Understanding the Technical Characteristics of GW

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Disclosure

Speaker name: Andrej Schmidt

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I have the following potential conflicts of interest to report:

Consulting:

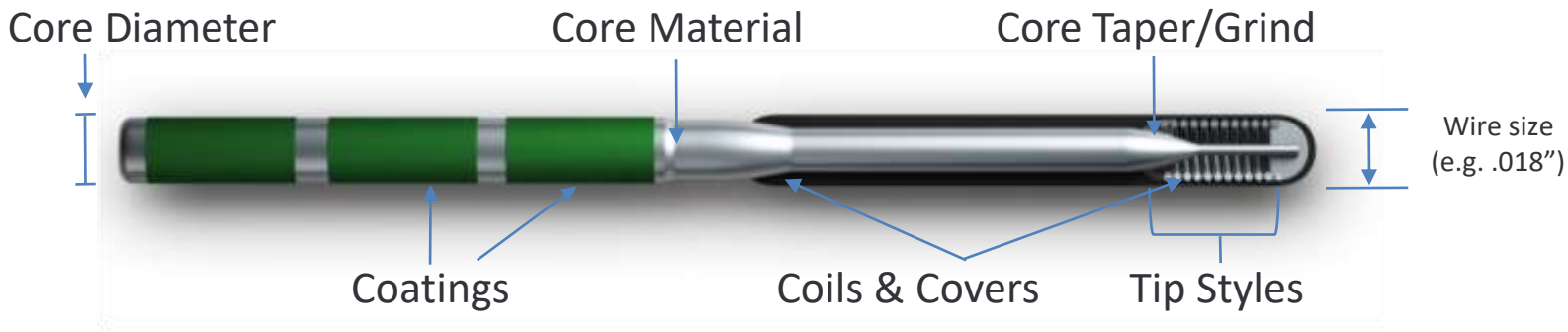
Abbott, Bard/BD, Cook, Cordis, Reflow Medical, Upstream Peripheral

6 Guide Wire “Building Blocks”

CORE

COATING

TIP STYLE



GUIDED WIRE COMPONENTS LEAD TO **TECHNICAL ATTRIBUTES** THAT AFFECT **PERFORMANCE PROPERTIES**

WIRE COMPONENTS

- Core diameter
- Core taper/grind
- Core material
- Tip style
- Coils & covers
- Coatings

TECHNICAL ATTRIBUTES

- Support ⟷ Flexibility
- Torque response
- Lubricity
- Radiopacity
- Force transmission

PERFORMANCE PROPERTIES

- Steerability
- Trackability
- Pushability
- Crossability
- Visibility
- Durability
- Tactile feedback

Guide Wire Selection Depends on a Complex Interplay of Many Different Factors

EXAMPLES OF CONSIDERATIONS THAT DRIVE GUIDE WIRE SELECTION

Plaque Type
(fibrotic / calcified)

Lesion type
(stenosis / occlusion)

Lesion Length
(Short / medium / long)

Lesion Location
(Iliac / ATK / BTK / BTA)

Access / Approach
(Cross-over / ante- / retrograde)

Treatment Plan
Atherectomy, balloon, stent

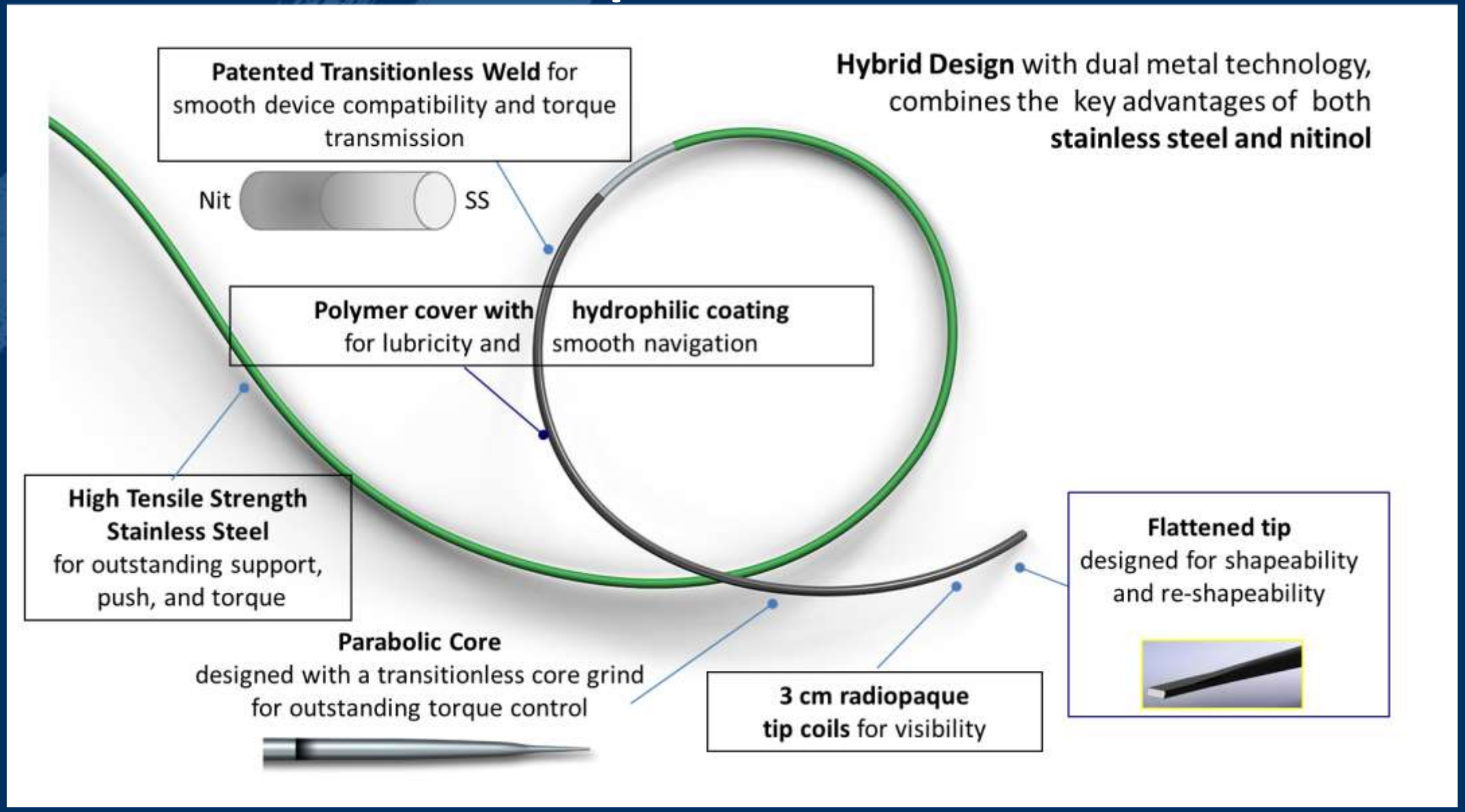
Wire Techniques
Drilling, pushing, poking,…

