Different guidewire construction

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Disclosure

Speaker name:

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
Basic guidewire construction
Basic guidewire construction

- **Core**
- **Coil**
Basic guidewire construction

- Core
- Coil
- Coating
Guide wire characteristics

- Tip Load
- Coatings
- Core
- Coil

Feel & Performance
20th century
20th century

Normal core
21\textsuperscript{st} century
Round core vs. flat core

- Flat Core: Flat so whip motion occurs
- Round Core: Better Torque Response, No Whip Motion

Whip motion

No whip motion
ACT-ONE
Torque control-no whip motion
Durability
Shape retention

Crush test

Halberd 0.018”
Coating

**Hydrophobic** = wax-like when wet

Provides tactile feedback

**Hydrophilic** = gel-like when wet

Slide through vessels + lesions
Coating

**Hybrid Coating** = Tactile feedback with hydrophilic performance

**Polymer Jacket** = gel-like & smooth (Lubricious)

Tracks / slides through tortuous vessels and heavily calcified lesions / micro-channels – reduces friction.
Polymer Jacket Micrograph
Coating

- Polymer Cover + Hydrophilic Coating
- Hydrophilic With uncoated tip
- Hydrophobic
- TACTILE FEEL
- LUBRICITY

- Regalia
- Gladius
- Command
- V14/18
- Victory
- Halberd
- Gaia PV
- Astato series
Tip design

Long Outer Coils = Flexibility

Short Tip Coils = Support

Polymer Covered Coils = Lubricous
Taper

- **Shorter Taper**
  - Prolapse

- **Long Taper**
  - Successful Tracking
Tip end design

Ball tip has been sharpened to give the necessary penetration ability to enter hard occlusions, while tip flexibility is maintained.

- Conventional guide wire plain ball tip
- ASAHI micro-cone tip
Tip end design

Gaia/Halberd

Astato

Treasure

Tip end ball tip shape / Non-tapered design
Tip end design

Micro cone tip

Plain ball tip
Cap penetration
Cap penetration and shape retention
Summary

- High Torque Performance
- Enhanced tip durability
- Durable tip shape
Guide wire characteristics in practice

- Smooth Transition through thrombus
- 1:1 Torque Response
Guide wire characteristics in practice
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Conclusion

• New guide wire technology allows better control in crossing
  – Optimal torque control
  – Enhanced penetration characteristics
  – Shape retention
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