

liv MedCell

Liv Hospital, Center for Regenerative Medicine and Stem Cell Production Center

ADRC

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*Adipose-Derived
Regenerative
Cell Therapy*

This is a Liv Hospital briefing brochure intended for internal use only.

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AUTOLOGOUS ADIPOSE TISSUE TRANSPLANTATION

- ▶ Adipose tissue is an excellent (the ideal) biological material with it's features of readiness for use, natural feel and the absence of immunologic reactions in autolo-gous applications.
- ▶ Essentially, the procedure involves the implantation of sufficient adipose tissue from a certain part of the body obtained by means of a fat grafting procedure into the required part of the body, for cosmetic or repair purposes.

WHAT FACTORS IMPACT THE SUCCESS OF AUTOLOGOUS FAT GRAFTING?

Target Tissue

Tissue obtained by aspiration or lipectomy
Tissue volume
Localization of the target tissue
Type and size of cannula
Use of filling solution
Mechanical bath
Use of ultrasound or laser

Graft Duration

Tissue washing
Tissue separation (centrifuge or filtration)

Injection

Graft implantation area
Devices used in the procedure
Method of tissue-spread
Amount of implanted tissue

A SUCCESSFUL METHOD FOR LONG-TERM FAT GRAFTING: FAT + CELLS

- ▶ Recent studies show that the ADRC-enriched fat grafting is highly effective in the treatment of soft tissue damages.
- ▶ Adipose Derived Stem and Regenerative Cells known as stromal vascular fraction cells are a heterogeneous cell population containing multipotent progenitors (ADRCs), endothelial progenitor cells, leucocytes, mature endothelial cells and vascular smooth muscle cells.
- ▶ These cells guarantee the formation and persistence or sustainability of new blood vessels by encouraging increased levels of growth factors. Graft volume is thus protected and the oxygen and nutrients required to sustain its existence are ensured.

The effectiveness of the cells is influenced by a number of factors including the surgical technique, the age and gender of the patient, and the area from which the tissue has been obtained.
The typical number of live cells produced from 100 ml of adipose tissue using the Celution®800/CRS device is 25 to 40 million.
The Celution®800/CRS device can process 120 – 360 ml of adipose tissue at one time.
5 ml obtained from the Celution®800/CRS device is delivered to the doctor.
All other factors being equal, the volume of processed tissue will impact on the number of regenerative cells in the final product.

Studies carried out in recent years have indicated promising results for procedures in which autologous fat graft transplantations are combined with ADRCs. Used by clinicians in Europe and Asia, this platform technology enables doctors to clean fat grafts, extricate stem and regenerative cells within the tissue, and perform ADRC-enriched fat grafting by combining these cells.

KEY FEATURES AND BENEFITS

- ▶ Same-day tissue collection and treatment
- ▶ Automatic, software-controlled
- ▶ Sterile, closed system
- ▶ Clinical grade reagents
- ▶ Treatment of up to 3 patients a day
- ▶ Minimal contact time and optimal clinical workflow
- ▶ ADRC-enriched fat grafting with optimized adipose tissue derived regenerative cells

