LUNALABS

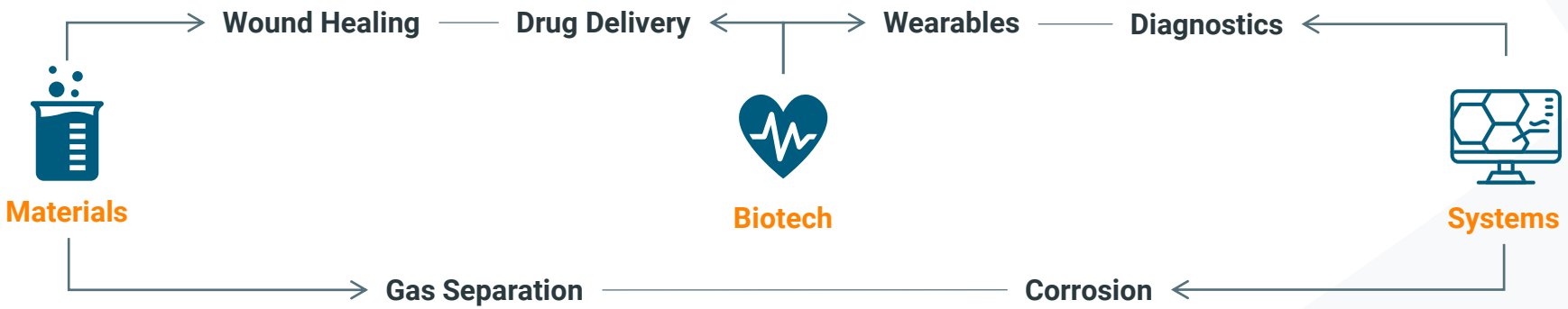
AeroVeil

A Precision Sprayable Solution to Prevent Post-Surgical Gynecological Adhesions

Non-confidential Deck

Dec 2022 | lunalabs.us

Luna Labs: A high-throughput innovation engine for tech startups



Who We Are

- A diverse team of 100 scientists, engineers, and business professionals
- 80+ US and international patents and applications in 25+ patent families.
- Successful product launches in multiple verticals.

What We Do

- Leverage more than $20M/year in non-dilutive contract funding
- De-risk market relevant technologies for subsequent investment to make them market ready.
- Increase the productivity of the mission-driven to save time, save money, and save lives.

Preventing post-operative gynecological surgical adhesions is a global healthcare concern

44% of the population requires abdominal surgery before the age of 60

- Adhesions are fibrous matrices that form between neighboring tissues after injury
- Adhesions typically form within the first 3-5 days after surgery

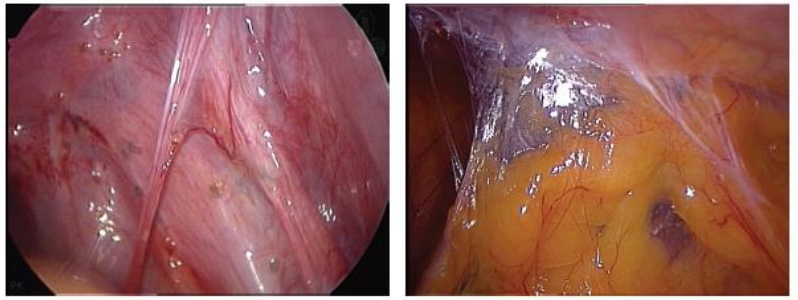
90% of patients who undergo an open abdominal procedure report suffering from intra-abdominal complications as a result of adhesions

- Adhesions result in pain, small bowel obstruction, female infertility, and increased difficulty in subsequent surgery
- Adhesion incidence is reduced, but not eliminated, in laparoscopic procedures

Women delivering via cesarean section are 5x more likely to experience adhesions than those delivering vaginally

Adhesions are the leading cause of female infertility

C-section now accounts for 1 in 3 deliveries in the USA



"Adhesion Barriers Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027" Research And Markets Sept 2022

Al-Husban N, et al. *"Surgical adhesions among women undergoing laparoscopic gynecological surgery with or without adhesiolysis – prevalence, severity, and implications: retrospective cohort study at a University Hospital."* Therapeutic Advances in Reproductive Health. 2020;14

AeroVeil addresses challenges with competitive products in the surgical adhesion barrier space

SepraFilm and Interceed are the market leaders in anti-adhesion products but are widely known as difficult to use

- Solid sheet and film formulations are typically used to prevent adhesions to the midline incision site
- Application of these materials in laparoscopic procedures is impossible

Physicians are not satisfied with current technologies

- Potential for post-surgical complications due to unwanted movement of product
- Products are "*difficult to handle*," "*hard to place*," and, "*like handling wet tissue paper*"
- No physical barriers exist for increasingly common minimally invasive procedures

"It is obvious that extensive scientific expertise went into the development of SepraFilm. The product, however, is clinically defective."

