

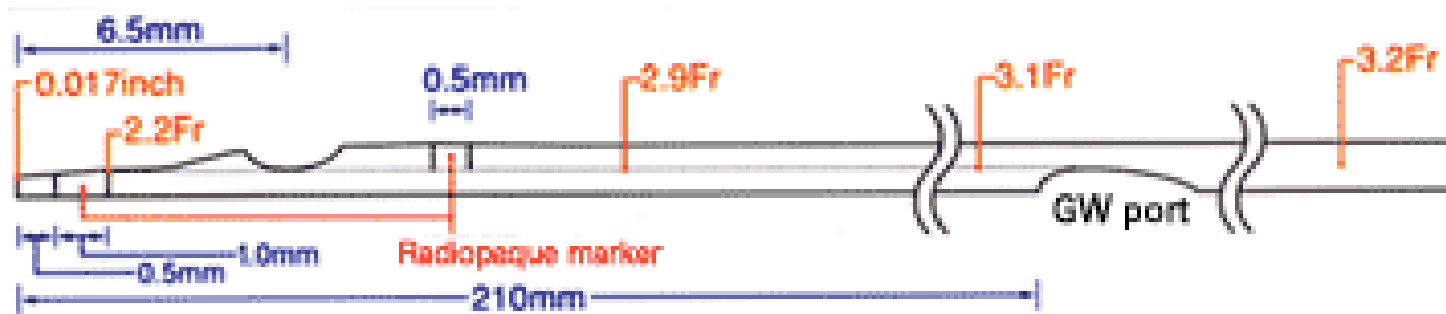
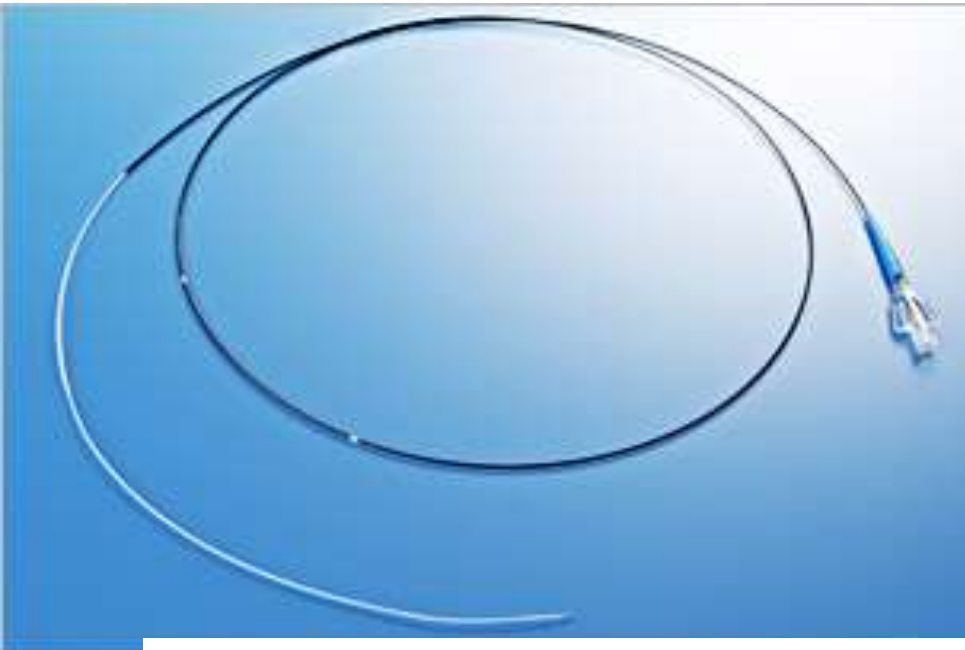
When and How to Use Double-lumen "Crusade" Catheter

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Chang Gung Memorial Hospital

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Crusade catheter (double-lumen microcatheter)



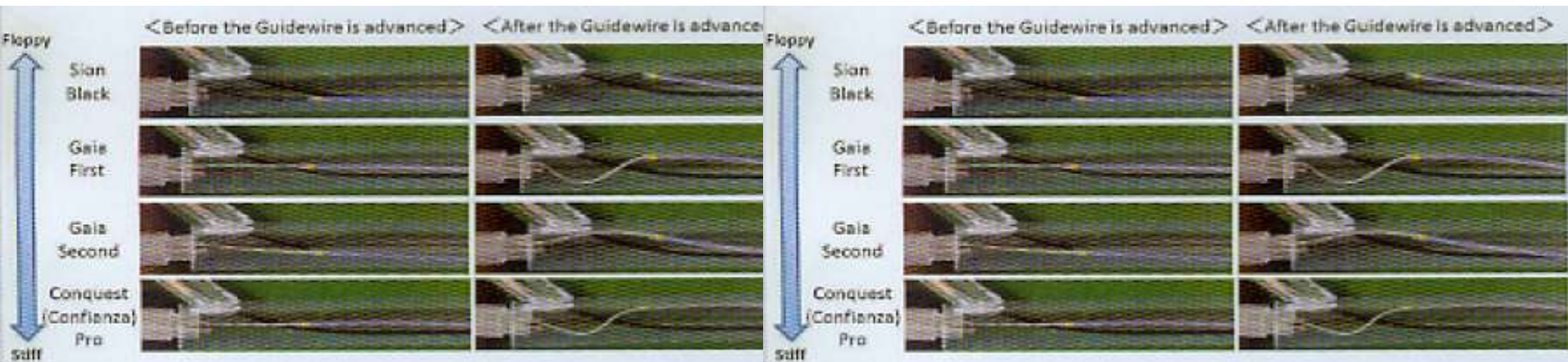
Advantages of the Crusade MC over standard MC

With the Crusade catheter being held by the 1st wire, it offers:

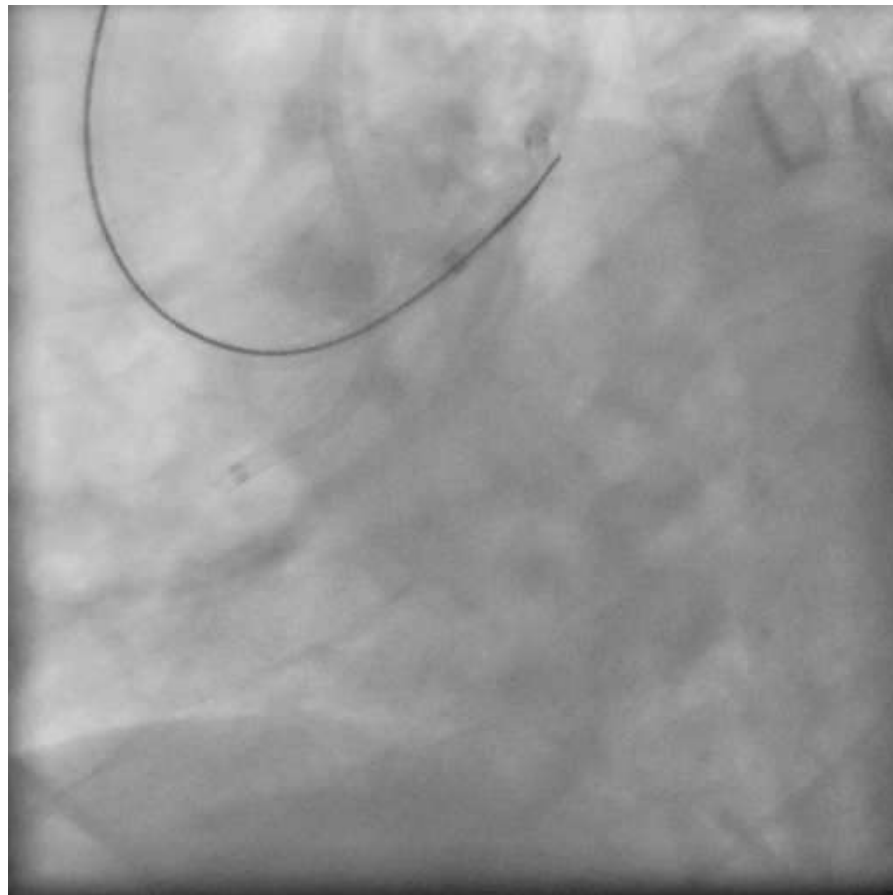
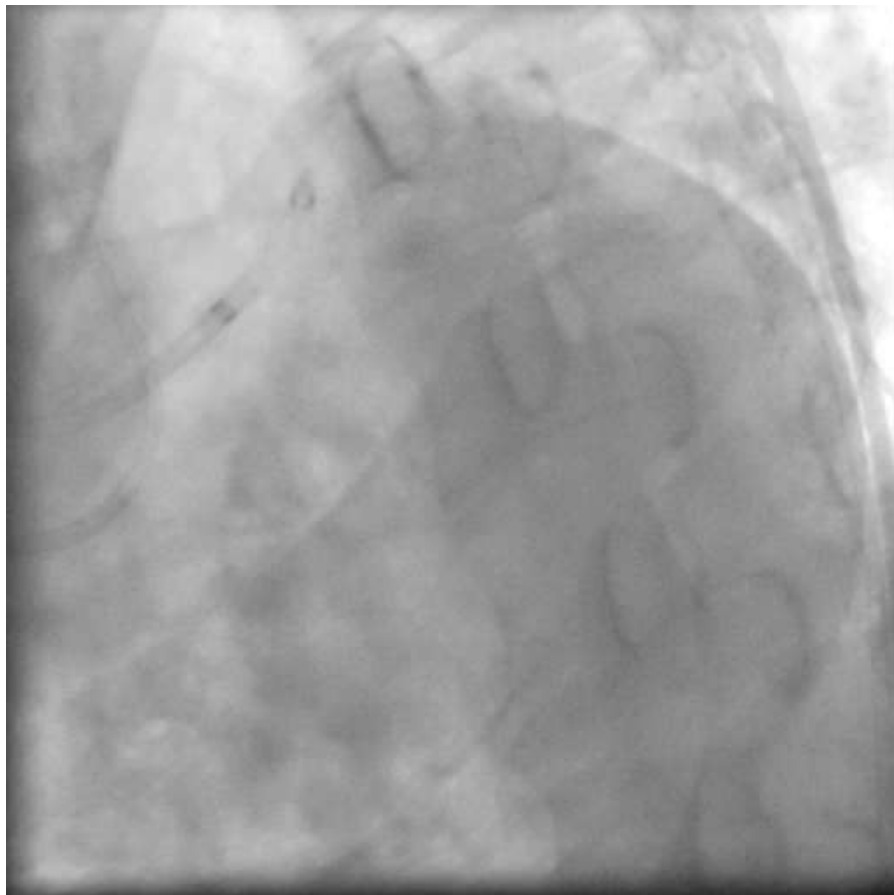
- a stable platform for delicate torque/pushing control of the 2nd wire
- an extremely strong back support to enhance the penetration force of the 2nd wire

