

Device Development: A Containment Device for an Ultrasound Probe

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The Biomedical Engineering Department and Anesthesia Department with input from Sterile Process Control and Infection Control at Vancouver General Hospital cooperated to conceive, design, fabricate and implement a protective sheath/shield for a TEE Ultrasound Probe. The challenge was to develop a unique device holder and associated infrastructure that would complement and improve the workflow and reduce risk factors for the TEE Probe including:

- Assess use-cycle requirements
- Identify risk points for mechanical damage
- Minimize exposure to contamination
- Reduce costs associated with misadventures as a result of ergonomics
- Design the TEE Probe holder boundary considering handling, storage and disinfection issues
- Approach the solutions considering stress points in the use-cycle
- Evaluate appropriate technology and materials
- Comply with Infection Control Policy
- Balance costs with clinical requirements
- Coordinate design and fabrication
- Initiate and participate in product trial

The project was initiated as a response to a recognized exposure risk of the TEE Probe to mechanical damage and contamination during the use-cycle and in the absence of a suitable solution from conventional sources.