



Antegrade Approach: Antegrade Wiring, the Latest Approaches

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Conflict of interest



- I, Gerald S. Werner, MD, have no conflict of interest to declare with regard to the following presentation



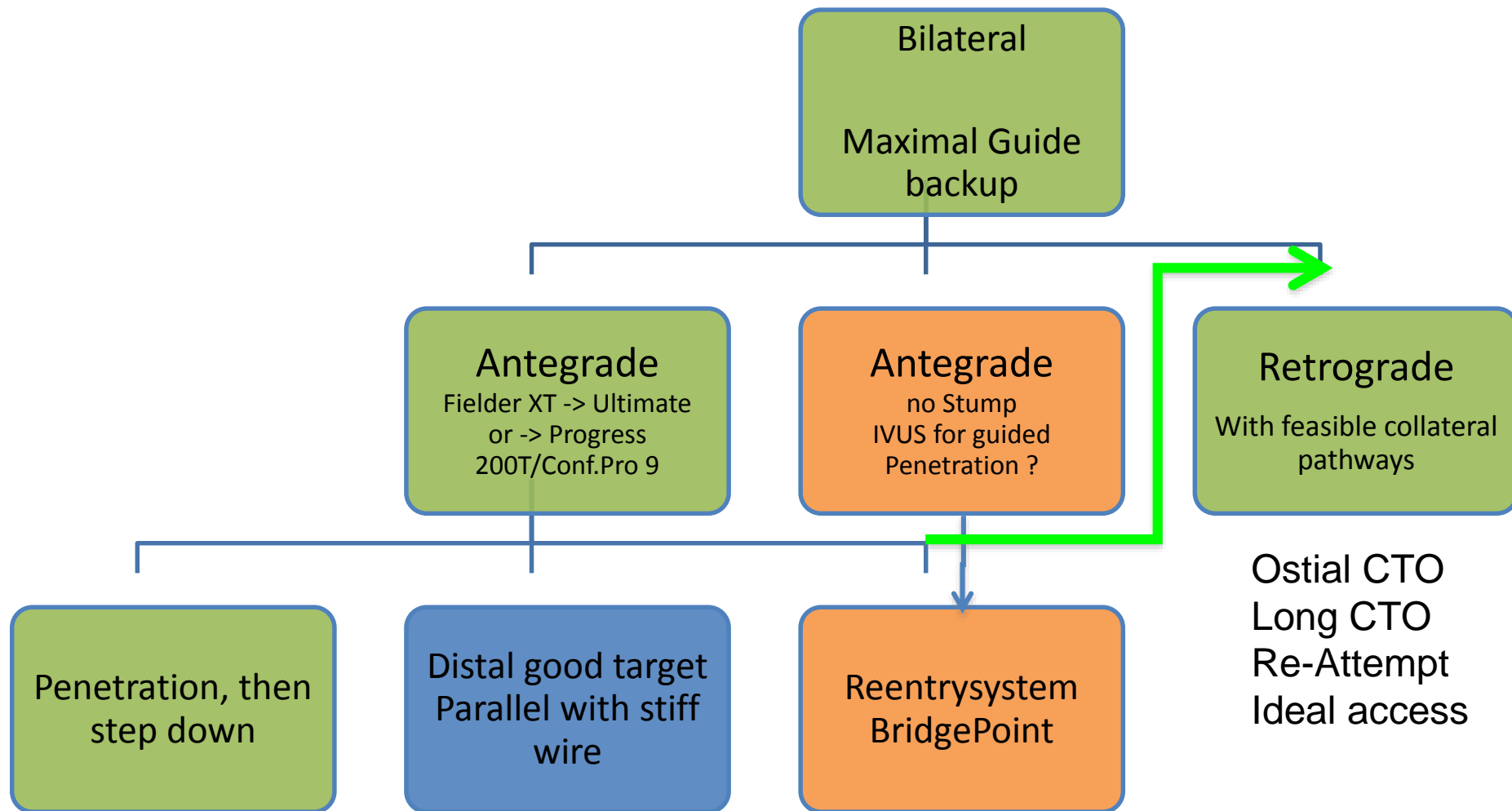
The goal of CTO-PCI



- Ideally: Restore the original anatomy of an occluded artery
- Open an occluded artery
 - with the least damage to the coronary anatomy
 - with the least investment of time and material, reducing procedural risks
- There is no retrograde vs antegrade approach, there is only the choice of the best strategy for the specific lesion and patient