Crusade MC offers extremely strong support when anchored by a wire at side branch

GuideWire	GW pushing force/gf	
	Crusade	Microcatheter
Sion Black	1.2	0.6
Gia First	2.3	0.7
Gia Second	6.4	1.5
Conquest Pro	13.5	1.6

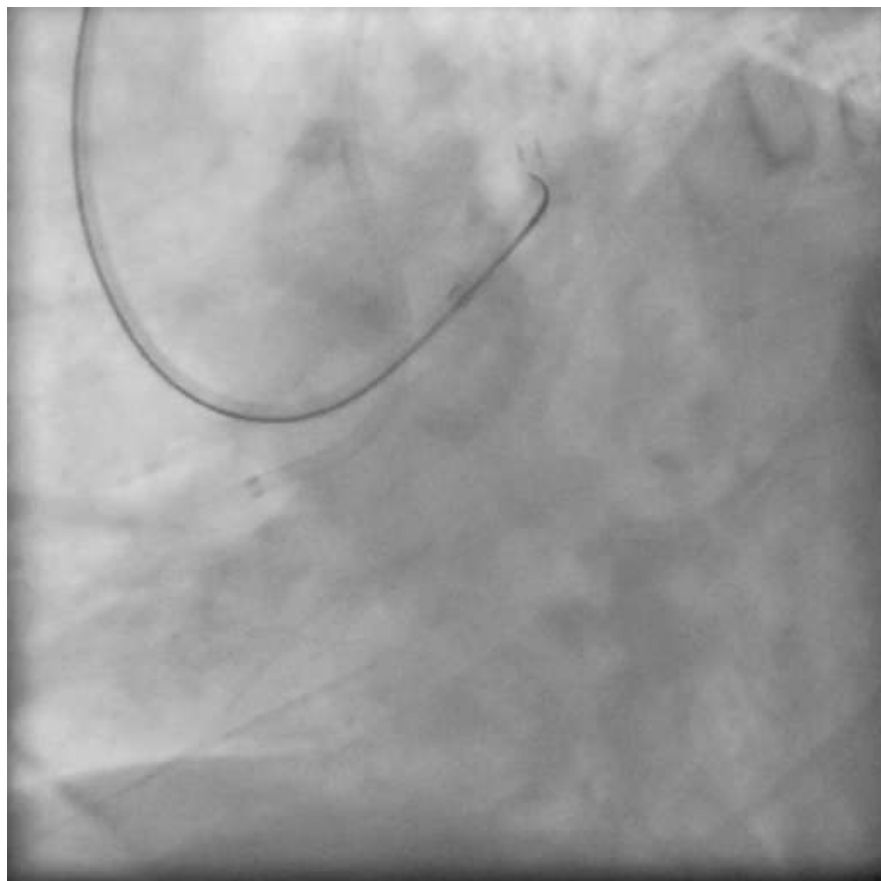


m-LAD in-stent CTO right after D1

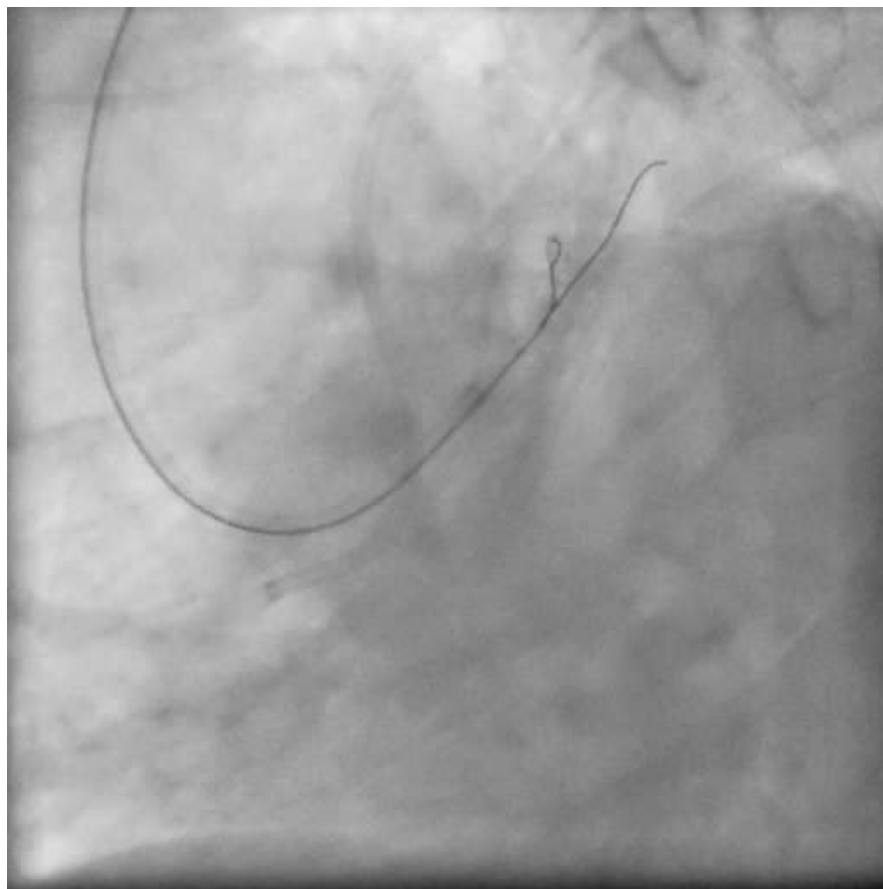


M3 supported by corsair

m-LAD in-stent CTO right after D1

