

## The Serratus anterior free flap for head and neck reconstruction

**Boban M Erovic**

*Institute of Head and Neck Diseases, Evangelical Hospital, Vienna, Austria*



### Abstract

Surgical removal of malignant head and neck tumors leads to considerable cosmetic and functional changes in most patients, that not only has a decisive influence on the patient's quality of life, but also their social environment.

The goal of reconstruction, critical structures and the technical feasibility of the proposed procedure must be discussed and planned in detail with the patient and coordinated with the patient's general condition. The principle of 'defect-oriented' reconstruction applies first tumor resection followed by reconstruction. After surgery functional units have to be reconstructed in addition to the defect, using either regional or free tissue flaps. Free flaps enable a three-dimensional restoration of defects but should also be able to replace skin, muscle tissue, bones, cartilage, or tendons. In addition, size, volume, consistency and vascular pedicle length of the tissue to be transferred must be taken into account. Defects of the facial area must be reconstructed with skin flaps that have a comparable skin thickness and pore density, similar hair growth direction and, above all, skin colour. The serratus anterior free flap fulfils in most cases these requirements because it can be harvested as a sole muscle flap or as a musculocutaneous or costomusculocutaneous flap. When reconstructing parts of the oral cavity a serratus anterior flap including one or two fingers can be harvested. For larger defects, where more volume and surface area are required from the flap, a myogenous or musculocutaneous flap including 4-5 fingers can also be used. When harvesting a musculocutaneous flap the morphology in regards to colour, thickness, pores and hair is very close to the skin of the face and neck. Small bone defects after mandibular resection can be reconstructed with a combined rib - serratus muscle.

### Biography

Boban M Erovic has completed his MD at the Medical University of Vienna, Austria. After completing his residency in Vienna, he did his clinical fellowship at the Department of Otorhinolaryngology, Head and Neck Surgery, Toronto, Canada. Currently he is the director of the Institute of Head and Neck Diseases at the Evangelical Hospital, Vienna. His main focus of clinical work and research are outcome studies and treatment algorithms of head and neck cancer patients with particular interest in complex reconstructions of head and neck defects. He has over 130 publications, 5 books, several book chapters that have been cited over 2200 times, and his publication H-index is 29. He has been serving as an editorial board member of 'Cancers' and 'Trends in Oncology'. Since 2019 the first international, fully funded, fellowship in head and neck ablative and reconstructive surgery has been implemented in Austria at the Institute of Head and Neck Diseases.



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