



**THE NATURAL
WAY TO HEAL
USING YOUR OWN
POWERFUL FAT**

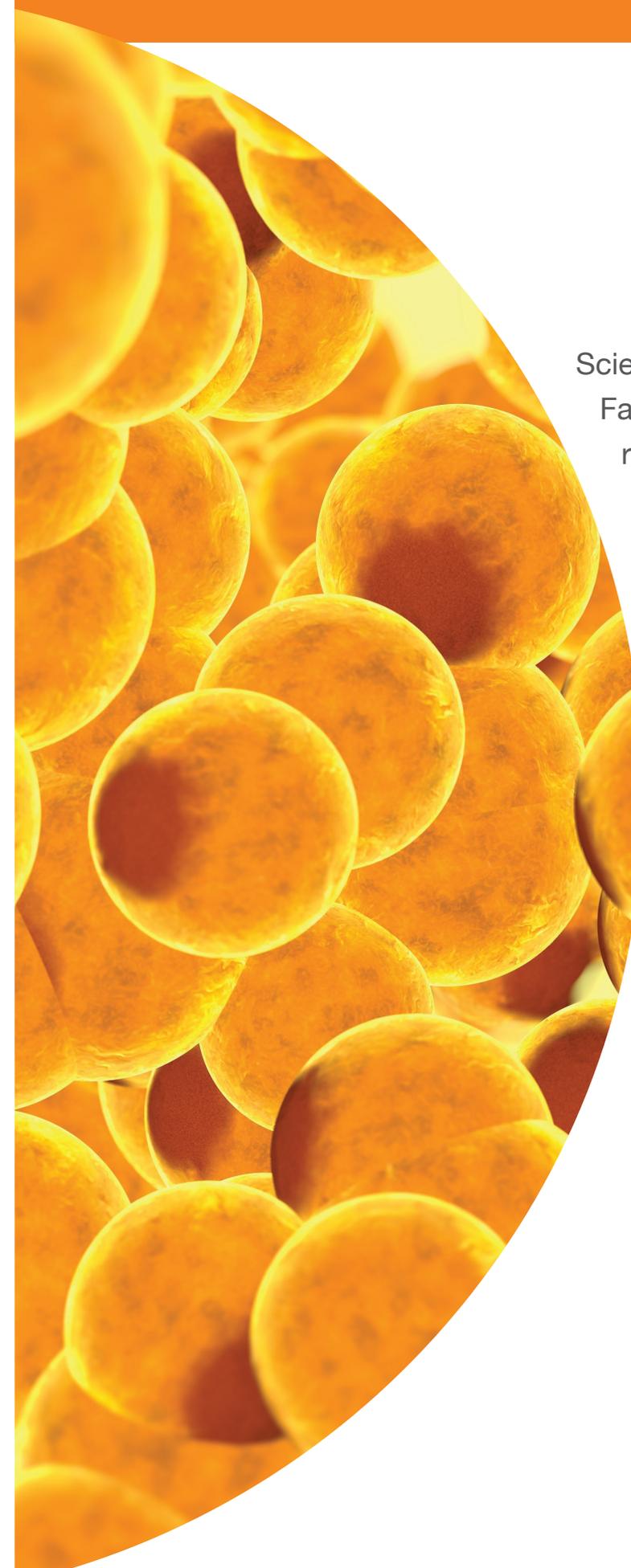
A patient's guide
to experiencing
the difference

THE POWER OF FAT

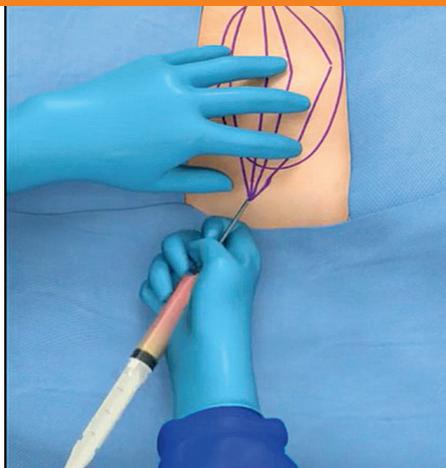
Scientifically, fat is called adipose tissue.

