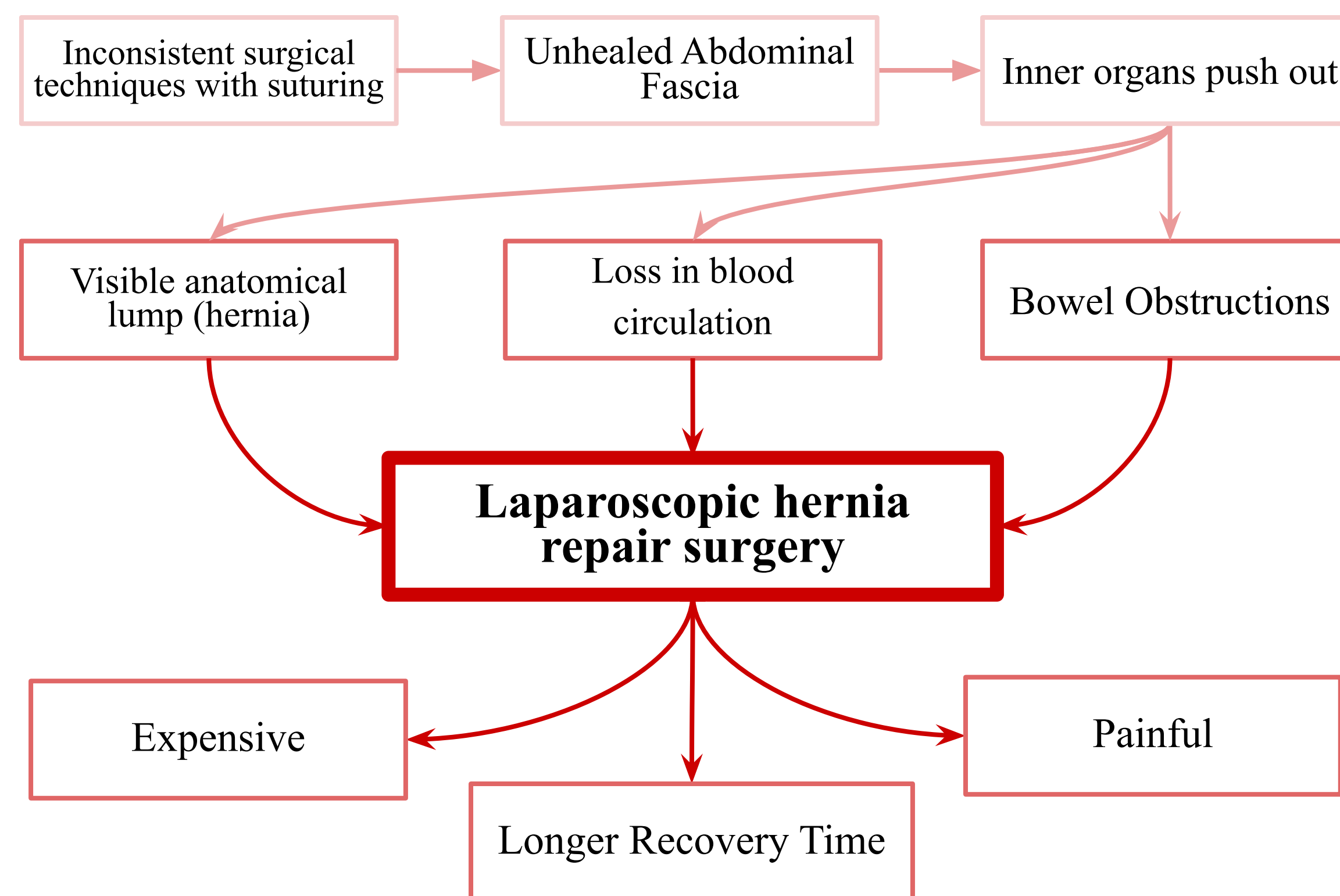


Background

CLINICAL PROBLEM + SIGNIFICANCE^{1,2}



CURRENT TREATMENT METHODS

Manual Stitching

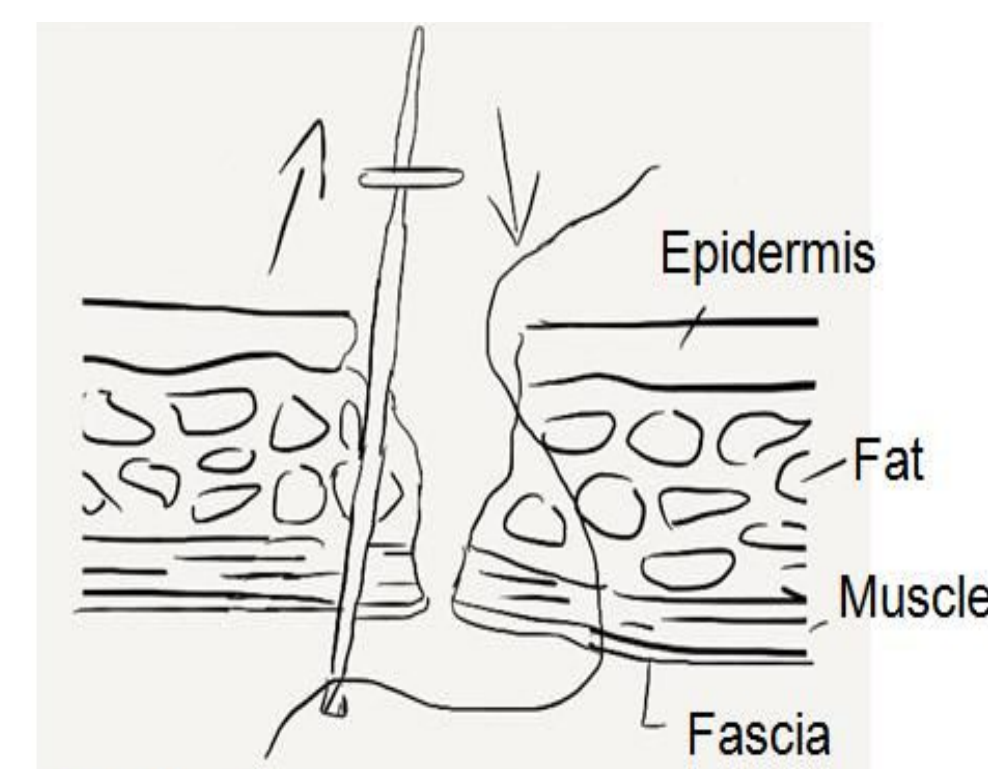
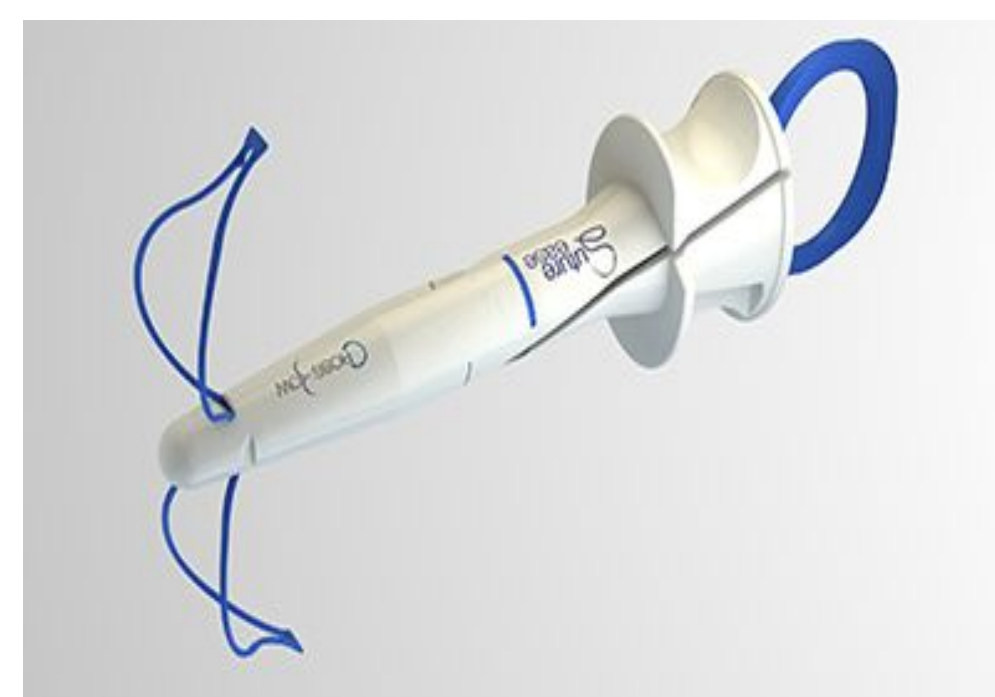


Figure 1

Medtronic VersaOne™ Fascial Closure System⁴



Suture Ease | Cross Bow⁵



PROBLEM STATEMENT / NEEDS

An novel method of laparoscopic port closure which effectively closes the incision in the abdominal wall fascia preventing the occurrence of port site hernias and improving the accessibility and consistency of the surgical procedure for surgeons.