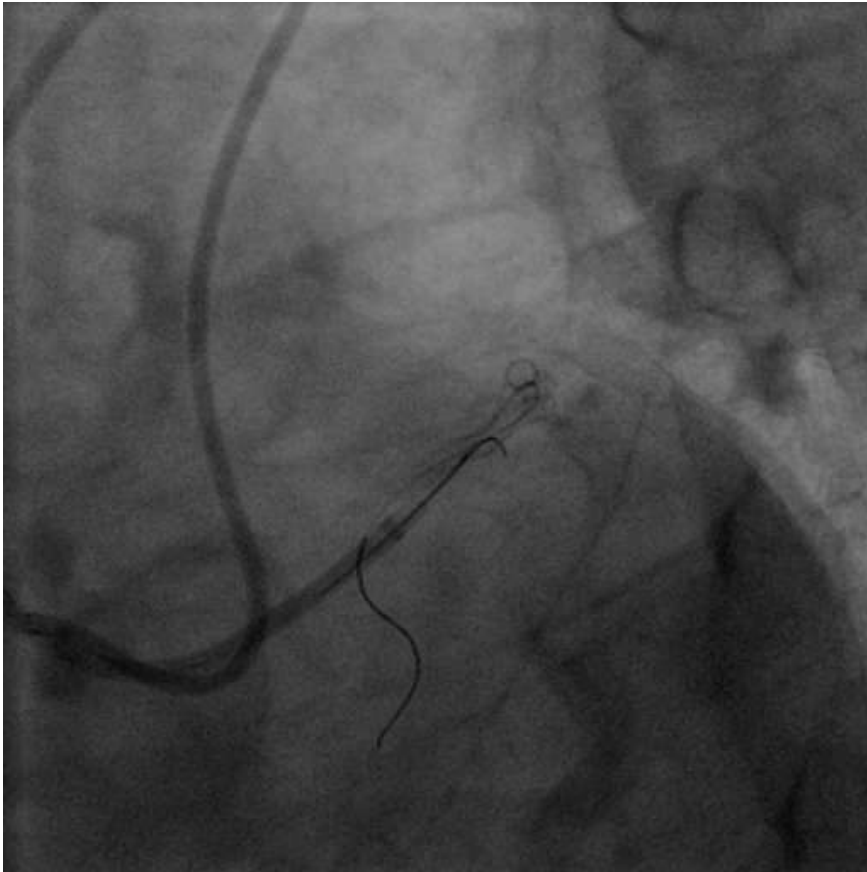


**Corsair and Conquest Pro 9 with
big tip curve**



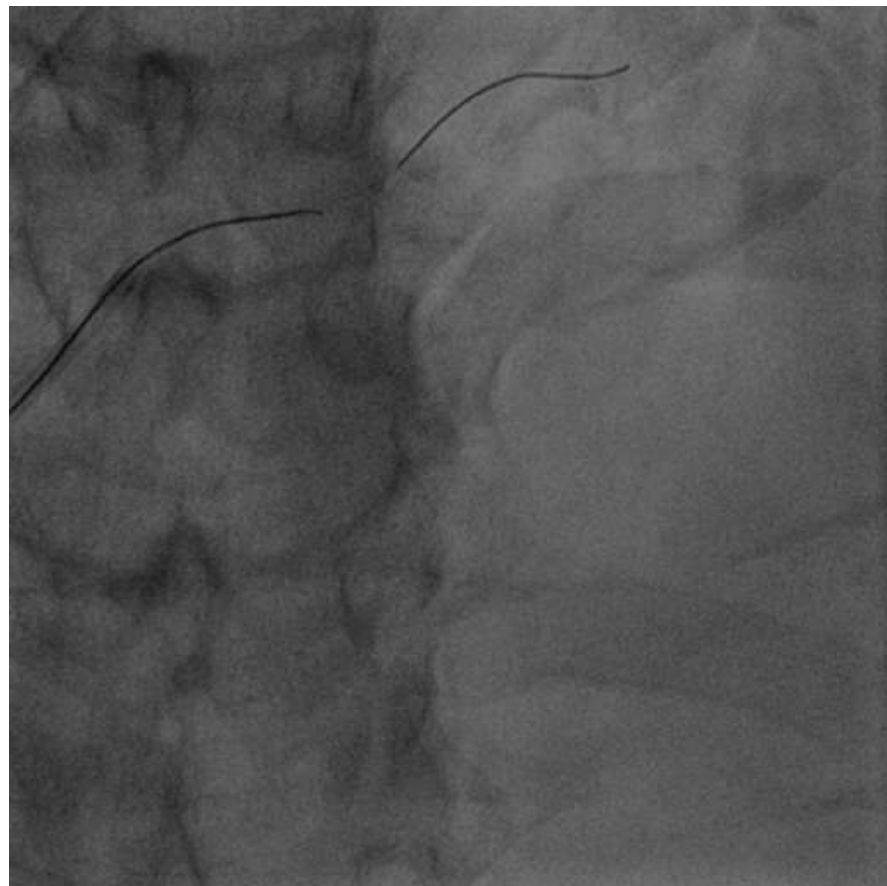
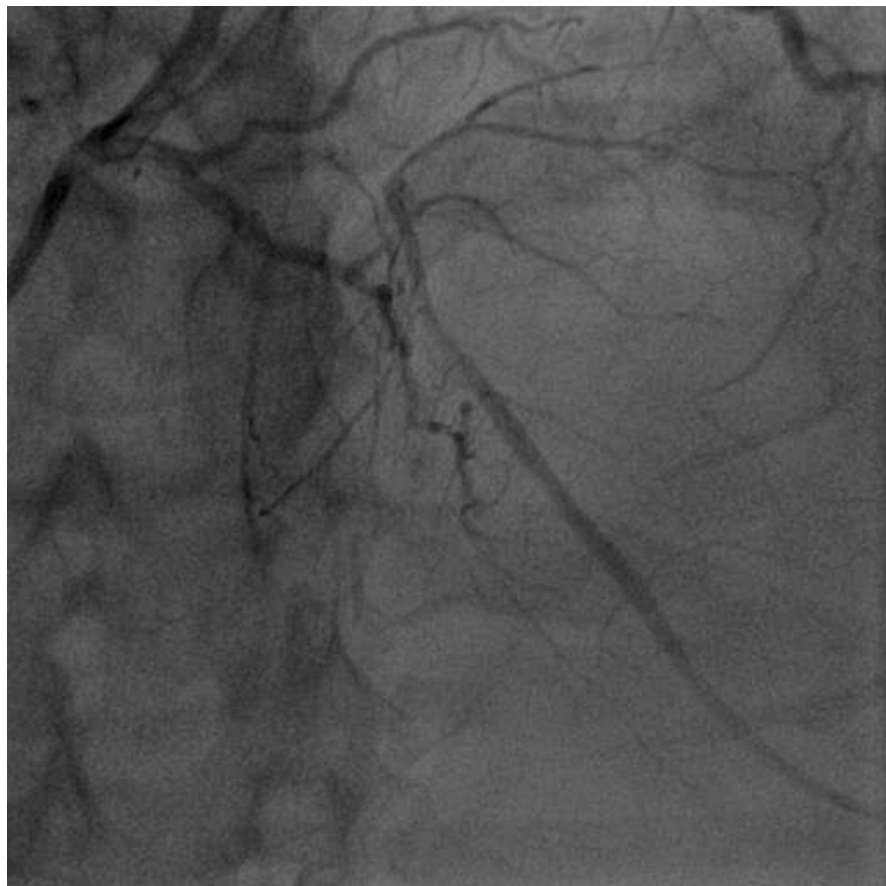
Crusade and Conquest Pro 9

Jailed side branch



Pilot 150 supported by Crusade MC

Stumpless CTO



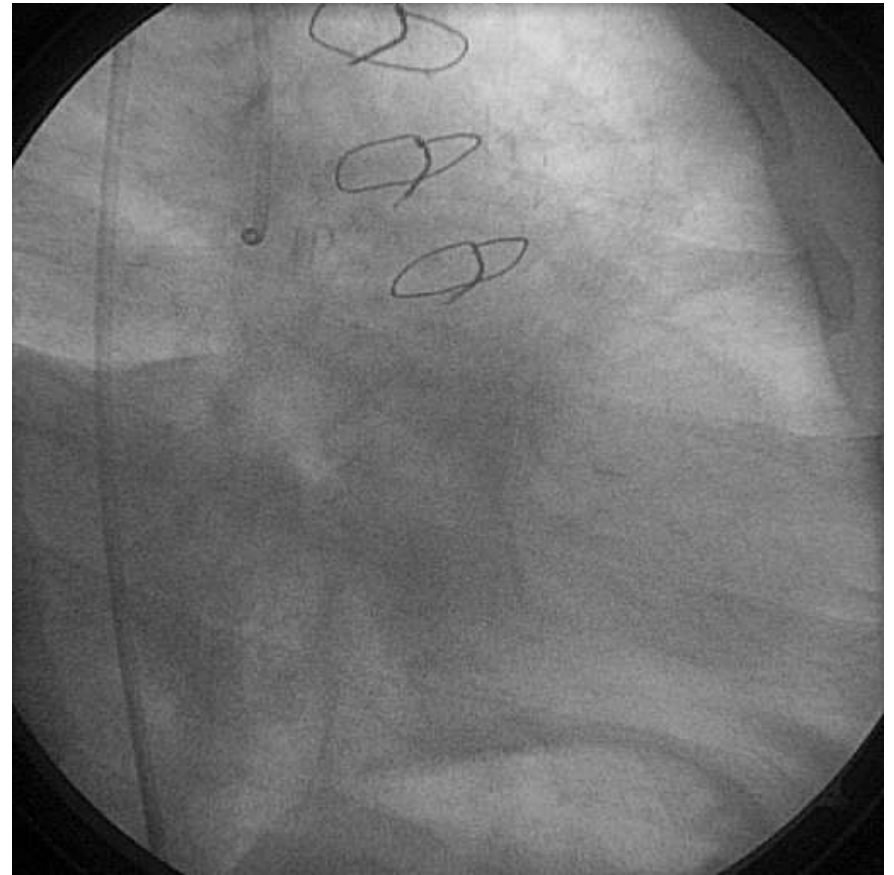
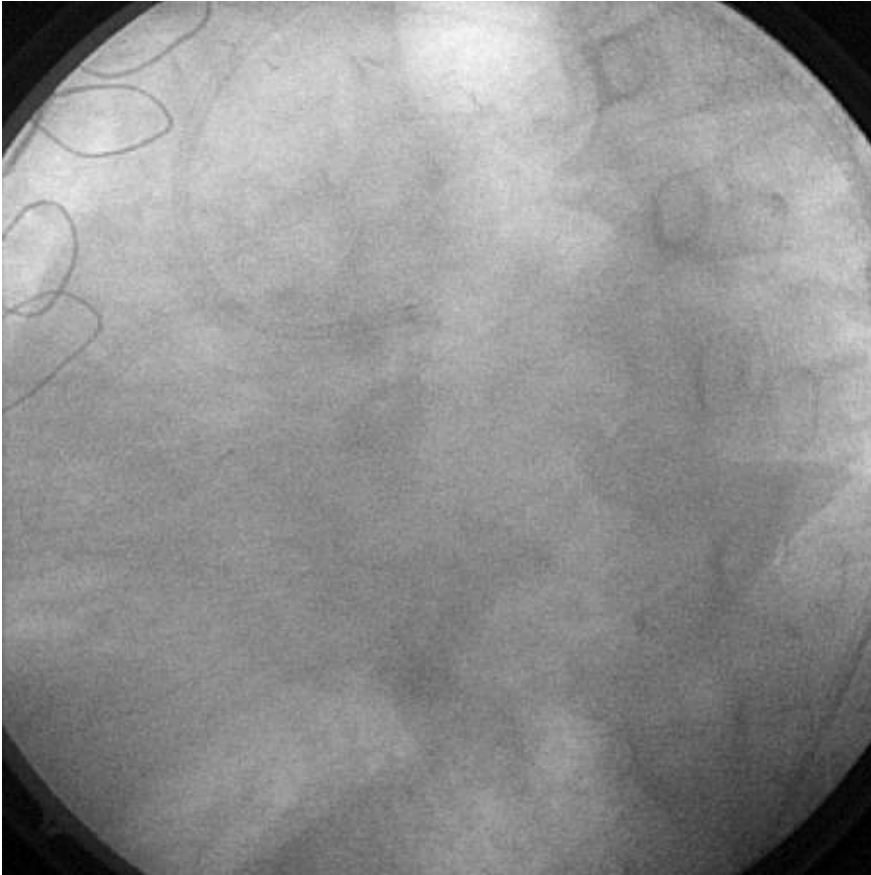
M3 supported by Crusade MC