Fat is a versatile tissue that plays essential roles in the way our body functions, but one of the most remarkable is the role that fat may play in how we heal. Many studies over several decades have been conducted exploring the healing potential of fat.^{1,2,3}

Fat contains network of important reparative cells.^{4,5,6} All these special cells inside of your own fat work together as a functional unit.



LIPOGEMS®: EXPERIENCE THE DIFFERENCE



1

Fat harvesting procedure

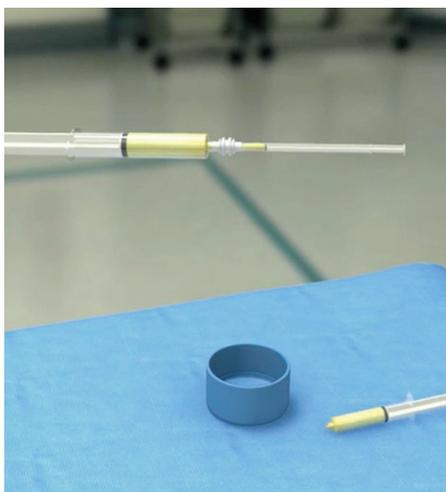
In a **minimally invasive and immediate procedure**, your physician will make a **tiny puncture** through your skin and collect a small amount of fat from either your midsection or “love handles”.



2

Gently processing your fat using saline

Next, your collected fat will be processed in the unique Lipogems device using only sterile saline solution to wash away any impurities. During this process, **your fat is washed, rinsed, and resized into smaller clusters while keeping the natural beneficial properties of your fat.**



3

Lipogems is delivered into the body area(s) to allow you to heal the natural way

Since the Lipogems process micro-fragments your fat, the size of Lipogems tissue is ideal to facilitate healing in the treatment site. **Your physician will then use a small needle to inject the Lipogems tissue into the treatment site.**

DID YOU KNOW?

Fat is crucial for health. It contains numerous cells to fuel and maintain the body's needs.

Fat contains many reparative cells that help a healing environment in response to a tissue injury.

Fat can be easily accessed and collected through a minimally invasive procedure and local anesthesia.

Research has shown that as a person ages, their fat maintains its reparative properties unlike other tissues such as bone marrow, which may lose healing capacity with age.^{7,8,9}

LIPOGEMS®: THE NATURAL WAY TO HEAL



Simple and quick procedure

The minimally invasive procedure can be performed in less than an hour in the physician's office or in a surgical setting



Best quality tissue

Your own fat is the highest quality tissue and there is minimal risk of rejection and infection



Pure

Only uses saline to wash away the impurities such as blood, oil, and cell debris



FDA

Cleared for Use in Orthopaedics and Arthroscopic Surgery

Your own powerful fat

Preserves all the reparative cells inside of your fat tissue

One benefit of Lipogems is that it keeps all the special cells within the fat (including adipocytes, adipose MSC, pericytes^{10, 11, 12}, and other cells) without jeopardizing the cell structure and function^{13, 14}. These cells work harmoniously the same way they do normally in the body.

This allows your body to heal the natural way by repairing, reconstructing and replacing damaged or injured tissue.

Optimal size

The device gently resizes the fat tissue to an optimal size that is easy for injection and also allows for greater interaction with the treatment site to help repair, reconstruct, replace the damaged or injured tissue.⁸

May be used in multiple areas

For patients that suffer from conditions in multiple parts of their body, the Lipogems device can easily process the fat tissue to be used in those areas. (Note: The patient must have enough fatty tissue to be processed.)



An Award Winning
Technology for Orthopaedics

ARE YOU A CANDIDATE?

You might be a candidate if:

- **You suffer from an injury or ailment** that limits your normal daily functioning or physical activity
- **You have painful joints with limited range motion**, such as your knee, ankle or shoulder
- **You have a soft tissue defect in your tendons, ligaments, and/or muscles**
- **Treatment options**, such as physical therapy, NSAIDS, or steroid injections **have not provided you with significant relief**
- **You would like to explore Lipogems** as a minimally invasive part of your surgical intervention
- **Your doctor determines Lipogems may be used in addition to your surgery**

Are there reasons that you may not be a candidate for Lipogems?

