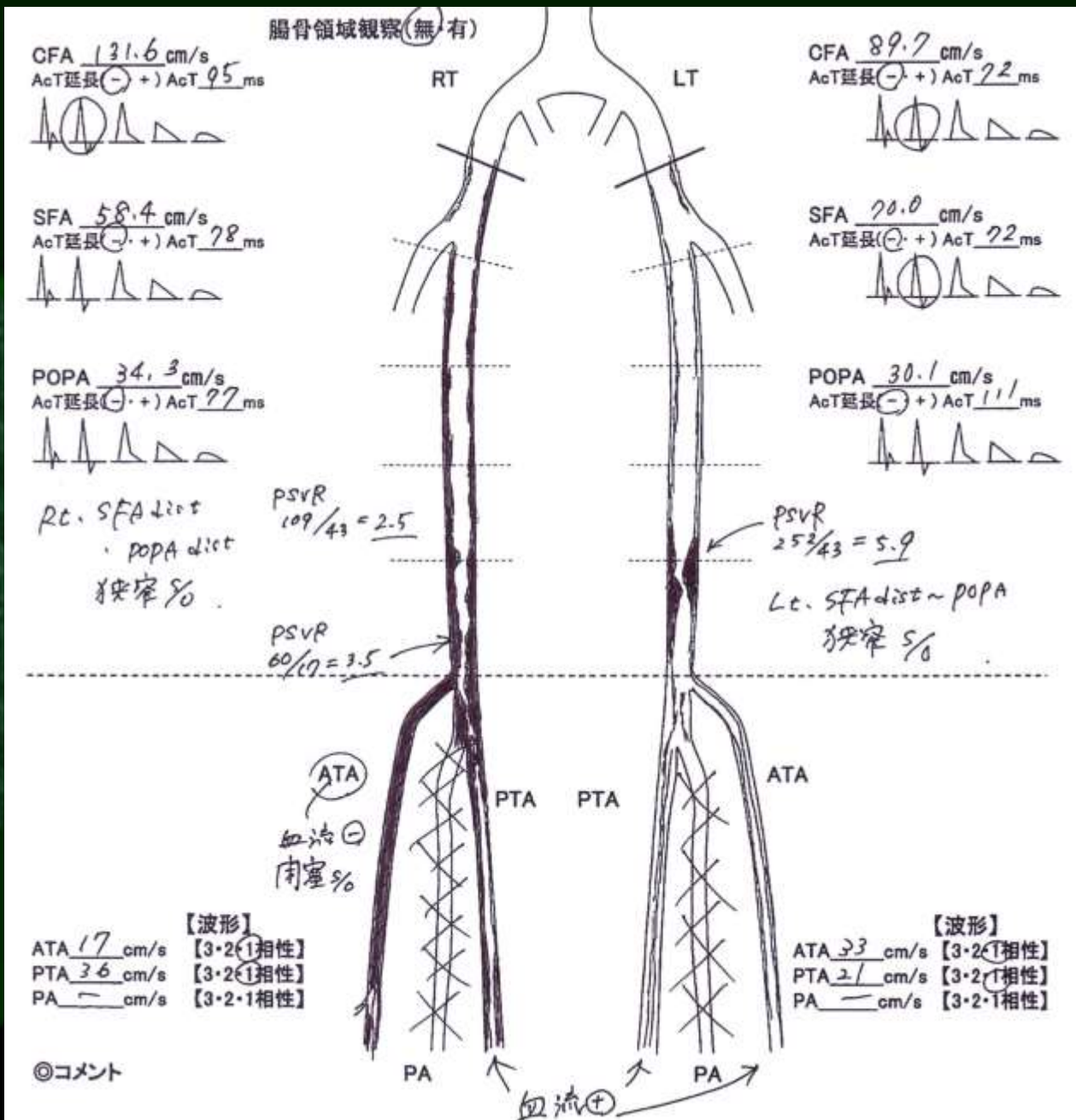
Diagnosis: PAD (Rutherford 4)
DM
Dyslipidemia
CKD (Stage 3B, eGFR 23.8)