Stumpless CTO

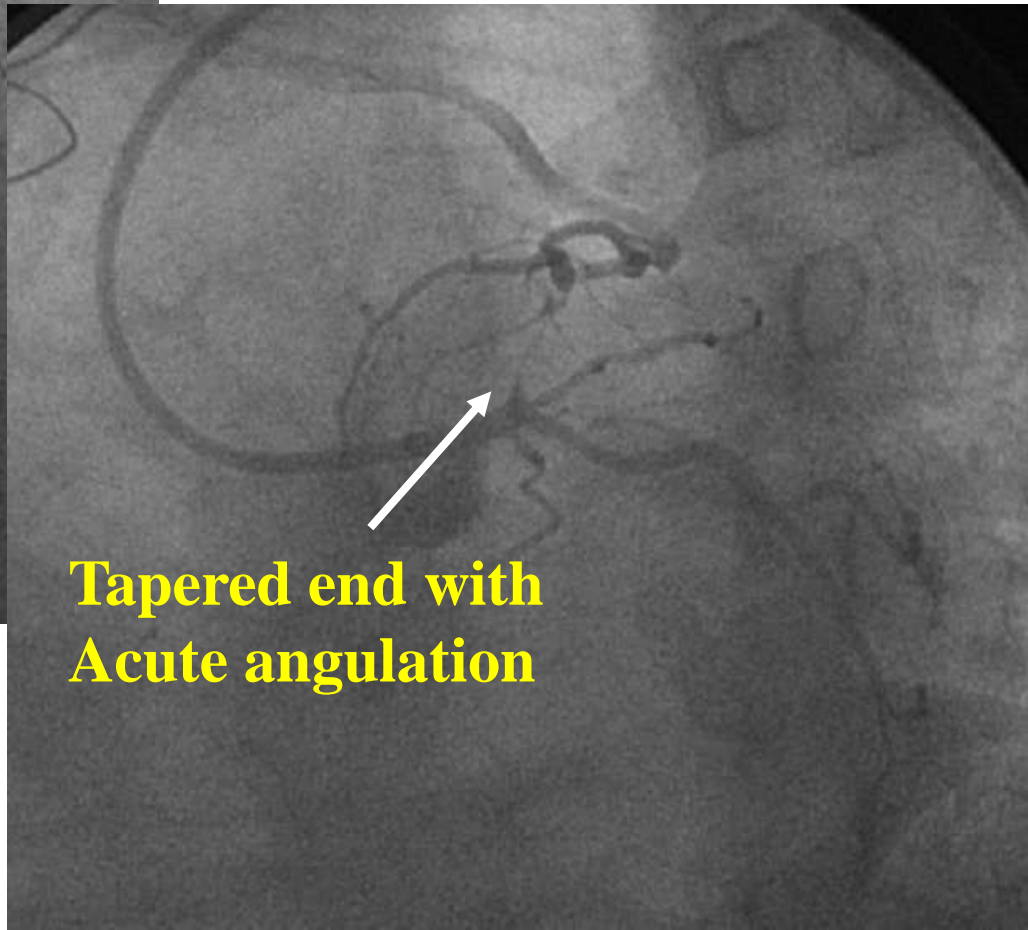
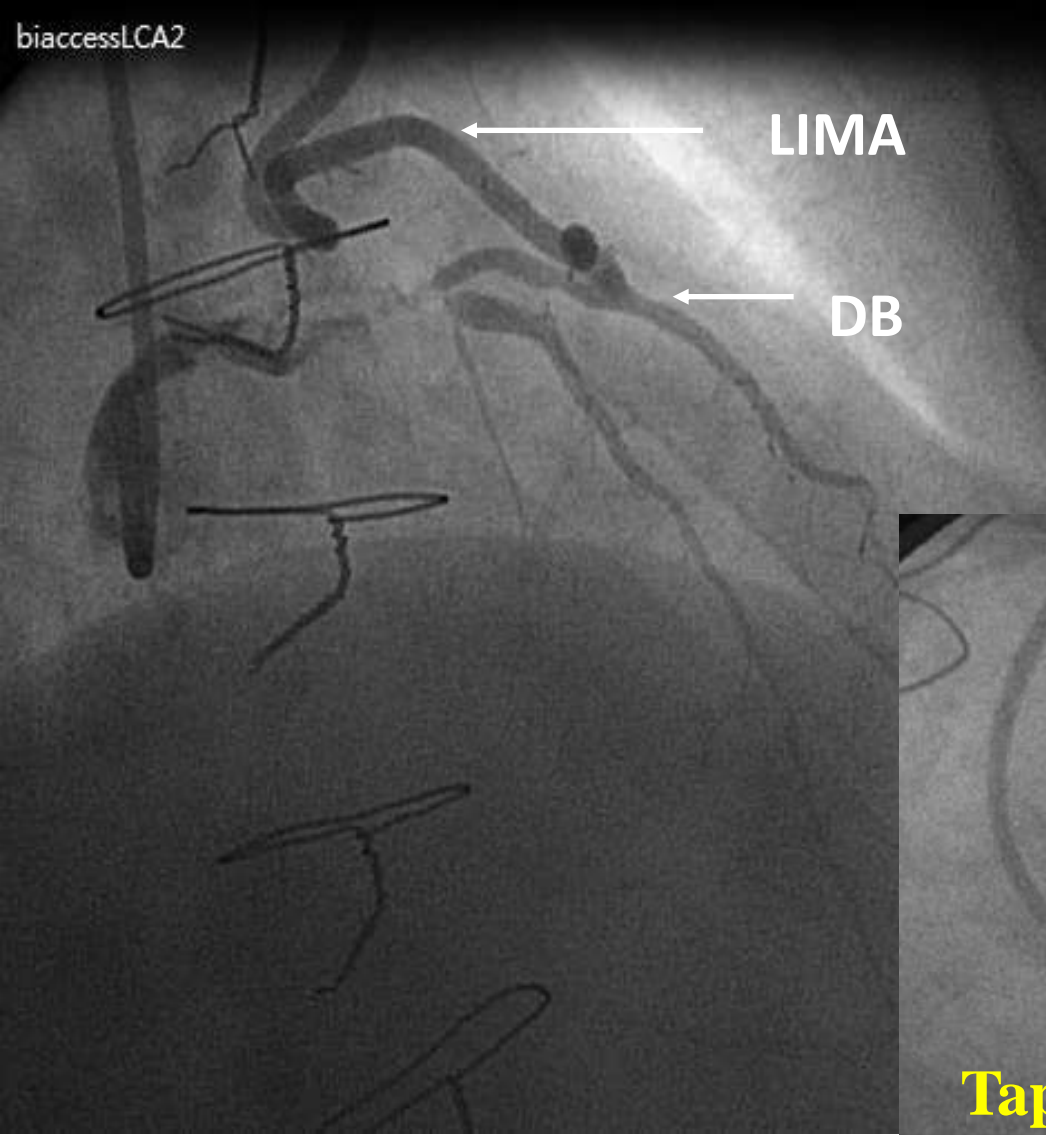


M3 supported by a Crusade MC

Reverse wire technique

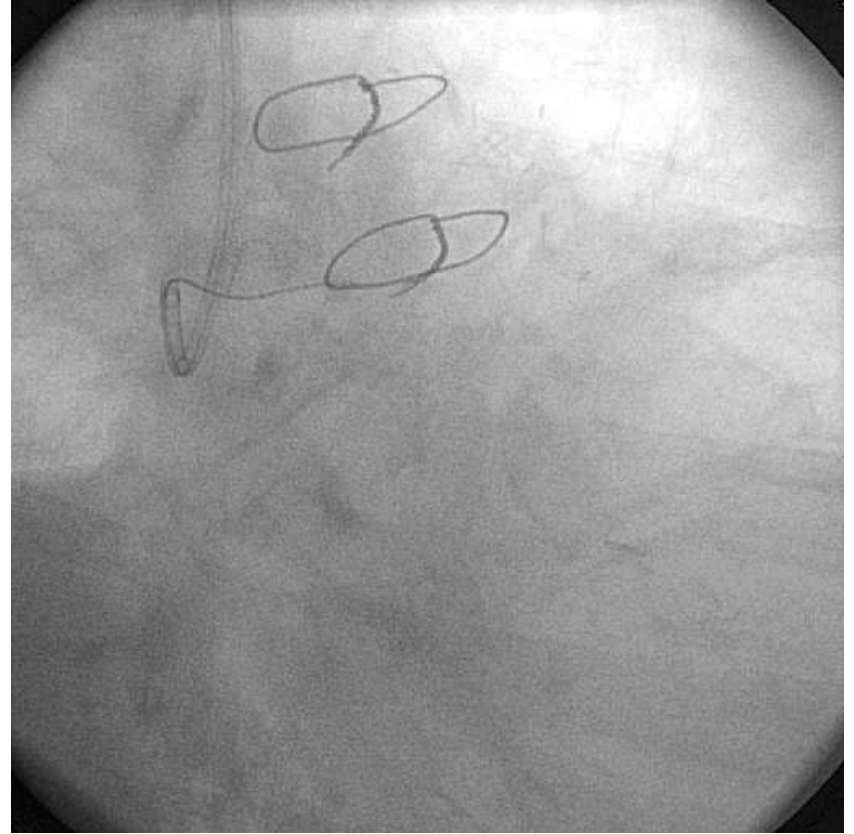
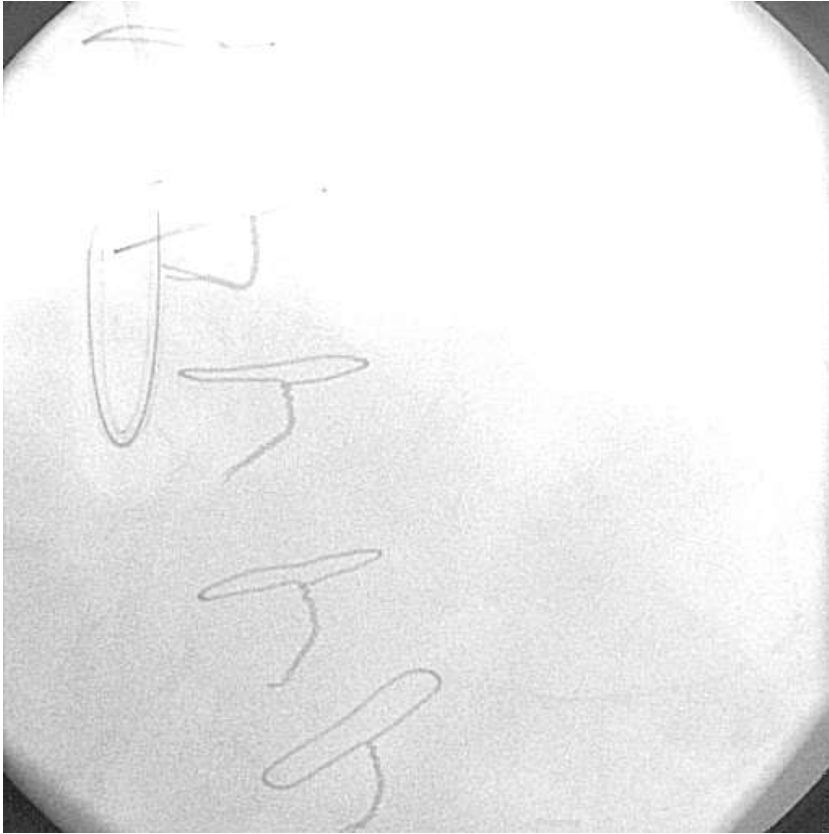


