

Sense and Sensibility in autologous breast reconstruction

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IMPACT PARAGRAPH

The aforementioned young and vulnerable, large and ever-growing patient population make the research in this thesis socially relevant. With approximately 16,000 Dutch women diagnosed with breast cancer and the additional patients seeking prophylactic treatment, we can not expect a one-size-fits-all approach to work. Each woman is unique in her body habitus, preferences, comorbidities etc. Shared-decision making is a concept that advocates patient participation in decisions about their medical treatment. Instead of making the decisions for our patients, stating their treatment will be either "A or B", we should ask our patients more "What would *you* like?". Assessing the best reconstructive option should be done together with the patient by weighing up the medical and surgical technicalities against the priorities and ideals of the patient. Involving patients in the decision making process during the preoperative counseling results in higher patient satisfaction and quality of life.

This thesis focuses on improving the quality of life of women who require or seek therapeutic or prophylactic breast cancer therapy and need to face the debilitating scars and side effects of their treatment every day. Scar positioning and length are important features that can lead to a daily confrontation. Therefore, the donor site region should be carefully selected and match the expectations of the patient. The introduction of the lateral thigh perforator flap by dr. Tuinder and her colleagues has, for example, led to women from all over the country to travel to Maastricht for this specific technique. To further expand the armamentarium for autologous breast reconstruction of plastic surgeons, a simplified approach in gluteal flap breast reconstruction has been introduced. The breast-sharing technique as a free flap based on the lateral thoracic artery could be a valuable option to offer breast cancer patients who underwent unilateral mastectomy, however, based on the results in this thesis we do not recommend every plastic surgeon to include this in their armamentarium. Only in the hands of experienced microsurgions, the technique has potential to serve as an elegant treatment in a select group of patients.

With the results of our successful case report in Chapter 3, we would like to encourage all plastic surgeons to always change the plane whenever performing tertiary salvage breast reconstruction. Immediately changing the plane and repositioning the pectoralis major muscle to its anatomical position overcomes breast animation deformity, in its turn often leading to additional surgeries. Many of these additional procedures could, therefore, be prevented. Cost-effectiveness analysis is, however, impossible with the low number of

patients actually in the need for salvage procedures after implant based breast reconstruction.

This thesis has played an important role in further consolidating the evidence on the efficacy and clinical relevance of sensory nerve coaptation in autologous breast reconstruction. The New York Times article "After mastectomies, an unexpected blow: Numb new breasts" in 2017 brought the topic of insensate breasts to the mainstream attention. So far, promising results in favor of innervated breast reconstructions have been presented, but high-quality evidence to fully convince the sceptics of sensory nerve coaptation are needed. Our institute is currently performing a double-blinded randomized controlled trial to evidently demonstrate the superiority of innervated breasts regarding sensory recovery and quality of life. This study is funded by the KWF Dutch Cancer Society, a nation-wide organization for cancer related work in the Netherlands and by Kankeronderzoekfonds Limburg (KOFL), emphasizing the relevance of this research. To further investigate the fundamental mechanisms of breast sensation and to fill the knowledge gaps, future research is required. Our research group has applied for a VIDI proposal, a prestigious subsidy that enables researchers to develop innovative lines of research. We have only recently rebutted our proposal and are awaiting an invitation for oral interviews to further convince the committee of the relevance of this research. Hopefully, it will enable us to underline the importance of breast sensation and implement the technique of sensory nerve coaptation nationally.