Proper port closure

Safe to use

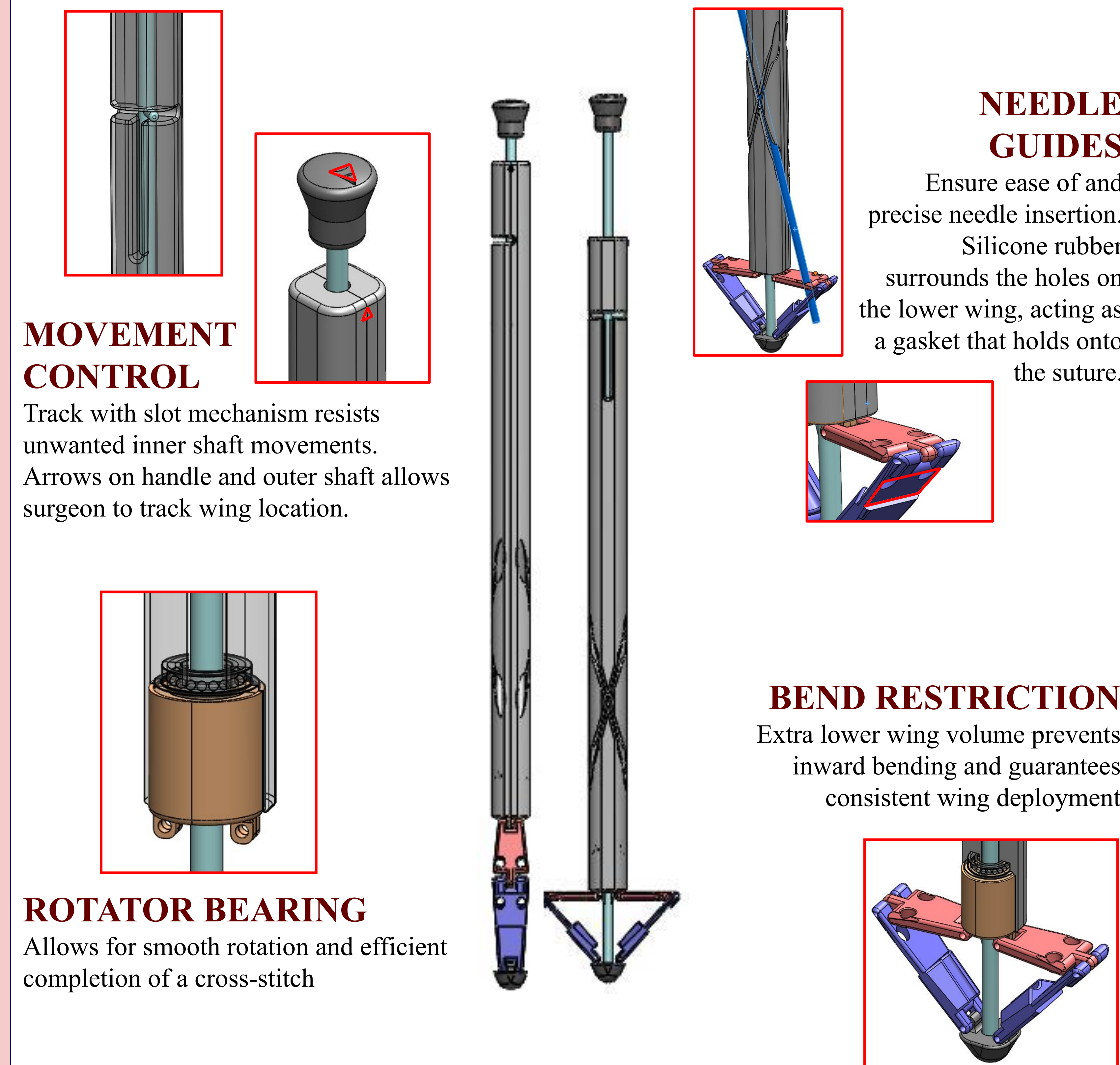
Universally Compatible

Cost effective

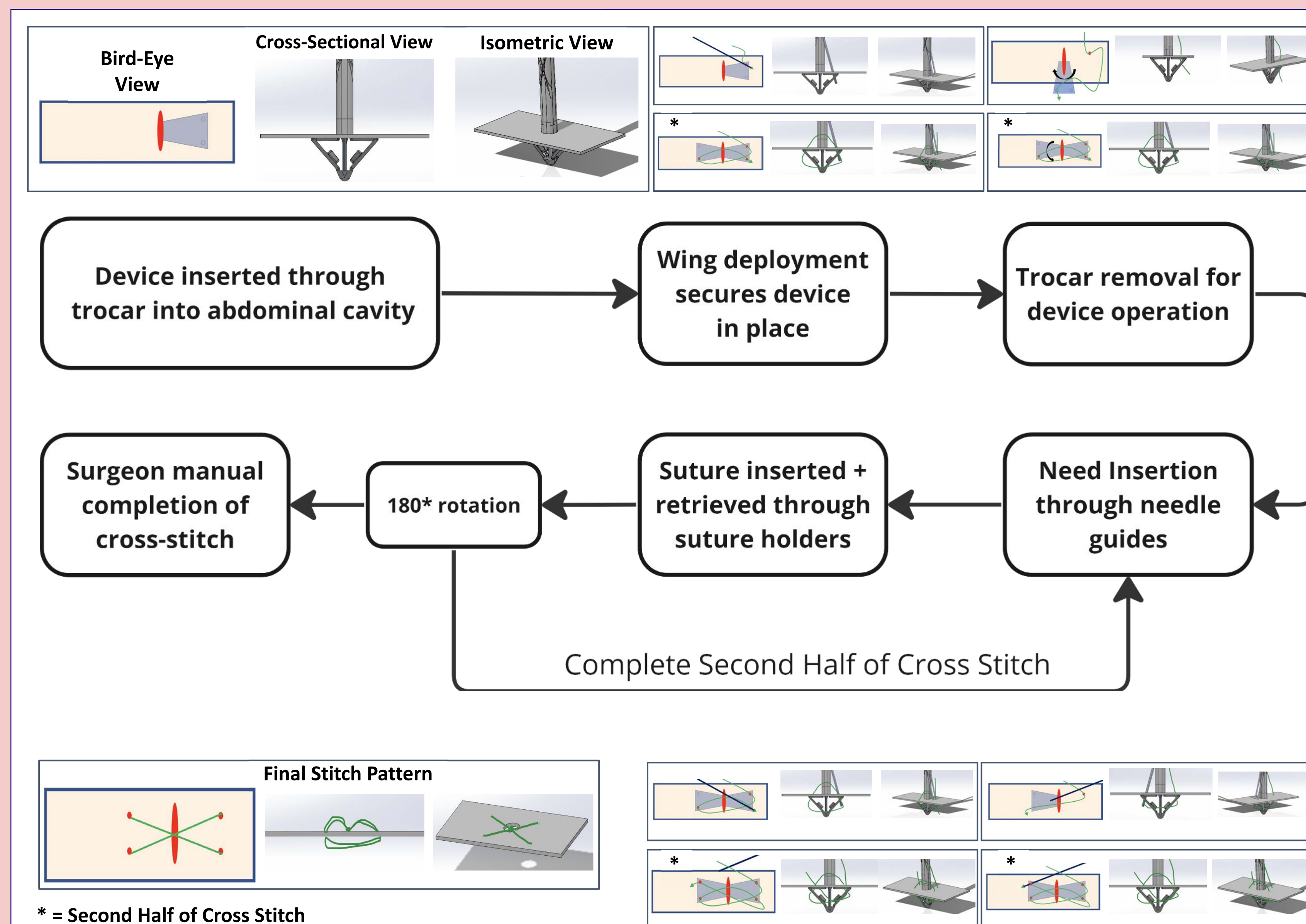
Minimally invasive

Reduced manual input

Proposed Prototype Mechanism

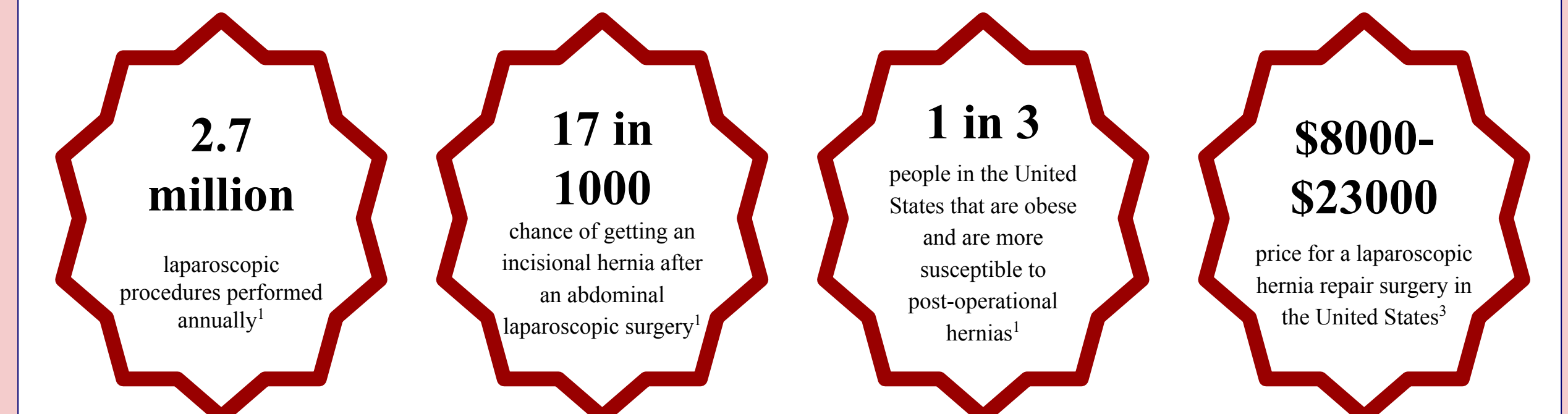


Technique Flowchart



Market Viability

MARKET RESEARCH



MANUFACTURING

Section	Items	Price/Unit (\$)
Outsourced Components	Pins, Bearings, Adhesives	12.93
In House Units (Injection Molding)	Molds, Material	14.6
Machines	Injection Molding, Sterilization, Packaging	13.5
People	Assemblers, Sterilization, Quality, Safety, Operators, Technicians	11.8
Total Cost		52.83
Wholesale Price		66

MEDICAL REIMBURSEMENT

We believe the following reimbursement codes would be relevant to our device.