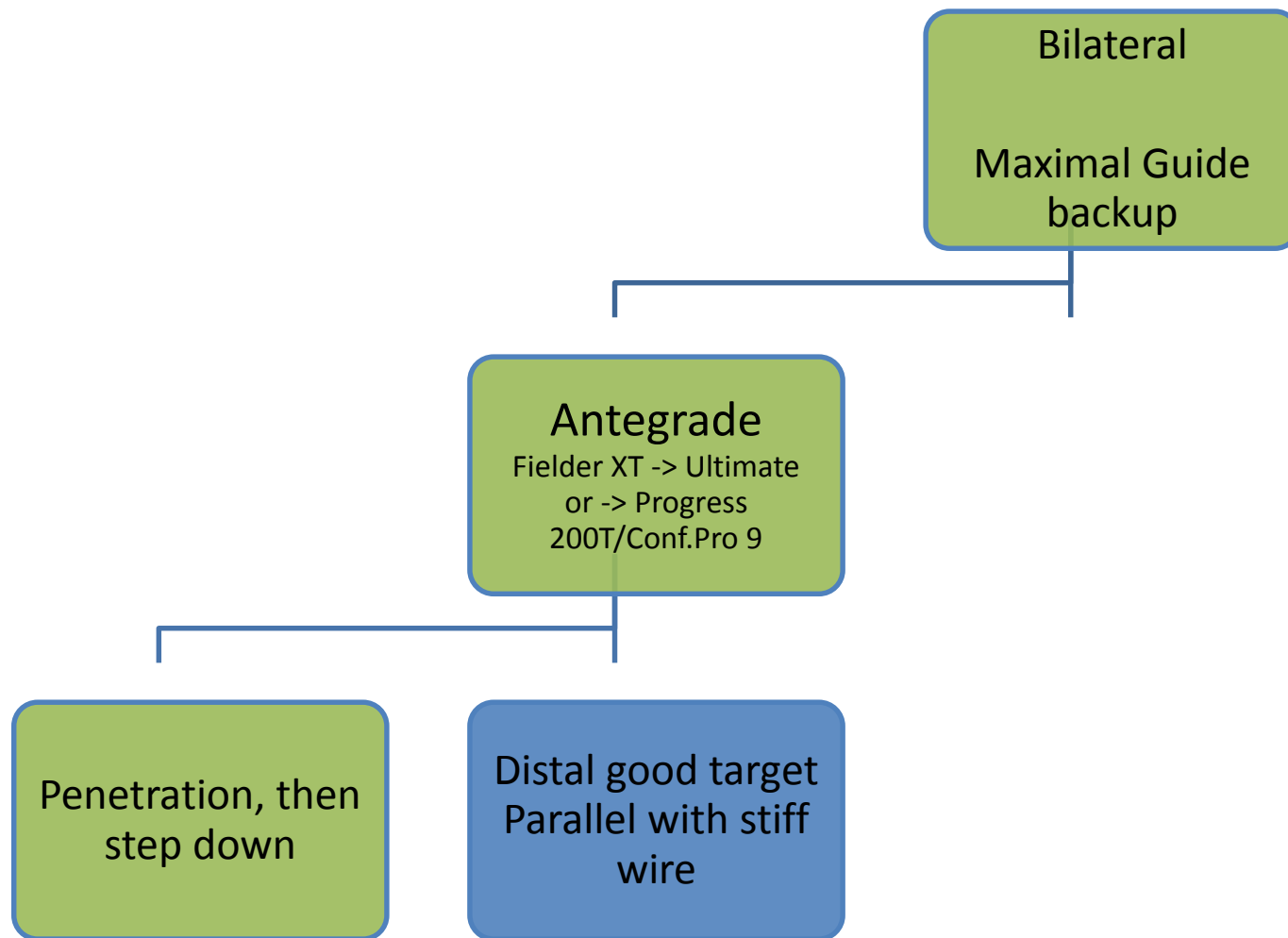
Strategic options for CTOs in Europe





Strategic options for CTOs in Europe

The antegrade spectrum of technical options



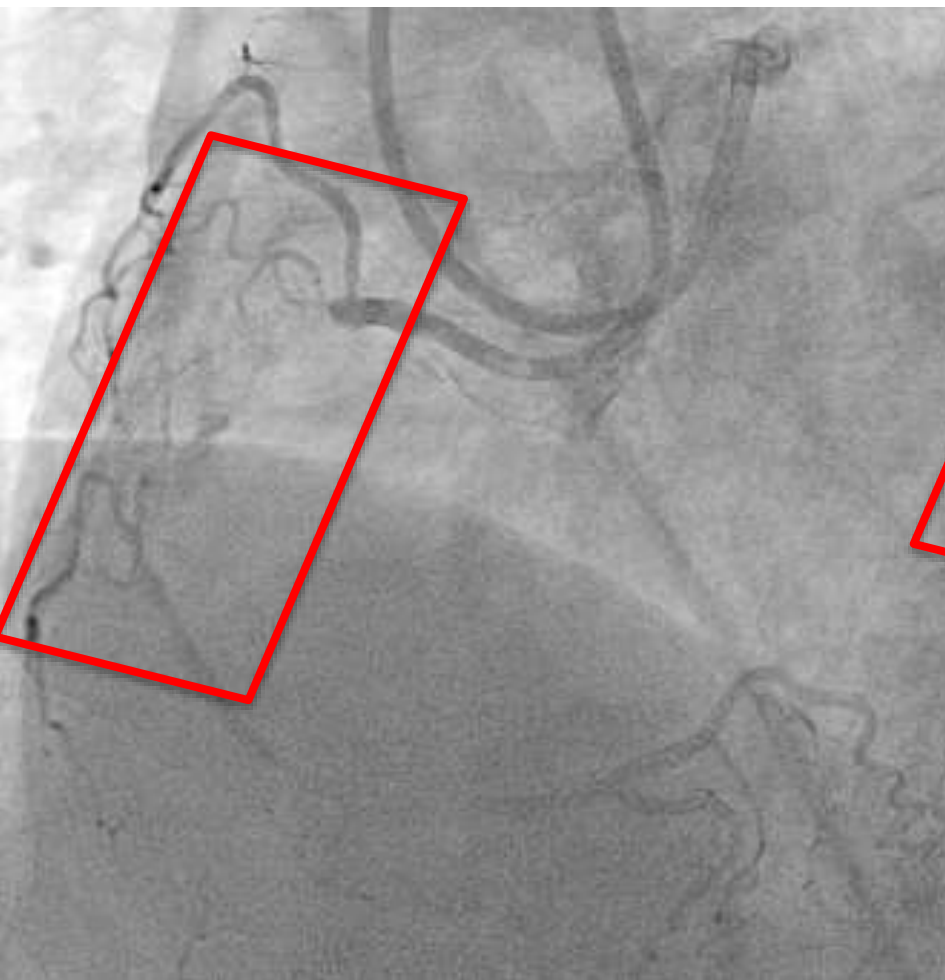


Antegrade: Step by Step

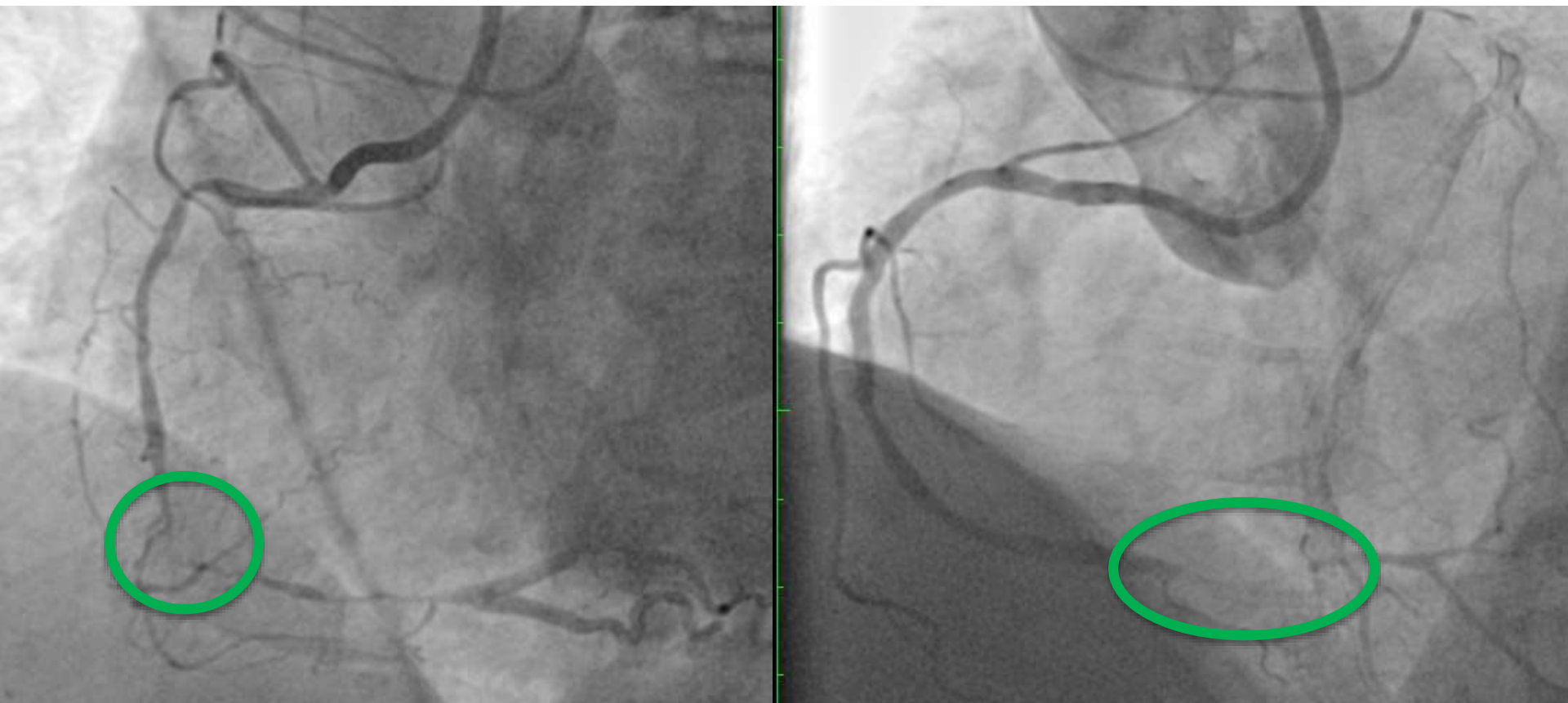


- Lesion specific analysis
 - Identify the proximal cap
 - How long is the lesion
 - What is the presumed course of the occluded segment
 - Identify the distal target
- Patient specific considerations
 - Previous attempts (which wires, why failed)
 - Renal function (limits on contrast use)

Examples not likely to work antegrade



Likely targets for the antegrade approach





CTO wiring requires a dedicated microcatheter



- Microcatheter selection:
 - **Finecross**: sleek profile, hard tip
 - **Corsair**: provides additional support for the guide
 - **Caravel**: sleek profile with tapered tip
 - Others to mention:
 - Nhancer
 - Turnpike (Spiral)
 - Teleport etc.



2018: Which wire to use when?

Stiffer tip

Confianza Pro 12
Hornet 14;
Progress 200T

ASAHI Gaia Third

UB3

ASAHI Gaia Second

ASAHI Gaia First

XT-R

XT-(A)

