Inside Out: Next Generation Technology that Transmits Physical Intelligence Wirelessly, and Applies AI in real time: How can it Help in Vascular Treatment?

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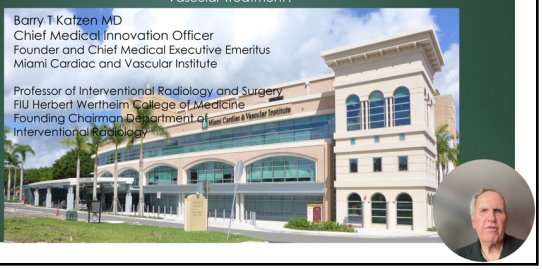

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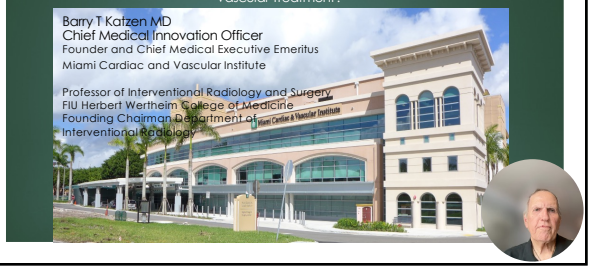

Disclosures

- **Advisory Board**
  - **Boston Scientific**
  - **Philips Healthcare**
  - **WL Gore**
  - **Alio**
  - **Xenter**

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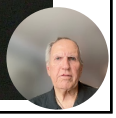
Key Technology Microsensor: micro chip



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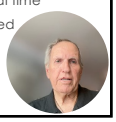
Microsensors

- Captures physiologic data: physical intelligence to be used by artificial intelligence
- Broad potential applications resulting from what can be measured: pressure, flow, biologic information oxygen, sugar others?
- Being able to obtain information not currently measured in real time
- Potential to be incorporated into devices, with data transmitted **wirelessly** from the patient to a hub and then to the EMR and potential APPs



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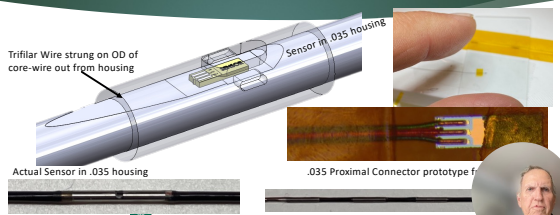
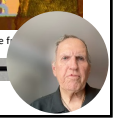
Key Technological Innovation

- The .035" wire configuration significantly reduces the criticality of placement, underfill, encapsulation, masking, etc.





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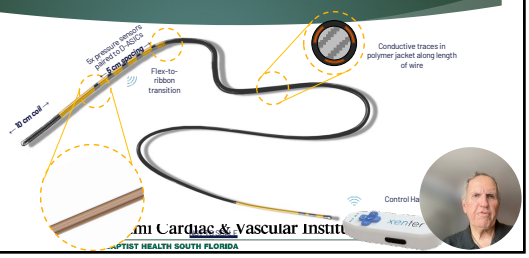
Endovascular Application: sensors 5cm apart



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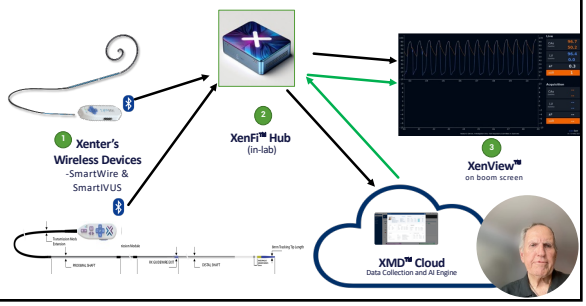
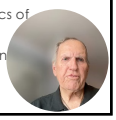
Xenter Wireless Devices at a System Level



