

**Antegrade Journey
with Expanded New Device**

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Current Antegrade CTO Wiring Strategy

Fielder **XT**

a small tip slippery wire



Micro Channel / Loose Tissue Segment in CTO

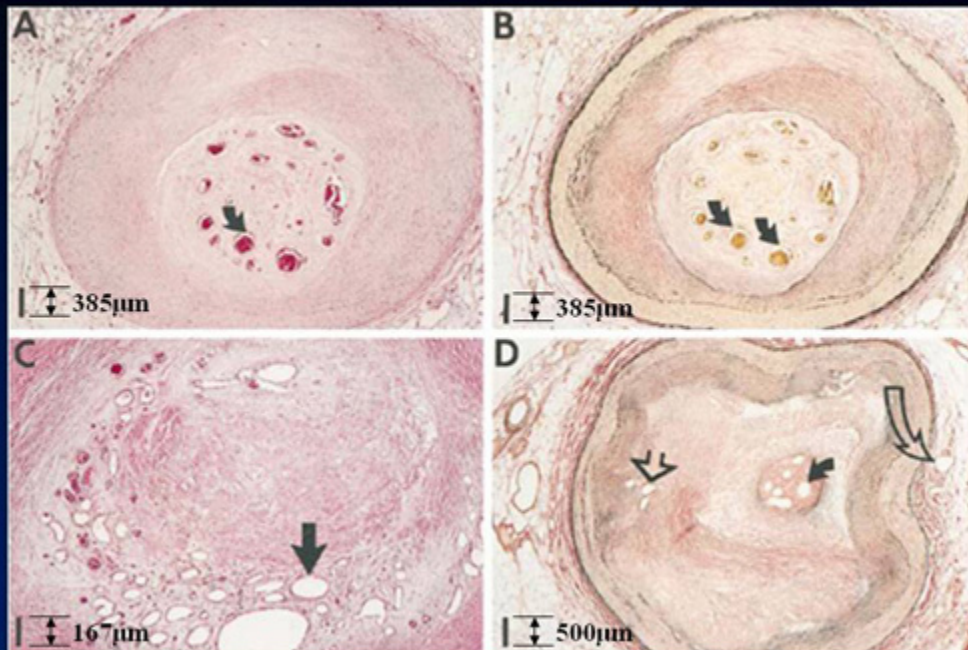
- ✓ **Micro channel** was observed around adventitia in young CTO lesions, however it developed inside intima in old CTO lesions.¹⁾
- ✓ Continuity of **micro channel** was observed in about 85% of total CTO length.²⁾
- ✓ In some of CTO lesions, **loose tissue segment** was observed continuously from proximal to distal end regardless of CTO age.^{1,3)}

1) Srivatsa S, et al. JACC 1997;29:955-63

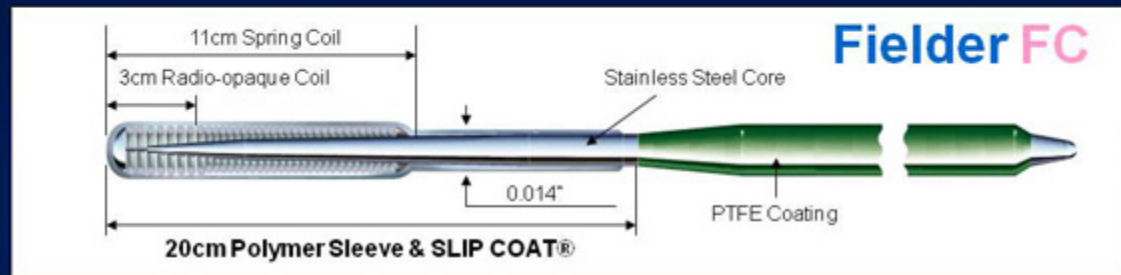
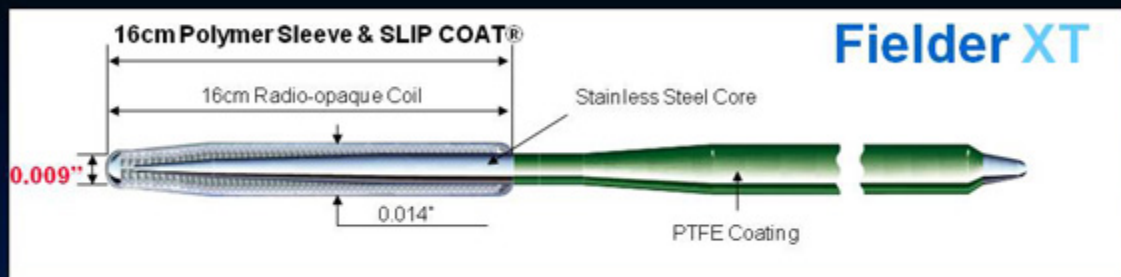
2) Munce NR, et al. JACC Cardiovasc Imaging 2010;8:797-805

3) Katsuragawa M, et al. JACC 1993;21:604-11

Micro Channels in CTOs



• Histological average size is **200 μm (0.008 inch)**

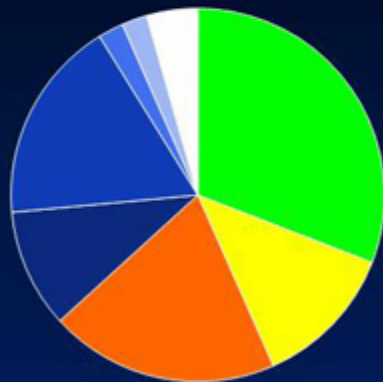


Key Wire Used in Occlusions

Antegrade (n=211)

1st attempt (n=136)

Reattempt (n=75)



$P < 0.05$



Current Antegrade CTO Wiring Strategy



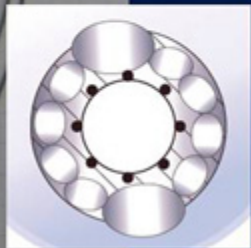
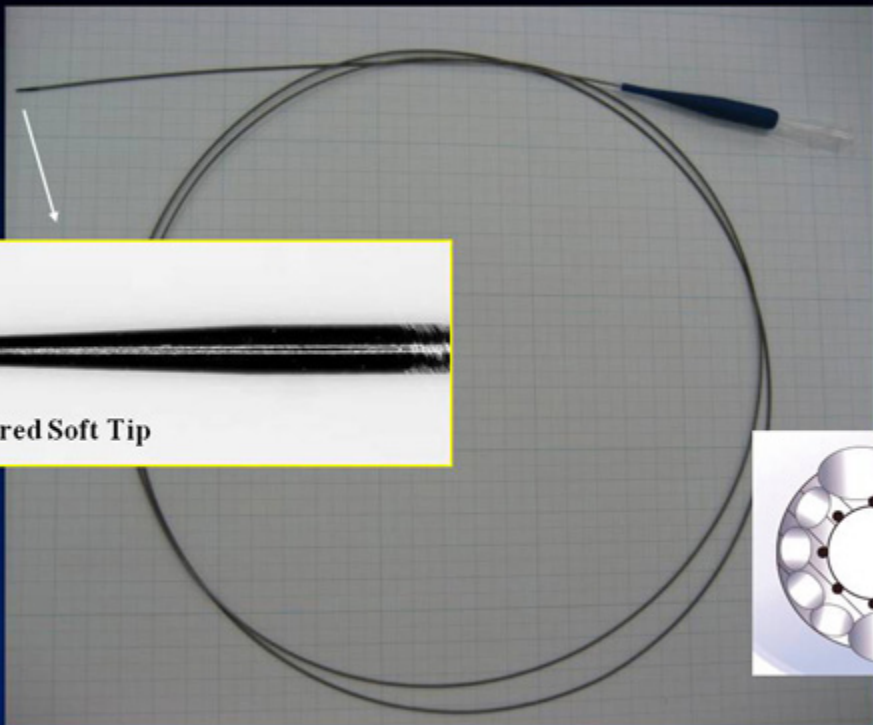
—————→ **Unsuccess**
(Not advanced)

—————→ **Failure**
(Subintimal tracking)

Channel Dilator as Antegrade Micro Catheter

Corsair (Asahi Intecc)





Basic structure is same as Tornus device.