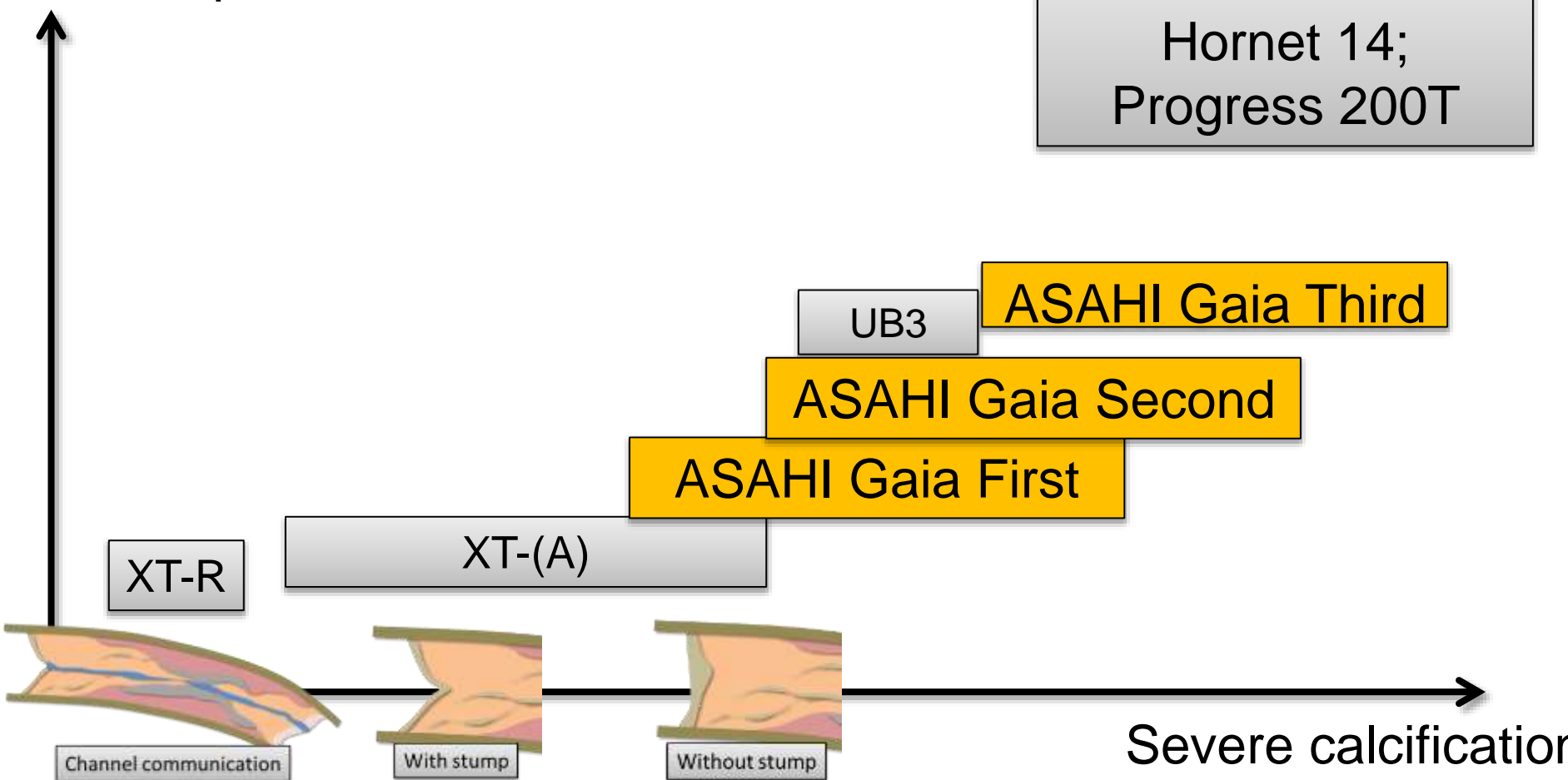
Channel communication

With stump

Without stump

Severe calcification

Hard plaque





The wire selection



- Explore the lesion
 - Fielder XT, atraumatic, provides feedback on lesion rigidity, tracks loose tissue and may even penetrate noncalcified caps; “you follow the wire”
- Pass the lesion
 - Gaia 1-3 to penetrate the cap and steer through the occluded segment; “the wire follows you”
- Conquer the calcified lesions
 - Confianza Pro 12 for penetration
 - Others: Hornet 14, Progress 200T
 - Pilot 200 to find the soft spots within severe calcium