Tip Shaping
Straight, large- or short bent

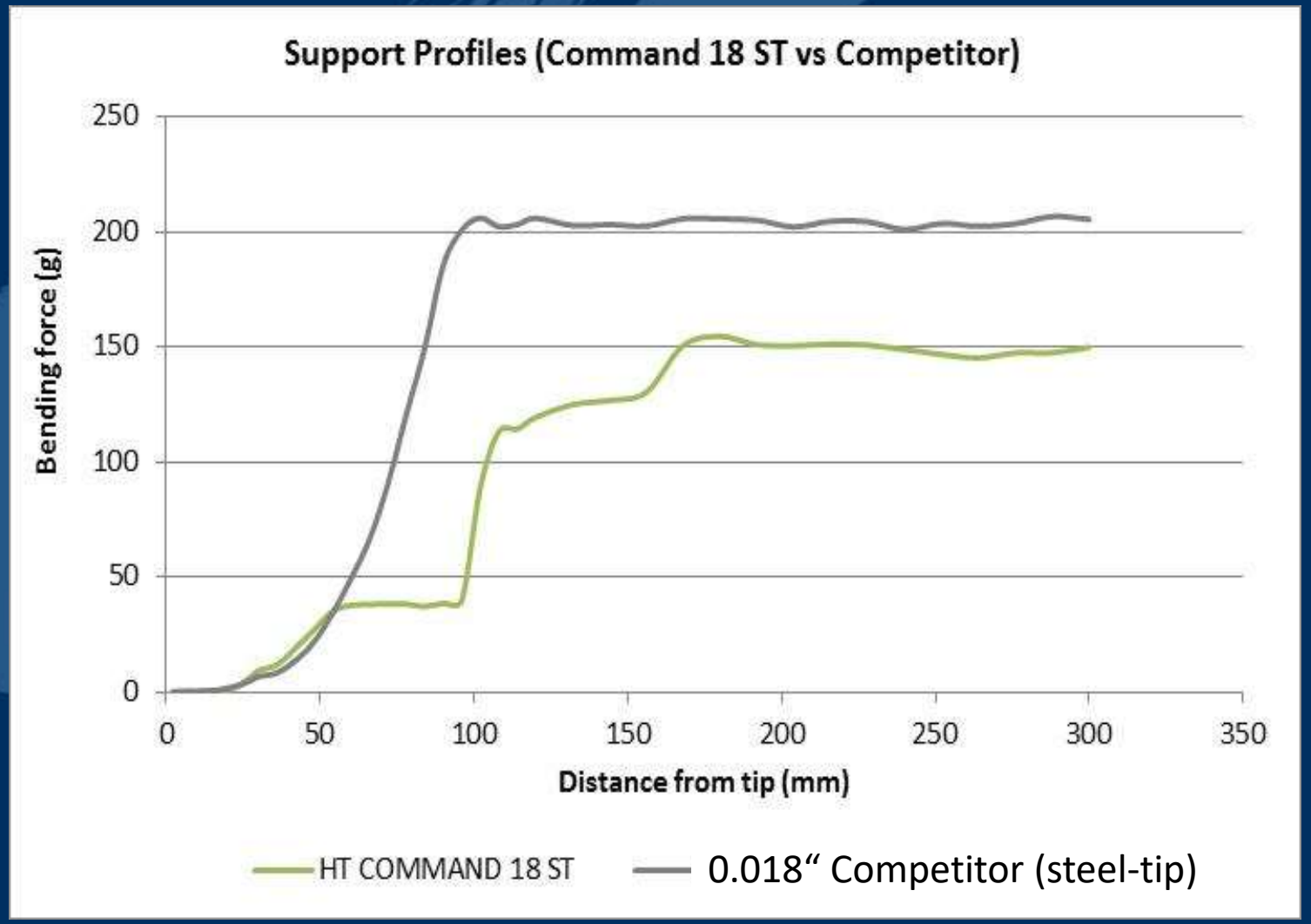
Guidewire purpose
(Support, passage)

And so on…

Technical Details of a Nitniol-Tip 0.018” GW: Hi-Torque Command 18



Nitinol-Tip Command 18 ST vs. 0.018” Competitor (Steel-Tip)