Post CABG with p-LAD CTO
Simultaneous angiogram of LCA and LIMA



**Tapered end with
Acute angulation**

Antegrade Approach

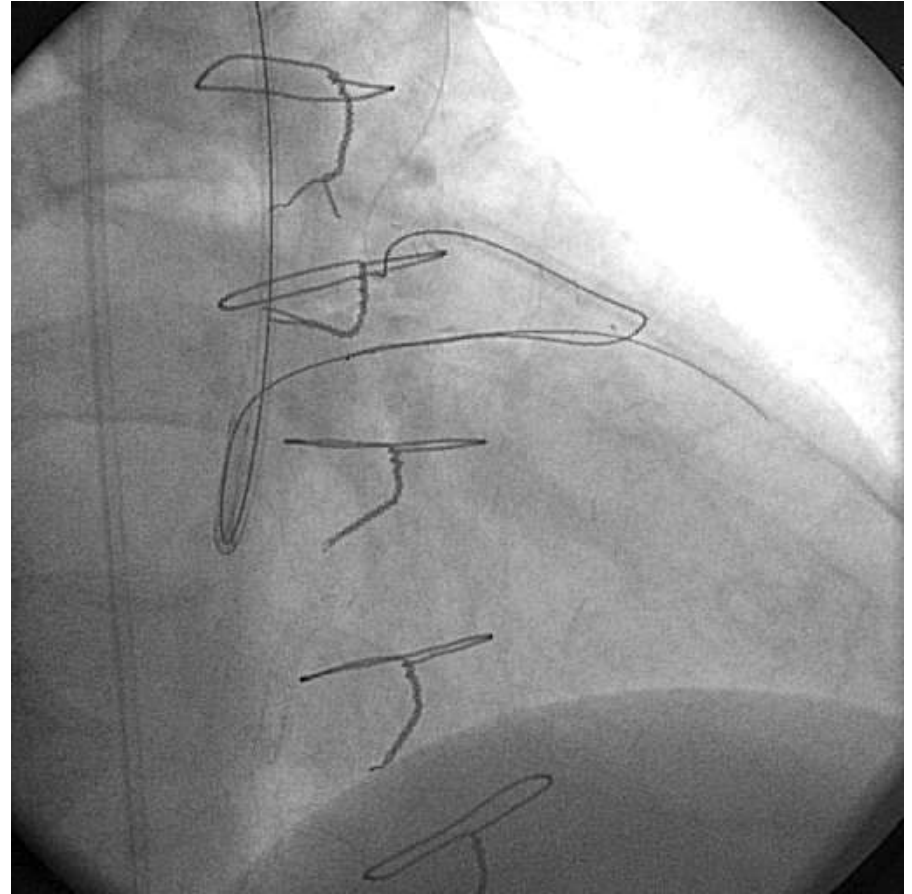


Conquest Pro supported by Excelsior MC

Retrograd Approach

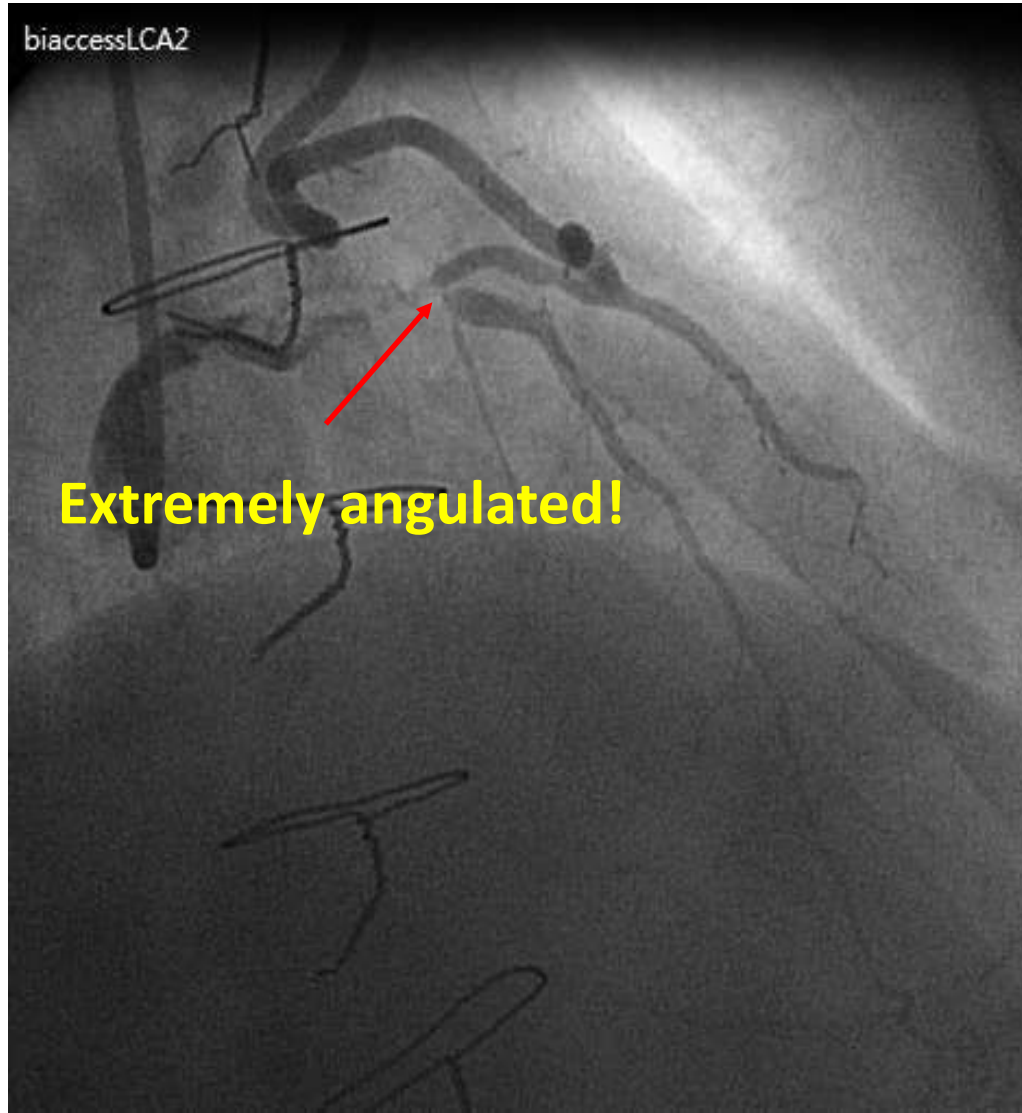