Corsair in the Antegrade Approach

As A Support Catheter for Wiring

- Equivalent wire maneuverability as conventional MC
- Good cross-ability of the tip into the occlusion

As A Penetration Catheter

- Good cross-ability after successful wiring
- No need of 1.25/1.5 mm balloon due to “Dotter” effect

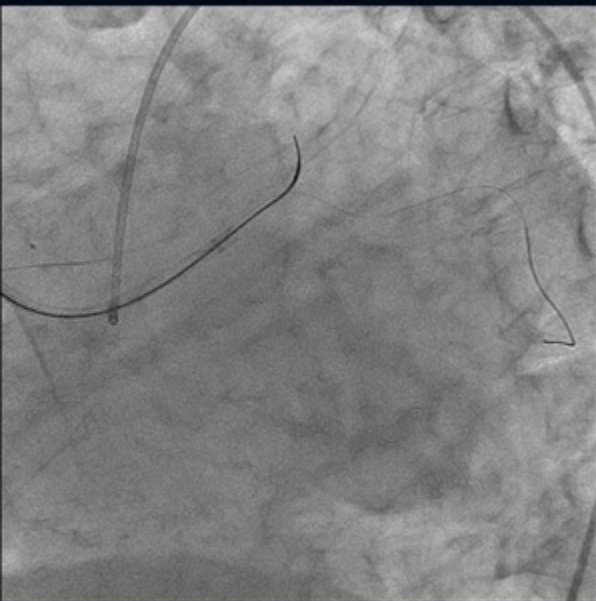


LAD Ostial CTO

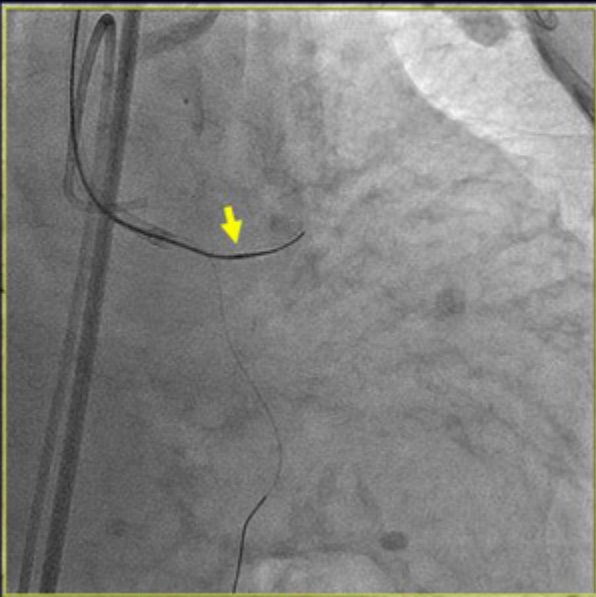


*MC could not be advanced...
No support for penetration*

LAD Ostial CTO

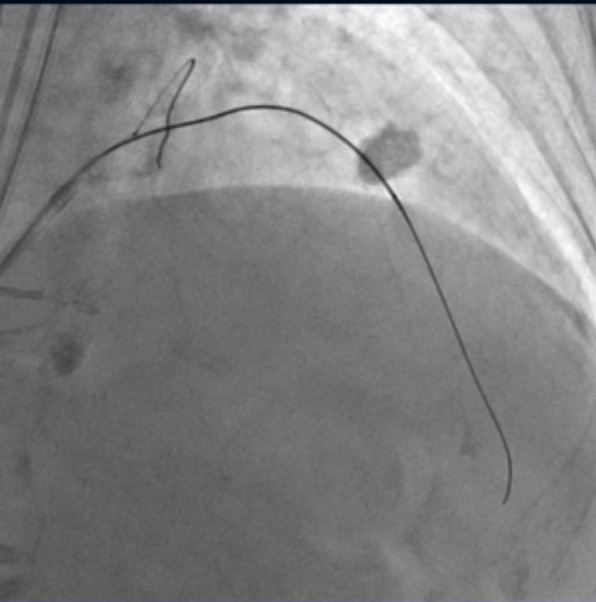


Corsair into occlusion

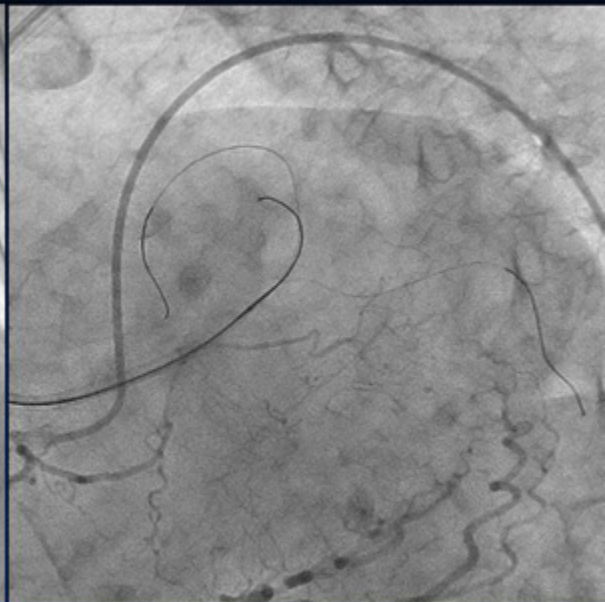


Successful crossing

LAD Ostial CTO

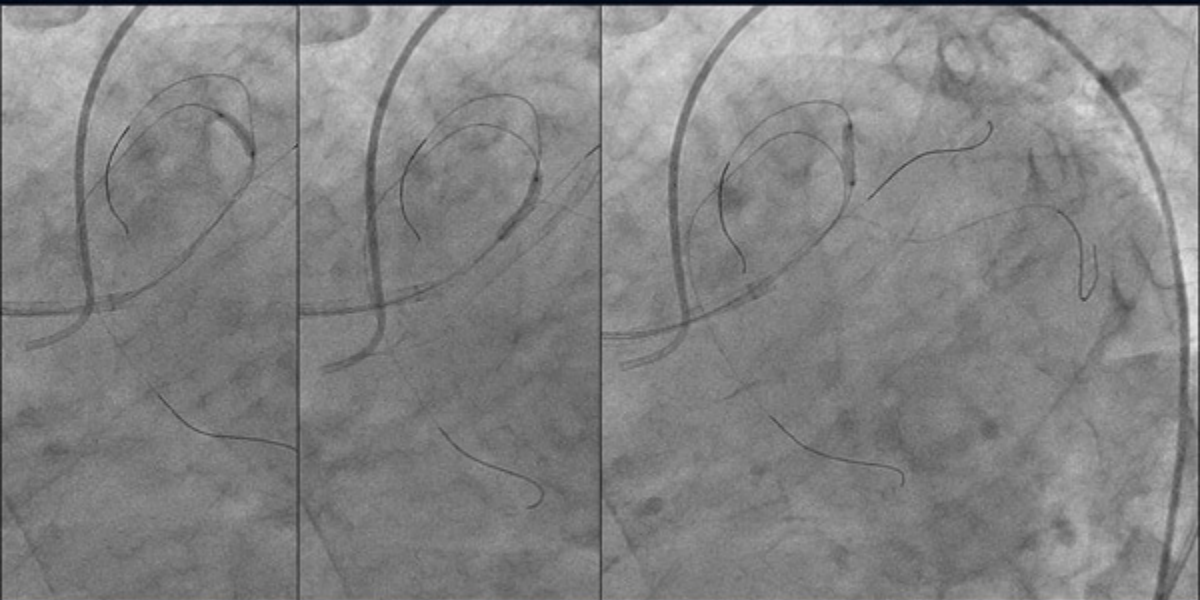


Corsair through CTO

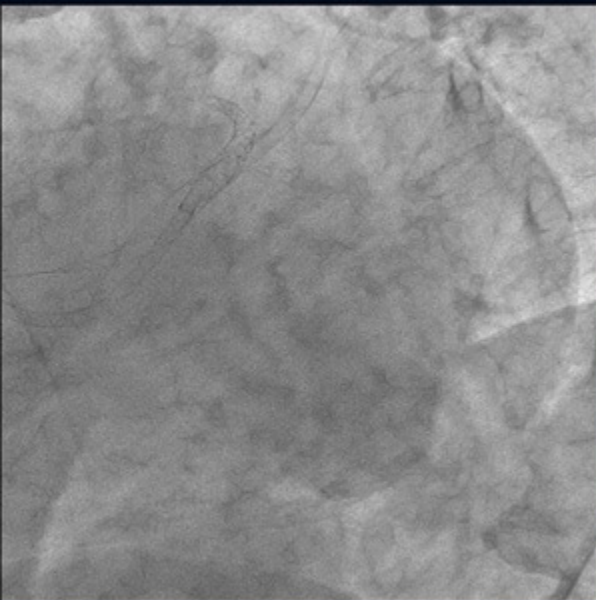


**Wiring to parent vessel
without any dilatation**

LAD Ostial CTO



Direct 2.5 ballooning

LAD Ostial CTO

Antegrade Corsair may replace conventional MC and small balloon.