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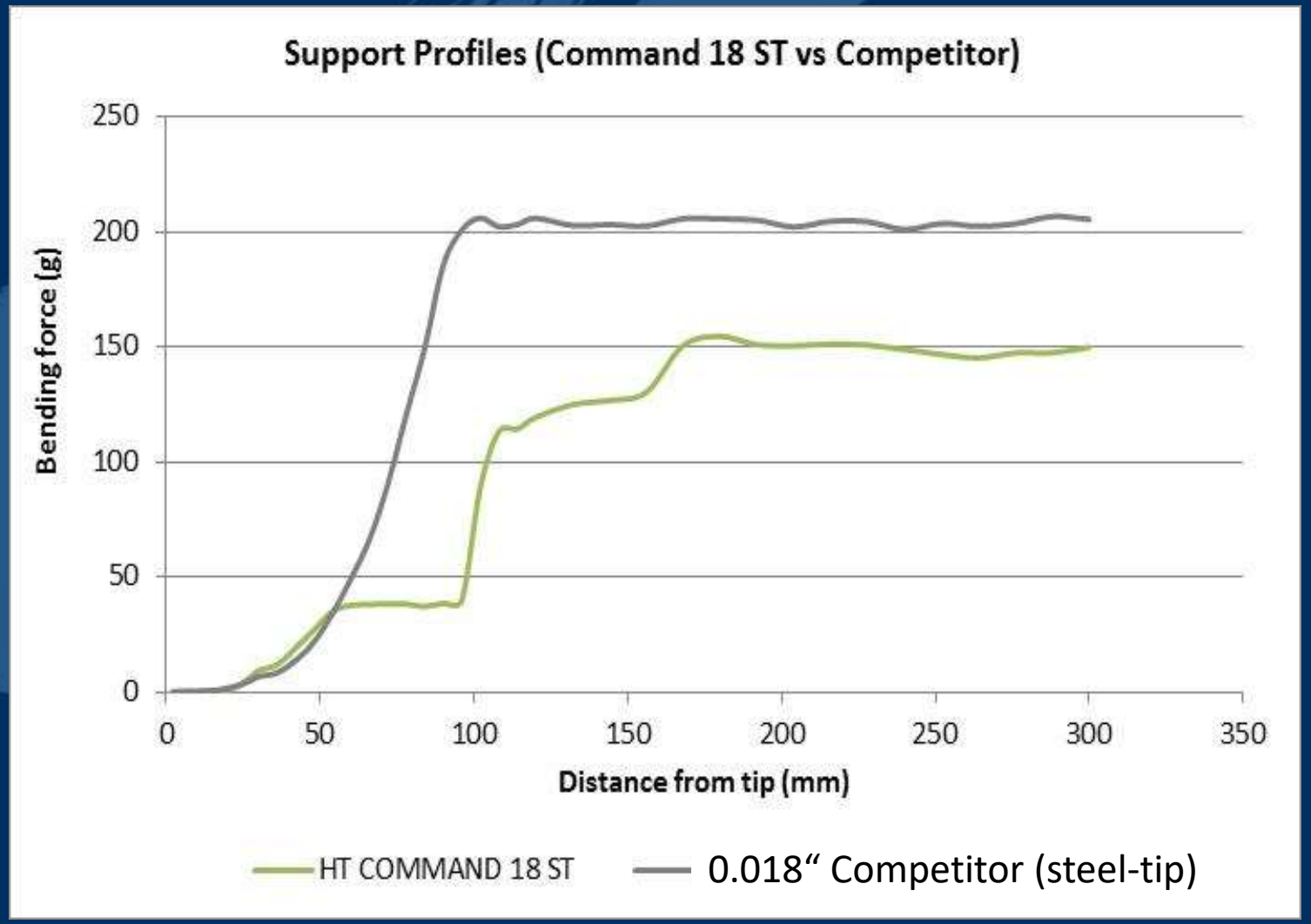