Intervention history: None

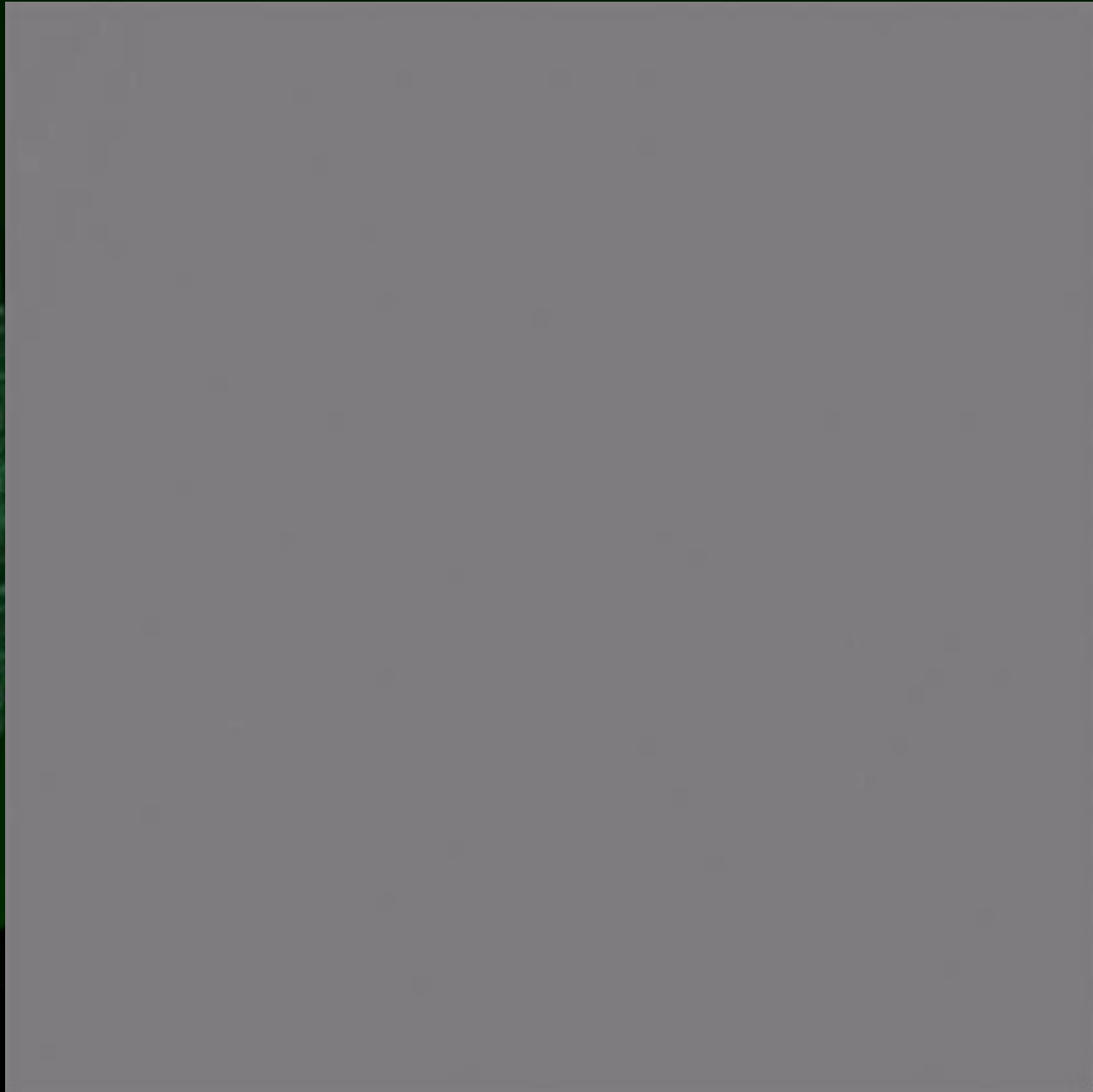
ABI: Right 0.34

Target lesion: Stenosis of Rt. Popliteal artery
Rt. PA-CTO, ATA-CTO