The wire selection can be a systematic process



**Fielder XT/R
to probe the cap**

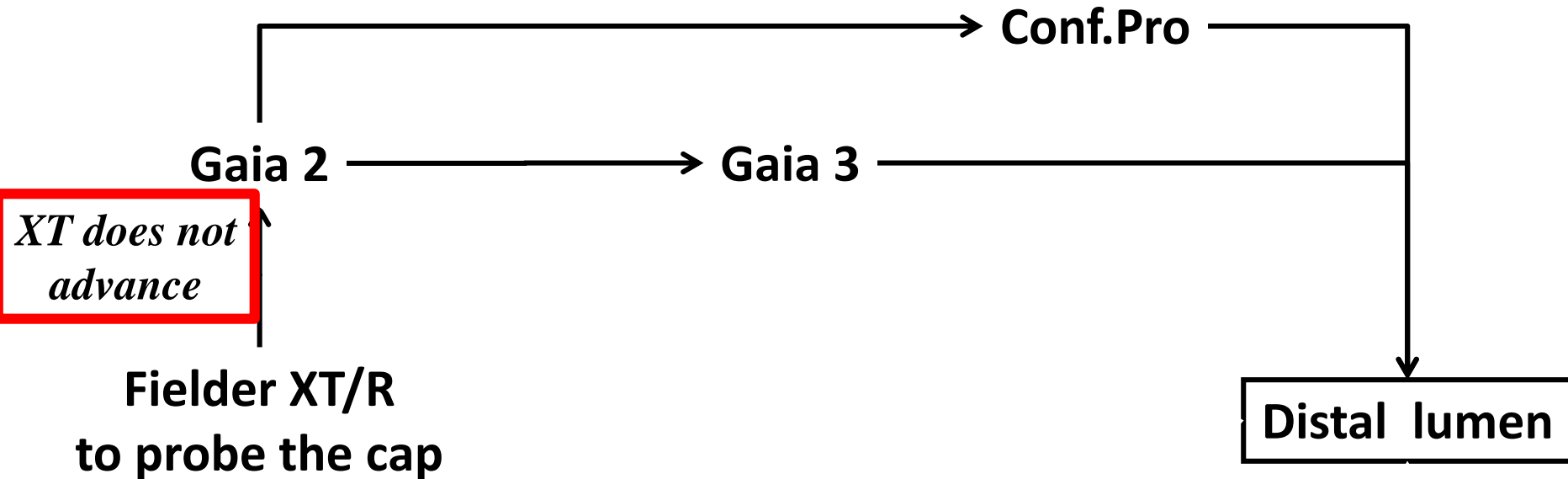


Distal lumen

PROBING THE CAP



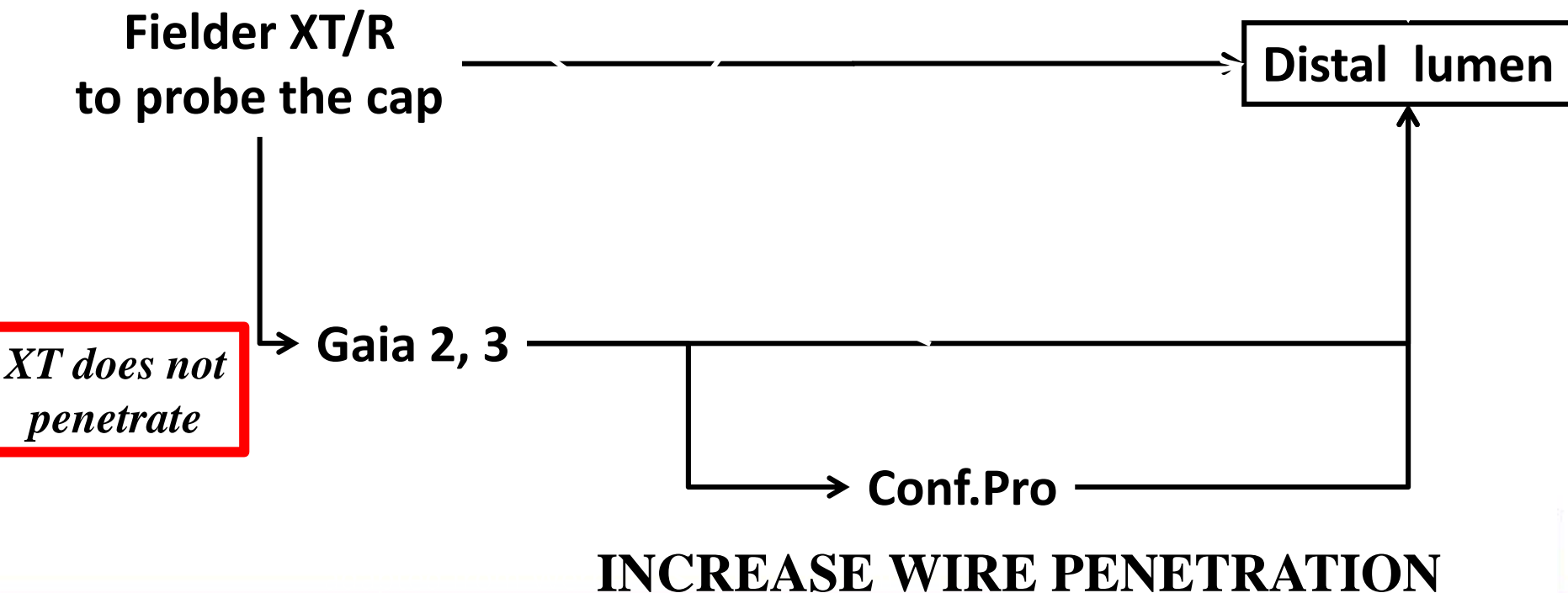
The wire selection can be a systematic process



