Skin damage by either trauma or surgical intervention inevitably results in scar formation. Facial scars can be cosmetically disfiguring and may cause functional impairment and psychosocial withdrawal. Botulinum toxin type A (BoNTA) is known to prevent fibroblast proliferation and expression of transforming growth factor-β1. It also induces temporary muscle paralysis and decreases tension vectors. Fibroblasts induce scar contracture and hypertrophy by producing collagen fibers in wound healing processes. In theory, botulinum toxin can play a vital role in scar prevention by reducing contracture and relaxing the adjacent muscles. Several studies have suggested the possibility of injecting botulinum toxin into nearby musculature around the traumatic or incisional wounds. However, sound clinical evidence has been missing. The aim of this study is to investigate the subjective and objective evidence of the effect that botulinum toxin has on scar formation in human. This is a prospective, split-scar, double-blinded, randomized controlled study. From February 2012 to December 2015, patients who presented forehead lacerations were recruited from the emergency room. Forty-five patients with forehead laceration were enrolled in this study and randomized into 2 groups with or without injection of BoNTA. When the patients presented to the clinic to remove the stitches, BoNTA was injected to the BoNTA group with 24 patients and saline was injected to the control group with 21 patients. The BoNTA was injected on dermal layer with 5 units/cm within a 0.5 cm distance on BoNTA group. Placebo drug was prepared as a vial containing 0.9% saline which is similar to BoNTA. After that, follow-up was done in 1, 3, and 6 months. The scars were analyzed with the Patient and Observer Scar Assessment Scale, Stony Brook Scar Evaluation Scales, and Visual Analog Scale and analyzed with independent t test, along with clinical photographs, cutometer, and biopsies. There were 21 patients in the control group and 24 patients in the BoNTA group. There were no significant adverse events in all patients. In all scar scales, the scores changed into favorable direction in both groups and the changes were larger in BoNTA group compared with the control group. However, when the amount of changes of the scar scales was investigated, there were more favorable changes in BoNTA group, which was proved statistically in Stony Brook Scar Evaluation Scales (P = 0.047) and Visual Analogue Scale (P = 0.046). Even without statistical significance, there were more favorable changes in BoNTA group in Patient Scar Assessment Scale (P = 0.110) and Observer Scar Assessment Scale (P = 0.169). Skin biopsy showed less collagen deposition on dermal layer in BoNTA group. In hematoxylin and eosin stain and Masson-trichrome stain, there was a denser deposition of collagen fibers of the specimen belonging to the control group compared to the BoNTA group. Based on the findings above, BoNTA can improve scar properties in various aspects, especially in decreasing collagen synthesis. The gross findings also showed favorable changes. This study provides useful indication of application of BoNTA in scar prevention with promising results.

**Patient Characteristics Predict Success Following Pedal Soft Tissue Augmentation**

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**INTRODUCTION:** Pedal fat grafting has been shown to improve pain and functional impairment from forefoot fat pad atrophy. We aim to determine whether patient demographics and foot characteristics play a role in the level of impact that is achieved following surgery.

**METHODS:** We performed a retrospective review of patients who received forefoot autologous fat injections for the treatment of pedal fat pad atrophy. Patient improvement of pain and functional impairment was measured using the Manchester Foot Pain and Disability Index. One-way analysis of variance statistical analyses were used to evaluate correlation between patient characteristics and an improvement in survey scores assessing pain and functional impairment from the time of surgery to 6 months, to 12 months, and from 6 to 12 months. Patient characteristics examined include gender, age, body mass index (BMI), unilateral or bilateral injections, a flexible or rigid foot arch, previous foot deformity or surgery, and the presence of callus.