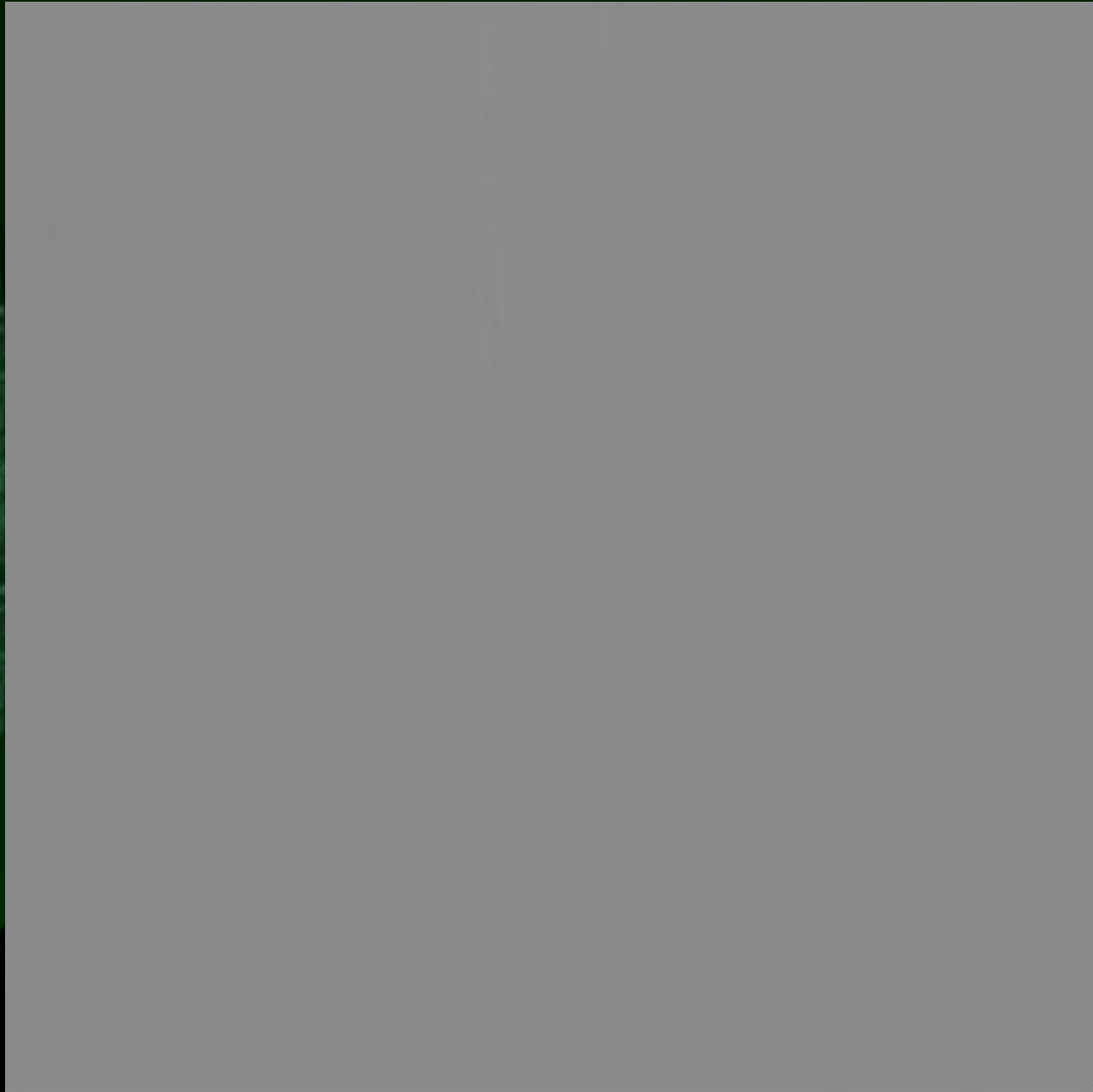
Duplex ultrasound image



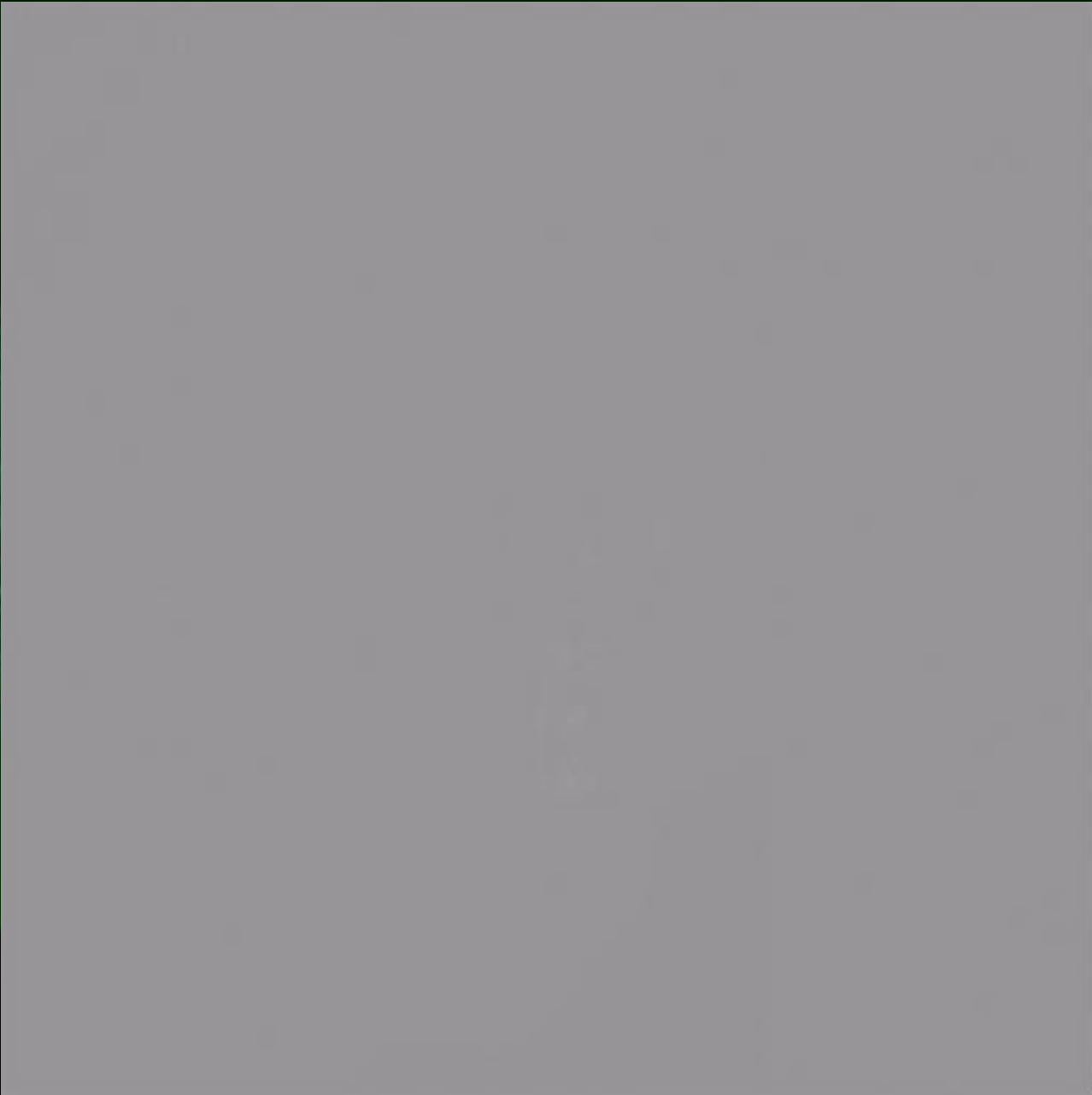
Control carbon dioxide (CO₂) angiography