Current Antegrade CTO Wiring Strategy



—————→ *Unsuccess*
(Not advanced)

—————→ *Failure*
(Subintimal tracking)

Antegrade Strategies When the 1st Wire Is Subluminal

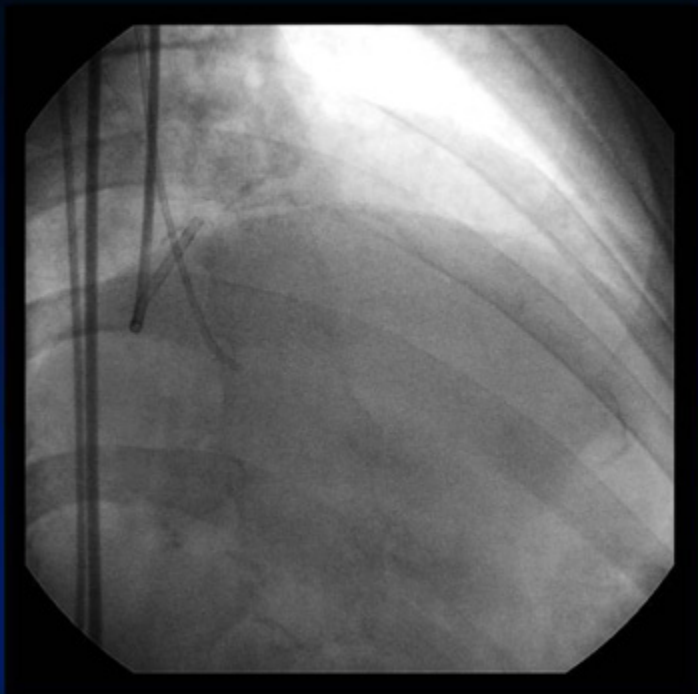
Distance to true lumen

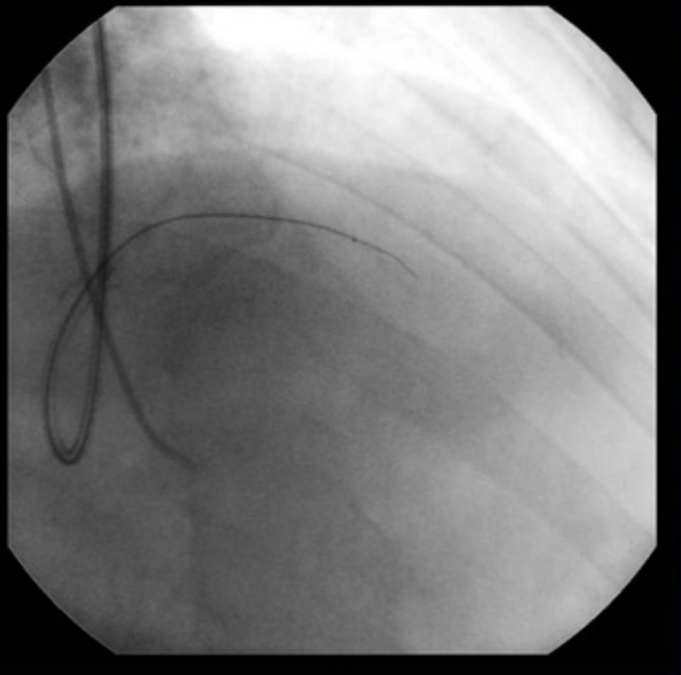
close

• Wire change

far

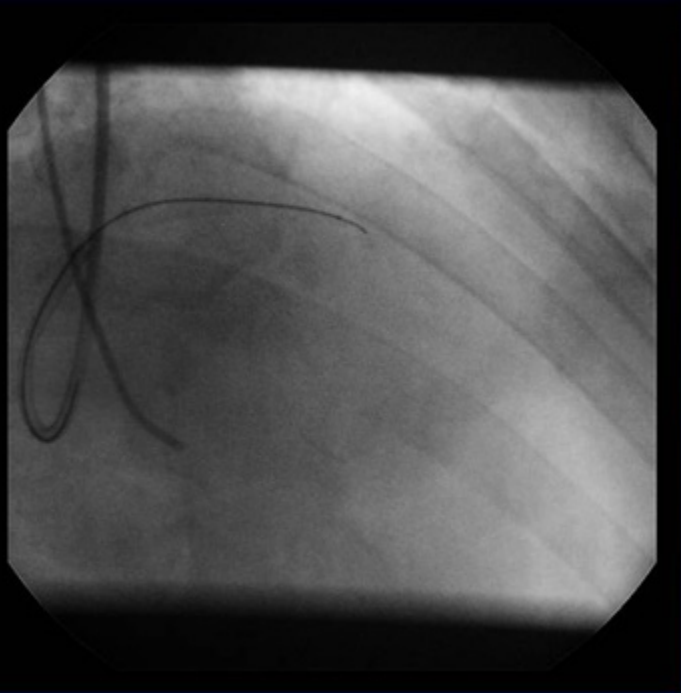
LAD proximal CTO





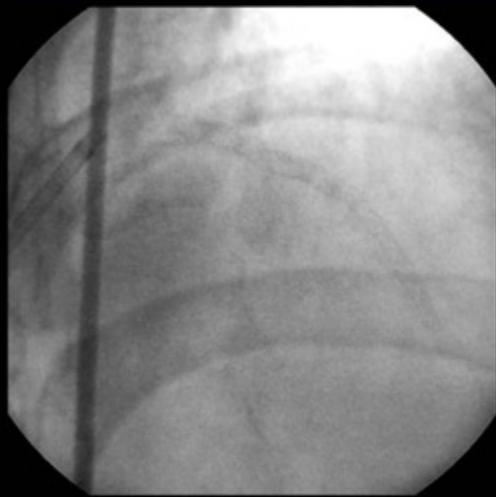
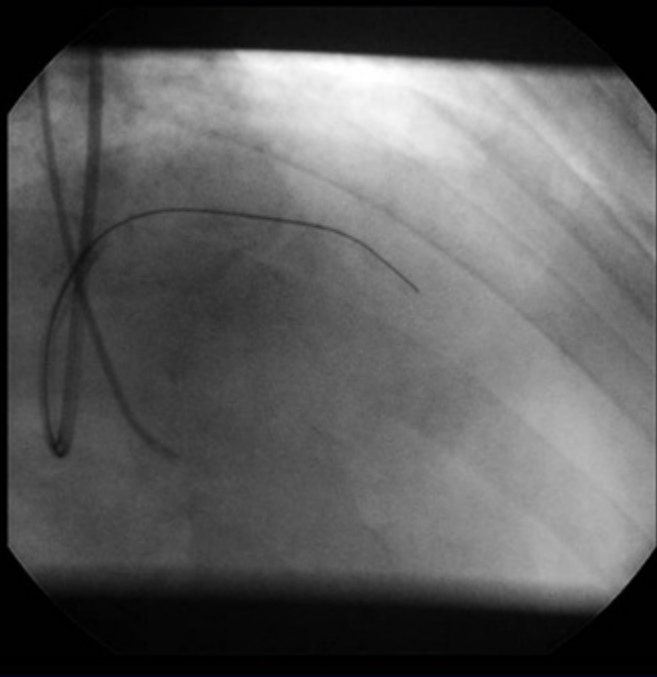
Fieldier XT with Finecross

into subluminal space...