- Dr. Michael Dillon, Gynecologic Surgery, Piedmont Hospital, Atlanta, GA

AeroVeil is a sprayable two-component system that forms an adhesion barrier at the surgical site

IP Status	EP3606572 USSN 16/500,556 CN 201880023727.8

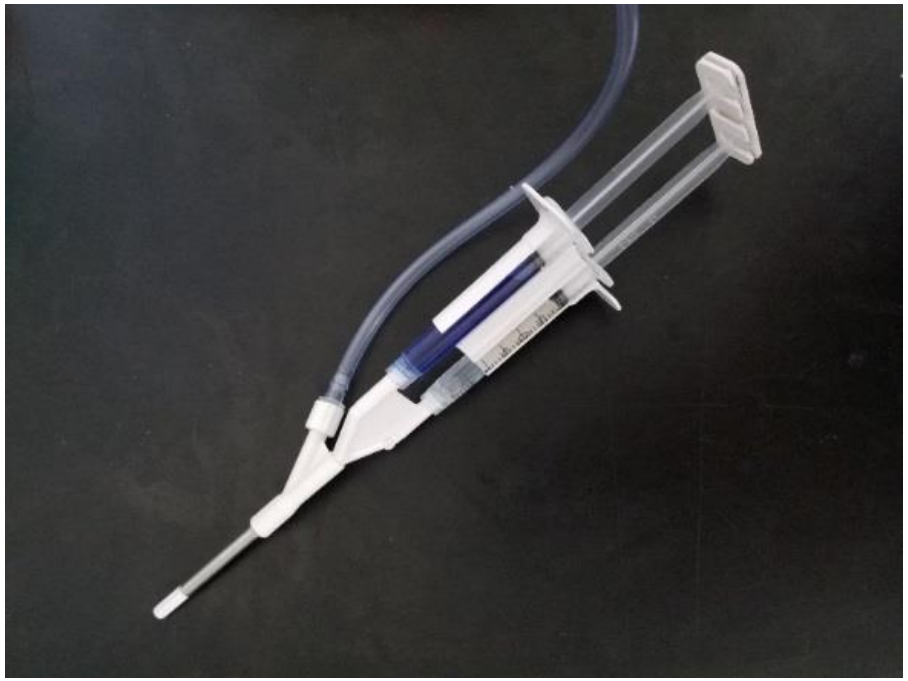
Sprayable to enable controlled application around irregular tissue topographies

Compatible with minimally invasive and open procedures and surgical suite CO_2 gas lines for air-assisted delivery

Biodegradable with non-toxic crosslinkers and designed for clearance in less than 30 days

Visualized upon application using a blue dye

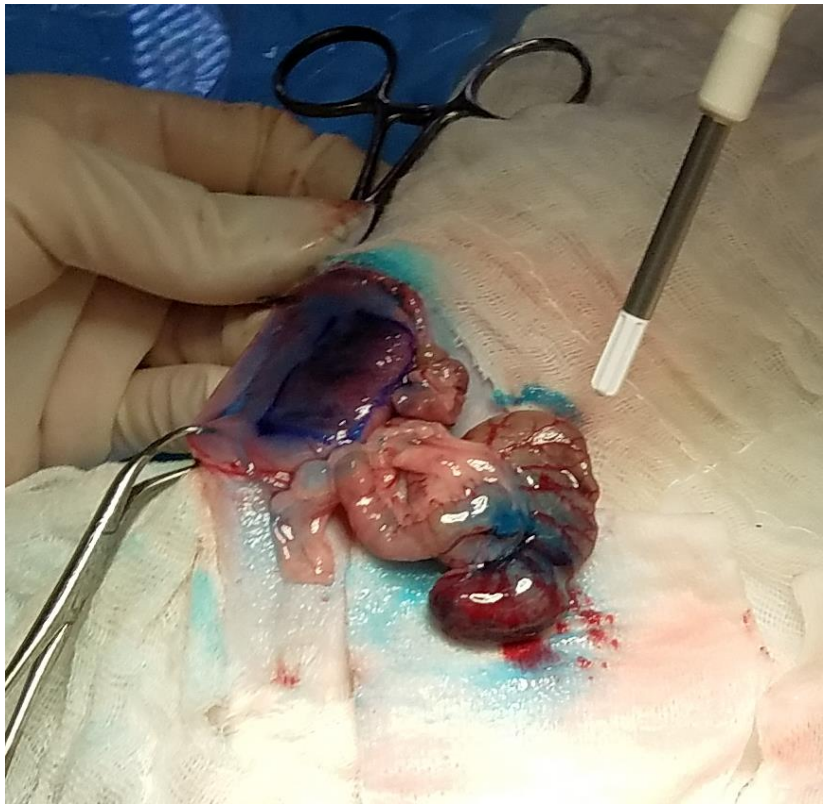
Ease-of-use demonstrated by physicians and veterinary surgeons