- You currently have a systemic infection
- You suffer from an autoimmune disease
- You currently are taking blood thinners or anti-coagulation medication
- You are being treated for any other malignancy or blood borne disease
- You have an allergy to Lidocaine
- You are currently breastfeeding or plan to begin breastfeeding in the near future
- You have a hematologic condition

Some medications can cause undesirable side effects that could affect your procedure (e.g. blood thinners, anti-coagulants, immunosuppressive medications, etc.). Talk to your physician about the medications you are currently prescribed and/or taking.

PREPARING FOR YOUR PROCEDURE

Recommendations for the day of the procedure:



Wear comfortable clothes

Your physician may have you change into a disposable gown, but just in case it is advised to wear clothes that you do not mind getting a little bit wet from the saline that is used in the injection of anesthetic fluid.



Stay hydrated and eat a balanced meal

Good nutrition can also help to optimize the healing process. However, if you are having Lipogems in conjunction with a surgical procedure (such as arthroscopy), make sure to talk to your physician about eating or drinking the day of the procedure.

**25,000
CASES
IN US AND
WORLDWIDE**

Relax!

More than 25,000 Lipogems procedures have been performed worldwide, and your physician can speak with you about the possible outcomes associated with this procedure.

You and your physician should discuss whether Lipogems can be an option for you.

Financial

While Lipogems is an innovative treatment option and cleared by the Food and Drug Administration, it is not covered by insurance. There is clinical and scientific evidence supporting the use of this technology. Newer technologies are oftentimes not covered by insurance programs or Medicare/ Medicaid. Therefore, the patient is held financially responsible for the cost related to this procedure. Consult with your Health Savings Account (HSA) adviser, as prescribed medical treatments may be allowed for payment from your HSA account.

WHAT YOU MAY EXPECT AFTER THE PROCEDURE?

Because Lipogems is derived from your **own fat**, and no other articles are added, there is a **minimal risk of infection or immune reaction**.

The Lipogems procedure is performed with sterile technique as a point-of-care therapy. However, as with any kind of injection or procedure, there is always a minimal risk of infection. If you experience any side effects associated with an infection at the injection or tissue collection site, contact your healthcare provider immediately.

General recommendations:

- **Your doctor will help determine what activities you can perform and put you on a rehabilitation plan.** It is generally recommended that you should not engage in strenuous activity for at least 2 weeks following the procedure.
- **You may experience mild to moderate swelling and/or local inflammation** (that has been previously described as “fullness” or “stiffness”) at injection site and/or site of the fat collection area for up to 4-5 days following the procedure.
- You may be given some prescription or over-the-counter pain medication and should **follow your doctor’s recommendations**.
- **Ice packs may be used** to reduce local inflammation/swelling.
- **A compression garment or tape maybe given to wear** for 1-2 days after the procedure.
- It is recommended that patients should **avoid taking any steroids** following the Lipogems procedure for an amount of time determined by the physician.
- **Some patients may have some bruising** at or around the site of fat tissue collection.
- **Individual results vary.** Not all patients will have the same procedure recovery and activity.
- **Give your body time to heal.** Everybody heals differently.

Rare or uncommon side effects

- A “ball-like” collection of fluid and/or blood (seroma or hematoma) are rarely seen, and you should contact your healthcare provider if this occurs.
- An infection in the harvesting area is extremely rare. If you notice increased pain, swelling, redness, fever, or oozing from the tissue harvest area, contact your healthcare provider immediately.