**Fielder FC supported by
Excelsior MC via LIMA**

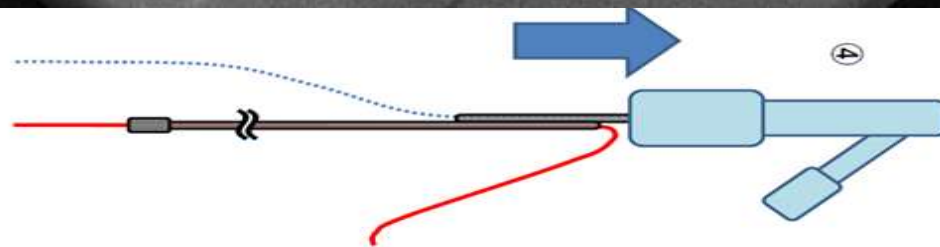
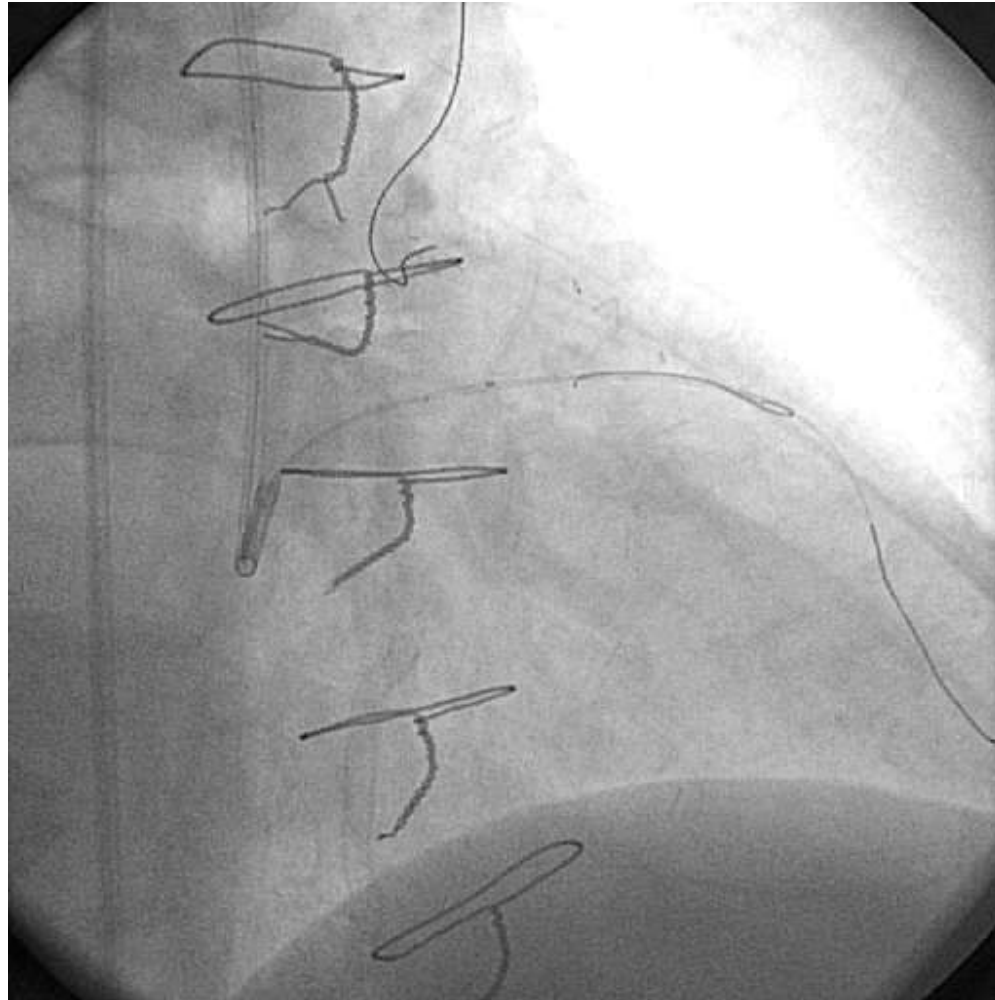


Kissing wire

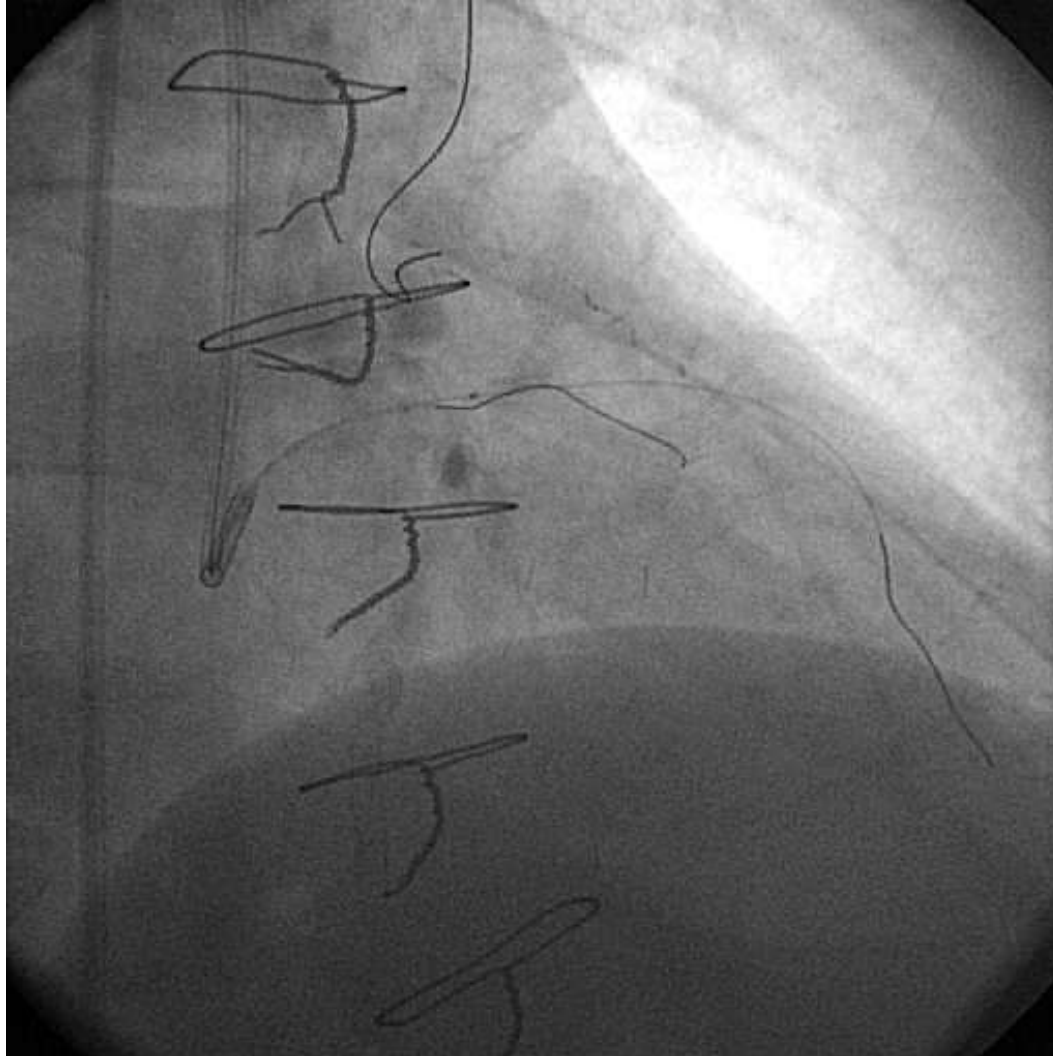
Conventional wiring is hardly possibly!