AeroVeil is designed for ease of use in the clinic

Successful application by Dr. Peter T. Hallowell (General Surgery, UVA) in a rat cecum abrasion model occurred with no prior training on product use

- Application uses a **low-cost** commercially available regulator and surgical suite air lines
- Application is **compatible** with house air or CO_2
- Biocompatible dye allows easy **visualization** during surgery



There is a significant, addressable market need for anti-adhesion technologies in multiple specialties

The total global market for adhesion prevention was approaching $1.4 Billion in 2022 and is expected to grow at a CAGR of 7.1% through 2027

Target Indication

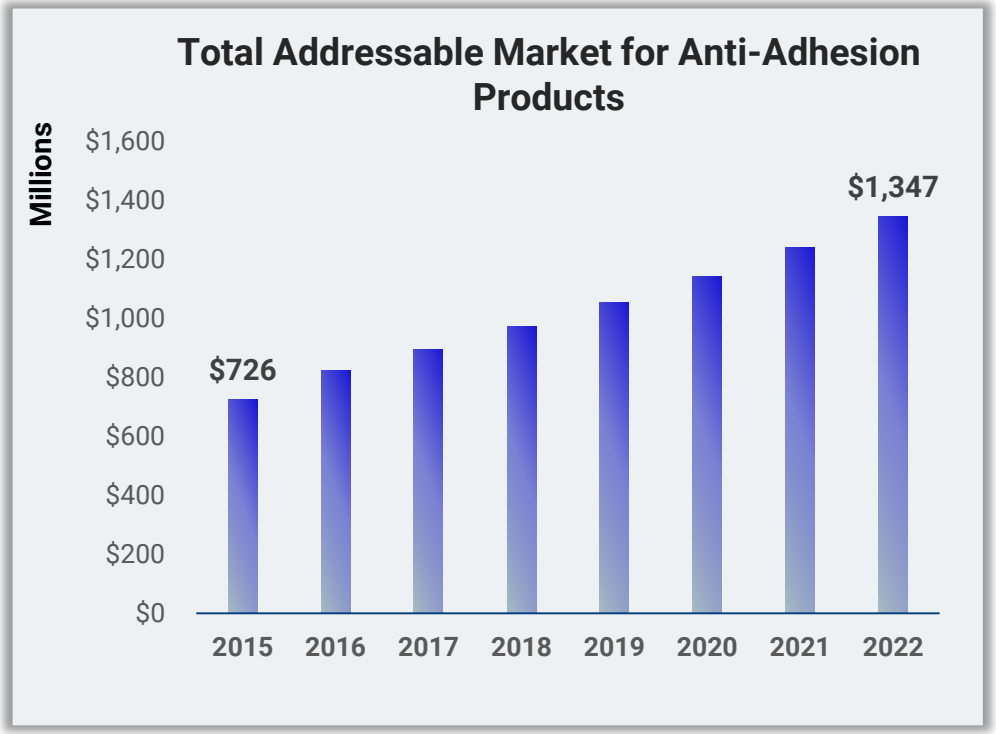
Gynecologic Surgery

C-section leads to 5x increase in adhesions

1/3 of births in USA are delivered by C-section

Over 1.1M C-sections per year in USA

$220M in spending related to female reproductive tract, resulting in over 57,000 days of care



