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Postburn Head and Neck Reconstruction: An Algorithmic Approach.

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Abstract

BACKGROUND:
Optimizing functional and aesthetic outcomes in postburn head and neck reconstruction remains a surgical challenge. Recurrent contractures, impaired range of motion, and disfigurement because of disruption of the aesthetic subunits of the face, can result in poor patient satisfaction and ultimately, contribute to social isolation of the patient. In an effort to improve the quality of life of these patients, this study evaluates different surgical approaches with an emphasis on tissue expansion of free and regional flaps.

METHODS:
Regional and free-flap reconstruction was performed in 20 patients (26 flaps) with severe postburn head and neck contractures. To minimize donor site morbidity and obtain large amounts of thin and pliable tissue, pre-expansion was performed in all patients treated with locoregional flap reconstructions (12/12), and 62% (8/14) of patients with free-flap reconstructions. Algorithms regarding pre- and intraoperative decision-making are discussed, and complications between the techniques as well as long-term (mean follow-up 3 years) results are analyzed.

RESULTS:
Complications, including tissue expander infection with need for removal or exchange, partial or full flap loss, were evaluated and occurred in 25% (3/12) of patients with locoregional and 36% (5/14) of patients receiving free-flap reconstructions. Secondary revision surgery was performed in 33% (4/12) of locoregional flaps and 93% (13/14) of free flaps.

CONCLUSIONS:
Both locoregional as well as distant tissue transfers have their role in postburn head and neck reconstruction, whereas pre-expansion remains an invaluable tool. Paying attention to the presented principles and keeping the importance of aesthetic facial subunits in mind, range of motion, aesthetics, and patient satisfaction were improved long term in all our patients, while minimizing donor site morbidity.