



HARVEST® ADIPREP® ADIPOSE CONCENTRATION SYSTEM

Process Purified Mesenchymal Stem Cell (MSC)-Rich
Grafts in Just 4 Minutes¹



HARVESTING MSC-RICH GRAFTS

Adipose tissue is a heterogeneous biological tissue that lies between platelet-rich plasma and concentrated bone marrow aspirate with respect to stem cell content and cellular heterogeneity.² This tissue is also capable of delivering modest levels of growth factors.²

The benefits of concentrated adipose tissue include:

- Very minimally invasive process for the removal and collection of stem cells (compared to removal of bone marrow)
- Excellent natural scaffolding
- High concentrations of MSCs

The AdiPrep system is designed for the safe and rapid preparation of a purified, MSC-rich graft from a small tissue sample at the patient's point of care. The concentrated adipose tissue provides a physical scaffold of multiple cellular components.

QUALITY: GRAFTS WITHOUT COMPROMISE

The quality of adipose tissue graft material is an important consideration before performing any lipograft procedure.³ To achieve high quality, the AdiPrep system concentrates tissue samples to deliver a graft with high stem cell and nucleated cell counts while significantly reducing excess fluids that contribute to graft volume loss. The resulting purified adipose tissue concentrate can then be used for clinical grafting procedures, such as facial contouring or musculoskeletal regenerative applications.

Lipoaspirate processing with the AdiPrep system provides several critical advantages, such as:

- Retains and concentrates the tissue stromal vascular fraction (SVF), which includes all of the cell types and the structural matrix to promote graft survival and the cellular complement to aid in tissue regeneration^{4,6,7}

- Removes excess infranatant fluid, minimizing graft resorption and the need to overfill⁴
- Removes excess oils, lipids and cellular debris that may induce an inflammatory response in patients^{3,5}

Retention of the Tissue Stromal Vascular Fraction (SVF)

Tissue SVF contains the entire adipose tissue microenvironment, including a variety of cell types, such as adipocytes, pre-adipocytes and MSCs. Tissue SVF also contains a structural matrix to which cells can attach, supporting cell viability and proliferation and promoting graft retention.³

Removal of Excess Infranatant Fluid, Oils and Lipids

Excess infranatant fluid in a graft sample makes it challenging to estimate an accurate graft volume for a procedure because this fluid is resorbed by the body. To account for this resorption, physicians typically overfill the treatment site with lipoaspirate, which can cause increased swelling and an undesirable initial aesthetic result.^{5,8} Removal of excess fluid can minimize the need for overfilling and offer a more predictable aesthetic outcome.³

Oils, lipids and cellular debris that are present in lipoaspirate may cause an inflammatory response that prolongs graft healing and can prove toxic to the cellular components of the graft itself.^{3,4,5,8} Removal of these materials may promote graft survival.^{3,5}

High Cell Concentrations

The AdiPrep system can generate an adipose tissue graft capable of delivering more than 3 million stem cells directly to the application site.¹ The chart below shows the concentration of cellular components in a conventional adipose tissue graft.

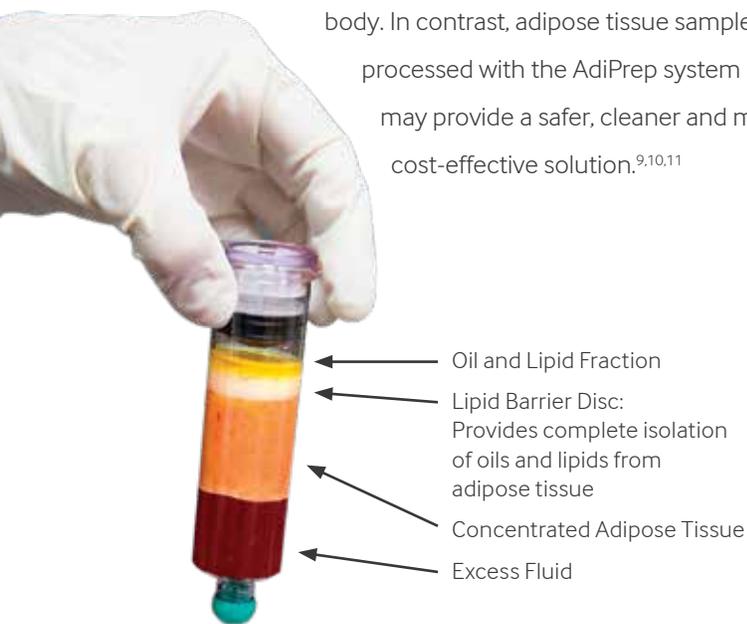
Cellular Components From the AdiPrep System	
Nucleated cells	440,000/mL
Adipose-derived stem cells	160,000/mL
Cell viability	78% to 95%

AdiPrep System Versus Gravity Decantation

Gravity decantation, the most common technique for processing a sample of lipoaspirate, does not remove lipids and excess fluids effectively and may produce a poor-quality graft. The AdiPrep system isolates oils and lipids using a proprietary lipid barrier disc technology.

