Freestyle Propeller Flap Closure of Traumatic Injury Defect

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INTRODUCTION: The concept of freestyle propeller flaps provides a versatile opportunity for wound closure at any part of the body with minimal donor site morbidity. As experience and familiarity with microsurgical procedures has increased interest in identifying-harvesting perforator flaps originating from known major vessels has become more common. The “freestyle” concept developed by Wei and Mardini expanded reconstructive options and concept using propeller flap.1 Technique is based on dissecting flaps in retrograde fashion toward the perforator in the vicinity of the defect.2

MATERIALS AND METHODS: This a case of a 70 years old man who sustained traumatic dislocation of his right knee. Due to delay in diagnosis patient injury resulted in a loss of soft tissue over the medial knee. Necrotic tissues that included knee joint capsule were removed prior to reconstructive procedure. Cultures obtained during debridement excluded infectious process.

RESULTS: Ten centimeters above the knee a strong Doppler signal detected a perforator. Using medial to lateral retrograde dissection 2 perforators were identified measuring 1 mm each. A propeller flap was designed to include the medial perforator with the most proximal portion of the flap reaching distal portion of the defect. Final size of the flap was 18x8 cm with perforator located 4 cm proximal from the distal portion of the flap. The propeller flap was rotated 180 degrees on the medial perforator and inset into the defect with drain in place. Selection of the medial perforator was based on the central location with in the flap and Doppler signal quality at the end of the dissection.

This patient spent 5 days in the hospital with leg elevated and monitored for a flap loss. He was discharged home with strict bed rest for total of 2 weeks followed by gradual increase of activity over subsequent 4 weeks period. The defect healed without complications and patient returned to regular activity after 4 week course of physical therapy.

CONCLUSION: In summary, case demonstrates that freestyle perforator flap provide a viable option for knee injury reconstruction. Using freestyle perforator flap minimized donor site morbidity, provided versatile technique for reconstruction and allowed patient to avoid discomfort of muscle flap. It is paramount to collaborate and communicate with orthopedic surgeons or trauma surgeons in planning these procedures as these perforators may be easily lost during initial exploration or debridement procedures.

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REFERENCES:
1. Wei FC, Mardini S. Free-style flaps. Plastic. Reconstr. Surg. 2004, 114:910–916
2. Patel KM et al. Microsurgery 2014, 34: 233–36

Functional and Aesthetic Outcomes of Spreader Graft in Rhinoplasty

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INTRODUCTION: Spreader grafts are widely used for different purposes in rhinoplasty. For correction of the middle third and harmony of brow tip lines, correction, excessive width of middle third, asymmetry of the iddle third, disruption of aesthetic brow tip lines, correction of internal nasal valve. The aim of this study to share our functional and aesthetic results in the patients whom we applied spreader graft while rhinoplasty.

MATERIALS AND METHODS: We reviewed the aesthetic and functional results of a 27 patients from 43 rhinoplasties in whom spreader graft was used, between 2010-2015 that we found CT images. 16 M 11 W. mean age was 29 (21–39). Dorsal aesthetic lines were evaluated with photograph by two surgeons and nasal valve angles were measured from preop and postop CTs.

RESULT: Symmetry of the middle third of the nose and aesthetic brow tip lines were obtained in the patients. Preoperative cottle sign was positive at all patients and it was the main indication for us to use spreader graft. Postoperative all patients expressed relaxation during breathing and cottle sign was negative. While normal internal nasal valve(INV) angle is between 10 and 15°, in our patients postoperative INV angle mean angle was 12.1°, while preoperative 8.2°.

CONCLUSION: Spreader grafts are used for different purposes: avoiding inferomedial collapse of the upper lateral cartilage after dorsal reduction, maintaining dorsal
aesthetic lines after osteotomies, symmetries of the middle third. It is also used for functional recovery of opening the nasal valve. Measuring nasal valve angle is an objective criteria of functional outcome, the brow tip aesthetic lines referred by Tardy and Sheen are options for aesthetic evaluation. Our common indication of using spreader graft is internal nasal valve insufficiency. Besides, it also gives aesthetic outcomes and patient satisfaction.

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REFERENCES
1 Karamese M, Akdag O, Akatekin A, Gun Koplay T, Koplay M, Tosun Z. Extracorporeal Septoplasty Combined With Valve Surgery in Rhinoplasty Patients. Annals of Plastic Surgery. 2016:76:7–12.
2 Sheen JH. Spreader graft: a method of reconstructing the roof of the middle nasal vault following rhinoplasty. Plast Reconstr Surg. 1984;73: 230Y239.

Functional Latissimus Transfer for Upper Extremity Reconstruction: A Case Report and Review of the Literature
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BACKGROUND: Upper extremity reconstruction often utilizes the Latissimus Dorsi (LD) muscle flap for its width, length, and ample blood supply. Variant flaps and techniques have been described that support the uses of this flap to suit a wide range of reconstructive needs.

METHODS: We present a case in which the LD flap was used for coverage of a defect resulting from surgical resection of a sarcoma of the right upper extremity. A comprehensive literature review of the use of the LD flap for upper extremity reconstruction was performed. Articles were selected for their relevance to plastic and reconstructive surgery, and then reviewed for their discussion of the applications, benefits, and limitations of upper extremity reconstruction in plastic surgical practice.

RESULTS: In the case presented, the LD flap was successfully employed for coverage, and in post-operative follow up, the patient was able to perform elbow flexion, extension, pronation, and supination.

CONCLUSIONS: The case study and literature review presented support the use of the LD muscle flap in repairing upper extremity defects, as it may provide for ease of coverage and improve post-operative elbow function.

Herpes Zoster Ophthalmicus Complicating Nasal Forehead Flap Reconstruction
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INTRODUCTION: There have been three reports (a total of eight cases) of Herpes Zoster (HZ) complicating plastic surgery procedures of the head and neck. None of these cases had significant ophthalmologic complications. This is the first report of HZ Ophthalmicus associated with ocular complications developing during the course of a staged nasal reconstruction with a paramedian forehead flap.

RESULTS: A 62 year-old woman with a medical history significant for idiopathic thrombocytic purpura was seen for a post-Mohs defect of her nose after resection of a basal cell carcinoma. After obtaining medical clearance from her hematologist, a left-sided paramedian nasal forehead flap was performed. One week after an intermediate-stage thinning of the flap, the patient presented with erythema of the flap, the pedicle and the adjacent upper eyelid. Cellulitis was diagnosed and the patient initially treated with oral antibiotics. Her optometrist added antibiotic eye drops. When her condition did not improve, she was referred to an ophthalmologist who continued treatment for pre-septal cellulitis. As her eye irritation and headaches worsened, vesicles appeared on her flap and forehead, while the adjacent nasal skin was spared (V1 involved-V2 uninvolved). The diagnosis of Herpes Zoster Ophthalmicus was made. The patient proceeded to develop HZ keratoconjunctivitis, uveitis, and optic neuritis. Her visual acuity deteriorated. Emergent hospitalization and treatment with intravenous acyclovir prevented significant permanent visual impairment. Resolution of her ophthalmic problems took several months requiring delay of the division of the flap pedicle. She ultimately required replacement of her ocular lens. She was last seen 3 years after her surgery with a well-healed flap, slight eyelid ptosis, and mild epiphora.

CONCLUSION: Among cases of Herpes Zoster, involvement of the eye is uncommon, occurring in only 2.5% percent