Miracle 12 with Finecross

Miracle 12 with Finecross



Antegrade Strategies When the 1st Wire Is Subluminal

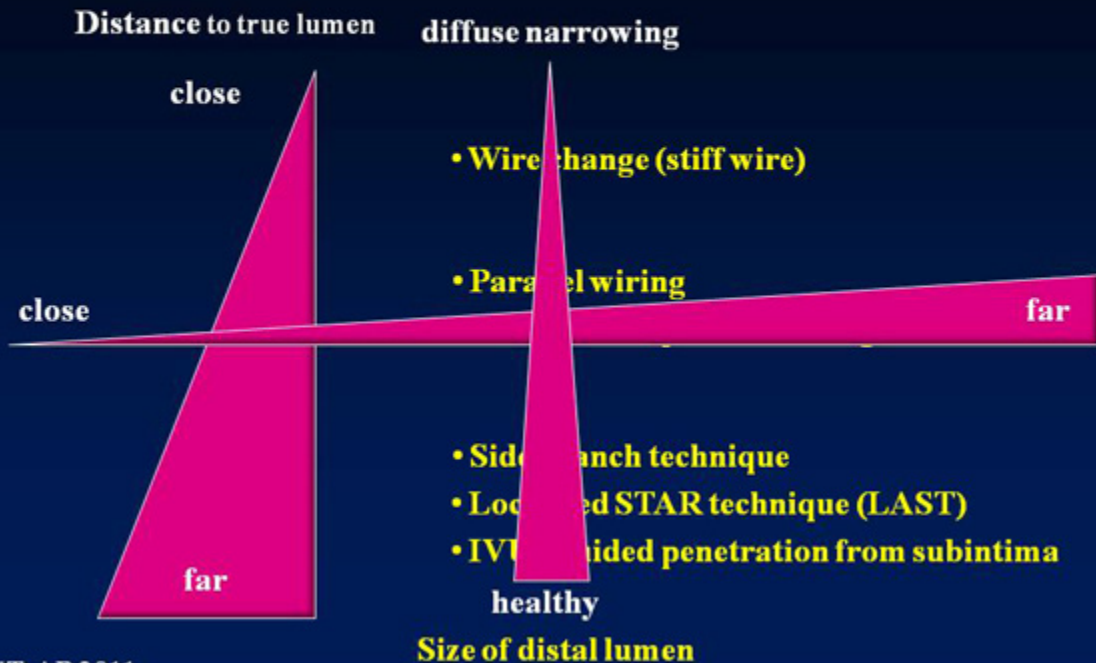
Distance to true lumen



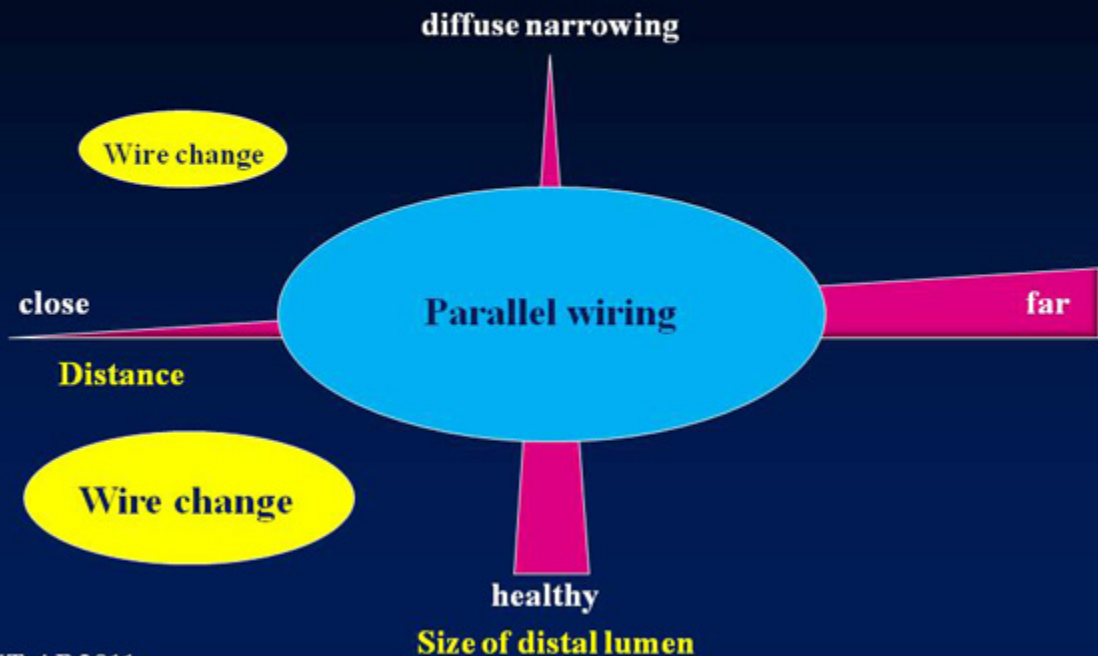
- **Wire change (stiff wire)**
- **Parallel wiring**
- **IVUS guided parallel wiring from SB**

- **Side branch technique**
- **Localized STAR technique (LAST)**
- **IVUS guided penetration from subintima**

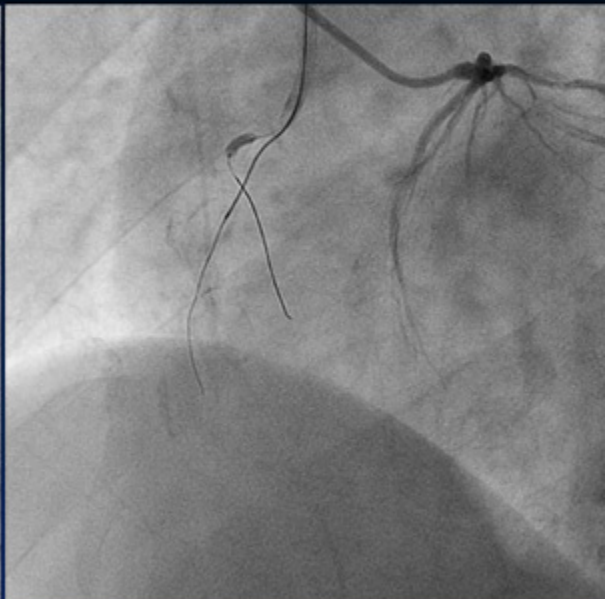
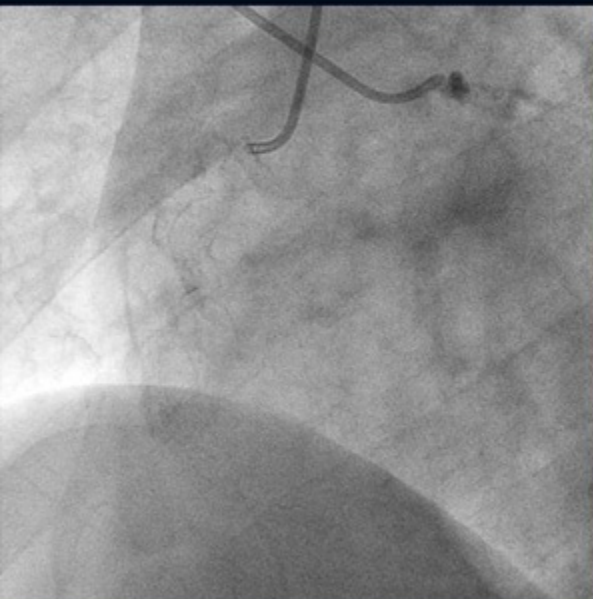
Antegrade Strategies When the 1st Wire Is Subluminal



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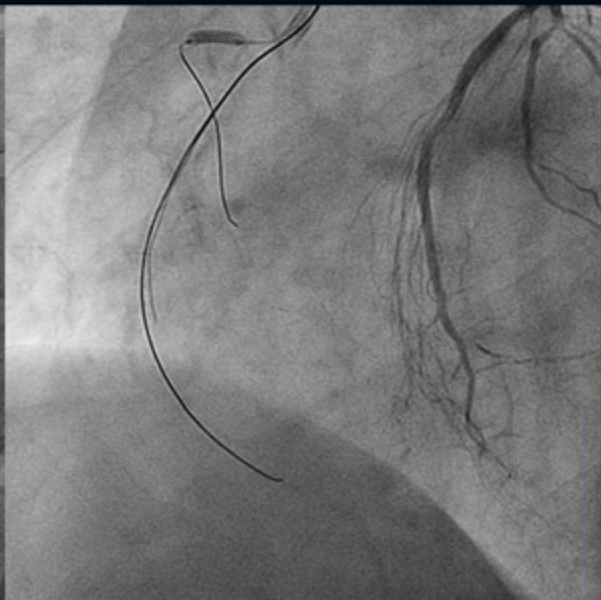
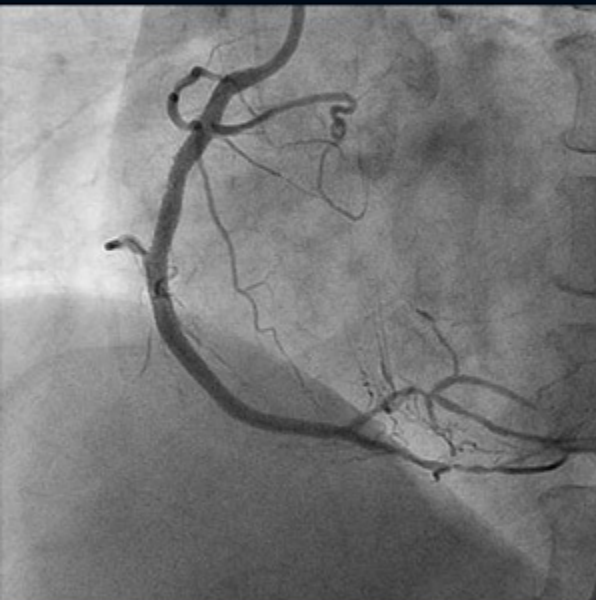


