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A novel point of care, automated, and closed system for processing stromal vascular fraction either with or without collagenase

S tromal vascular fraction (SVF) is a component of lipoaspirate that can serve as a rich source of multipotent elements with phenotypic and gene expression profiles similar to human mesenchymal stem cells (hMSCs) and pericytes. SVF enriched fat grafts have demonstrated improved survival as compared to native fat as well as significant wound and scar healing properties. Currently, a reliable, automated, and entirely closed point of care system for SVF processing technique does not exist. Here, we present the Q-Graft device from HumanMed AG. The Q-Graft is an entirely closed and sterile point of care automated SVF processing device that can be used either with or without collagenase digestion. Adipose tissue is harvested directly into the device which is placed within the sterile OR field. The device then automates the incubation, filtration, washing, and suspension of the SVF product, growth kinetics and self-renewal assay, differentiation potential, ability to maintain sterility, and measures of residual collagenase. Comparisons will also be made in using the device either with or without collagenase. An evaluation as to the feasibility of direct point of care use of the Q-Graft device as an alternative to currently available manual and automated processing techniques will also be discussed.

Biography

Todd Malan is considered one of the true pioneers of fat derived stem cell therapies in the USA. In October of 2009, He was the first U.S. physician to utilize adipose or fat derived stem cells for soft tissue reconstruction. He has described his techniques and experience as an author in two medical textbooks as well as having presented at dozens of stem cell conferences worldwide. He has been pivotal in developing safe protocols for stem cell harvesting and deployment for regenerative medicine and has trained hundreds of physicians worldwide in the safe and effective use of adipose derived stem cells. He began to seek out ways to utilize adipose stem cells for regenerative applications after a close family member was diagnosed with multiple sclerosis (MS). He now divides his practice time into cosmetic stem cell procedures and regenerative medicine research for patients with chronic disease and degenerative disorders.

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