Future Indications

General

Bowel obstruction, pain, complicated repeat surgery

Spine

Failed back syndrome, repeat surgery may result in dural tears

Cardiac

Complicated second-looks, danger of myocardial incision

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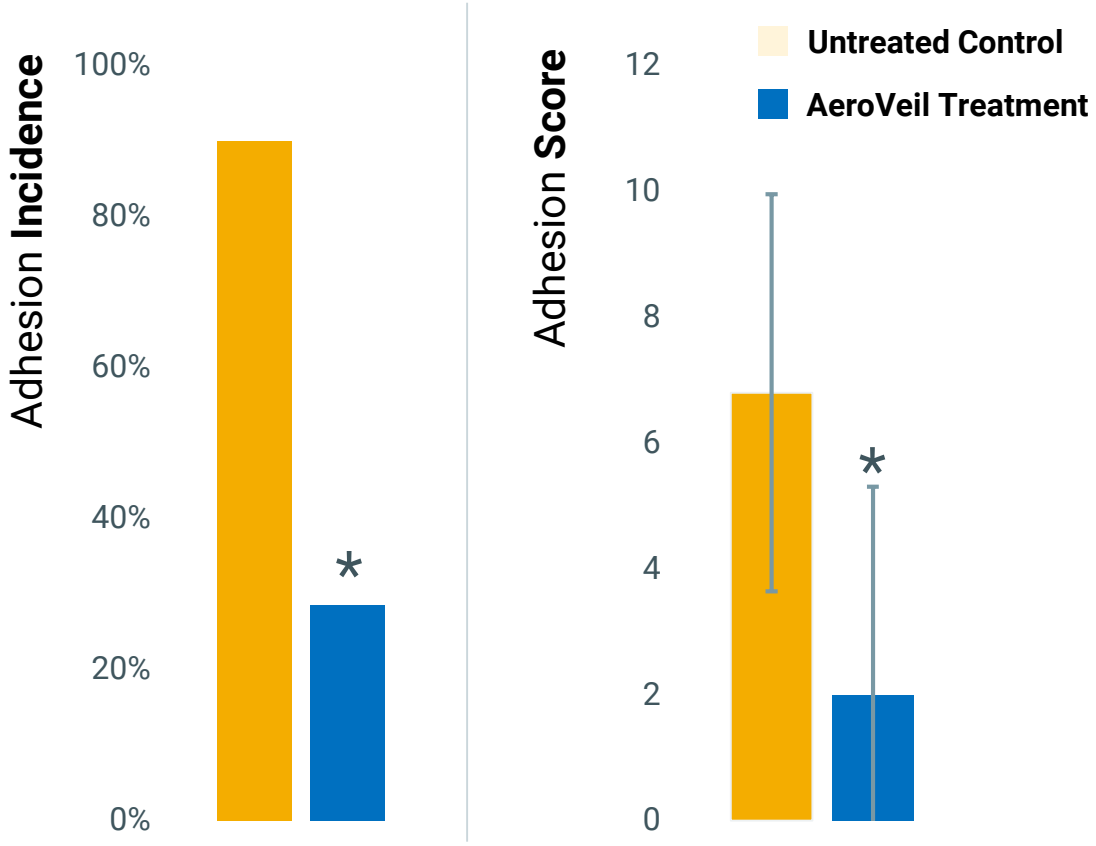
https://www.cdc.gov/nchs/fastats/delivery.htm

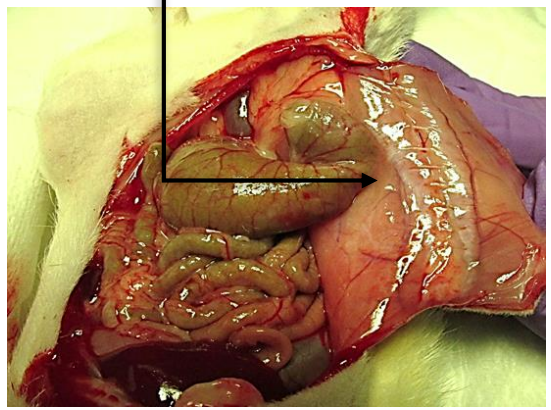
Sikirica, V. et al. "The inpatient burden of abdominal and gynecological adhesiolysis in the US." BMC Surg. 2011.