INCREASE WIRE PROGRESS

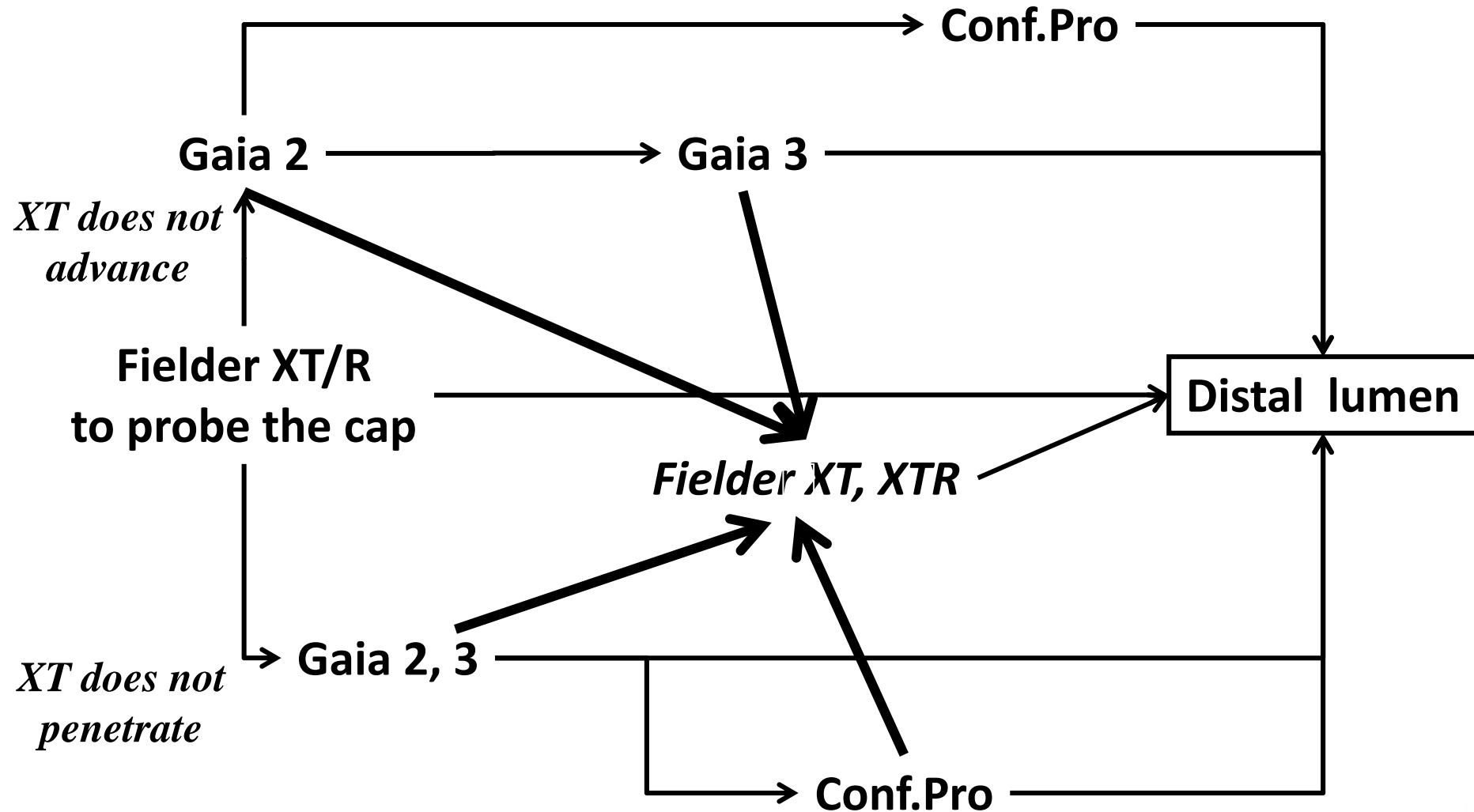


The wire selection can be a systematic process

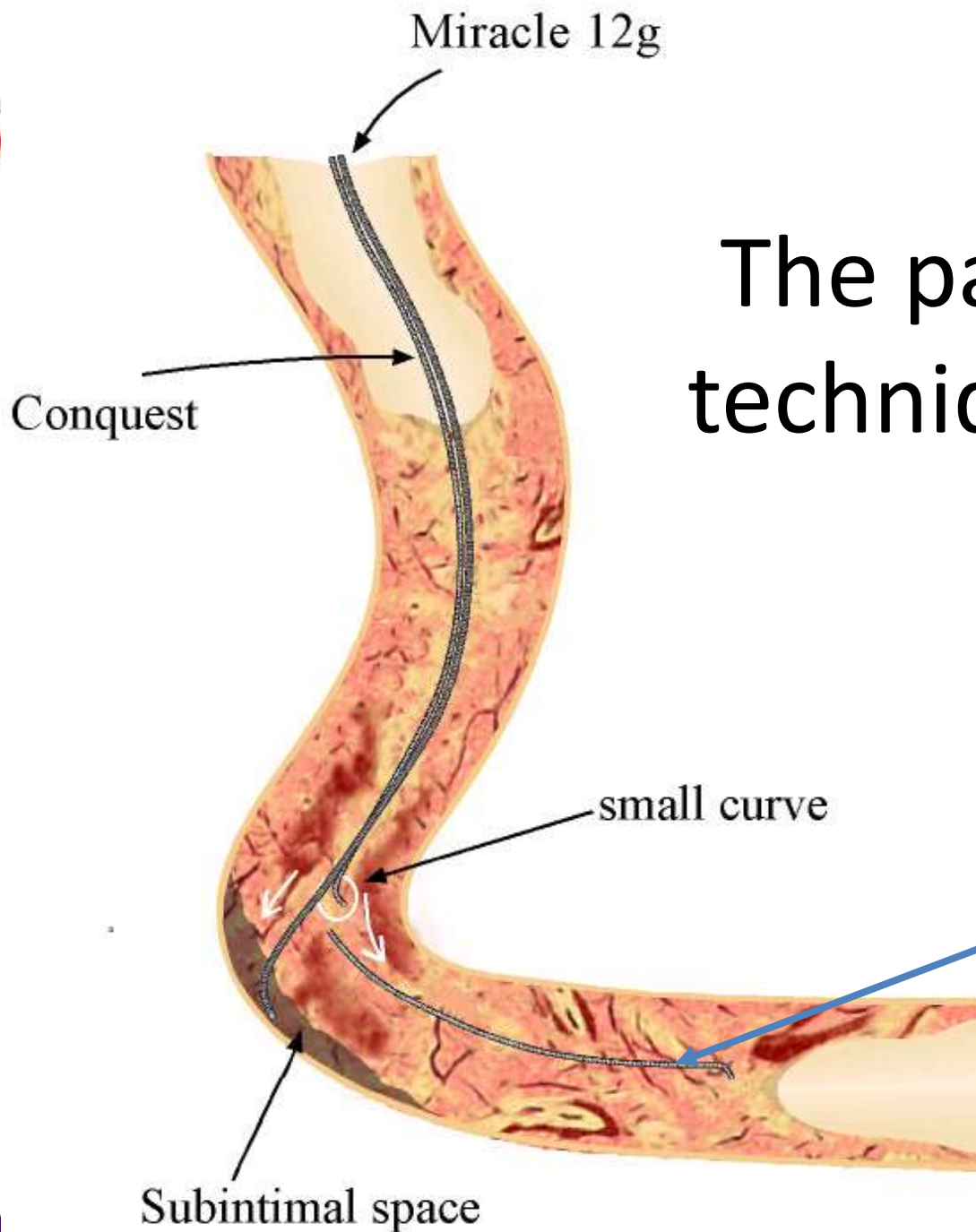




The wire selection can be a systematic process

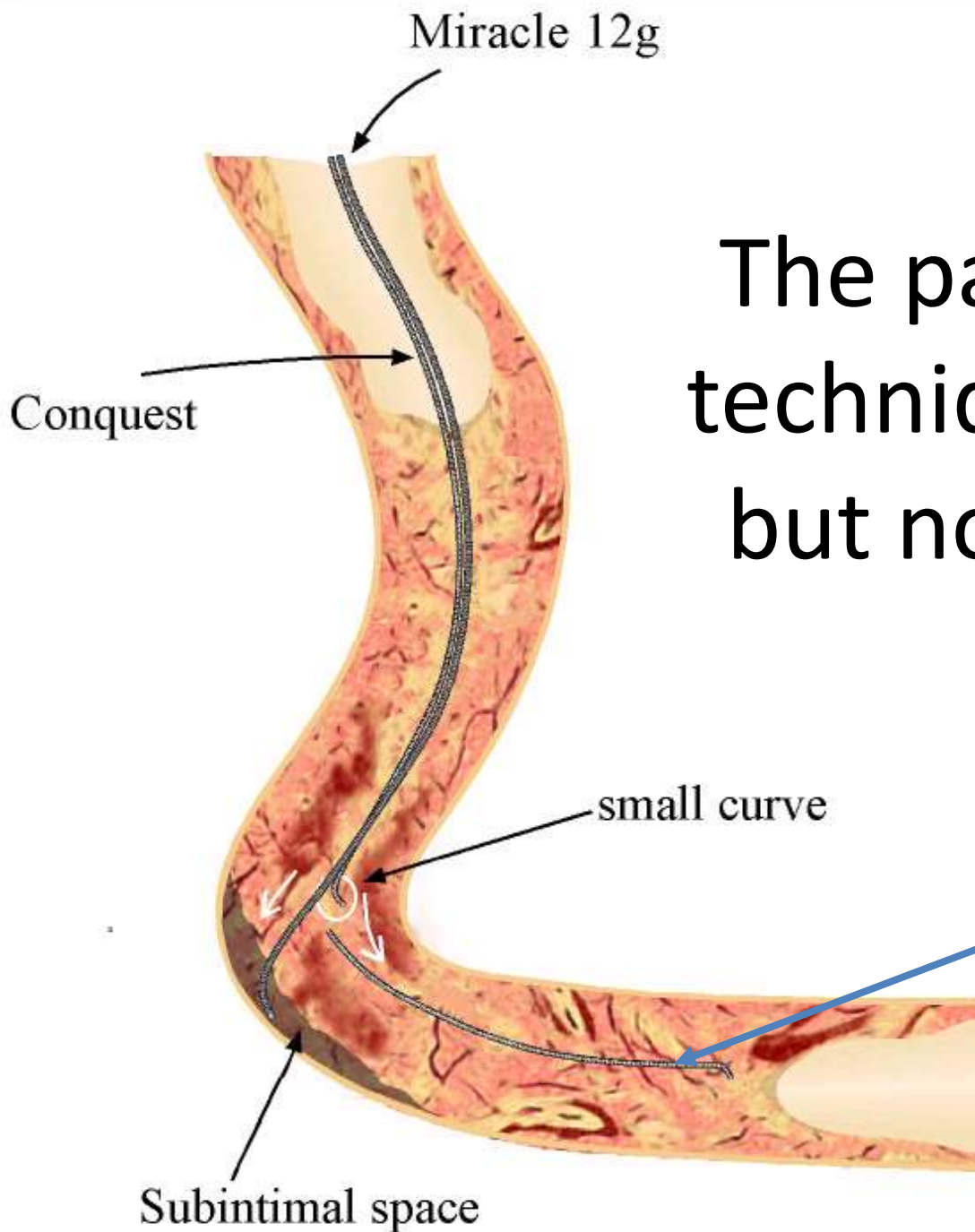


DOWNGRADE WIRE STRENGTH



The parrallel wire technique is classic

Crossit
200-400 or
Conquest
3g-6g

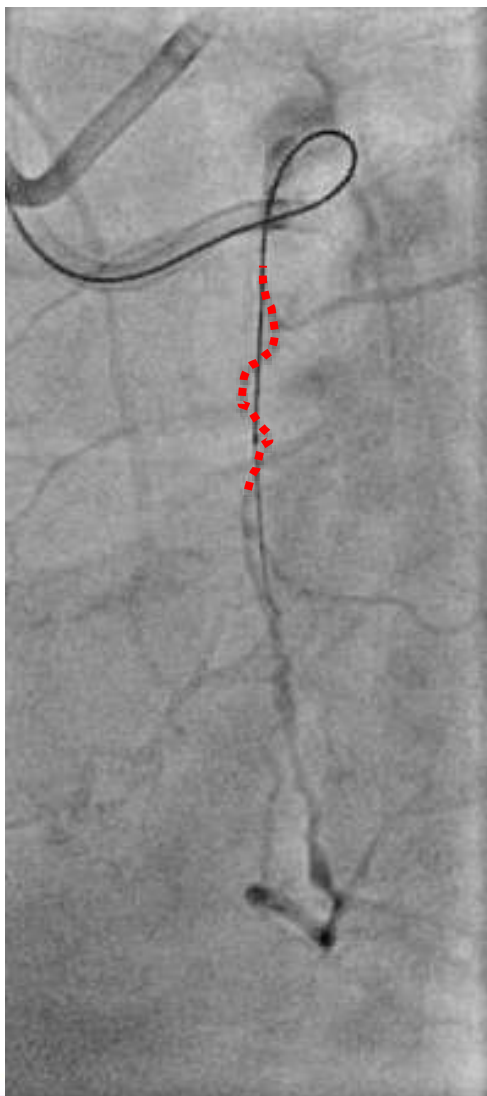


The parrallel wire technique is classic but not outdated

Crossit
200-400 or
Conquest
3g-6g



Why parallel wiring works well in the RCA:
the wire straightens the vessel architecture



Why parallel wiring works well in the RCA: the wire straightens the vessel architecture





Darmstadt center experience 2014-2017



Approach	2014	2015	2016	2017
Number of proc	259	306	325	371
Antegrade only	49%	47%	46%	51%



Darmstadt center experience 2014-2017



Approach	2014	2015	2016	2017
Number of proc	259	306	325	371
Antegrade only	49%	47%	46%	51%
Parallel in antegrade	21%	24%	50%	38%