CPT 49320⁶ - Under Laparo. Proced. on the Abdomen, Peritoneum, and Omentum
CPT 49322⁷ - Laparoscopy, surgical; with aspiration of cavity or cyst
CPT 49900⁸ - Repair of Abdominal Wall

CONCLUSIVE STATEMENT

With the information gathered through this project we feel confident in our product's ability to positively influence the lives of patients and surgeons through its improved ease at suturing during laparoscopic surgery.

Acknowledgements

We would like to thank Professor Zapanta, Daniel Thomeer, and our clinical contacts for their significant contributions and guidance throughout the completion of the project.

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- 2 Incisional Hernia | Symptoms, Causes and Treatment | MedStar Health. Available from: <https://www.medstarhealth.org/services/incisional-hernia> [Accessed 2022 Oct 4]
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- 4 VersaOne™ Fascial Closure System | Medtronic. [Accessed 2022 Oct 8] Available from: <https://www.medtronic.com/covidien/en-us/products/trocar-access-versaone-fascial-closure-system.html>
- 5 Crossbow Fascial Closure System. Suture Ease, 2022. [Accessed 2023 March 28] Available from: <https://www.sutureease.com/crossbow>
- 6 CPT® Code 49320 - Laparoscopic Procedures on the Abdomen, Peritoneum, and Omentum - Codify by AAPC [Internet]. Available from: <https://www.aapc.com/codes/cpt-codes/49320>
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- 8 CPT® Code 49900 - Laparoscopic Procedures on the Abdomen, Peritoneum, and Omentum - Codify by AAPC [Internet]. Available from: <https://www.aapc.com/codes/cpt-codes/49900>