Preclinical efficacy: AeroVeil was effective in preventing adhesions in a rat adhesion model

Demonstrated a statistically significant reduction in incidence and severity of the primary adhesion

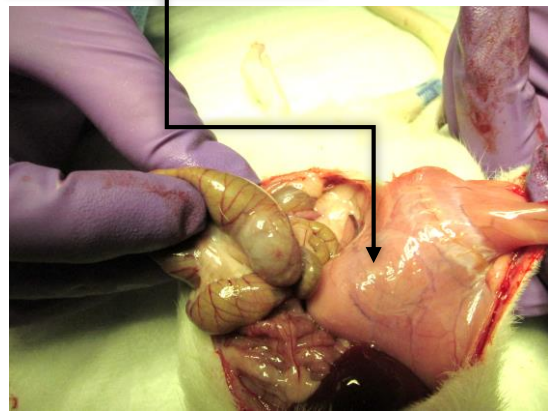


Cecum – Ab Wall Adhesion



Adhesion of cecum to abdominal sidewall in an Untreated Control animal

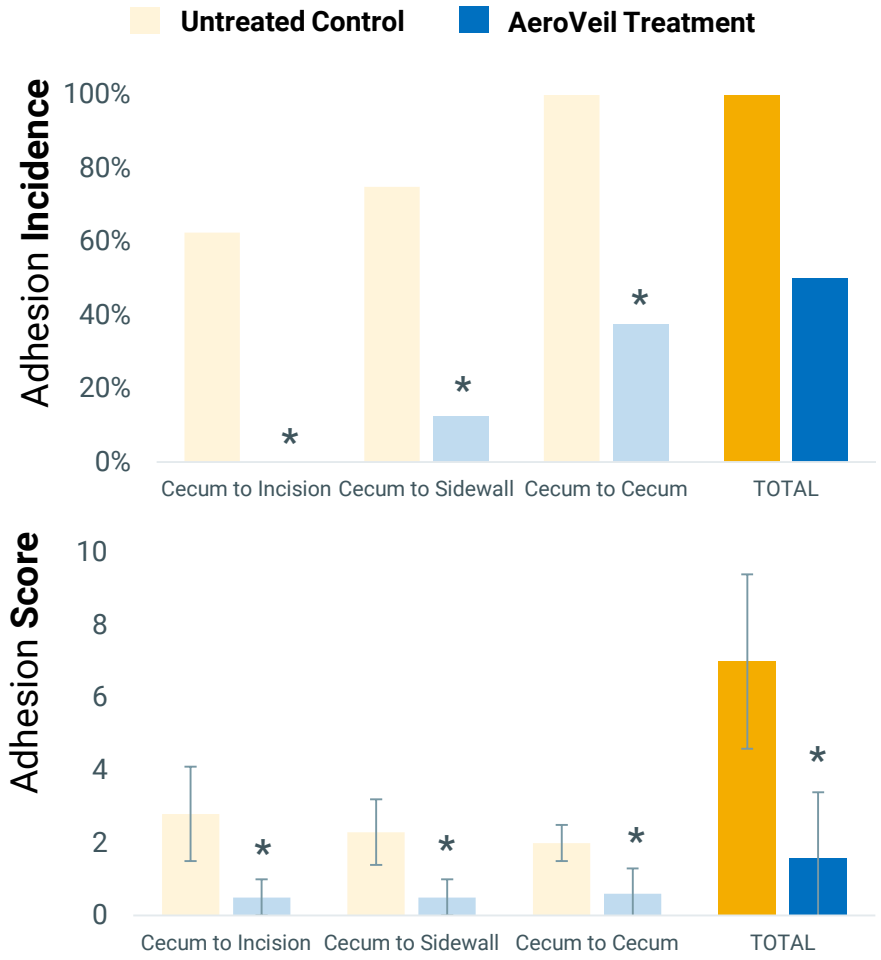
Clear Ab Wall and Cecum

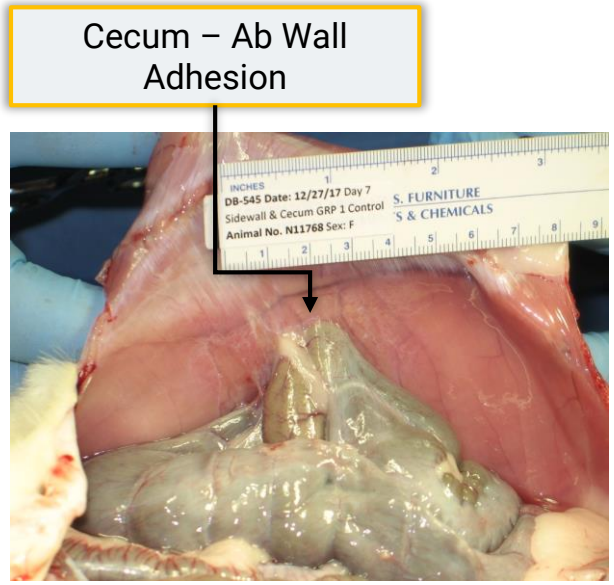


Adhesion-free in animals receiving the AeroVeil Treatment

Preclinical efficacy: AeroVeil was effective in preventing adhesions in a rabbit adhesion model

Statistically significant decrease ($p < 0.05$) in the extent, severity, and strength of adhesions compared to untreated controls; study data also substantiated formulation biocompatibility





