STEP-BY-STEP PROCEDURE

- First, a physician takes a punch biopsy from the nape of the neck, or the space behind the ears on the back of the neck, anywhere from 10-15 ml of adipose tissue.
- Then, the removed adipose tissue is inserted into the GCell and the machine is activated.
- The cells are then ground into a fine pulp, so that the sample is homogeneous throughout.
- While in an enclosed space to maintain their vitality, the cells are passed through a series of 50-micron filters to strain out the larger proteins, leaving behind only the stem cells and growth factors that can be used in treatment.
- Then, the cells are photo-activated, which allows them to work faster when in the human body.
- And, finally, the sample is injected into the part of the body that is in need of regeneration.

CLINICAL SUPPORT

1. “Stem Cells in Skin Regeneration, Wound Healing, and Their Clinical Applications”
   a. Ojeh N1, Pastar I2, Tomic-Canic M3, Stojadinovic O4.

2. “Characterization and Isolation of Stem Cell–Enriched Human Hair Follicle Bulge Cells”
   a. Manabu Ohyama,1 Atsushi Terunuma,1 Christine L. Tock,1 Michael F. Radonovich,2 Cynthia A. Pise-Masison,2 Steven B. Hopping,3 John N. Brady,2 Mark C. Udey,1 and Jonathan C. Vogel1
3. “Bioengineering the Hair Follicle”
   a. K Stenn,corresponding author S Parimoo, Y Zheng, T Barrows, M Boucher, and K Washenik
4. “Drug Discovery For Alopecia Gone Today, Hair Tomorrow”
   a. Santos Z1, Avci P, Hamblin MR.
5. “Dynamics Between Stem Cells, Niche, and Progeny in the Hair Follicle”
   a. Ya-Chieh Hsu, H. Amalia Pasolli, and Elaine Fuchs
6. “Hyaluronan binding by cell surface CD44.”
   a. Lesley J1, Hascall VC, Tammi M, Hyman R.

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G Cell®

AUTOLOGOUS STEM CELL ISOLATION SYSTEM FOR TISSUE REGENERATION

WHAT IS GCELL?

GCell is a machine that revolutionizes Autologous Cellular therapies derived from adipose tissue, making it a process that is now as simple as putting on your gloves and push a button, decreasing significantly all the laboratory processes required when isolating stromal vascular fraction cells from adipose tissue. This machine cuts out the use of Collagenase or any other reagent when extracting stem cells from the patient.

This revolutionary concept is based on Mechanical Breakdown: a sample of fat from a patient is taken and put it through a system of blades and filters to produce an injectable stem cell sample. This process drastically reduces the amount of time and capital required to derive stem cells from adipose tissue, making it the best addition for dermatologists, aesthetic doctors, and pain-management specialists looking to enter the field of regenerative medicine and perform in-office Cellular therapies.

HOW IT WORKS

The GCell's Autologous Tissue Suspension Technology is formed around current guidelines for minimal manipulation when using Autologous tissue samples, including the absence of any chemical products when processing human tissue. In this technique, a small sample consisting of one's own adipose tissue is collected and mechanically refined into an injectable cellular product, which can be used to stimulate tissue regeneration through increasing blood flow & new vessel formation, and to decrease pain and inflammation. It is performed in a single-session treatment format, which means that a patient will begin and end their treatment on the same day, and the machine has been tested to ensure that all samples remain viable and sterile during their time in the GCell's closed-system.

A physician begins by taking a punch biopsy from the neural crest, or the tissue on the nape of the neck, between the ears. This area of the body has tissues that preserve their vitality longer than cells found in other areas of the body. Once this sample is harvested, it is placed into a holding capsule and then into the GCell machine. From there, all one has to do is start one of the machine's pre-installed automatic processes, and the machine will do all of the work.

Inside the machine are a series of incredibly small filters and blades. The blades serve to homogenize the sample originally obtained, so that only the desired cellular components can pass through the incredibly small, fifty-micron filters. During this process, many of the undesired proteins are left on the other side of this filter, leaving only pericytes, mastocytes, and various types of stem cells in the bottom of the machine, where the cellular product is made available. From that point, it can be directly administered to the patient through an injection.

MAIN FEATURES

This machine makes harvesting and isolation of adipose-derived stem cells a far simpler process. At a size that makes it perfect to fit in the corner of any procedure room in a medical office, it is able to do the job of three machines in one-- a grinder, a photoactivation device, and a centrifuge. The filters serve to separate the desired cellular components from the detritus, and the blades make it so that these filters can do their job in the first place. While working in tandem, all a physician has to do is wait for the machine to work it's magic and produce a fully-administrable sample of stem cells.

ADVANTAGES OF AUTOLOGOUS TISSUE SUSPENSION:

- The GCell Machine comes with an included photoactivation device, which uses lights at a specific wavelength and wattage to increase cellular viability, proliferation and osteogenic differentiation.
- During this process, the stromal vascular fraction cells remain viable and sterile, as they are not exposed to the external environment.
- After sample-extraction, all a physician has to do is load and program the GCell machine.
- The stem cell harvesting process is 100% mechanical, which means that it takes no reagents or chemicals.
- It can be harvested and administered to a patient within the span of an hour, as the machine itself only needs forty minutes to finish preparing the sample.
- There is no need for an operating room or for an anesthesiologist to be on site, as the biopsies are largely painless, as is the injection.
- Due to the machine's small size, physicians can save space without sacrificing the quality of their stem cell samples.
- This machine is a jack-of-all-trades that eliminates the need to buy multiple pieces of expensive laboratory equipment that all do a part of the job. GCell does it all, at a fraction of the price.

BECAUSE THE GCELL MACHINE HAS THE ABILITY TO HARVEST STEM CELLS FROM ANY ADIPOSE SAMPLE, IT HAS A VARIETY OF APPLICATIONS, INCLUDING: