



## Adipose Tissue Transplantation as an important tool for Reconstruction and Regenerative Medicine

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### Abstract:

#### Objectives:

Adipose tissue can be grafted during aesthetic and reconstructive applications requiring volume reposition. This chapter discusses the adipose tissue harvesting, processing and transfer, recent advances and future perspectives for adipose tissue/fat transfer and their potential utility for aesthetic or reconstructive surgeries, tissue engineering and regenerative medicine. Specific attention is given to the potential application of cryopreservation of harvested fat, thereby allowing for its long-term storage for future engraftment. This approach would allow patients to avoid any morbidities associated with repetitive liposuction surgeries. Fat transfer could be performed not only for homologous use associated with soft tissue cosmesis and structure but also for heterologous purposes associated with hard tissue regeneration as well as endocrine, and immune functionality.

### Biography

MD, PhD. I'm a Plastic Surgeon trained at the Federal University of Sao Paulo UNIFESP, Brazil. Aesthetic and Reconstructive Surgery with 15 experience in Private Practice. PhD and Active research in Adipose-derived Stem/Stromal-cells and Adipose Tissue Cryopreservation. International Scholar Award from the Plastic Surgery Foundation/American Society of Plastic Surgeons. Member of the Brazilian Society of Plastic Surgery SBCP, International Member of the American Society of Plastic Surgeons ASPS, Member of the International Society of Aesthetic Plastic Surgery ISAPS and Member of the Venezuelan Society of Plastic Surgeons SVCPREM. I have worked in Brazil, Venezuela and Saudi Arabia as Consultant Plastic



Surgeon and I am recently relocated to Frankfurt, Germany. (<http://lattes.cnpq.br/9159640209869596>)

### Recent Publications:

1. Zanata F, Bowles A, Frazier T, Curley JL, Bunnell BA, Wu X, et al. Effect of Cryopreservation on Human Adipose Tissue and Isolated Stromal Vascular Fraction Cells: In Vitro and In Vivo Analyses. *Plast Reconstr Surg.* 2018;141(2):232e-43e.
2. Rubin JP, Gurtner GC, Liu W, March KL, Sepanen-Kaijansinkko Md Dds Ph DR, Yaszemski MJ, et al. Surgical Therapies and Tissue Regeneration: At the Intersection Between Innovation and Regulation. *Tissue Eng Part A.* 2016.
3. Administration FaD. Guidance for Industry. Current Good Tissue Practice (CGTP) and Additional Requirements for Manufacturers of Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps) December 2011 [Available from: <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/current-good-tissue-practice-cgtp-and-additional-requirements-manufacturers-human-cells-tissues-and>].

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