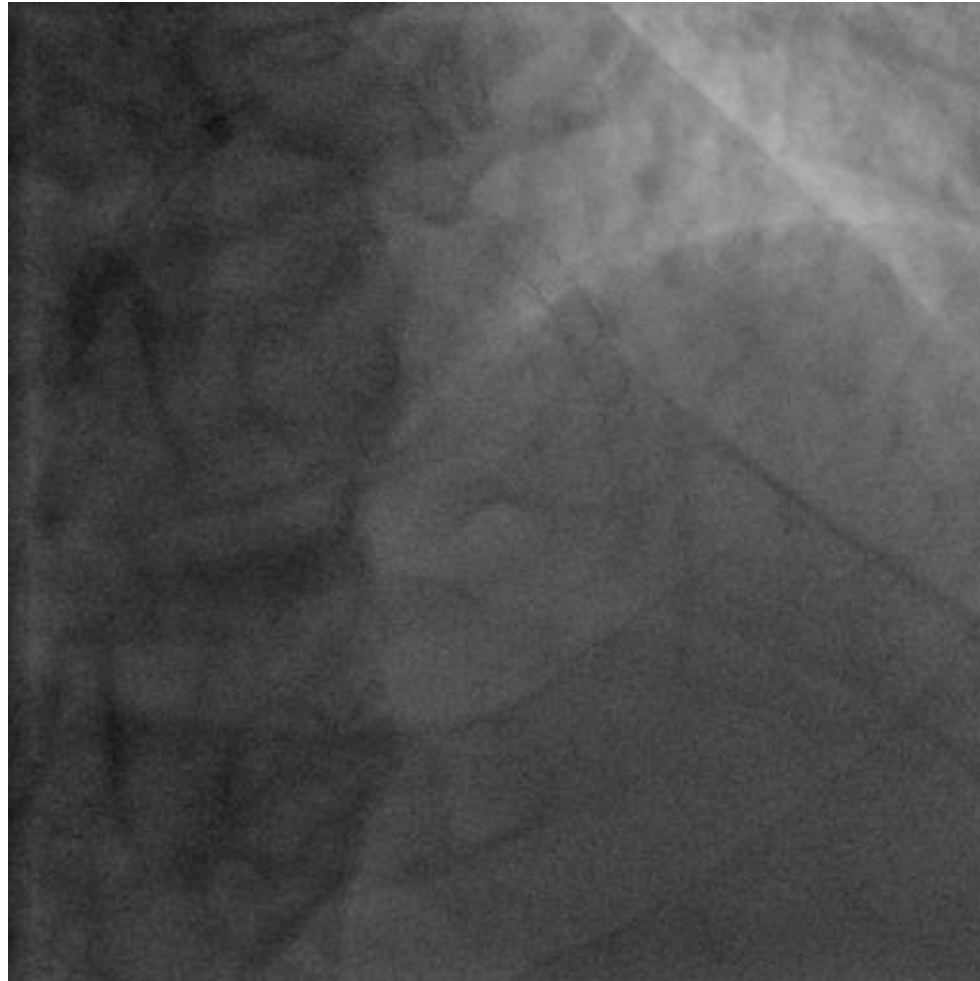
Reverse Wire Technique



Reverse Wire Technique

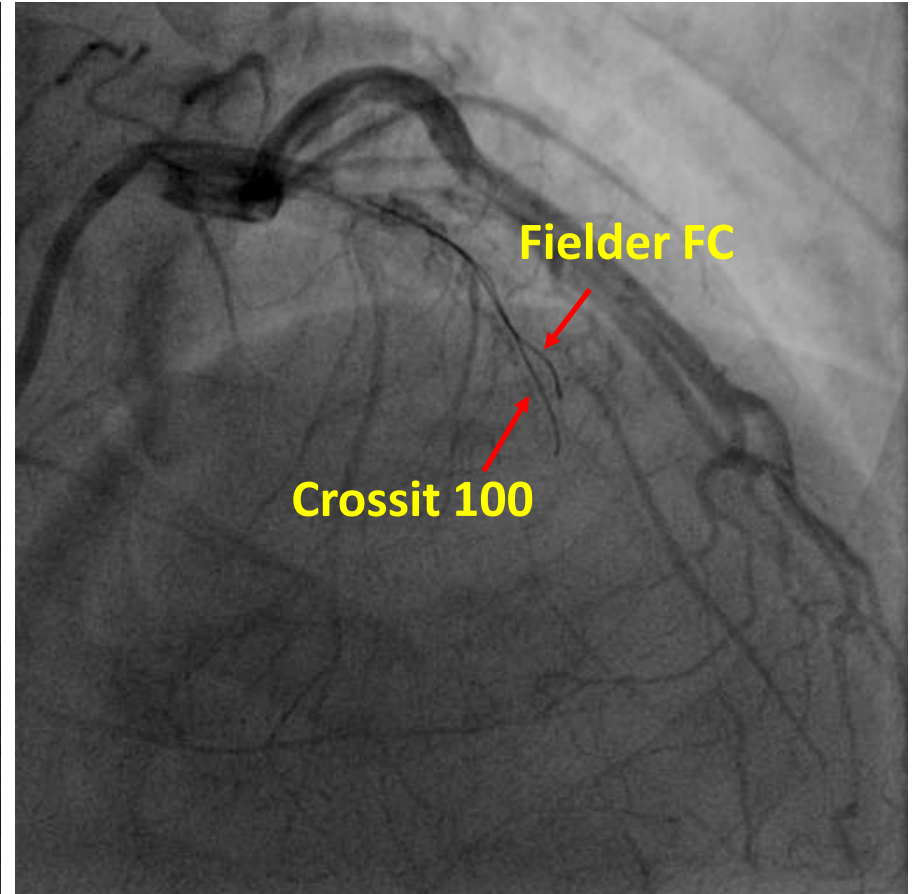
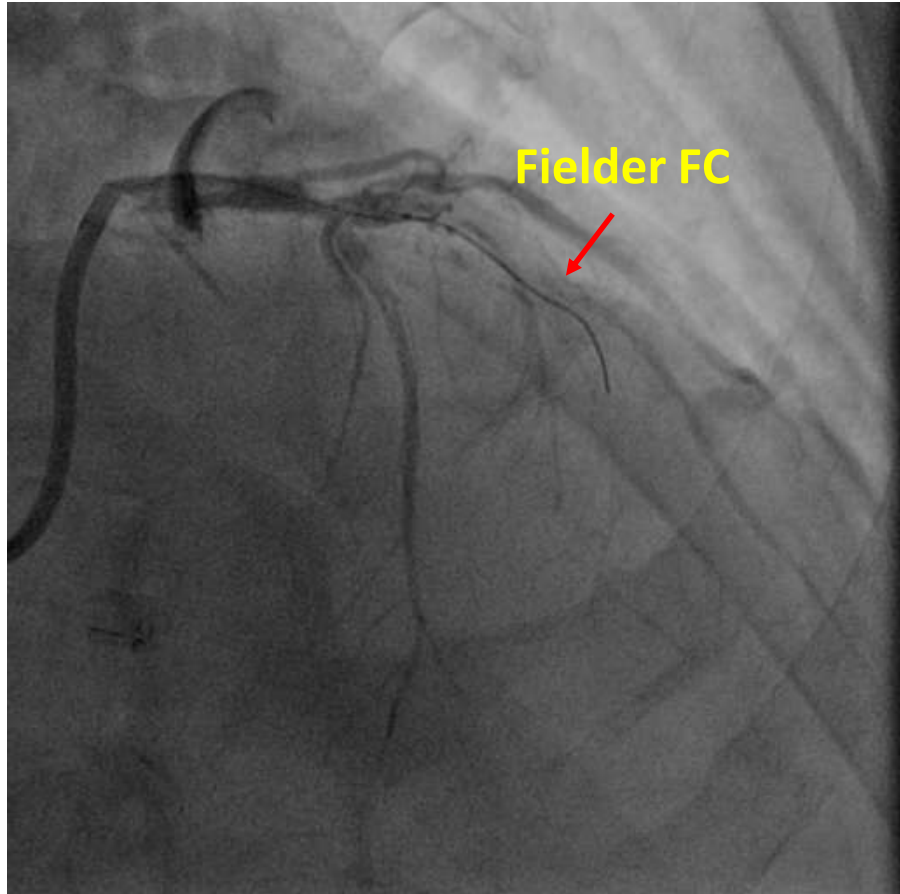


Crusade MC to support parallel wire for CTO lesion

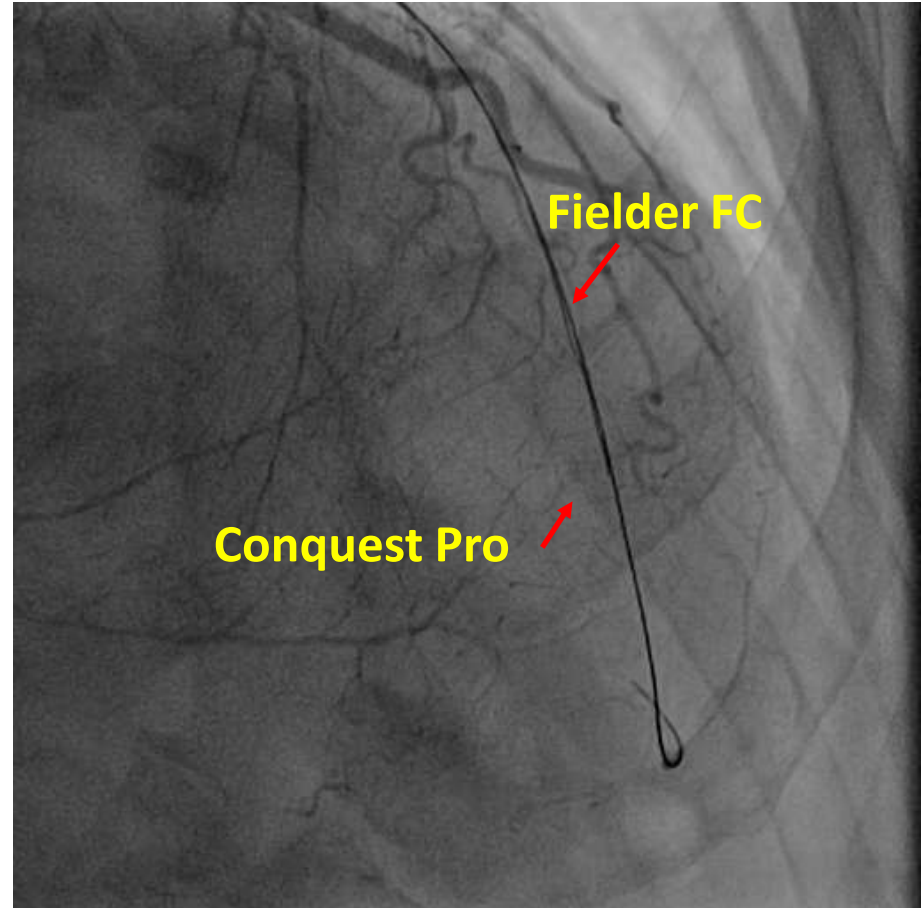
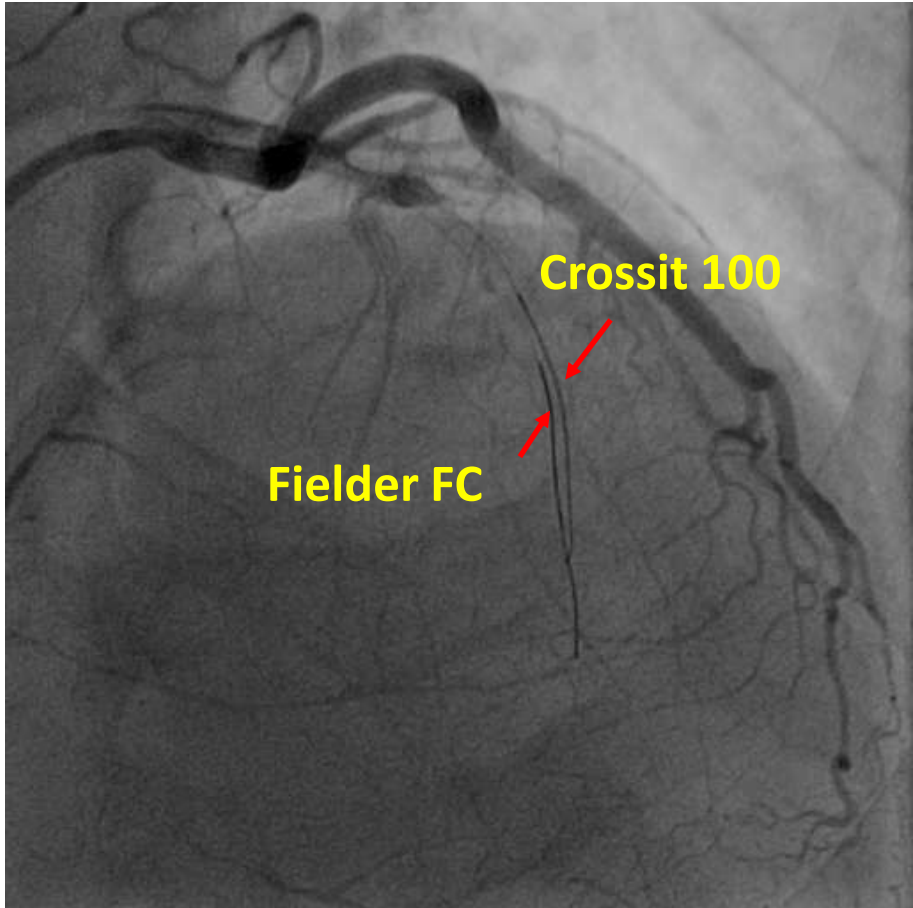