Darmstadt center experience 2014-2017



Approach	2014	2015	2016	2017
Number of proc	259	306	325	371
Antegrade only	49%	47%	46%	51%
Parallel in antegrade	21%	24%	50%	38%
Parallel success	69%	57%	69%	70%



A "tough" RCA CTO

Image size: 512 x 512
WL: 127 WW: 255



Zoom: 168%
Im: 87/120 Series: 1
JPEGLossless:Non-hierarchical-1stOrderPrediction
Position: HFS

NOT FOR MEDICAL USE

Image size: 512 x 512
WL: 127 WW: 255



920760 (60 y, 60 y)
Card Lowdose
Coro CTO-LF

Zoom: 168%
Im: 41/71 Series: 1
JPEGLossless:Non-hierarchical-1stOrderPrediction
Position: HFS

NOT FOR MEDICAL USE



Reattempt: IVUS guided planned



A Fielder XT goes smoothly subintimal, what next ?

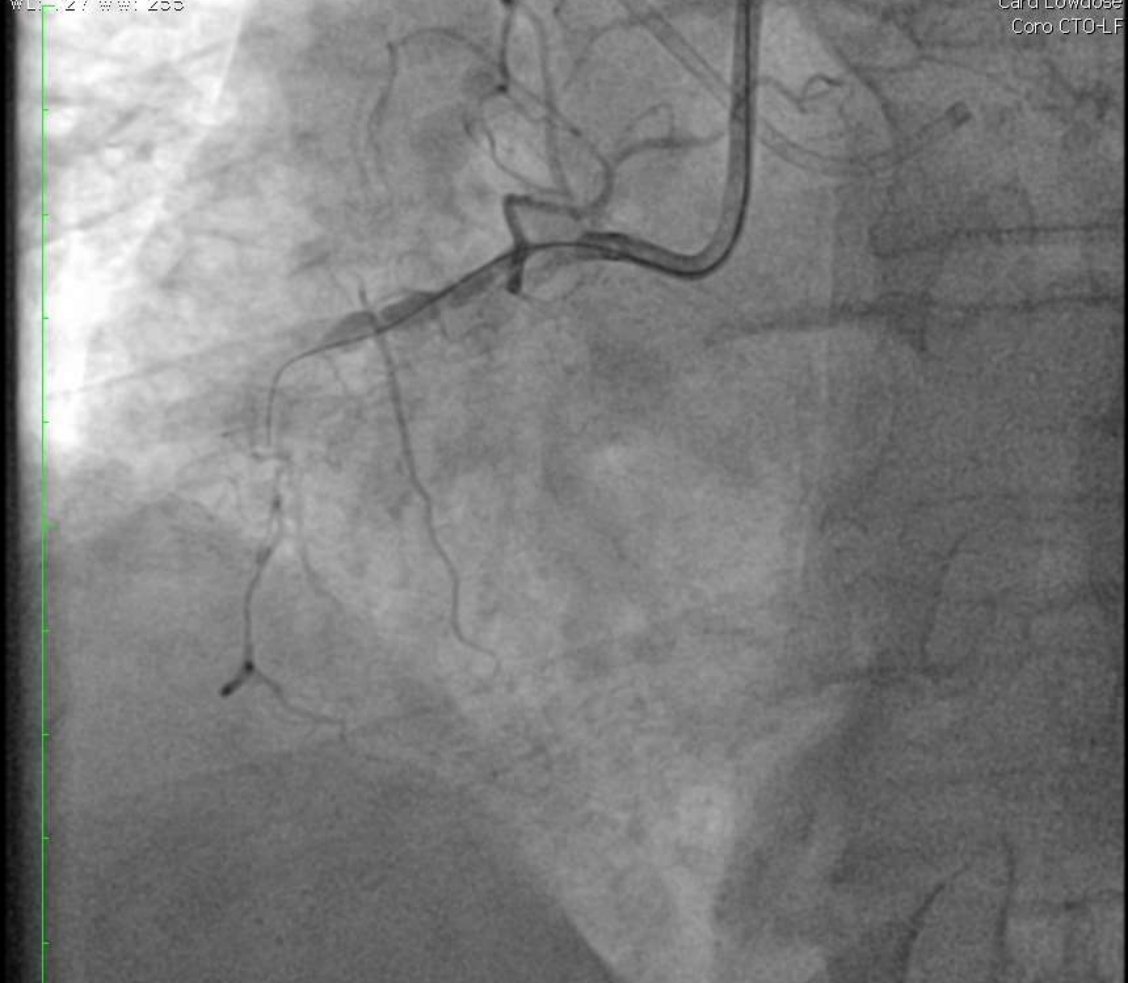
Image size: 512 x 512
WL: 127 WW: 255



Zoom: 168%
Im: 84/125 Series: 1
JPEGLossless:Non-hierarchical-1stOrderPrediction
Position: HFS

NOT FOR MEDICAL USE

Image size: 512 x 512
WL: 127 WW: 255



920760 (60 y , 60 y)
Card Lowdose
Coro CTO-LF

Zoom: 168%
Im: 24/40 Series: 1
JPEGLossless:Non-hierarchical-1stOrderPrediction
Position: HFS

NOT FOR MEDICAL USE

26/10/2016, 09:34:50
Made In OsiriX



Dual-lumen cath supported parallel wire G3

Case solved in 12 min fluoro time





Antegrade Wiring in 2018



- **Lesion specific approach**
 - Start with the softest possible wire
 - Step up if necessary
 - Use parallel wire as an early and easy bailout
 - If retrograde is difficult, early decision for guided reentry technique (StingRay)
- **Patient specific approach**
 - Select the most likely strategy to solve the lesion
 - Do not attempt complex lesions without the option for retrograde conversion