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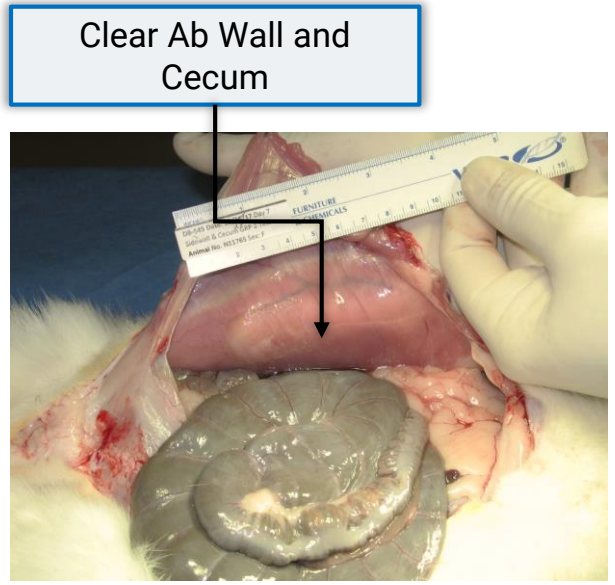


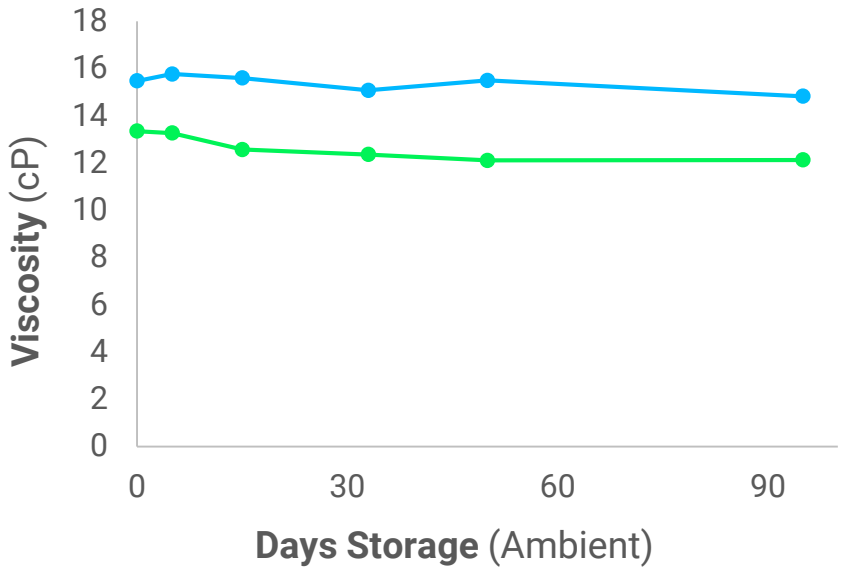
Adhesion-free in animals receiving the AeroVeil Treatment

Product safety and shelf-life was successfully demonstrated

Demonstrated biocompatibility in accordance with ISO-10993

Cytotoxicity Study using ISO Elution
ISO Maximization Sensitization Study - Extract
ISO Intracutaneous Study - Extract
ISO Systemic Toxicity Study - Extract
Pyrogen Study - Material Mediated
Systemic Toxicity Study – 4 week
Genotoxicity, Bacterial Reverse Mutation Study
Genotoxicity, Mouse Lymphoma Assay
ISO Muscle Implantation Study with Control - 2 week
ISO Muscle Implantation Study with Control - 4 week

