

Documented Concerns of Traditional Fat Harvesting Methods

Significant evidence exists to substantiate the numerous benefits of providing your patients with autologous fat transfer procedures for both superficial and deep tissue⁽¹⁾ placement with the intent to provide long lasting, natural structural changes⁽²⁾.

There are very few side effects attributed to fat transfer⁽³⁾ and is considered by many to be the ideal injectable⁽⁴⁾. However, there are several factors that affect the viability of harvested fat cells ranging from harvesting techniques to the preparation of the harvested fat for injection.

Traditional methods of fat harvesting can have a detrimental effect on the fat cells. Harvesting fat cells with a hand held syringe is a very common method of harvesting fat, however, a syringe is an efficient device that creates a peak vacuum of 28 in. Hg. It has been shown that vacuum levels from 15 in. Hg to 28 in. Hg results in the breakage and vaporization of fat cells⁽⁵⁾.

The processing or preparation of the harvested fat for injection is an important step in ensuring a viable fat transfer. Undesirable fluid and oils from ruptured fat cells should be removed, injection of the debris and oil would unlikely fodder permanent contour improvement and would have the further potential of compromising survival of viable cells by insulating them from nutritional and oxygen resources⁽⁶⁾.

Separating the viable fat cells from the undesirable fluids and oils prior to injection is necessary to ensure that as many viable fat cells are injected in a given volume. Removing these bi-products of harvesting is commonly performed either by decanting or the use of a centrifuge. Decanting the harvested fat is time consuming and results in a liquefied injectable stemming from being unable to remove all of the oils and fluid. The use of a centrifuge to process the fat is a common technique and has gained acceptance of a viable method. However, centrifuging harvested fat cells has shown to decrease the number of viable fat cells by 26% when ran between 50g and 500g, cell loss progressively increased up to recommended (1286g) speeds⁽⁷⁾. It has also been reported that the use of a centrifuge machine, at high or low speed, completely destroyed adipose cells and does not allow for cell survival⁽⁸⁾.

Based upon this scientific evidence, Genesis Biosystems has addressed these concerns by developing the first sterile, disposable fat harvesting and processing device. The LipiVage™ Fat Harvest, Wash & Transfer System is designed to harvest fat under a controlled vacuum level while removing the unwanted fluids and oils in a gentle manner that maintains the viability of the harvested fat cells.

Bibliography

- (1) Structural Fat Grafts -The Ideal Filler? Sydney R. Coleman, MD, Clinics in Plastic Surgery Vol. 28, No. 1, January 2001.
- (2) Structural Fat Grafts -The Ideal Filler? Sydney R. Coleman, MD, Clinics in Plastic Surgery Vol. 28, No. 1, January 2001.
- (3) New Materials for Soft Tissue Augmentation. Tina Alstar, MD and Tina West, MD. Plastic and Reconstructive Surgery, Vol. 105, No.7, June 2000.
- (4) Discussions in Search of Improved Fat Viability. Charles Puckett, MD and Benjamin Becker, MD. Plastic and Reconstructive Surgery, Vol.113, No.1, January 2004.
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- (6) Discussions in Search of Improved Fat Viability. Charles Puckett, MD and Benjamin Becker, MD. Plastic and Reconstructive Surgery, Vol. 113, No.1 January 2004.
- (7) Discussions in Search of Improved Fat Viability. Charles Puckett, MD and Benjamin Becker, MD. Plastic and Reconstructive Surgery, Vol. 113, No.1 January 2004.
- (8) Comparative Experimental Study of Autologous Adipose Tissue Processed by Different Techniques. Aesthetic Plastic Surgery. 1993 Spring;17(2):113-5 Chajchir A, Benzaquen I and Moretti E.

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