



## WHAT IS LIPOGEMS?

Lipogems is an innovative and next generation adipose tissue technology that is used to harvest, concentrate, and transfer a patient's own fat for the repair, reconstruction, and replacement of injured or damaged tissue.

## WHAT CAN LIPOGEMS BE USED FOR?

- Lipogems provides an **alternative** to surgical options
  - Patients that do not want surgery or have failed other options (i.e. NSAIDS, cortisone injections, HA, PRP)
  - Patients that are not surgical candidates (suffering from other comorbidities)
- Lipogems provides an **adjunctive** technology and/or alternative options and to promote healing and aid in recovery
  - Patients that are undergoing arthroscopic surgery

## WHAT IS THE LIPOGEMS DIFFERENCE?

Since the launch of Lipogems, patients have experienced the difference in their orthopaedic conditions with this innovative technology through a breakthrough approach that uses their own fat tissue for the repair, reconstruction, replacement of their injured or damaged tissues. Lipogems is dedicated to comprehensive solutions that are transforming patient care and are economical, efficient, and point of care options for physicians and medical facilities.

## HOW DOES IT WORK?

The Lipogems procedure uses innovative technology that gently processes the patient's own fat tissue in order to, amongst other things, cushion and support areas of injury or damage as the body heals itself. Lipogems is injected precisely into areas of the body to aid in tissue healing and repair. Lipogems tends to stay in the area where it is injected instead of being reabsorbed by the body, allowing the body to maximize the benefits of Lipogems for an extended period of time. As part of this overall process, Lipogems provides cushioning and structural support to the damaged tissues wherever it is injected.

In our minimally invasive, point-of-care procedure, the physician will make a tiny puncture through the skin (a stitch is not even required!) and take fat tissue a small section from either the abdominal midsection or "love handles."

Next, the collected fat will be processed in the special Lipogems device using sterile saline solution. This occurs through a very gentle process called micro-fragmentation, during which the fat is washed, rinsed, and resized into smaller clusters while maintaining the natural beneficial properties of the fat. Debris, blood, inflammatory cells, and fatty oils are removed as the desirable remainder of the fat is concentrated. The resulting tissue is called Lipogems. The physician then will use a small needle to inject the Lipogems tissue into the treatment site.

The simplicity of the procedure means that it requires only local anesthesia (the patient will not be asleep during the procedure) and can be performed in approximately one hour in an outpatient facility such as a physician's office or surgery center. There is minimal recovery time from the Lipogems procedure.

## WHAT IS UNIQUE ABOUT LIPOGEMS?

- **Convenient:** The procedure can be performed in under an hour in the physician's office or in an outpatient surgical setting.
- **Pure:** The Lipogems device uses saline to wash away and remove the blood and oil that may contribute to inflammation
- **Gentle Processing:** The special cells and signals that provide physical and biologic benefits are trapped and protected inside the fat matrix. The unique Lipogems process resizes the tissue in order to optimize tissue survivability in the treatment site while preserving the natural structural properties of your fat. The Lipogems device gently resizes the fat tissue to create the ideal material and performance properties to inject the Lipogems precisely into a damaged area to cushion and support the area as it heals.
- **Easier Injections:** Because the Lipogems process micro-fragments your fat, the size of Lipogems tissue is ideal to facilitate healing in the treatment site. Additionally, Lipogems stays in the area where it is injected instead of being reabsorbed, allowing your body to maximize the benefits of Lipogems for a longer period of time.



- **May Treat Multiple Areas:** Depending on how much fat is collected, there may be enough volume to inject in several different places (many patients present with multiple orthopaedic conditions). The body is a kinetic chain and is linked together. A condition in one area may impact another area.
- **Economical:** Kit contains all necessary harvesting tools without the need for a centrifuge, refrigerator or enzymes.
- **Compliant and cleared by the FDA:** The physician is using a device that has been cleared by the FDA and is compliant with Human Cells, Tissues, and Cellular and Tissue-Based Products guidelines.

## EVIDENCE AND CLINICAL TRIALS

The Medical Board is comprised of a number of the world's top researchers, physicians, and surgeons involved in orthopaedic care, plastic surgery, and regenerative medicine. We have partnered in close collaboration with leading national and international research centers in order to ensure the utmost validity in our approach to patients and healthcare professionals.

**Ethical Code:** Both our Ethical Code and close collaboration with many important international research centers reinforce the integrity in our approach to healthcare professionals and patient care.

**Partnership to Make a Difference in Healthcare:** We partner with Physicians, Surgeons, and Scientific Researchers to aim to improve Patients' lives all over the world by providing Innovative Technologies and Medical solutions.

More than 20 clinical studies are being conducted internationally in various indications

## THE SCIENCE

Adipose tissue naturally contains a complex network of vasculature within its structural architecture. These microvessels harbor resident perivascular cells, which aid in the body's natural healing and repair process.

### Optimal Size for Increased Surface Area and Interaction with the Treatment Site

The micro-fragmented tissue clusters have more surface area interaction within the treatment site, which allows for better survivability of the graft and for maximum exposure time in the treatment site.<sup>2</sup>

### Maintains the Cell and Tissue Microarchitecture

The Lipogems device keeps the tissue intact and preserves the natural and reparative characteristics that help to facilitate a healing microenvironment.

Since the Lipogems tissue remains intact and the cell and tissue microarchitecture is preserved, the perivascular elements are found in a higher concentration in the Lipogems tissue, as compared with standard Lipoaspirate processing, which may become necrotic or lose structural integrity and subsequently, survivability of the cells.

Greater cell viability: Autologous adipose tissue may have greater cell viability compared to allogeneic alternatives because the cells are cryopreserved or dehydrated [ref: Berger]

Minimal risk for rejection, infection, and complications: Since the tissue is from the patient's own body and is processed in a closed-loop system, there is minimal risk of rejection and contamination of the tissue.

## WHERE IS LIPOGEMS AVAILABLE?

Lipogems is provided throughout the United States via a distribution network. The experienced sales team is dedicated to service, training and education, marketing of the Lipogems technology.

## REFERENCES:

1. Hass, Ralf, Cornelia Kasper, Stefanie Böhm, and Roland Jacobs. "Different Populations and Sources of Human Mesenchymal Stem Cells (MSC): A Comparison of Adult and Neonatal Tissue-derived MSC." *Cell Commun Signal Cell Communication and Signaling* 9.1 (2011): 12.



2. Bosetti et al. Human lipoaspirate as autologous injectable active scaffold for one-step repair of cartilage defects. Cell Transplantation. 2016, vol. 25; 1043-1056