Demonstrated shelf-life with room temperature storage



Minimal changes in solution viscosity of each component after 90 days storage at room temperature

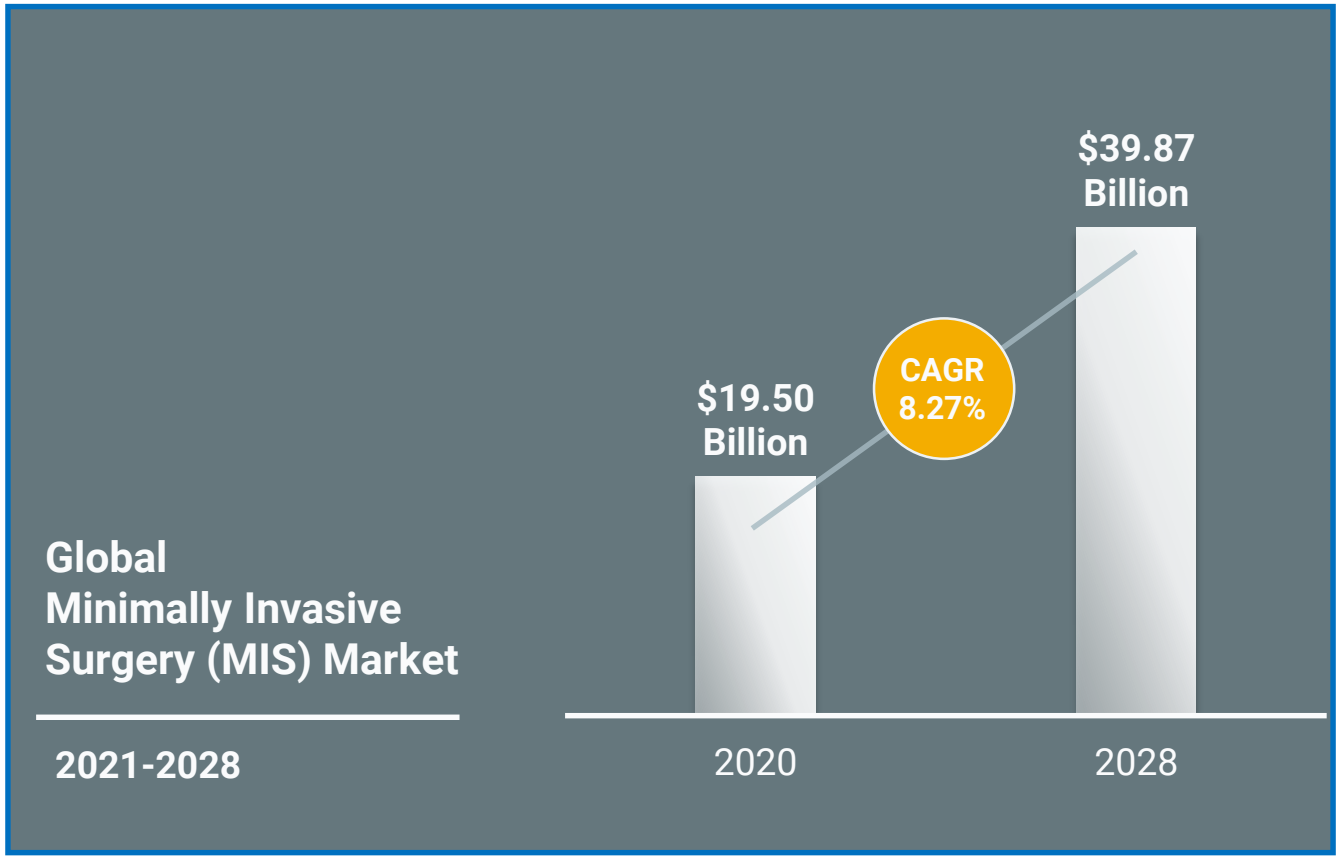
AeroVeil is compatible with minimally invasive procedures

AeroVeil has surgical and market advantages over sheet technologies that are not indicated for use in laparoscopic procedures