RCA proximal CTO



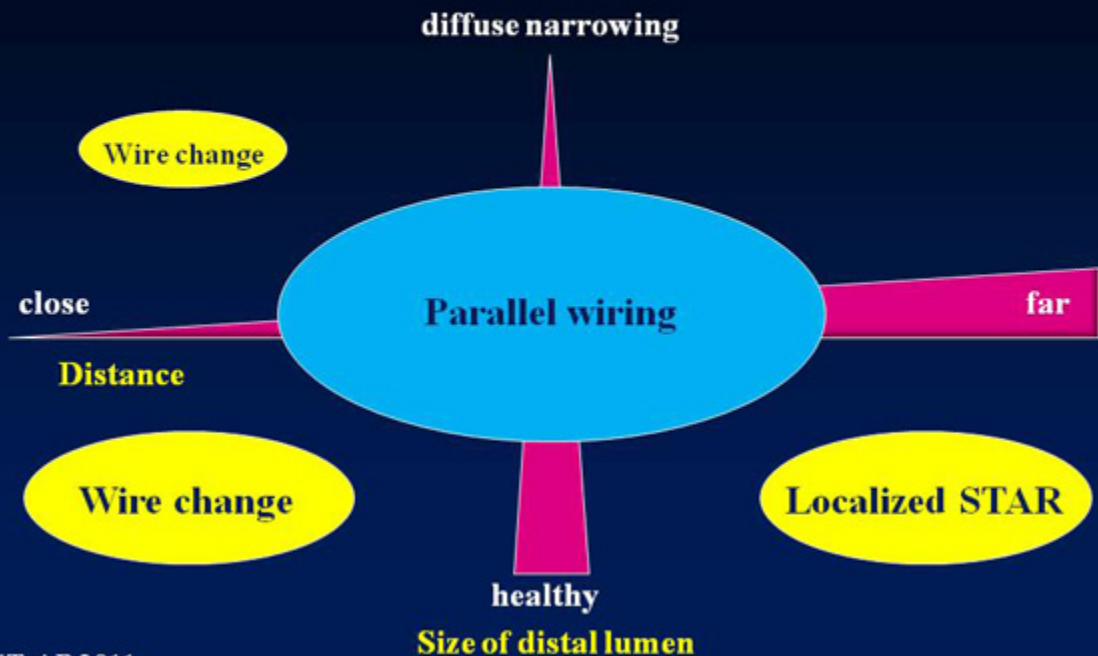
Fielder XT with anchoring

RCA proximal CTO



Parallel wiring using Miracle 12

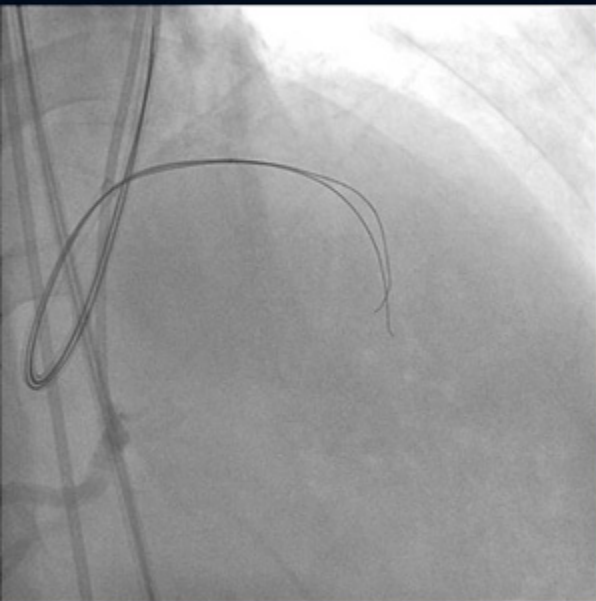
Antegrade Strategies When the 1st Wire Is Subluminal



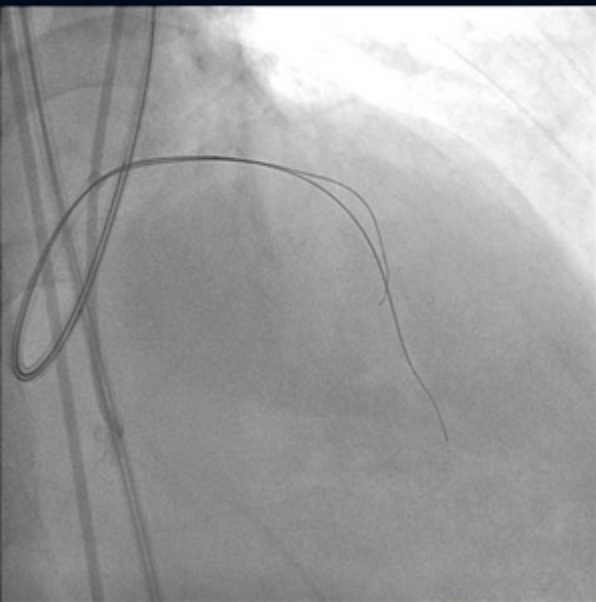
LAD-CTO



Parallel Wiring



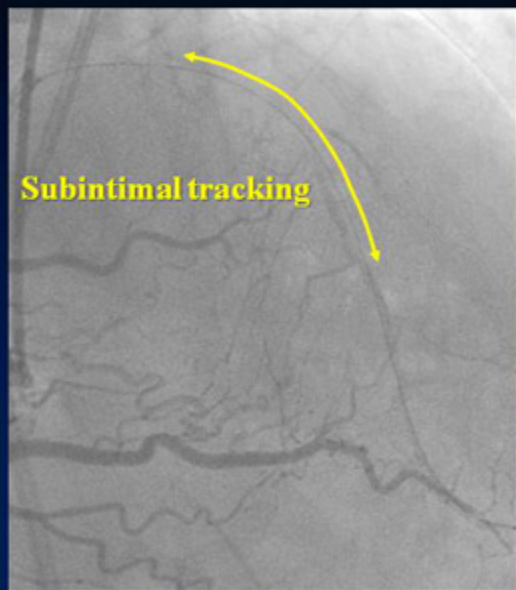
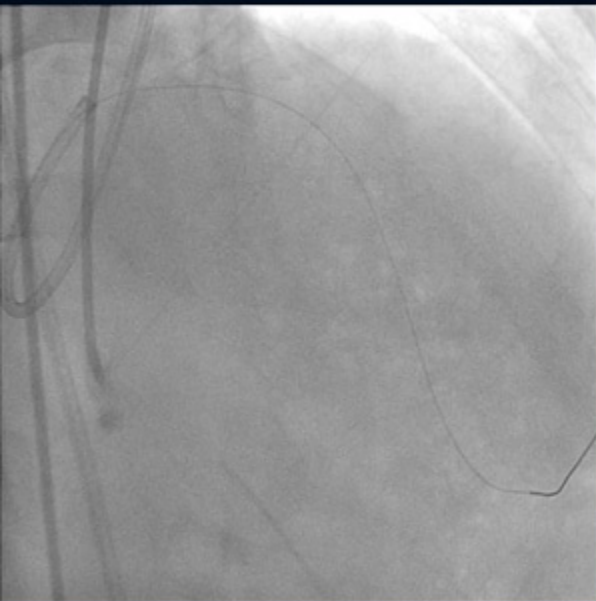
2 Confianza

