

## Enhanced Harvesting of Autologous Fat Tissue for Aesthetic Body Contouring

### Project Background

Autologous Fat Grafting (AFG) is a minimally invasive procedure where the patient's own fat is used to sculpt different parts of their body. Plastic surgeons perform AFG for both aesthetic and reconstructive purposes, enhancing breasts, buttocks, and facial features or reconstructing traumatic, oncologic, and congenital defects [1]. While autologous fat is 100% biocompatible, ideal patient outcomes continue to be limited. Improving AFG requires optimizing its three stages of liposuction fat extraction, contaminant purification, and target site reinjection.

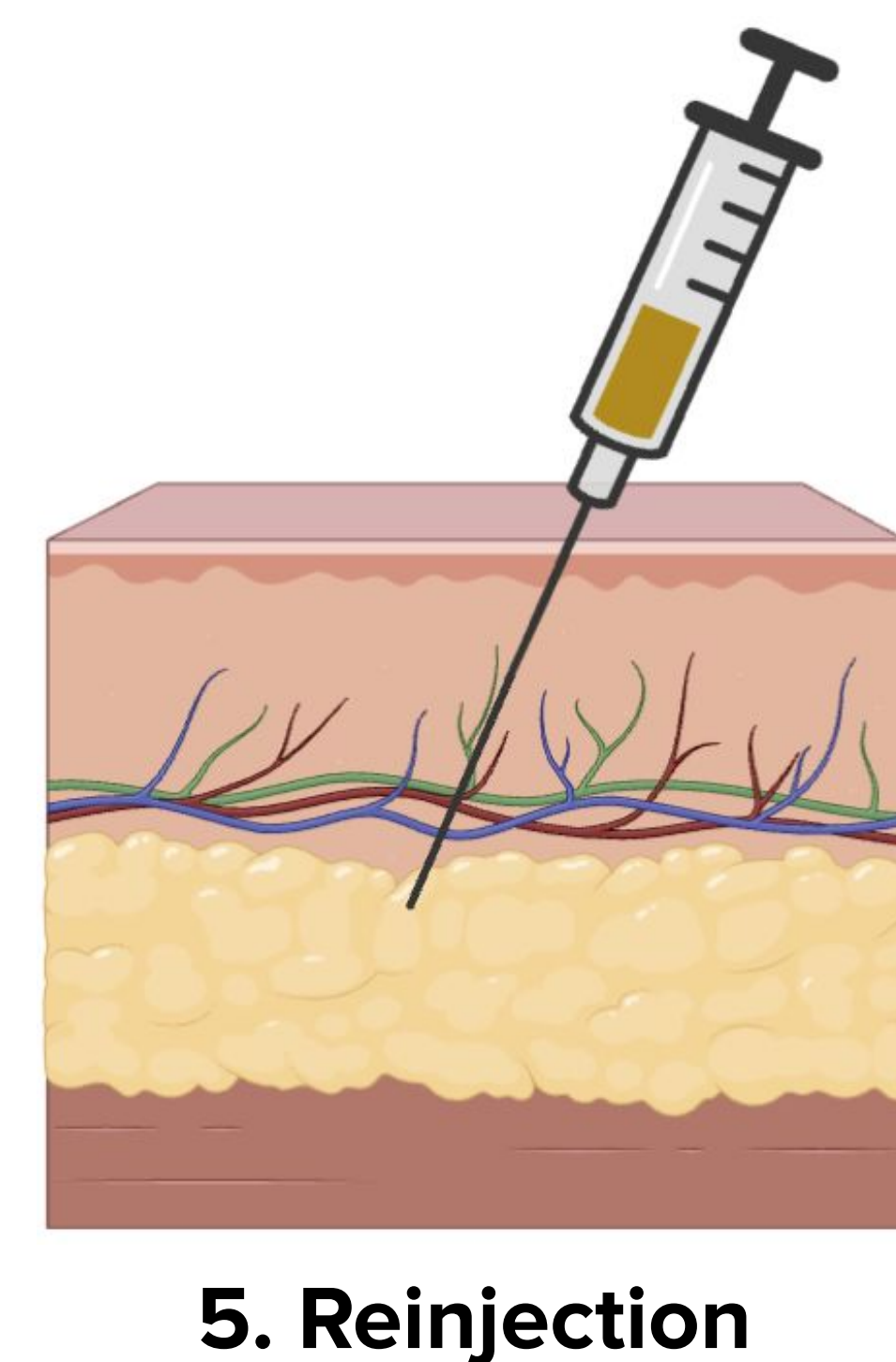
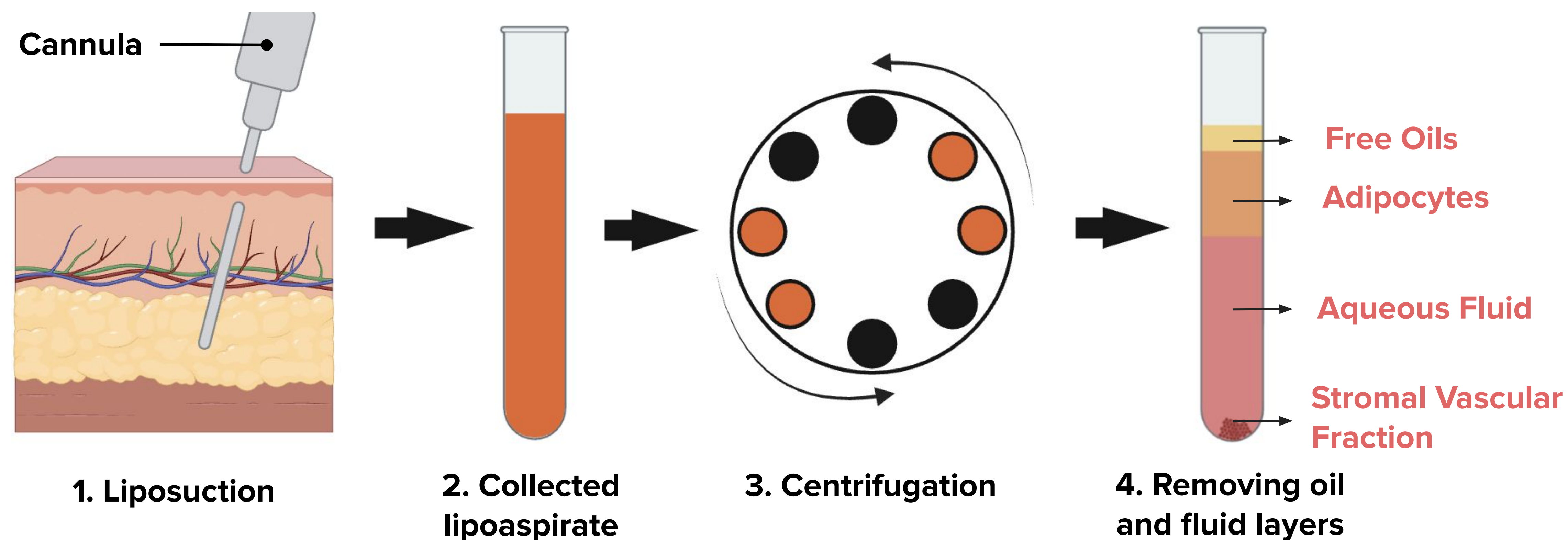
### 1 million

Annually, 1 million AFG procedures are performed, capturing **10%** of global aesthetic cosmetic procedures [2].

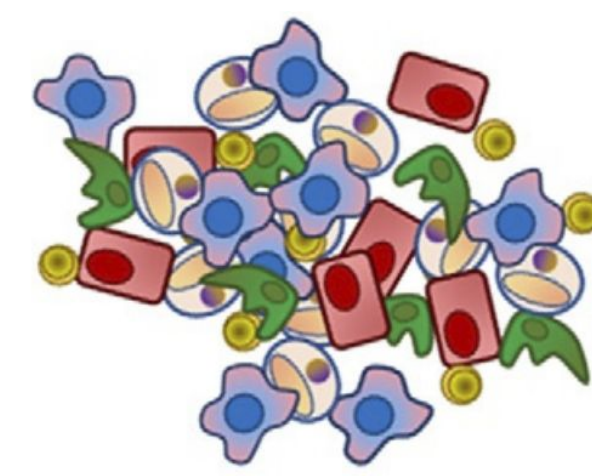
### \$200 million

Increasing demand for AFG solutions contributes to a \$200 million market evaluation, projected to reach **\$422 million** by 2034 [3].

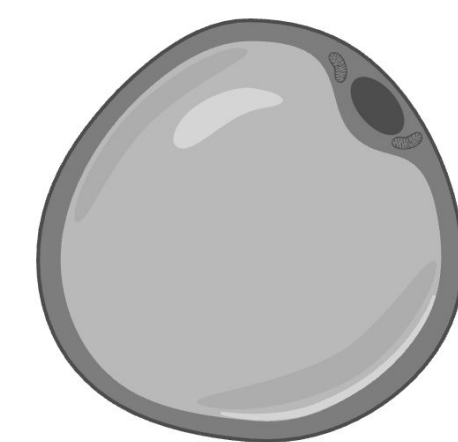
### Autologous Fat Grafting Process



### Limitations

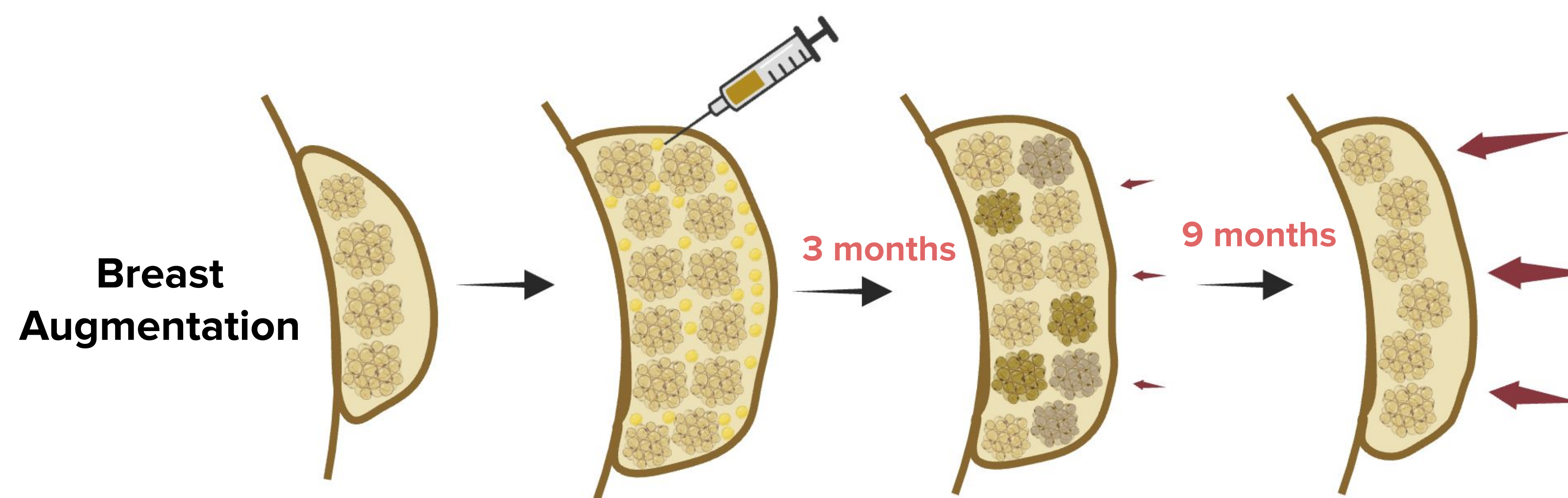


Stromal Vascular Fraction (**SVF**) containing pre-adipocytes, adipose-derived stem cells, endothelial cells, and immune cells that contribute to tissue regeneration is often discarded or washed away.



Adipocyte cells are fragile and throughout the stages of liposuction, processing, and reinjection, these fat cells can sustain damage. This may lead to their rupture and subsequent necrotization.

**Patients experience up to 80% volume loss [4]**



### 3x Repeats

Patients experience high absorption and unpredictable volume retention rates and typically return for a second fat transfer procedure. Occasionally, **three procedures** are required to achieve desired outcomes [4].

### Our Solution

#### High-quality Fat

Our solution produces high-quality fat, free of contaminants that cause inflammation and reabsorption, that is ready to be reinjected. Our fat maintains the extracted **adipocyte viability** and the adipose tissue's **regenerative properties**.

#### Consistent

Consistency and standardization between steps is key for positive patient outcomes. Our system ensures the production of **high-quality fat every time**.

#### Easy-to-use

Current systems in use are cumbersome and messy. Our solution **streamlines** the process, allowing for use in **any procedural setting**.