Control carbon dioxide (CO₂) angiography



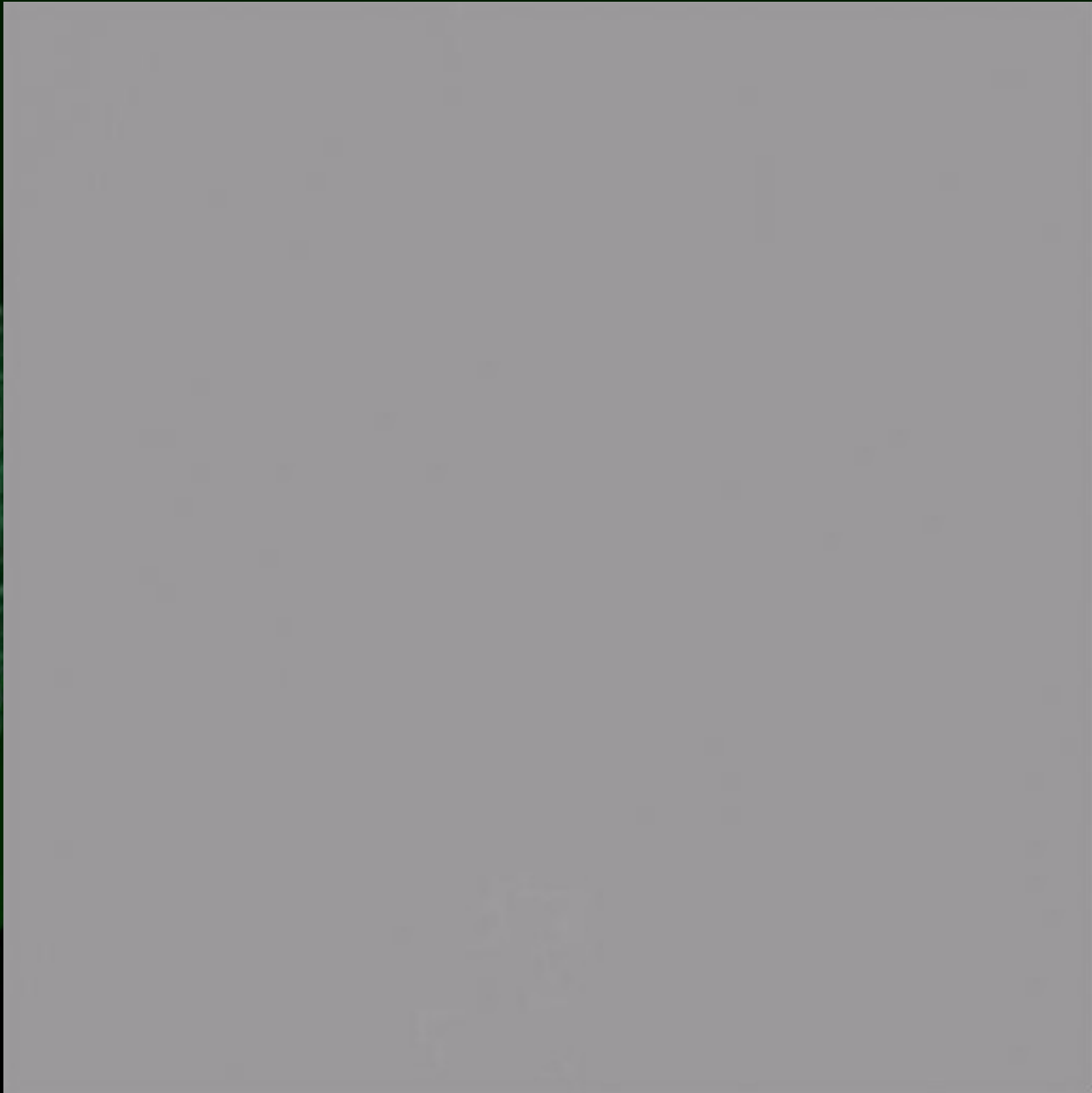
Control carbon dioxide (CO₂) angiography



Control carbon dioxide (CO₂) angiography

Visualize a collateral channel connecting to PA

CO₂ angio from micro-catheter



Trans-collateral wiring

Cruise (Regalia)