Safer and More Cost-Effective Than Synthetic Fillers

Widely used in cosmetics, synthetic fillers often provide only a short-term aesthetic result and require frequent, repeated applications. In addition, they possess all the risks associated with the injection of synthetic materials into the body. In contrast, adipose tissue samples processed with the AdiPrep system may provide a safer, cleaner and more cost-effective solution.^{9,10,11}



FLEXIBILITY: EXPANDED TREATMENT OPTIONS

Flexibility helps limit your capital investment while broadening the number of treatment options you can offer patients. Our products are designed with flexibility in mind. Used in conjunction with the AdiPrep system, the Harvest SmartPrep[®] Multicellular Processing System has 510(k) clearances to process all three major autologous biologics—platelet-rich plasma, concentrated bone marrow aspirate and concentrated adipose tissue—using a single platform.¹²

SmartPrep System

The SmartPrep system includes a microprocessor-controlled centrifuge that provides a reproducible process for generating concentrated adipose tissue. No user interaction is required beyond loading and starting the centrifuge.



RELIABILITY: PROVEN RESULTS

In addition to generating purified MSC-rich grafts in just 4 minutes,¹ the Harvest biologic concentration technology also has the following advantages:

- Generates biologic treatments without manual adjustment from patient to patient
- Produces concentrated, high-quality, injection-ready biologics with simple operation
- Delivers a consistent MSC-rich product

Automated Processing

Combined with AdiPrep procedure packs, the SmartPrep system automates the point-of-care processing of biologics.

- Reduces the number of steps versus a manual method
- Simplifies training among multiple users

Designed to Reduce the Risk of Contamination

In contrast to the disposables used with some other bone marrow aspirate systems that can increase the risk of contamination, Harvest process disposables incorporate resealable injection ports that can be aseptically disinfected before entry. This design reduces the opportunity for contamination of the final product.

To arrange an evaluation or for more information, call 877.8.HARVEST (toll-free) or visit HARVESTTECH.COM.

Harvest Technologies, a Terumo BCT company, has long been a leader in point-of-care cell therapy products.

Harvest Terumo BCT is a global leader in blood component, therapeutic apheresis and cellular technologies, offering more than 30 years of cell processing expertise and a comprehensive range of solutions that cover the continuum of cell therapy—from point of care to cell therapy manufacturing.

As a leader in innovation with established global reach, we are shaping the future of cell therapy.

INDICATIONS FOR USE

The AdiPrep system is used in medical procedures involving the harvest and transfer of autologous adipose tissue. The AdiPrep system concentrates adipose tissue that is harvested with a legally marketed lipoplasty system. The AdiPrep system is intended for use in the following surgical specialties when the concentration of harvested adipose tissue is desired:

- Neuro
- Gastrointestinal
- Urological
- Plastic and reconstructive
- General
- Orthopedic
- Gynecological
- Thoracic
- Laparoscopic
- Arthroscopic

Scientific References

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7. Alexander R, "Understanding Adipose-Derived Stromal Vascular Fraction (AD-SVF) Cell Biology and Use on the Basis of Cellular, Chemical, Structural, and Paracrine Components: A Concise Review." *J Prolother* 2012; 4: 855–869.
8. Sadati KS, et al., "Platelet-Rich Plasma (PRP) Utilized to Promote Greater Graft Volume Retention in Autologous Fat Grafting." *The American Journal of Cosmetic Surgery* 2006; 23 (4): 203–211.
9. Shahrabi-Farahani S, et al., "Granulomatous Foreign Body Reaction to Dermal Cosmetic Fillers with Intraoral Migration." *Oral Surg Oral Med Oral Pathol Oral Radiol* 2014; 117 (1): 105–110.
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RISK INFORMATION

This information does not take the place of discussing your medical condition with your doctor. These procedures require needle access, possibly resulting in apprehension, discomfort, tenderness, bruising, swelling, bleeding or pain at the access site, at which there is a small risk of infection. Lightheadedness, fainting, nausea or vomiting may occur. Before any medical procedure, tell your doctor about prescription and nonprescription medicines and any natural or herbal remedies you are taking or plan to take; and consult your insurance company to verify coverage.

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