REFERENCES

1. Duhamel, Georges. Les sept dernières plaies. Mercure de France (1928).
2. Kim, Won-Serk, et al. "Wound healing effect of adipose-derived stem cells: a critical role of secretory factors on human dermal fibroblasts." *Journal of dermatological science* 48.1 (2007): 15-24.
3. Rehman, Jalees, et al. "Secretion of angiogenic and antiapoptotic factors by human adipose stromal cells." *Circulation* 109.10 (2004): 1292-1298.
4. Zuk, Patricia A., et al. "Human adipose tissue is a source of multipotent stem cells." *Molecular biology of the cell* 13.12 (2002): 4279-4295.
5. Zuk, Patricia A., et al. "Multilineage cells from human adipose tissue: implications for cell-based therapies." *Tissue engineering* 7.2 (2001): 211-228.
6. Strem, Brian M., et al. "Multipotential differentiation of adipose tissue-derived stem cells." *The Keio journal of medicine* 54.3 (2005): 132-141.
7. Beane, Olivia S., et al. "Impact of aging on the regenerative properties of bone marrow-, muscle-, and adipose-derived mesenchymal stem/stromal cells." *PloS one* 9.12 (2014): e115963.
8. Stolzing, Alexandra, et al. "Age-related changes in human bone marrow-derived mesenchymal stem cells: consequences for cell therapies." *Mechanisms of ageing and development* 129.3 (2008): 163-173.
9. Kern, Susanne, et al. "Comparative analysis of mesenchymal stem cells from bone marrow, umbilical cord blood, or adipose tissue." *Stem cells* 24.5 (2006): 1294-1301.
10. Crisan, Mihaela, et al. "A perivascular origin for mesenchymal stem cells in multiple human organs." *Cell stem cell* 3.3 (2008): 301-313.
11. Caplan, A. I. "Why are MSCs therapeutic? New data: new insight." *The Journal of pathology* 217.2 (2009): 318-324.
12. da Silva Meirelles, Lindolfo, et al. "Mechanisms involved in the therapeutic properties of mesenchymal stem cells." *Cytokine & growth factor reviews* 20.5-6 (2009): 419-427.
13. Bianchi, Francesca, et al. "A new nonenzymatic method and device to obtain a fat tissue derivative highly enriched in pericyte-like elements by mild mechanical forces from human lipoaspirates." *Cell transplantation* 22.11 (2013): 2063-2077.
14. da Silva Meirelles, Lindolfo, Arnold I. Caplan, and Nance Beyer Nardi. "In search of the in vivo identity of mesenchymal stem cells." *Stem cells* 26.9 (2008): 2287-2299.

Individual results vary. Not all patients will have the same post-procedure recovery and activity level. See your physician to discuss your potential benefits and risks. The Lipogems System is a sterile medical device intended for the closed-loop processing of your own fat tissue in medical procedures involving the harvesting, concentrating and transferring of your own fat (adipose) tissue harvested with a legally marketed lipoplasty system. This can be a minimally invasive procedure that's done in the office, to support soft tissue defects and may promote healing in orthopaedics and arthroscopic surgery. Lipogems may or may not be appropriate for all patients. Like any medical procedure, there is a risk for soreness, redness, swelling, and/or pain. These procedures require needle access (size, location and depth vary depending on the procedure) and this may result in (but not limited to), discomfort, pain, apprehension, bruising, tenderness, bleeding, swelling, or infiltration at the injection site. Other symptoms that may occur include lightheadedness, fainting, nausea, or vomiting. There is slight risk of infection at the injection site and have minimal risk of adverse reactions or complications as with any other injection procedure. Since the fat is from your own body there is little concern of disease transmission, allergic reaction or tissue rejection. For patients with chronic medical conditions such as autoimmune, diabetes, heart or lung disease, circulatory diseases or obesity, extreme caution may be necessary. There are rare but possible risks and complications due to fat transfer including an allergic reaction to the local anesthetic, damage to underlying structures, hematoma or seroma (an accumulation of blood or fluid under the skin that may require removal), changes in sensation, unsatisfactory results that may necessitate additional procedures, permanent discoloration caused by a ruptured blood vessel at the treatment site, calcification, a divet in the area of the tissue harvest, peri-operative bleeding, a blood clot at the treatment or donor site, an infection, scar tissue, and a fat embolism caused by a fat injection mistakenly directed into a blood vessel, and death. The information presented is for educational purposes only. Speak to your doctor to decide if Lipogems procedure is appropriate for you. Individual results vary and not all patients will return to the same activity level. The lifetime of any procedure is limited and depends on several factors like patient weight and activity level. Your doctor will counsel you about strategies for your post-procedural care. It is important to closely follow your physician's instructions regarding post-procedure activity, treatment and follow-up care. Ask your doctor if Lipogems procedure is right for you. Lipogems or other corporate affiliated entities own, use or have applied for the following trademarks or service marks: Lipogems. All other trademarks are trademarks of their respective owners or holders.

Find us on Facebook: facebook.com/LipoLovebyLipogems
Visit us on the web: www.understandLipogems.com

Copyright © 2018 LIPOGEMS®

PAT- LG- US-3-2018-1