Initial Results in Pressure Measurment

- Fidelity of the pressure wave form, much greater than traditional transducer based traditional wave forms
- AI being applied to the curves and area under the curves, anticipated to have much greater sensitivity to differences if they exist
- First application to TAVR
- Endovascular Wire developed at the same time, characteristics of 'Torque wire' and exchange wire
- Imagine: workhorse wire with hemodynamic sensor information AI applied to wave forms and differences



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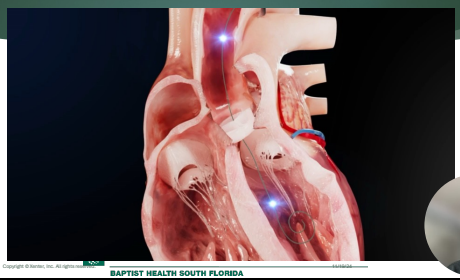
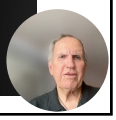
First Clinical Application





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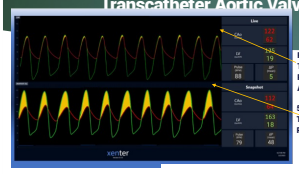
First Application: Wireless Physiology Guidewire for Transcatheter Aortic Valve Replacement (TAVR)



Real-time Waveform: Post-TAVR Aortic Valve Mean Pressure Gradient (Yellow Area)

5 Second "Snapshot": Pre-TAVR Aortic Valve Mean Pressure Gradient (Yellow Area)

Sensor Locations

Wireless Clip: Enables sensor conditioning, power, and wireless communications to Wireless Network and proprietary cloud

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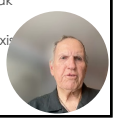
Role of AI in Assessing Physical Intelligence Data

- Pressure sensors have much higher fidelity, therefore information, than traditional transducer methods
- Changes in pressures waves include amplitude, shape, and area under the curve
- In TAVR applications AI will be used to predict paravalvular leak (PVL) in real time of deployment
- For Endovascular Wire significant potential and applications exi



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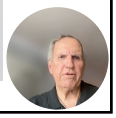
Endovascular Workhorse wire with 3 pressure sensors: Data stent wirelessly, no box or cables



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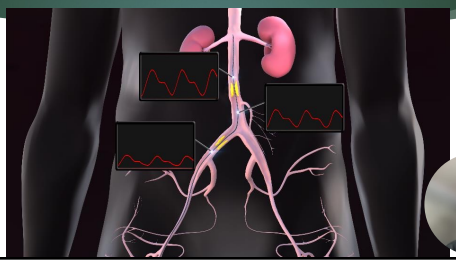
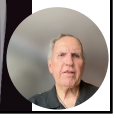
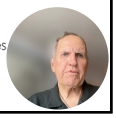
Imagine Realtime Information with AI Analysis





Potential EndoVascular Applications

- Multiple sensors can be place on a wire, allowing real time data t be transmitted from multiple locations simultaneously **wirelessly**
- First vascular applications 3-5 sensors along a 20 cm segment
- Potential applications: Aortic and Aorto-iliac occlusive disease where real time pressures can facilitate procedural decision making and endpoint determination
- AI and development of physiologic ratios offer potential to create **new endpoints** in peripheral intervention
- Currently 0.035, but 0.014 and 0.018 in the pipeline
- Deploy sensors for measurement of other parameters and purposes combining IVUS and Physiology
- Apply AI to create new indices



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Potential for Endovascular Applications

- Deliver real-time physiologic information with workhorse wire: impact on workflow?
- Pressure Measurements have had significant endpoint value during aortic and iliac interventions
- Potential for developing new endpoints for therapeutic procedures and fusion of data with imaging modalities, IVUS, Angio
- AI analysis of high fidelity data may predict need for further intervention, or not.
- All data and analysis saved to the cloud with image fusion capabilities, all wirele
- Altering workflow by providing this information to operator in realtime, without catheter or wire exchanges, no boxes or cables, wireless transmission

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Thank you