Parallel Wiring**Subintimal tracking****Target for penetration**



Successful penetration

Localized STAR

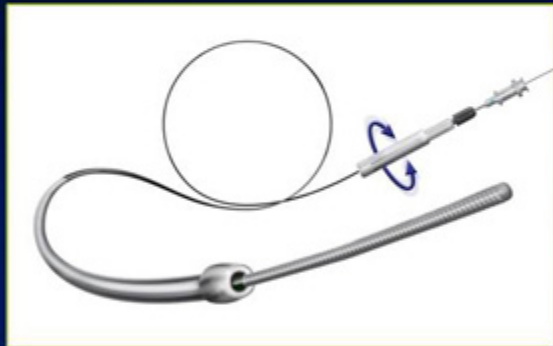




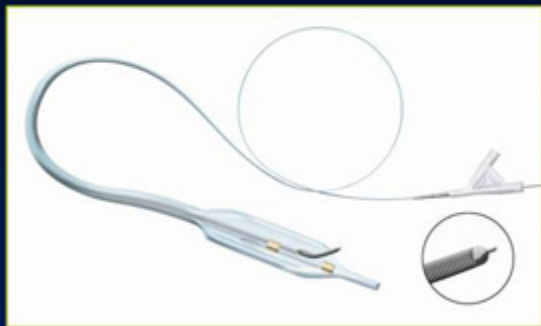
Final angiogram

The BridgePoint System

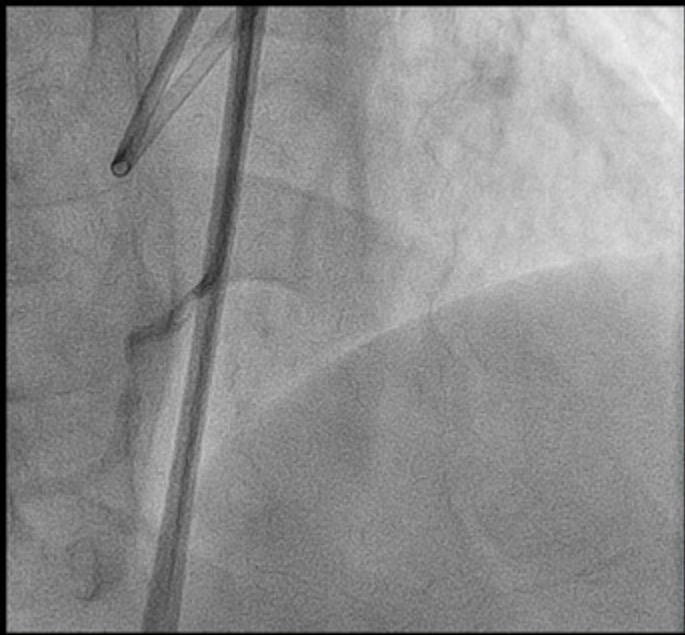
CrossBoss CTO Catheter

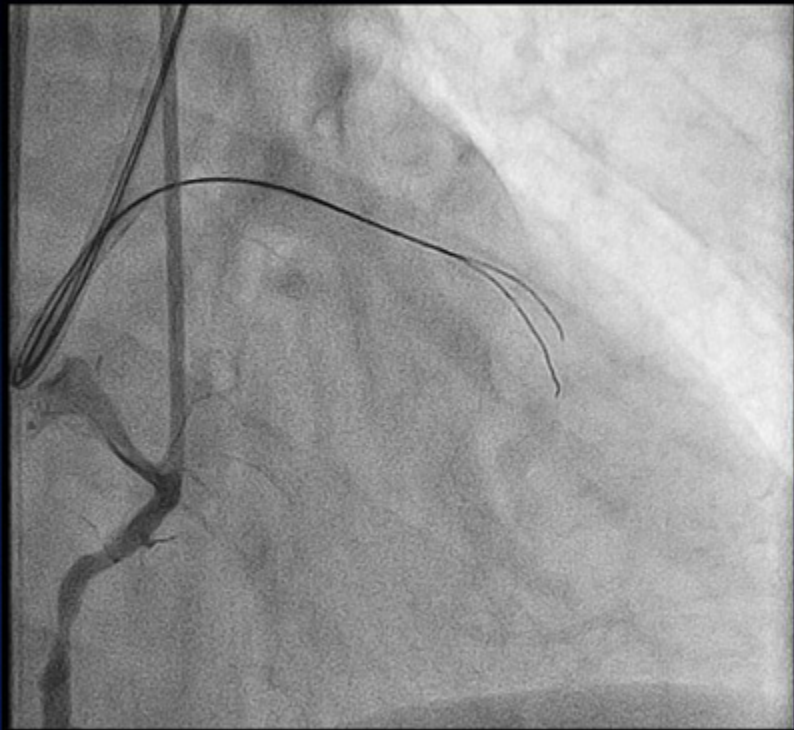


Stingray CTO Re-Entry System

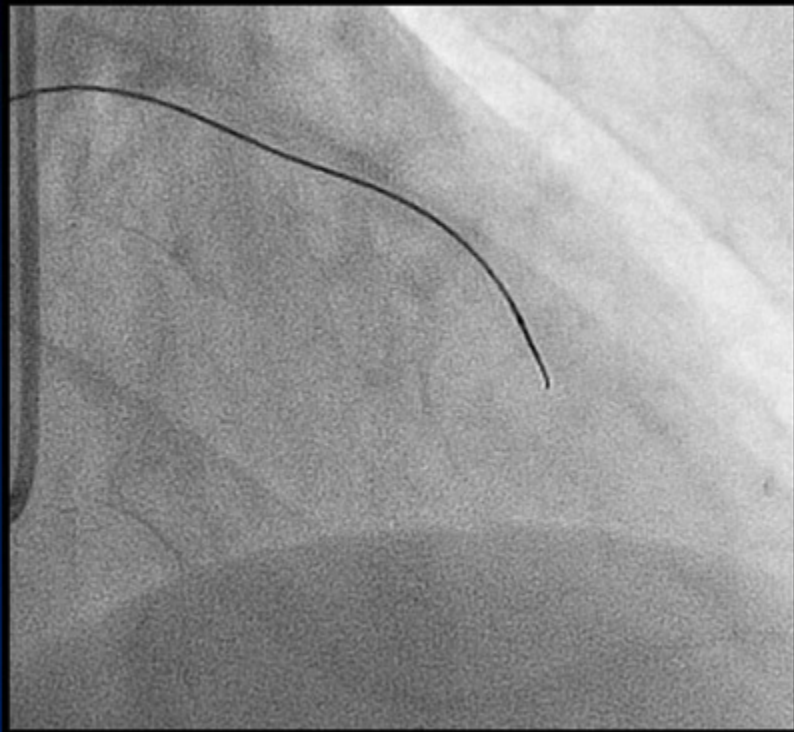


1st Attempt for LAD-CTO

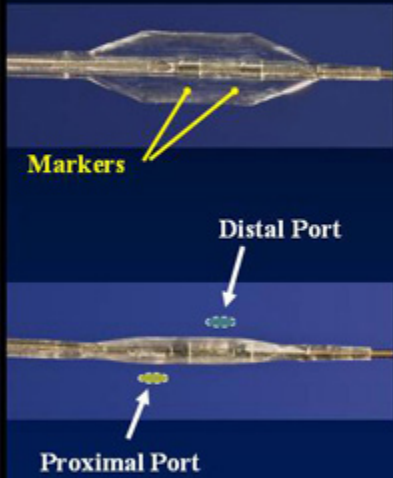
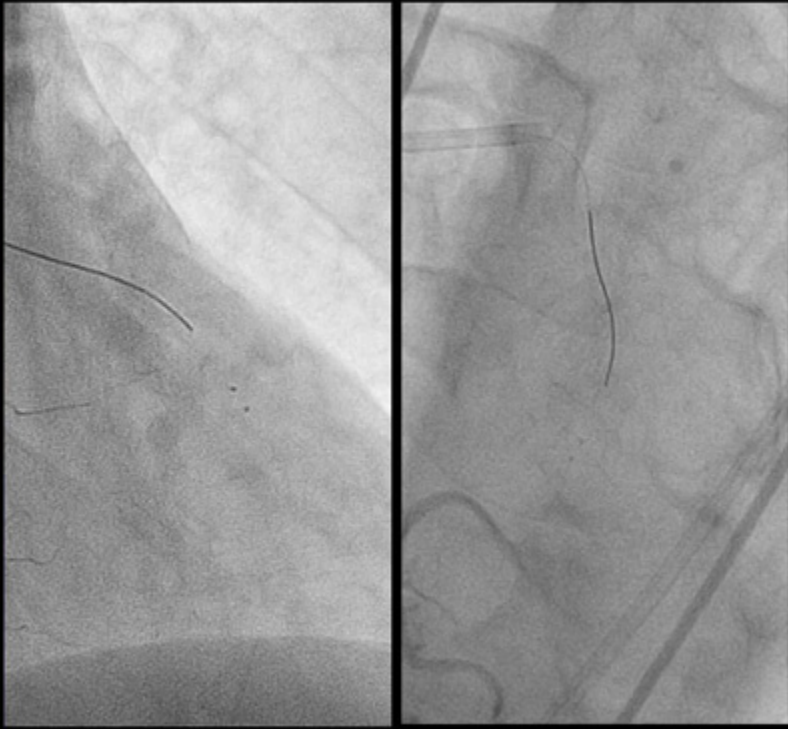