LAD long CTO with diffuse disease

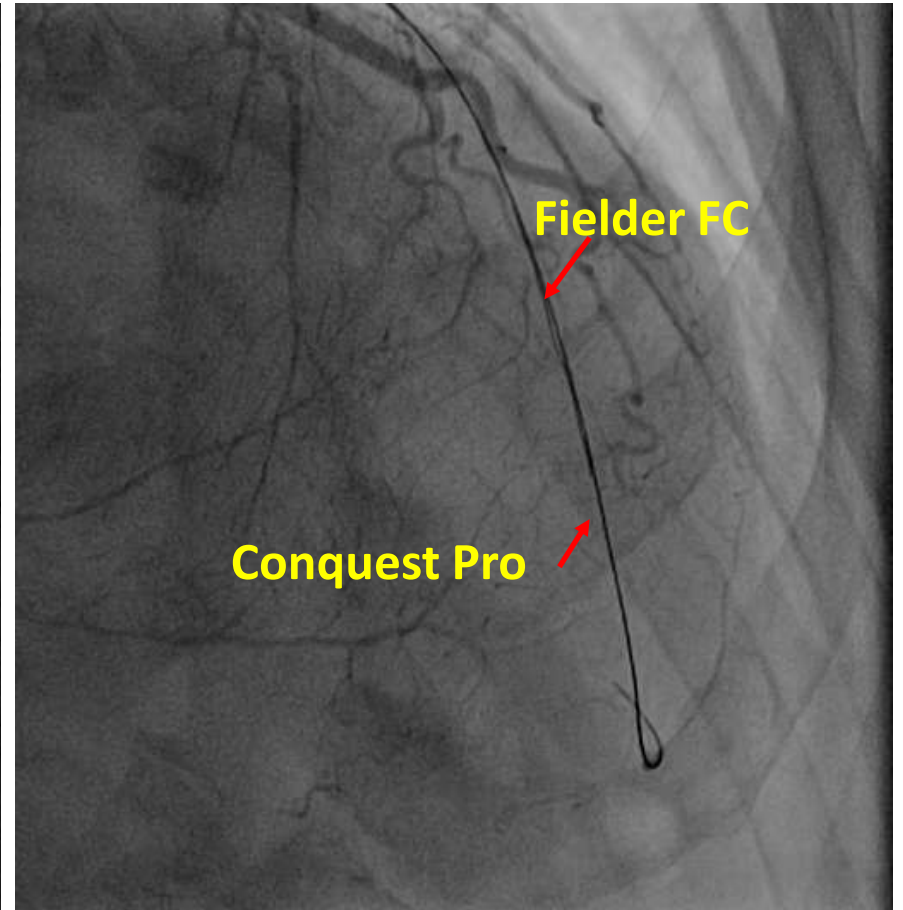
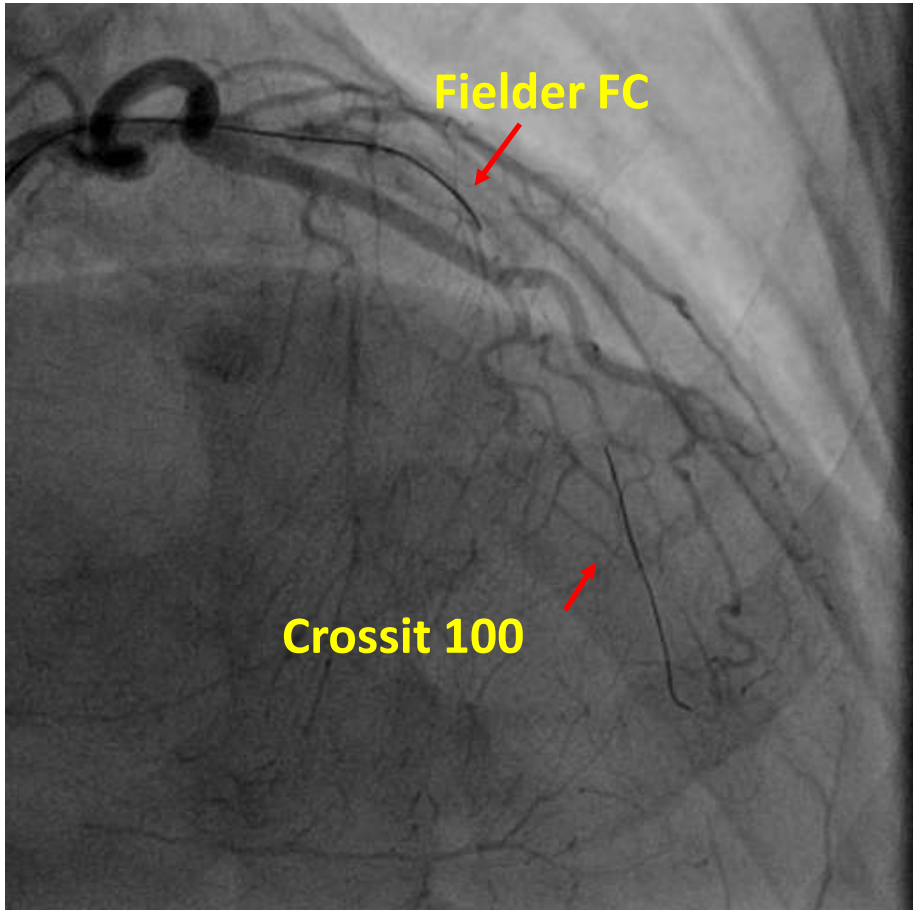
Parallel wire technique



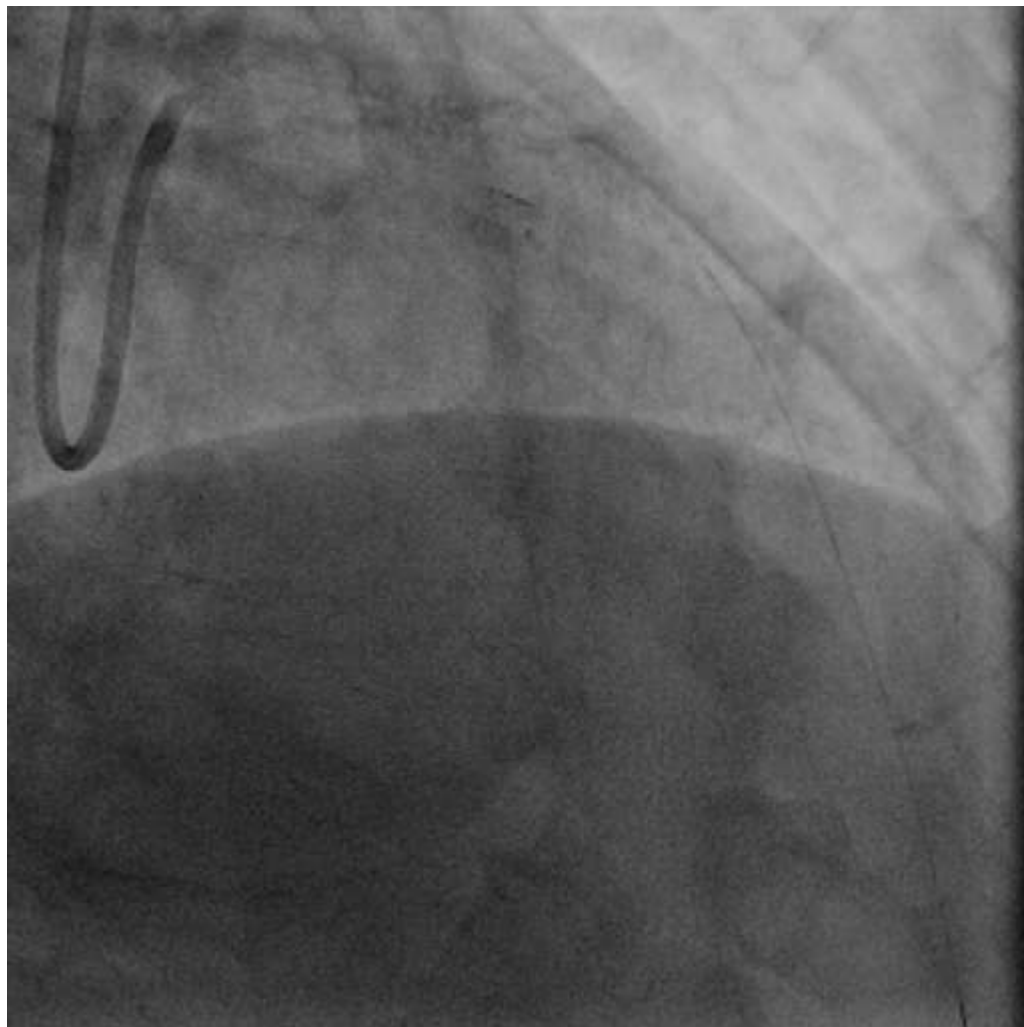
Parallel wire technique



Parallel wire technique



Final CAG



- Crusade MC provides a stable platform and extremely strong support for difficult wiring.
- Think of it whenever you encounter challenging wiring.