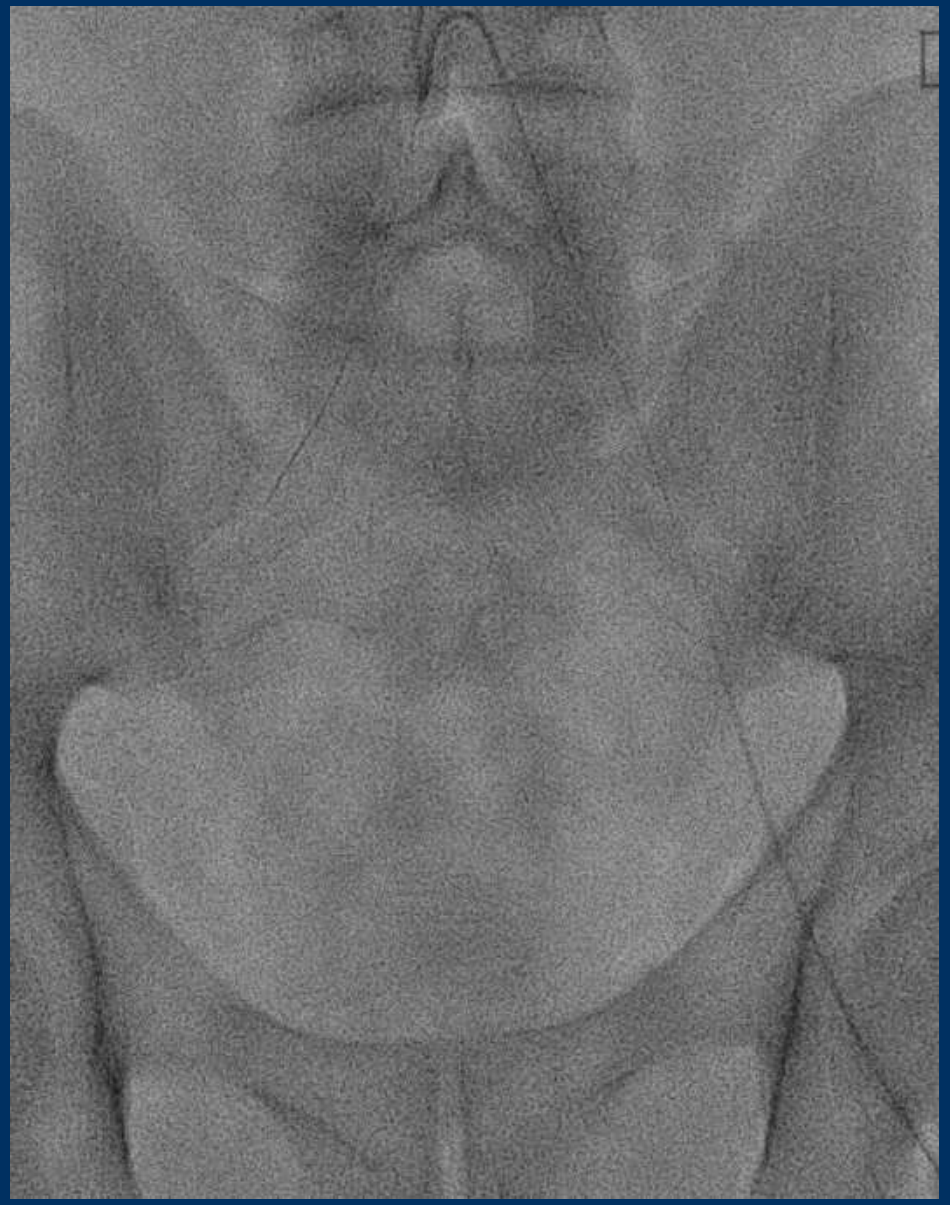
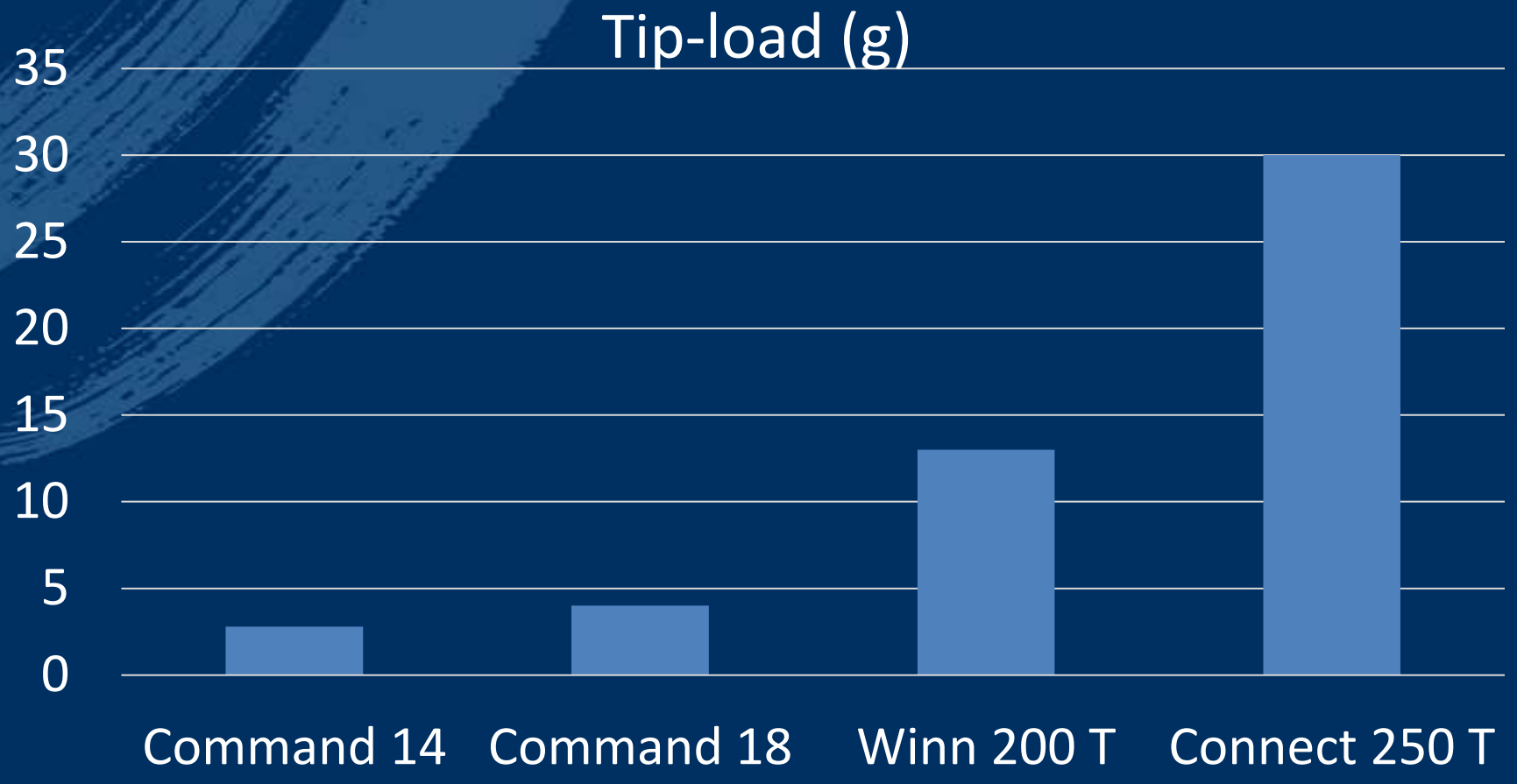




