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Preface

Craig H. Johnson and Stephen J. Finical

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Technique Evolution for Facial Paralysis Reconstruction Using Functioning Free Muscle Transplantation—Experience of Chang Gung Memorial Hospital

David Chwei-Chin Chuang

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The author performed facial reanimation by using functioning free muscle transplantation in 116 cases from 1986 to 2000. Three consecutive five-year periods are presented in relation to each stage of the author's technical improvement. The first five years bulkiness and asymmetrical smiling with weak gum exposure were encountered and required correction. The second five years was a period of technical improvement, but with residual deformities. The third five-year period was one of technique refinement. The author extended the utility of the gracilis for different and more challenged problems, such as the use of a muscle plus skin two-unit composite flap connected by the septoperforator nutrients, not only for facial reanimation but also for intra-oral contracture release or extra-oral facial soft tissue and skin deficits replacement.

The Three-stage Concept to Optimize the Results of Microsurgical Reanimation of the Paralyzed Face

Manfred Frey and Pietro Giovanoli

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Using 3-D videoanalysis of facial movements, a qualitative and at the same time a quantitative analysis of the results of surgical reanimation of the paralyzed face has become possible for the first time. This analysis showed that the combination of cross-face nerve grafting and free functional grafting of the gracilis muscle in two separate procedures gives the best results of emotionally directed and regionally differentiated facial movements in an irreversibly paralyzed face. Further, this article underlines the importance of the combination of the dynamic reconstruction with several static measures and the need of a third operation with a variety of supportive procedures to optimize the final overall result of static and dynamic symmetry. The indications, the details of operative techniques, and the results realistically obtain by our three-stage concept are included.

Basic Science Behind Functioning Free Muscle Transplantation

Kazuteru Doi, Yasunori Hattori, Soo-Heong Tan, and Vikas Dhawan

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Free muscle transfer is now a feasible procedure in several fields of reconstructive surgery. In this article, basic science behind clinical free muscle transfer, including essential aspects like donor muscle selection (type of blood supply, architecture of fibers, fiber

length, and muscle volume), donor nerve selection, placement and routing of muscle, tension of muscle at suturing, postoperative monitoring of muscle circulation, postoperative reinnervation, and rehabilitation are discussed in detail.

Möbius and Möbius-like Patients: Etiology, Diagnosis, and Treatment Options

Julia K. Terzis and Ernst Magnus Noah

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Management of the Möbius or Möbius-like patient is a significant challenge for reconstructive surgeons. An understanding of the complexity of the syndrome is the key to customize an individual reconstructive strategy for each patient. Thorough clinical and electrophysiological examination points to the remaining potential motor donors. Appropriate planning in combination with sophisticated microsurgical techniques yield the most consistent satisfactory results in these severely afflicted patients.

Results of Microvascular Gracilis Transplantation for Facial Paralysis—Personal Series

Marcus Castro Ferreira and José Carlos Marques de Faria

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Clinical series of segmental gracilis microvascular transplantation for the treatment of long-standing facial paralysis. Discussion on the evaluation of results and some data obtained from this series.

Aesthetic Considerations in Facial Reanimation

Marcus Castro Ferreira

523

The treatment results of facial paralysis have improved within the last two decades with the introduction of new techniques for neuromuscular reconstruction. However, many patients still complain of aesthetic imbalance impairment after treatment. This article presents some complementary procedures that can be used to improve the appearance of the face either isolated in incomplete palsies, or after the completion of reconstructive procedures in complete paralysis. The procedures are divided according to anatomical areas—forehead, eyelids, middle third of the face, and the lower lip.

Treatment of Weakness of the Lower Lip Depressor

Douglas H. Harrison

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Weakness of the lower lip is an embarrassment for the subject, and in the act of normal speech the depressor is activated and produces a functional asymmetry with the paralyzed side. A number of methods have been used to improve balance by paralyzing the active side or increasing the power of the paralyzed side. The author presents his experience with these methods and provides an algorithm for treatment.

The Treatment of Unilateral and Bilateral Facial Palsy Using Free Muscle Transfers

Douglas H. Harrison

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A 25-year experience in the treatment of unilateral and bilateral facial palsies is presented. The advent of crossed facial nerve grafts and revascularized muscle grafts gives a high proportion of facial reanimation. The choice for the muscle graft is the pectoralis minor. The latissimus dorsi can be used in unfavorable circumstances or in bilateral facial palsies. Although recovery of movement is high, the search for refinement and symmetry continues. This article encapsulates the author's philosophy in trying to achieve these goals.

Cross-facial and Functional Microfascular Muscle Transplantation for Longstanding Facial Paralysis

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Harry J. Buncke, Gregory M. Buncke, Gabriel M. Kind, Rudolf F. Buntic, Darrell Brooks, and Brien T. Chin

This article covers the historical development of this complex approach to longstanding facial paralysis gained by over thirty years experience working with functional microvascular muscle transplants, by the senior author and his colleagues. Technical details are stressed, and the rationale for changes and additions to the two-stage approach are presented. Areas for further experimental and clinical work are discussed.

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