0.014" plastic jacket wire

Tip weight is 1g

Neos Japan



Guidewire Rendezvous

Antegrade system

Astato XS9-12

Tapered 0.014" wire

Tip weight is 12g

Asahi Intecc

Retrograde system

Cruise

0.014" plastic jacket wire

Tip weight is 1g

Neos Japan



POBA for PTA

Coyote 2.0x220mm

Boston Scientific



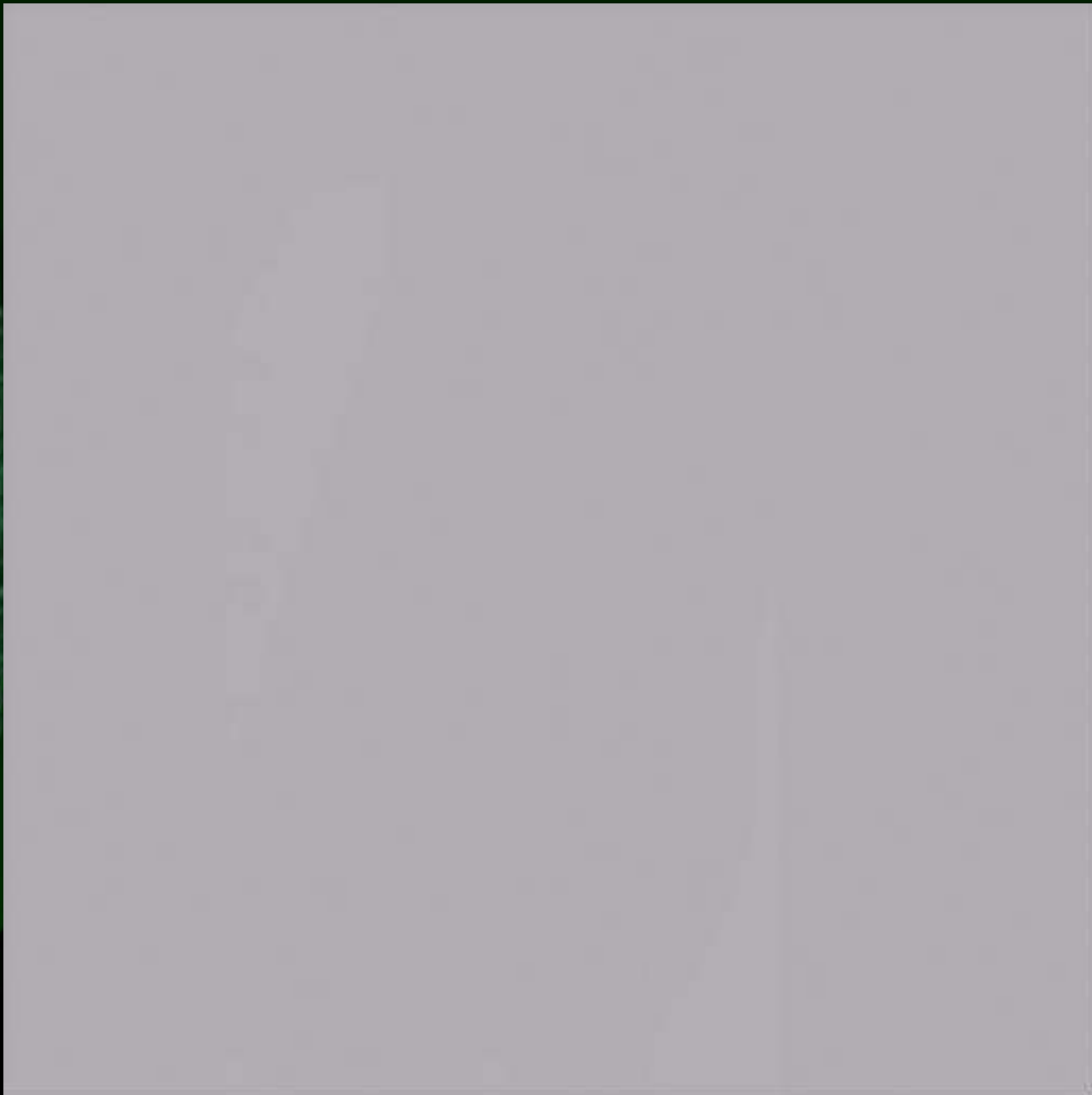
POBA for PA

Coyote 2.0x220mm
Boston Scientific



Visualize the plantar arch and the route to DP

CO₂ angio from micro-catheter



Trans-pedal arch wiring

Cruise (Regalia)