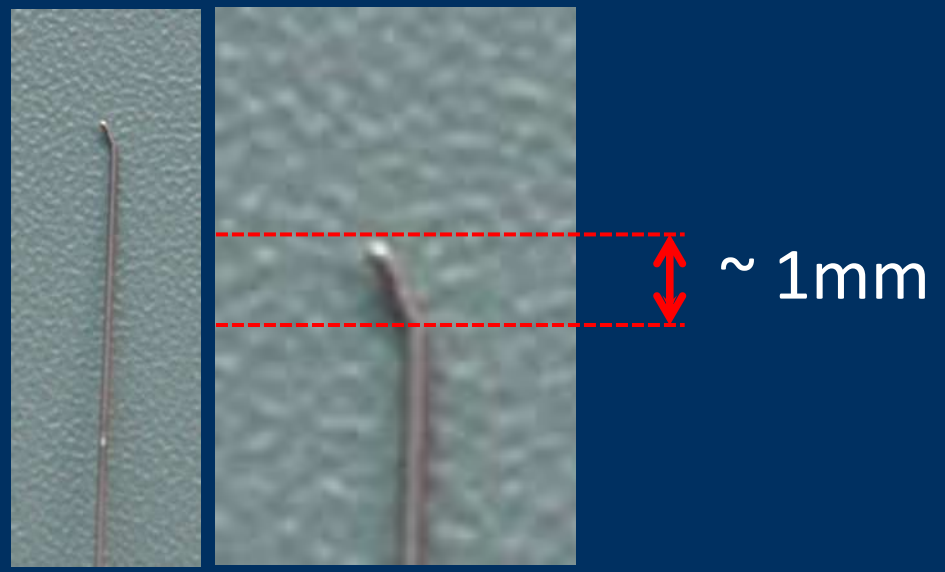
Tip-Load of Peripheral Guidewires



T = tapered tip

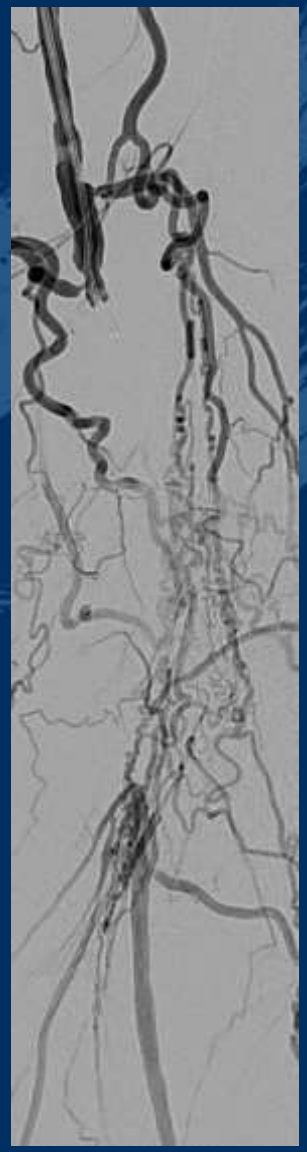
Understanding the technical characteristics: GW-Tip Material and Tip-Bending

Nitinol-tip (Command 18)



Steel-tip (Connect 250 T)

Technical Requirements to a GW for Loop-Technique



Distal left SFA-CTO, Command 18 + GoBack Crossing-Catheter

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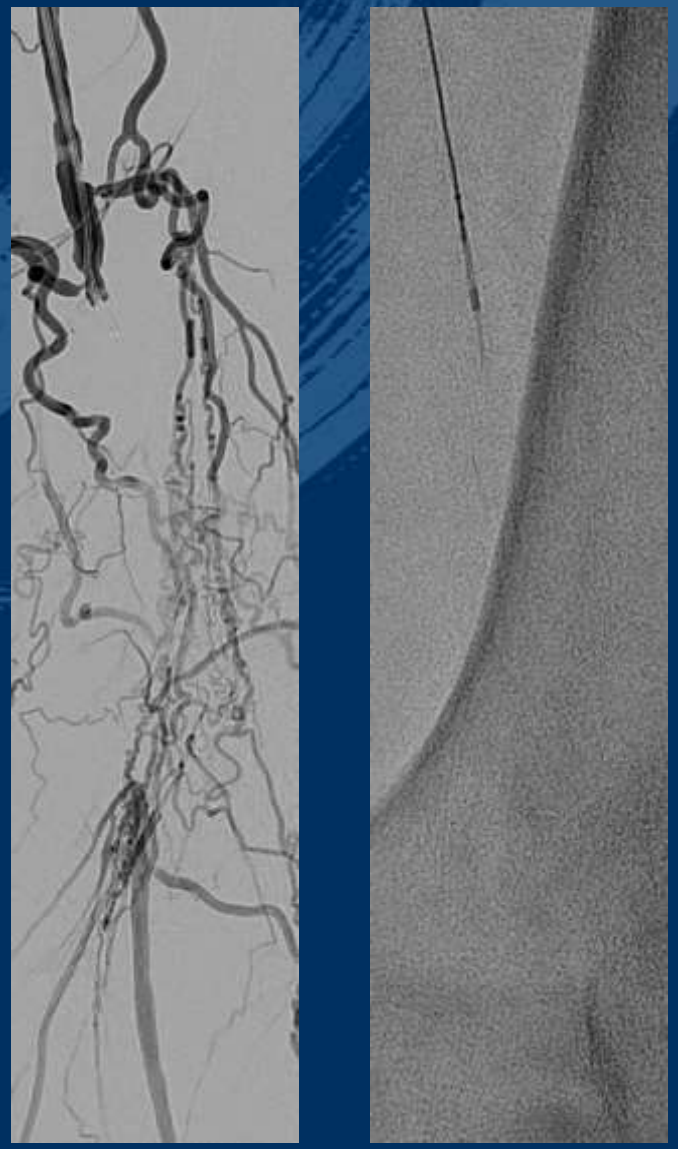

