applicants had completed a US general surgery-training program. All successful applicants matched in one of their top five choices, with 55% matching in their top choice. Overall, increasing Step 1 scores significantly correlated with any IMG candidate’s probability to match to their number one choice (p=0.052).

CONCLUSIONS: Our survey captures the profile of successful applicants matching into a plastic surgery training program. Matching into a Plastic Surgery residency as an IMG is an extremely competitive endeavor. Applicants who matched in an integrated program displayed more academic achievements with a higher number of research years, publications and grants awarded. Furthermore, 1/3 of them had completed a surgical residency in their home country. Conversely, applicants who matched in an independent program had a less academic-based background likely due to having completed a general surgery training in the US prior to applying to Plastic Surgery residency.

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QS45

Component Restoration in the Unilateral Cleft Tip Rhinoplasty: Technique and Longevity

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PURPOSE: Approaches to systematically address deficient tissue components have not been thoroughly investigated in the unilateral cleft nasal tip correction. We describe and evaluate long-term outcomes of a component restoration technique performed during mid-childhood that simultaneously addresses cleft lower lateral cartilage (LLC) positioning, cleft LLC hypoplasia, and lining deficiency.

METHODS: The component restoration technique involves: 1.Composite release and repositioning of the cleft LLC and nasal lining, 2.Composite skin/cartilage auricular graft for LLC support and to replace the lining deficit, 3.Tip suturing. Photographs of children with unilateral cleft nose (UCN) anomalies (n=50) treated with component restoration (n=29) were evaluated preoperatively (t0) and postoperatively: <1 year (t1), 1–3 years (t2), and >3 years (t3) and compared to age-matched UCN controls (n=21). Alar symmetry, nasal tip protrusion, and nostril dimensions were determined at each timepoint using basal view photographs and analyzed using a linear mixed-effect model.

RESULTS: Component restoration UCN correction improved alar symmetry, increased nasal tip protrusion, and decreased nostril width/height at t1, t2, and t3 compared to t0 (p <0.001). No differences were detected in control UCN suggesting that these changes were unrelated to age-dependent growth. At t3, children who underwent component restoration tip rhinoplasties demonstrated improved nasal tip protrusion compared to control UCN children (p=0.002).

CONCLUSION: The component restoration technique in unilateral cleft tip rhinoplasty in mid-childhood improves alar symmetry, nasal tip protrusion, and nostril dimensions. Such improvements are sustained for at least three years postoperatively and are unrelated to age-dependent changes in cleft nasal development.

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QS46

Schwann Cell-like Cells (iMDSC) Differentiated from Muscle-Derived Stem Cells (MDSC) Improve Neuromuscular Re-innervation and Functional Outcomes After Rodent Upper Extremity Peripheral Nerve Trauma
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PURPOSE: Peripheral nerve injuries are common and have debilitating effects, including loss of nerve and muscle function, painful neuropathies, and impaired sensation. Current therapies do not address a major challenge of peripheral nerve regeneration: the atrophy or loss of Schwann cells (SC), which are the principal glia cell that support peripheral neurons. Recent interest in peripheral nerve regeneration has focused on using stem-cell derived SC for cellular replacement therapy. Mesenchymal stem cells, including adipose and bone marrow, have been proposed to be a good source of SC. However, bone marrow biopsies are invasive, and adipose-derived stem cells have been shown to rapidly dedifferentiate in the absence of stimulating media. Consequently, there is a pressing need to identify alternative mesenchymal stem cell sources for SC cellular replacement therapy to improve peripheral nerve regeneration. The purpose of this study was to assess the impact of muscle-derived stem cells (MDSCs) in augmenting nerve regeneration and improving muscle function after nerve trauma.

METHODS: Our lab derived SC-like cells from GFP+ muscle-derived stem cells (GFP+ MDSCs) to investigate the potential of SC replacement therapy in the promotion of peripheral nerve regeneration. To assess the in-vivo effects of GFP+ MDSC-derived SC-like cells (GFP+ iMDSC) on peripheral nerve regeneration, we used a median nerve injury model developed in our laboratory. Four groups (n=5 per group) of rats with median nerve injuries were examined: (1) Group-1 animals were treated with intraneural PBS after nerve trauma (negative control); (2) Group-2 were naive controls; (3) Group-3 animals were treated with intraneural GFP+ MDSCs; (3) Group-4 animals were treated with GFP+ iMDSCs. All animals underwent weekly upper extremity functional testing. Five weeks post-treatment, the rats were sacrificed, and the median nerve and extrinsic finger flexor muscles were harvested for nerve histomorphometry, nerve myelination, muscle weight & atrophy, GFP+ MDSC engraftment and proliferation, and neuromuscular re-innervation analyses.

RESULTS: Immunofluorescence studies of the median nerve demonstrate that GFP+ iMDSC remain stably transformed in-vivo 5 weeks post injection, and localize in the endoneurium of the median nerve. GFP+ iMDSC were found to co-express S100 (SC cell surface marker) and Ki-67 (a cellular proliferation marker) in vivo. Median nerve regeneration was higher in iMDSC-treated animals when compared to untreated controls (G-ratio: group 1 [0.47] vs group 4 [0.512], p = 0.2195), though this was not statistically significant. iMDSC therapy improved muscle re-innervation (p = 0.033), and decreased muscle atrophy (p = 0.0143). Lastly, iMDSC-treated animals demonstrated greater functional muscle recovery when compared to untreated control (hand grip: group-1 [0.91 N] vs group-4 [3.38 N], p < 0.0001) at five-weeks post-treatment.

CONCLUSIONS: Schwann-Cell like cells (iMDSCs) derived from muscle mesenchymal stem cells decrease denervation muscle atrophy and improve neuromuscular re-innervation, and subsequent functional outcomes after upper extremity nerve trauma in rodents.

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QS47

Wide Propeller Posterior Thigh Flap to Reconstruct Perineal Defects post Abdominoperineal Resection

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PURPOSE: With increasing popularity of laparoscopic and robotic approaches to colectomy during abdominoperineal resection (APR), now thought to account for 40% of all cases (Johnstone et al. 2017), thigh based flaps are becoming the only option for reconstruction of the perineal defect.