Luna Innovations is developing a variety of unique technologies for use in advanced wound care and regenerative medicine.

WOUND HEALING AND DRESSINGS
LUNA is committed to providing unique and advanced solutions across a range of wound healing needs. We develop technologies for preventing postoperative adhesions, advanced dressings for ocular surface repair, and more. Our core competencies and areas of research focus include:

- **Postoperative Adhesion Barriers**: Films and sprayable gels to prevent fibrous postoperative adhesions that are an expected occurrence in all abdominal surgeries.
- **Nanofiber Dressings**: Ocular surface repair, advanced wound dressings, therapeutic and analgesic delivery

Post-Operative Adhesion Prevention
Postoperative adhesions are an “expected outcome” in abdominal surgeries. They are the leading cause of small-bowel obstruction in the western world, cause chronic debilitating pain, and lead to female infertility.

**Barrier Film**
- Low cost and simple fabrication processes
- Hydrolytically stable and robust with good mechanical properties.
- Film is adhesive to tissue and repositionable.
- Enzymatically degradable and will resorb *in vivo*. The degradation rate can be tailored
- Biocompatible and non-toxic

**Sprayable Hydrogel**
- Colored and flowable for easy application
- Low cost, basic materials and applicator system
- Robust to form a contiguous barrier over the susceptible tissue surface and maintain the barrier
- Biodegradable and cleared quickly after healing
- Adhesive to tissue to maintain barrier for 4-7 days
- Biocompatible and does not impede wound healing

**Nanofiber Dressings**

**Ocular Repair**
- Dressings mimic the native ECM of the cornea and will serve as an alternative to the standard human amniotic membrane.
- Nanofiber-reinforced hydrogels create a stimulating environment for ocular surface.
- PTB eliminates need for sutures

**TuneCoat™ Burn Dressings**
- Thin, flexible, conformable, and breathable dressings with high mechanical strength.
- Control over analgesic and therapeutic release rate.
- Good exudate draining with bacterial invasion prevention.
- Use alone or in conjunction with other dressings.
THE TEAM

LUNA’s biomaterials and wound healing teams possess significant interdisciplinary expertise that enables us to think outside traditional paradigms to find innovative solutions for complex medical problems. We have a diverse range of degrees ranging from Materials Science to Synthetic Biology, and therefore are able to create unique solutions in a multidisciplinary setting.

THE COLLABORATORS

LUNA works closely with collaborators in academia, industry, and the government. Recent collaborators include the University of Virginia, James Madison University, University of Florida, Massachusetts General Hospital, The Wellman Center for Photomedicine, Harvard University, and more.

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