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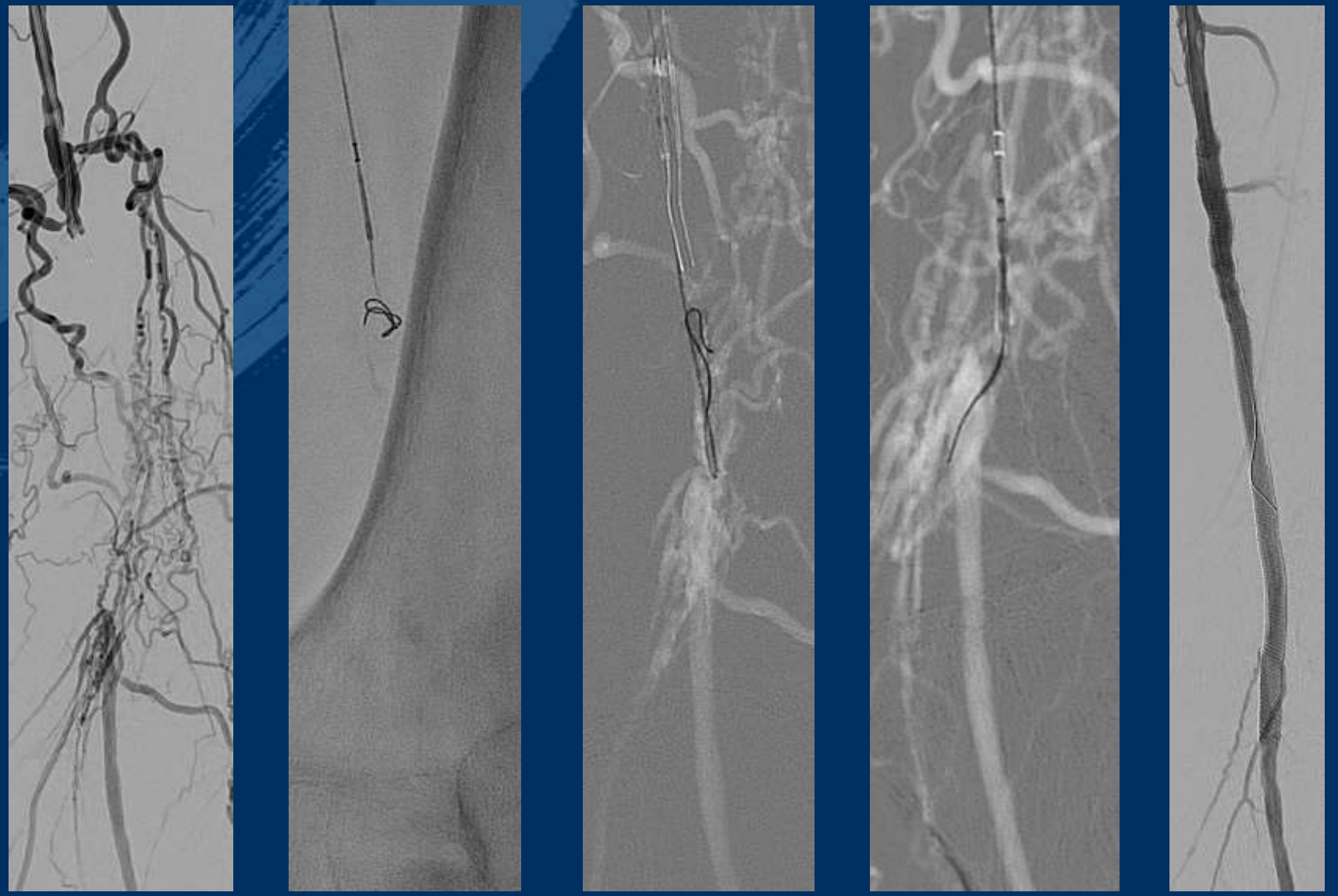
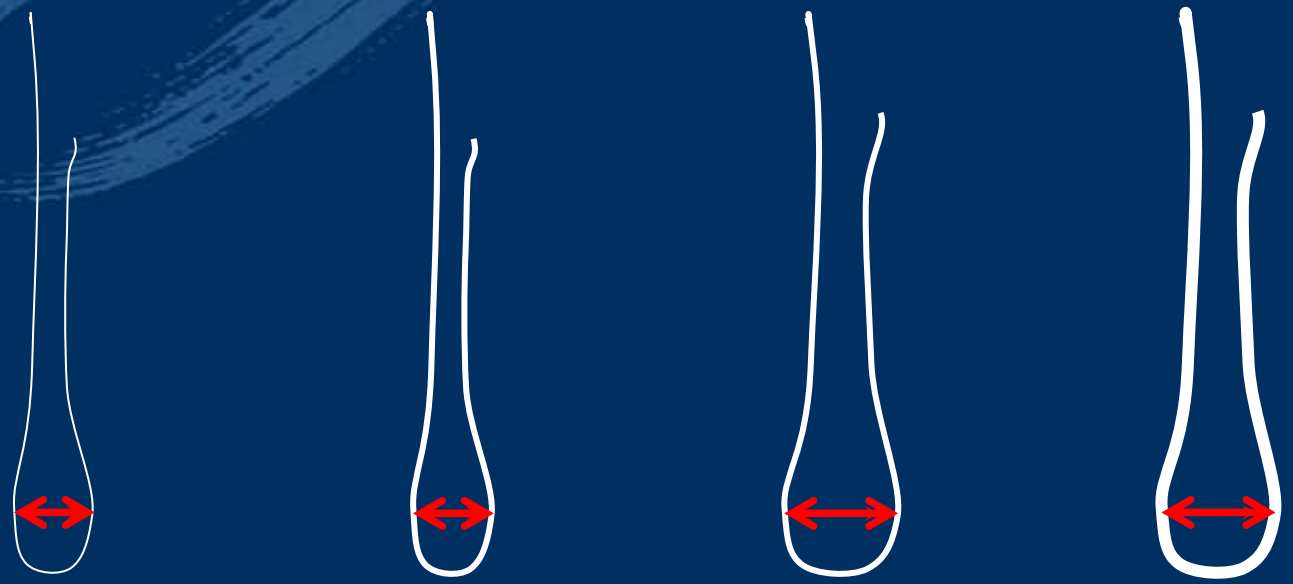


