

## Polyolefin Fibers for Skin Regeneration and Implant

This invention uses melt-spun polyolefin fine fibers to develop a new kind of nanofibrous surgical mesh suited for skin regeneration and mesh implantation. The material may be used as a scaffold in tissue engineering, wound dressing, hernia repair, pelvic organ prolapse support, cardiac patches, and as a coating for different implantable medical devices that need to be integrated within the body.

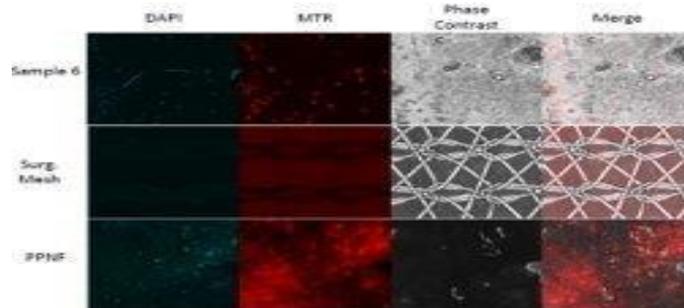
### Problem

Polypropylene (PP) surgical mesh has been utilized extensively for wound healing applications due to its tensile strength properties. Despite this, PP surgical mesh shows a high rate of rejection by the body, approaching 40% of patients implanted.

### Solution

The invention provides a novel means to avoid the high rate of rejection of PP surgical mesh by providing a nanofiber environment that promotes, rather than inhibits, cell growth and wound healing.

Confocal microscopy, using embryonic fibroblast-3T3 cells on nanofibers were visualized from map imaging of mats.



### Value Proposition

- The novel invention uses the application of Forcespinning™ technology to provide supports for robust cell proliferation and growth.
- The results has shown to improve faster wound healing time over the conventional PP surgical mesh.

### Competitive Advantages

- Improved patient outcome through increased cell proliferation and healing
- Re-purposing of proven Forcespinning™ technology
- Easy to manufacture small-gauge nanofiber mats and treat with antibacterial/ antifungal properties

### Status of Development

- Lab prototype successful

### IP Status

- Patent pending US20200289249A1
- Licensing available

For further information regarding this Technology please contact:  
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