0.014" plastic jacket wire

Tip weight is 1g

Neos Japan



Guidewire Rendezvous

Antegrade system

Astato XS9-12

Tapered 0.014" wire

Tip weight is 12g

Asahi Intecc

with

Corsair-PV

Asahi Intecc

Retrograde system

Chevalier floppy

0.014" plastic jacket wire

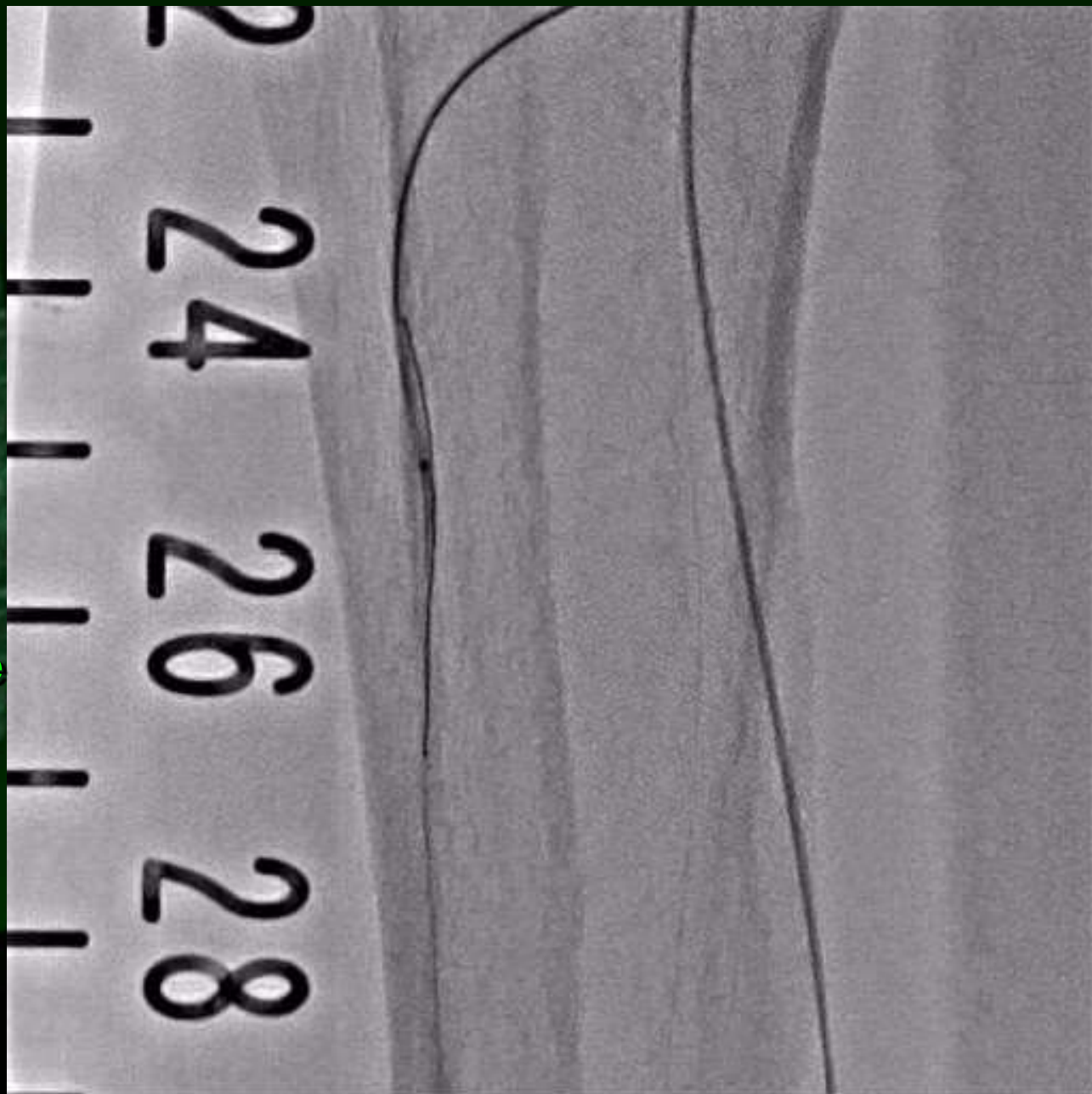
Tip weight is 2g

Cordis Japan

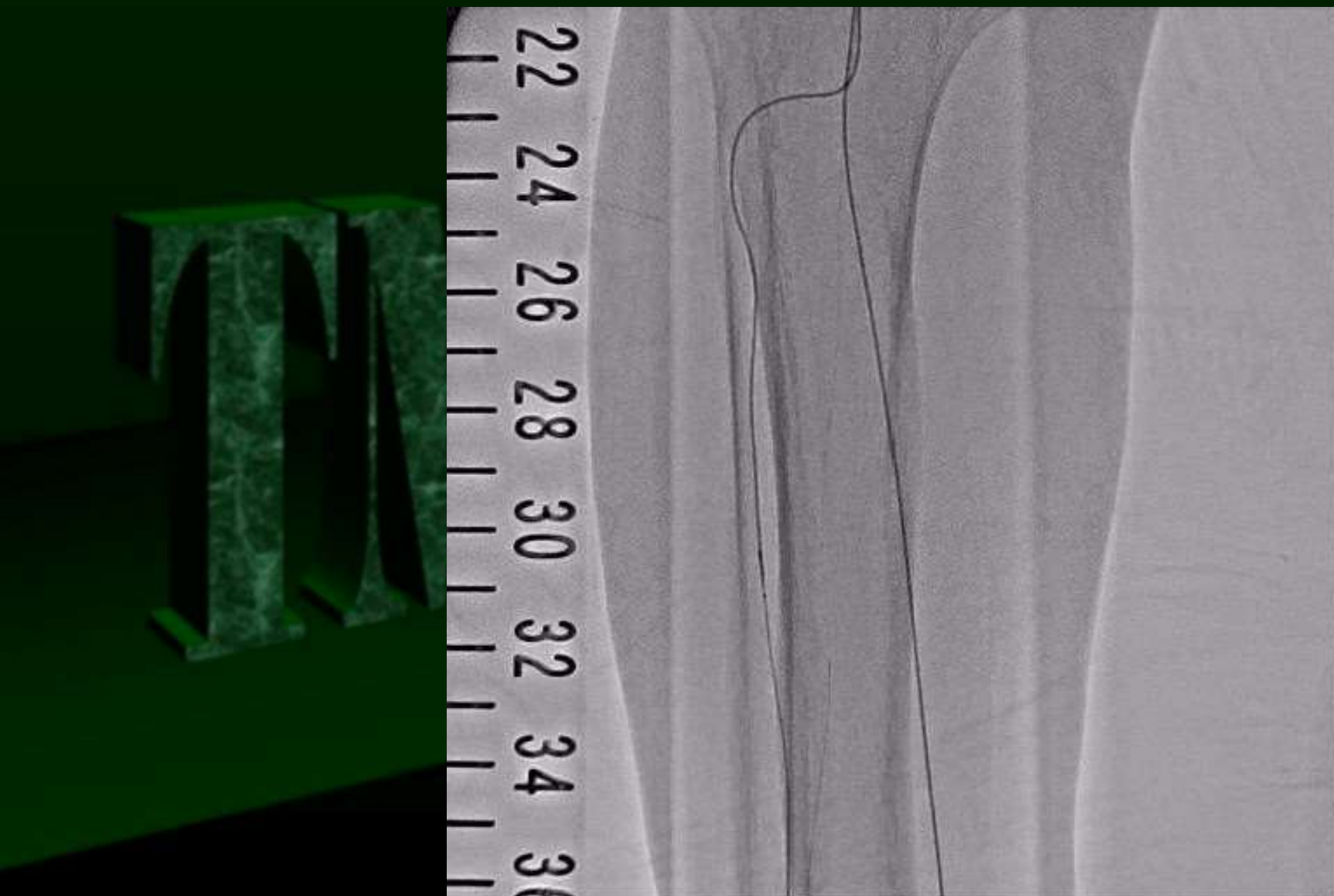
with

Prominent

Tokai Medical Products