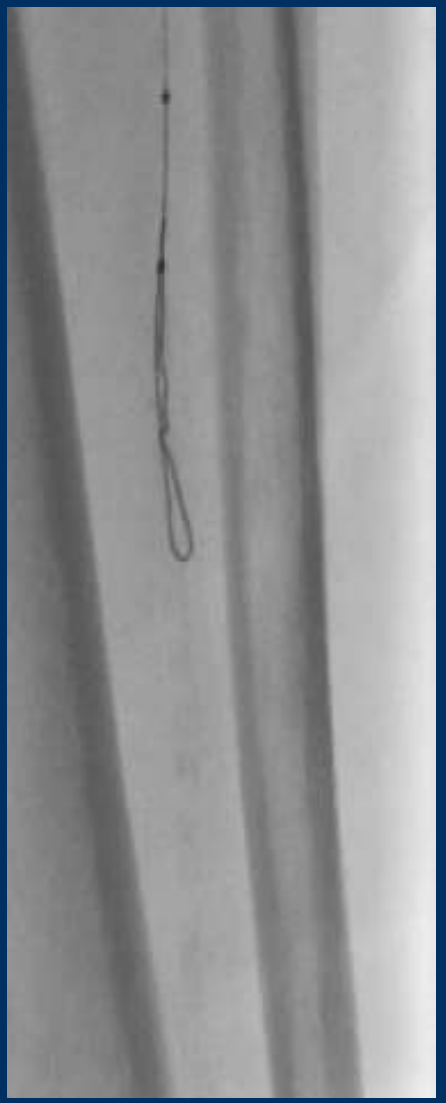
Distal left SFA-CTO, Command 18 + GoBack Crossing-Catheter