**RESULTS:** Forty-four patients received fat injections into the ball of their foot. Seventy-three percent of them were women; their mean age was 61 years old, and mean BMI was 26.6 kg/m². Seventy-five percentage had injections performed bilaterally. Forty-one percentage had a flexible arch, 73% had a history of pedal deformity or surgery, and 43% had callus. Significant findings included a correlation between female gender and an improvement in pain from the time of surgery to 12 months later (P = 0.02), a correlation between unilateral injections and an improvement in pain from the time of surgery to 6 months later (P = 0.03),
and a correlation between a healthy BMI and an improvement in functional impairment from 6 months postsurgery to 12 months postsurgery ($P = 0.01$).

**CONCLUSION:** Patient characteristics correlate with the impact of pedal fat grafting surgery and the time course of improvement following surgery. Female gender was found to correlate with improvement in pain at 12 months postsurgery. Patients undergoing unilateral foot fat grafting may see clinical improvements in pain faster than those receiving bilateral injections. Ultimately, both groups see clinical improvement at 1 year. Similarly, patients classified as overweight may see faster improvement in functional impairment than those with lower BMI with no difference at 1 year. Given our findings, we advocate for all patients with suspected fat pad atrophy to be considered for soft tissue augmentation. Large-scale studies are called for to further elucidate the impact of various patient characteristics on the probability of success in pedal fat grafting.

**Otoplasty: The Belfast Experience. A 10-year Review**

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**PURPOSE:** Prominent ear is a common congenital anomaly with an estimated incidence of 5%. Otoplasty aims to address the abnormal shape of the auricular cartilage framework. The vast range of operative techniques and refinements belies a lack of consensus as to the proper surgical approach to this common condition. Recent publications favor cartilage suturing techniques over cartilage scoring methods. The Belfast experience of different otoplasty techniques of 1,199 patients over a 10-year period is reviewed.

**METHODS AND MATERIALS:** All pediatric cases undergoing correction of prominent ear/ears from 2005 to 2015 were included in this retrospective case note analysis and follow-up study. Data collected included age, sex, age at referral, age at outpatient clinic, indication for referral, laterality, family history, and cause of prominence. Also collected was age at surgery, time on waiting list, method of anesthesia, surgeon grade/supervision, surgical technique utilized, hospital stay, duration and compliance with head bandage, and complication rate associated with each technique. Experience including number of cases and follow-up. Over a 10-year period, 1,199 otoplasties were performed: 1,134 bilateral and 65 unilateral (a total of 2,333 ears corrected). Of these, 707 (59%) cases were male and 494 (41%) were female. Patient review was at 1 and 3 months postoperatively.

**SUMMARY OF RESULTS:** Mean age at surgery was 9 years, median 9 years, and range 2–14 years. Surgery under combined general and local anesthetic in 94% cases, general anesthetic-only 4%, and local anesthetic-only 2%. Surgery performed by a consultant in 29%, registrar 68%, and a core trainee in 3% of cases. Surgical technique: conventional anterior cartilage scoring in 1,575 (68%) cases, suture-only technique in 215 cases (9%), conchal/cartilage reduction in 82 cases (3%), combined conventional cartilage scoring and suturing in 444 cases (19%), and combined suturing and conchal reduction in 17 cases (1%).

Complication rates for:

**Anterior scoring (1,575 ears)**
- 16 ears (1.01%) bleeding requiring early redressing
- 25 ears (1.58%) developed hematoma requiring theater for evacuation
- 8 ears (0.32%) infection requiring antibiotics
- 5 ears (0.32%) wound dehiscence
- 27 ears (1.715%) developed pressure necrosis
- 3 ears (0.63%) developed keloid scars
- 11 ears (0.69%) deemed to have a residual asymmetry deformity

**Suture-only otoplasty (215 ears)**
- 0 ears (0%) bleeding requiring redressing
- 0 ears (0%) hematoma requiring evacuation
- 4 ears (1.39%) infection requiring antibiotics
- 1 ear (0.47%) wound dehiscence
- 0 ears (0%) developed pressure necrosis
- 0 ears (0%) developed keloid scarring
- 0 ears (0%) were deemed to have a residual asymmetry deformity