Advance antegrade micro-catheter beyond CTO



Remove the retrograde guidewire

Then, advance an ante-
grade wire to the DP



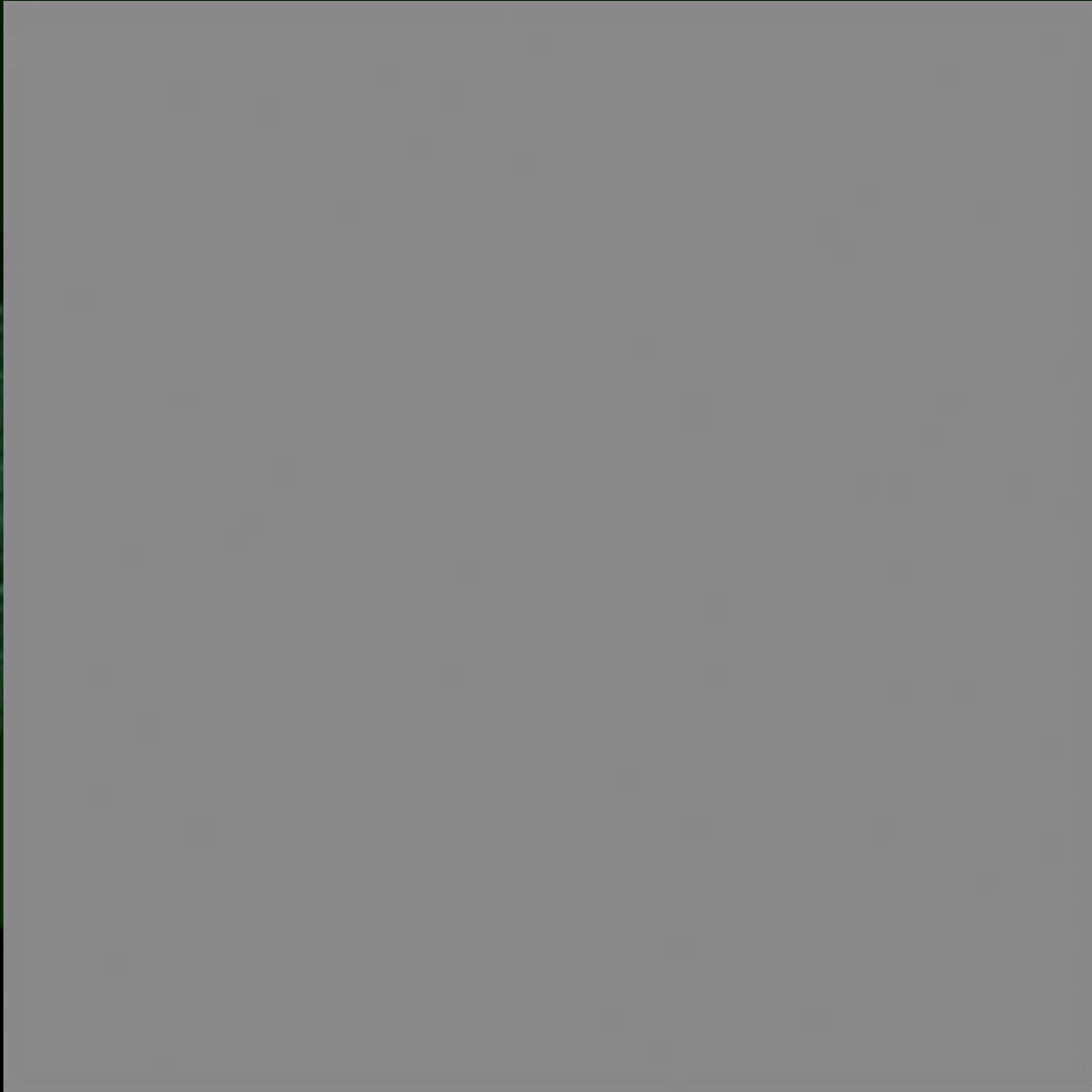
POBA for ATA

Coyote 2.0x220mm

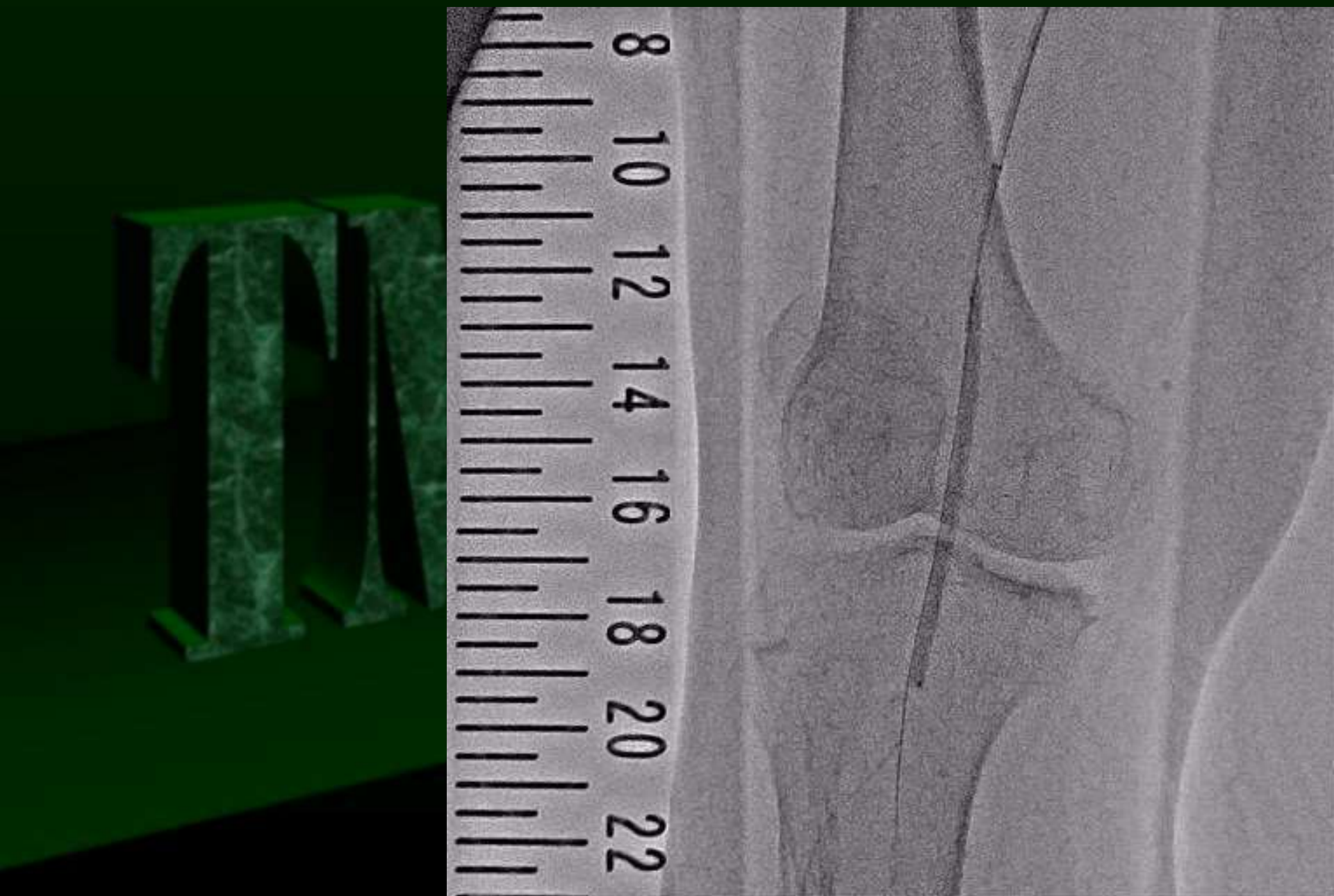
Boston Scientific



Carbon dioxide angiography after POBA



POBA for popliteal artery stenosis



Final angiography using contrast medium

Contrast medium: 3cc



Procedure summary

Final result: Complete revascularization of BTK 3V

Procedure time: 70 min

Contrast medium: 3cc

ABI: pre 0.34 → post 0.93

Take Home Message

In order to achieve successful revascularization on very complex BTK lesions, you have to combine several different techniques such as various distal puncture methods, trans-collateral or trans-pedal arch wiring, and guidewire rendezvous technique.

More options, you will have better outcome.