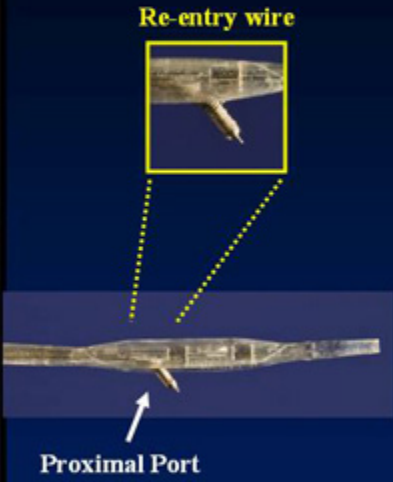
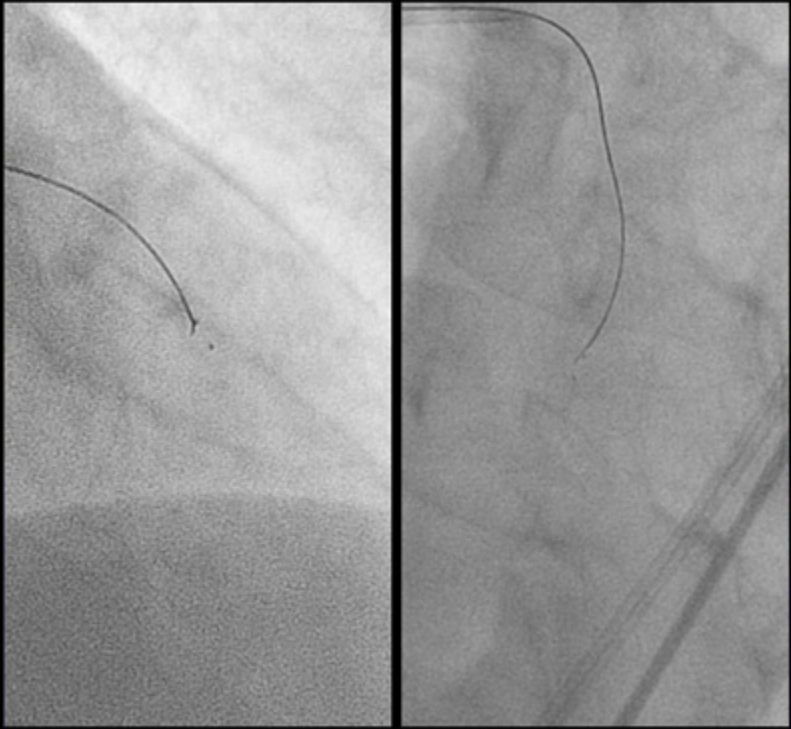
Failed parallel wiring

