One hundred years after the first description of autologous fat transplantation, this technique is receiving renewed attention. Initially, critically reviewed by plastic surgery societies, particularly those in the United States, the transfer of autologous fat was recently addressed at the September 2009 annual meeting of the German Society of Plastic, Reconstructive and Aesthetic Surgeons in Hannover. In this consensus meeting, the panel reviewed both the current status of autologous fat transfer as well as established data concerning this evolving practice. In Germany, autologous fat transplantation is regulated by the Law on Tissue Transfer and Processing (Gewebegesetz). In an effort to facilitate future comparisons it is mandatory to describe harvesting, processing and reinjection techniques in detail. The consensus panel concluded that fat should be harvested using low vacuum settings and then transplanted in thin layers (Evidence V). Quantification of transplanted fat can best be performed by MRI (Evidence level III). Limited clinical studies are available with only some reaching a level of evidence II. At present, risk associated with autologous fat transplantation is
considered to be minor. Tumor induction by autologous fat grafting is not proven. New techniques like stem cell enriched fat grafts may offer new promise for the Plastic and Reconstructive Surgeon.