

SEMICON[®]WEST

BUILDING A PATH FORWARD

MANUFACTURING CONSIDERATIONS FOR WEARABLES

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TAPECON[®]
CONFIDENCE THROUGH BETTER PRODUCT SOLUTIONS



Why Wearables?



Capacity Strain: 50-150% increase in mortality rates for capacity strained hospitals



Hospital Staff

- Availability
- Exposure
- Planning



Patients

- Volume
- Severity
- Data Collection

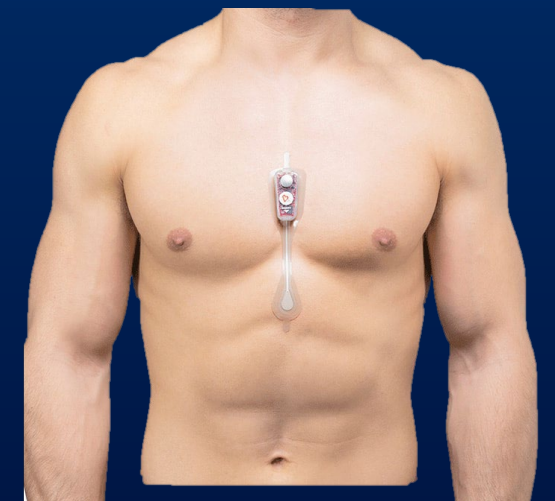


Throughput

- Symptom Monitoring
- Re-admittance

Wearable Patches vs Integrated Fabrics

- Wearable Patches are lower cost options than integrated fabric for single use
- More adaptable to wide range of patients
- Direct connection to body



http://www.dot-medical.com/uploads/2/5/4/0/2540174/bardy-camtorso-webedit_orig.jpg

<https://wordpress.textileworld.com/wp-content/uploads/2017/03/WearablesA-420x420.jpg>

Is the Price Right?

Development Stages



Sertkaya A, DeVries R, Jessup A, Beleche T. Estimated Cost of Developing a Therapeutic Complex Medical Device in the US. *JAMA Netw Open*. 2022;5(9):e2231609. doi:10.1001/jamanetworkopen.2022.31609

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Development Time Mitigation: Pre-Development (3D's)

Define



Clearly define
project scope to
avoid “Scope
Creep”

Deduce



Conduct Market
Research

Design



Design for
Manufacturing:

- Learn more tomorrow
at Flex

Development Time Mitigation: Product Development



MANUFACTURING:
GET A MANUFACTURING
PARTNER



ESSENTIAL:
PRIORITIZE ESSENTIAL
FEATURES



QUALITY:
ESTABLISH QUALITY
SYSTEM EARLY ON



PHASED:
TAKE A PHASED APPROACH

Material Considerations: Breakdown



Stick to Skin Adhesive:

- Most Important Non-Device Layer
- Who will be wearing this device?
- How long will it be applied?
- Where will the device be?

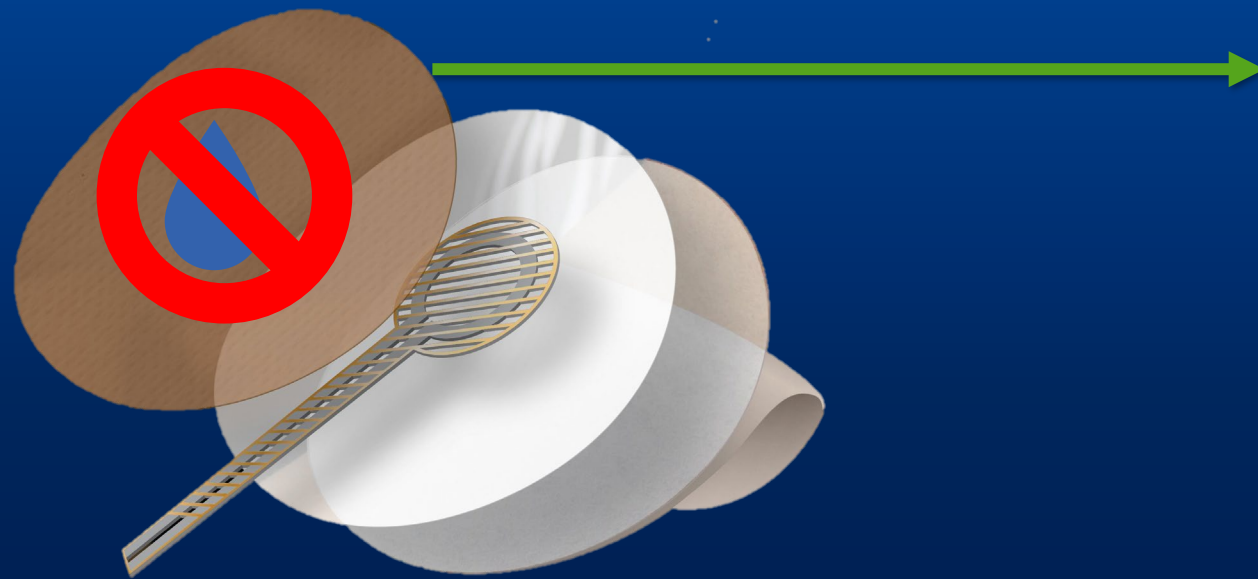
Material Considerations: Breakdown



Device Layer:

- How are components secured?
- Where and how will the device bend?
- Is the device reusable?
- How is it powered?

Material Considerations: Breakdown



Encapsulation:

- How breathable is the device?
- What fluids will the device be exposed to?
- Is EMI a concern?
- What information do you want to communicate?

Sustainability Considerations



Materials

Connect

Visit Tapecon's Booth - 1850
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