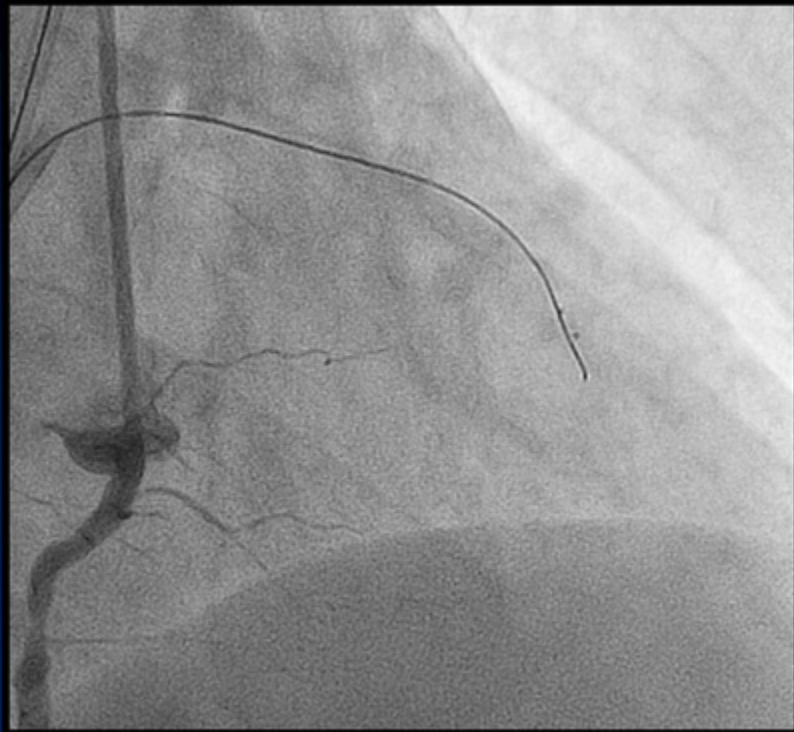


Antegrade Corsair

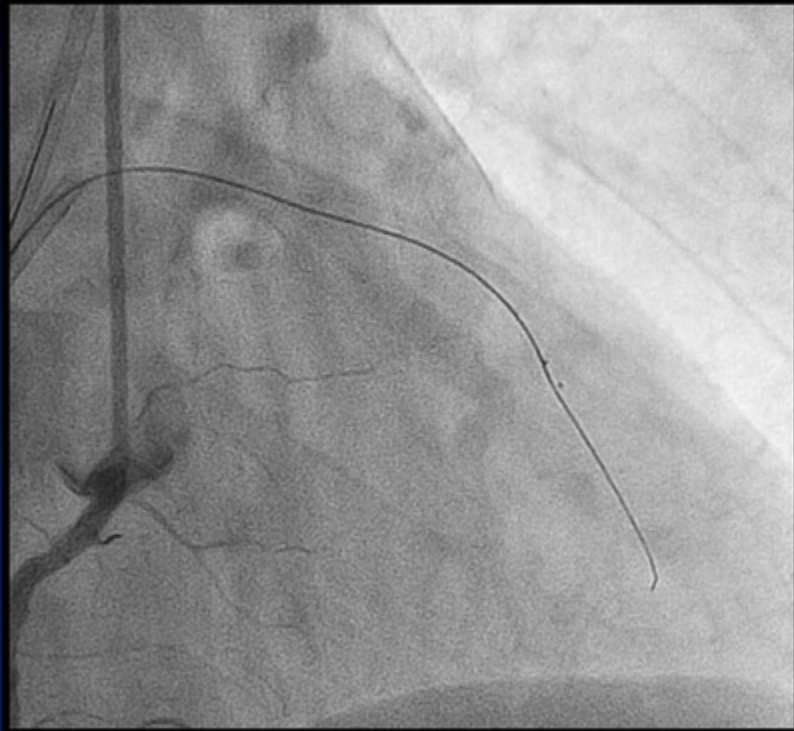


Stingray balloon





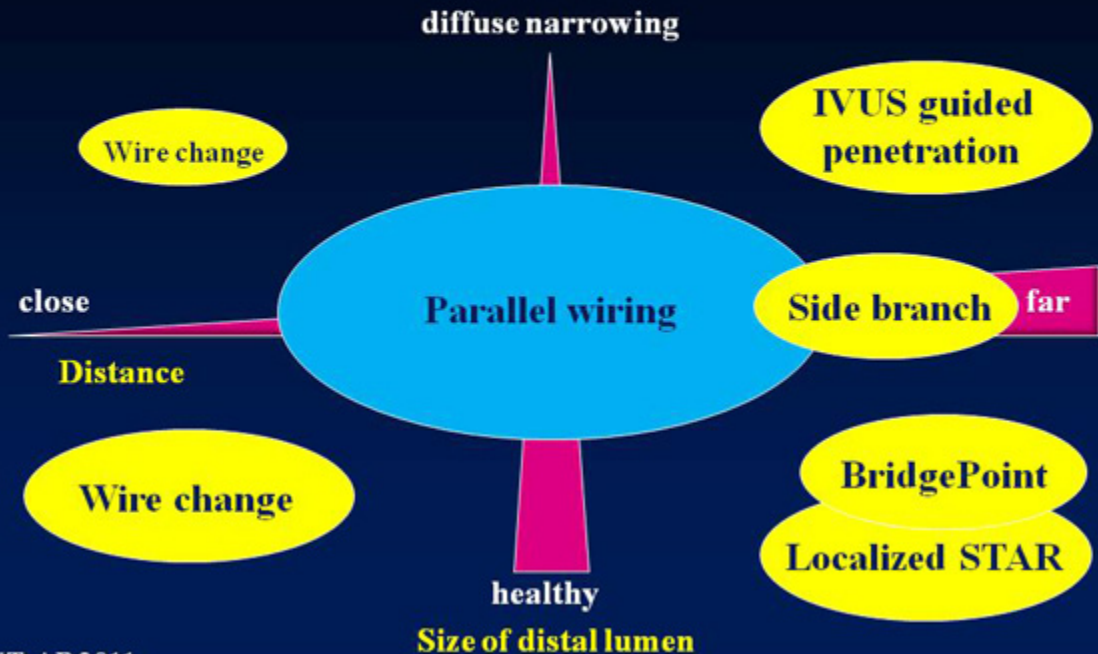
Successful puncture by Re-entry wire



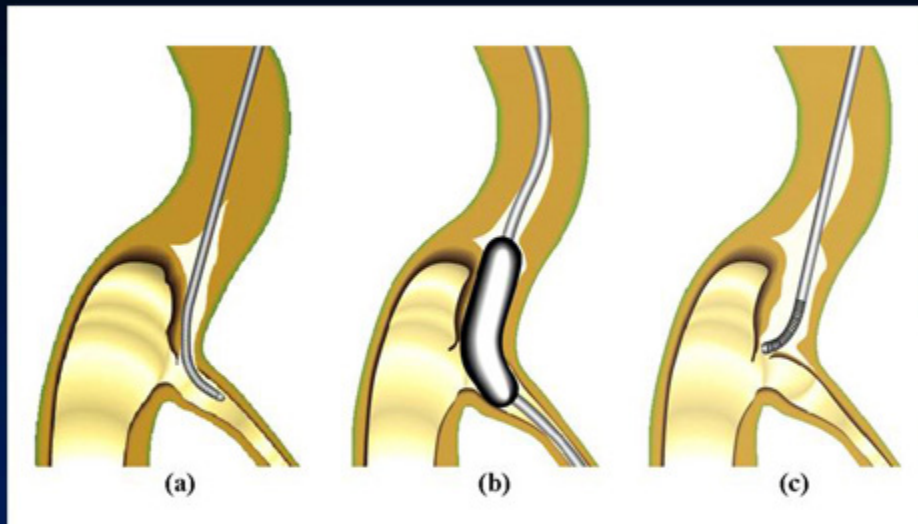
Successful crossing with Fielder XT



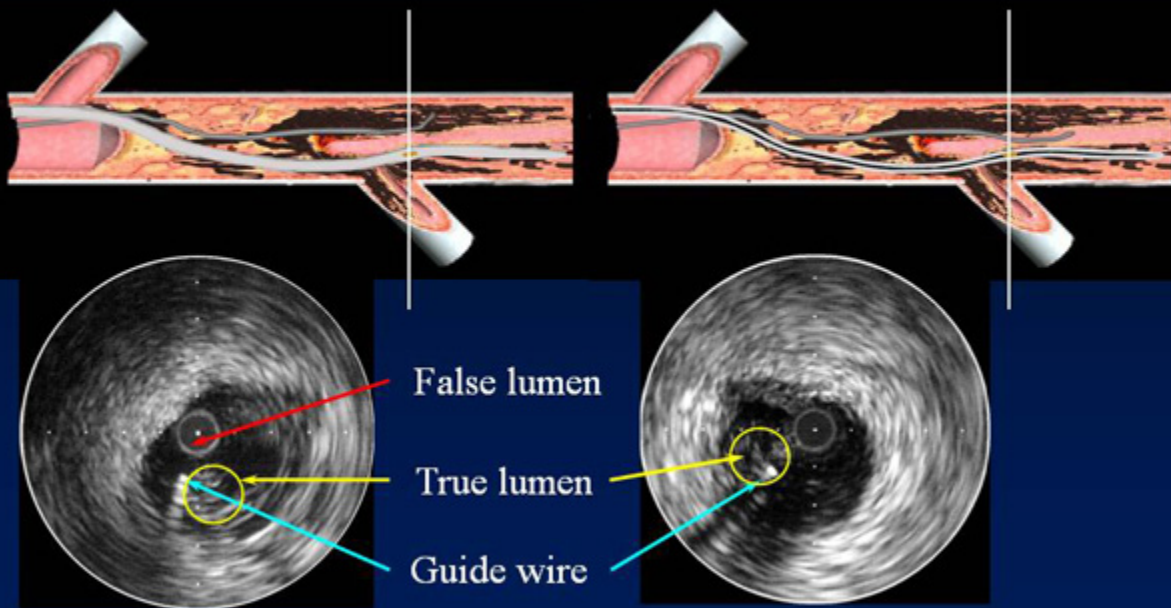
Final Angiogram

Antegrade Strategies When the 1st Wire Is Subluminal

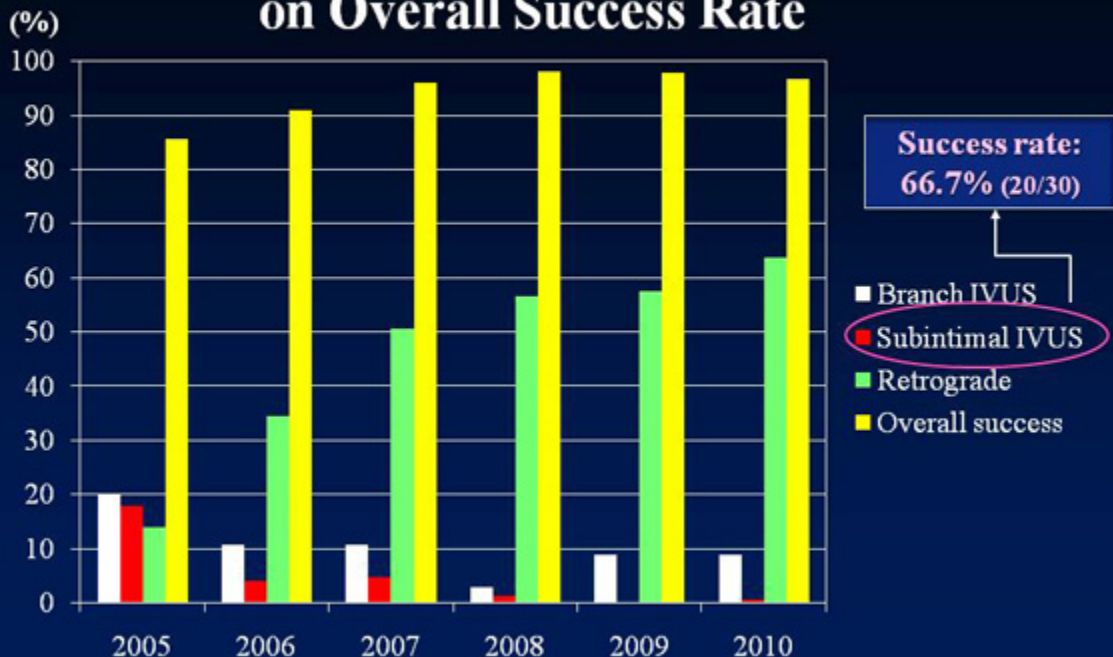
Side branch technique



IVUS guided penetration technique



Impact of IVUS Guidance on Overall Success Rate



Conclusions

- Recent progress in device technology enables us to have many strategic option in the antegrade approach.

- For successful revascularization, it's very important
 1. to see the lesion,
 2. to know the device,
 3. to judge the procedural situation, and
 4. to switch to the most promising strategy.