SA-3652

SA-3654/55

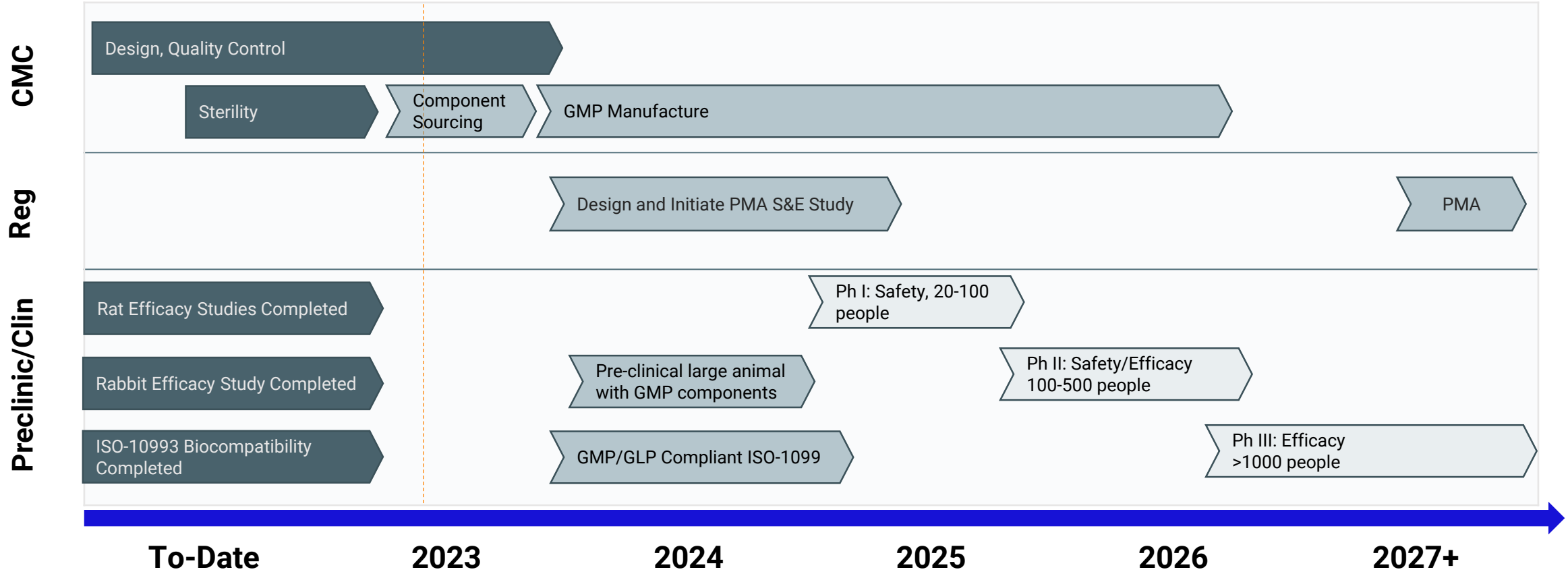
AeroVeil is compatible with Nordson FibriJet components for open and laparoscopic trocar-based application.



AeroVeil Development Timeline & Activities

AeroVeil is ready for GMP manufacture, large animal pre-clinical (porcine), and transition to the clinic for ObGyn-related indications

PCT/US18/24716
Protection through 2038



Completed | **Funded & In-progress** | **Seeking Partnership**

AeroVeil is Backed by an Experienced and Innovative Team

James Garrett, PhD, MBA – CEO

- 20+ years in corporate guidance of product development.
- PhD, Penn State University, Chemistry
- MBA, William & Mary

Chris Tison, PhD – Director of Biotechnology

- 10+ years managing biotech R&D
- PhD, Georgia Tech, Materials Science & Engineering
- NIST Postdoctoral Fellow - Biomaterials

Sameer Khaliq – Director of Biotech Business Development

- 10+ years in life sciences product development, FDA regulatory, and commercialization.
- BA, Georgetown University, Biology

Lauren Costella, MS – Principal Investigator

- 15+ years in biomaterials and wound healing product development
- MS, Materials Science, BS, Biomedical

Peter Hallowell, MD – Professor and Surgeon, UVA General Surgery

- 20+ years general surgery
- Director of Bariatric Surgery Program and Medical Director of Surgery Clinic
- Minimally invasive surgery specialty

Patrick Cottler, PhD – Director of Resident Research, UVA

- 10 years in Biotech startup companies
- Animal model development
- PhD, University of Virginia, Biomedical Engineering

Legal: Bryan Davidson, Nixon & Vanderhye
Regulatory: NSF Health Sciences and NAMSA
Clinical: University of Virginia, DaVinci Biomedical Research, NAMSA

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