Understanding the Technical Characteristics

Subintimal loop-technique:
Nitinol- vs steel-tip, different GW-diameters

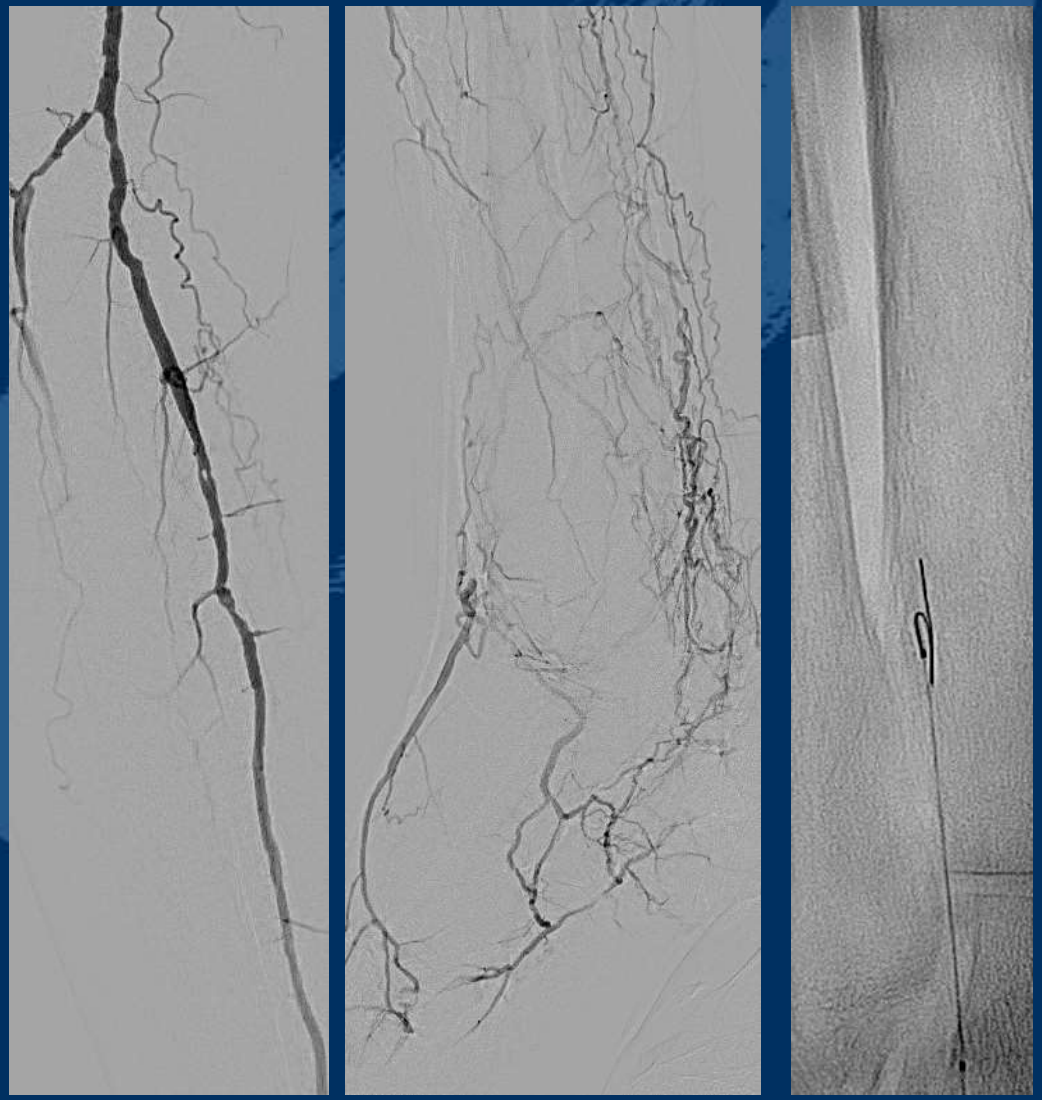


0.014“ Steel-tip	Nitinol-tip (Command 18)	Steel-tip 0.018“	Nitinol-tip 0.035“



Narrow loop of a Command 18

Nitinol-Tip GW Command 18: Loop-Technique BTK



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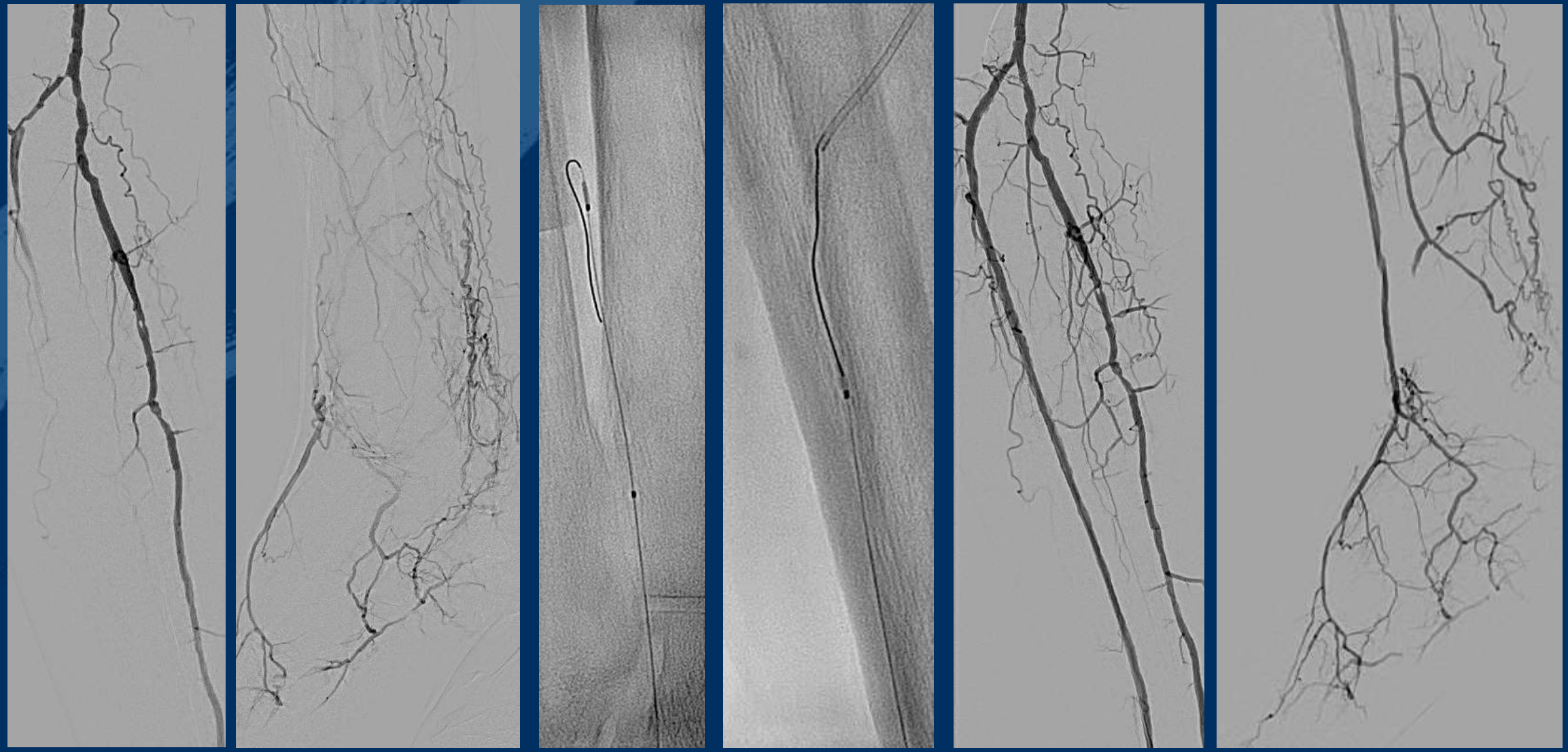
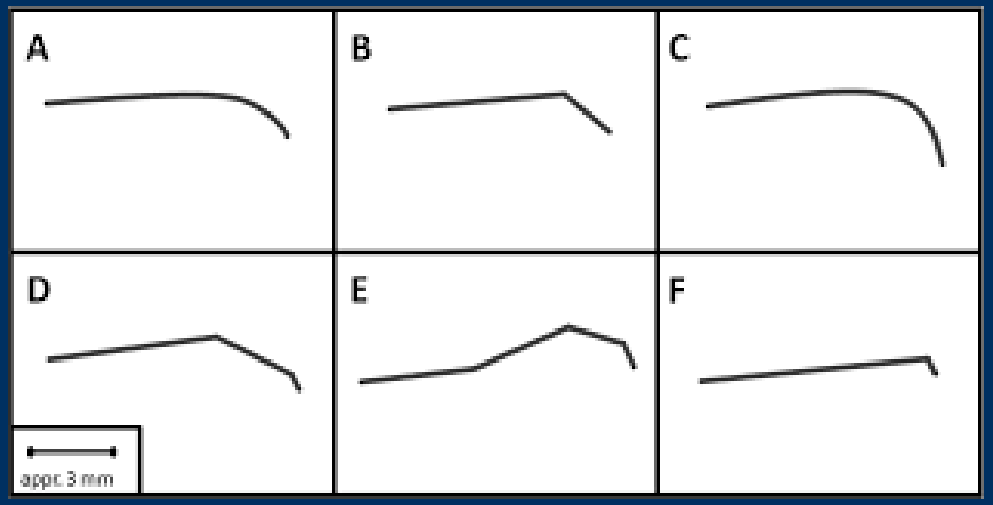


Technical GW-Requirement for Pedal Arteries

Pedal arteries:

Requirements for forefoot-arteries:

- Short tip-bent: 0.014“ **steel-tip**



Summary

Experience (‚feeling‘) with the guidewire of choice is most important

Knowledge of the GW-technology helps to

- select the GW,
- understand what you feel
- shorten the learning-curve.