**METHODS:** A systematic literature review of the National Library of Medicine (PubMed) database was performed by two independent reviewers. English and French-language studies involving the outcomes of autologous fat grafting to correct contour defects of the face were included. Extracted data included patient demographics, harvest and injection sites, graft harvesting and injection technique, mean injected volume, retained volume percentage, and complications.

**RESULTS:** Forty-three articles met the inclusion criteria, resulting in 4577 patients with various facial contour defects treated with autologous fat grafting. The average age at the time of treatment was 36.2 years, with a female predominance of 82%. The mean volume of injected fat was 17.0 ml with an average volume retention of 52.7% at time of follow up (mean 13.9 months). Injection sites were categorized by anatomic facial regions as upper (32.5%), middle (53%), or lower face (14.5%).

A total of 111 (2.42%) complications were reported including erythema (1), prolonged pain (7), prolonged edema (4), telangiectasia (1), asymmetry (74), skin irregularities (14), graft hypertrophy (4), infection (2), and fat necrosis (3).

**CONCLUSION:** The present study represents the first systematic review of its kind. This study emphasizes both the safety and versatility of fat grafting to the head and neck region and demonstrates the long term viability of fat grafting with adequate graft retention after one year.

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**Cryptotia Correction Using Double Opposing Interpositional Advancement Flaps**

**Presenter:** Eric D. Wang, MD  
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**INTRODUCTION:** Cryptotia is a congenital deformity of the ear where the upper third of the auricle is buried beneath the temporal skin with subsequent defacement of the cartilaginous framework. Patients present with distress over the appearance of their ear and difficulty wearing glasses. When diagnosed in the neonatal period, splinting is effective, but when diagnosed later in life surgical therapy is often most effective. Various surgical techniques have been described, but there has been no consensus for the best treatment. Almost all necessitate a skin graft. We present a novel technique utilizing 2 adjacent flaps from temporal and post auricular skin to release and cover the auricular soft tissue defect without skin grafting.

**METHODS:** 3 ears (2 patients) were treated at the University of California San Francisco with cryptotia and repaired under general anesthesia as an ambulatory procedure. Both patients presented as teenage boys. An inverted V-Y flap is designed above the buried portion of the helical rim at 12 o’clock in the temporal and postauricular skin. A second inferiorly-based flap is designed adjacent to the posterior limb of the V. Both flaps are elevated above the temporalis fascia. The buried portion of the auricle is then released from the helical rim to the base of the concha. After release, the helical rim and antihelix are re-shaped with conchal-scaphal sutures if needed. The V flap is then inset to the posterior surface of the ear, with straight-line donor site closure. The inferior flap is then advanced to close the residual soft tissue defect. The ears are dressed with a Glasscock ear cup dressing.

**RESULTS:** All patients returned for follow up 1–2 weeks after their procedure and healed without complications. There were no problems with tissue loss or wound healing. At 4 months postoperative, our results were durable with good cosmesis and satisfaction.

**CONCLUSION:** We present a novel technique that is reliable and effective for reconstructing the soft tissue deficiency without skin grafting in cryptotia after helical release. The procedure is well-tolerated and the scars are hidden by the ear and temporal skin.

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**CT Analysis of Micrognathia: Do Cephalometrics Predict Management Course?**

**Presenter:** R. Maxwell Rotatori, BA
INTRODUCTION: Mandibular micrognathia is the primary defining characteristic of Pierre Robin Sequence (PRS) that sets off a physiologic cascade with varying severity of airway obstruction. The diagnosis of micrognathia is predominantly clinical, though with the advent of three-dimensional computed tomography (3D-CT), the development of objective and accurate measurements of skeletal morphology could be a useful clinical adjunct for management. The aim of this study is to investigate the efficacy of using cephalometric analysis to guide clinical management: non-operative treatment, mandibular distraction, tracheostomy.

METHODS: Records were retrospectively reviewed from 2004–2016 (IRB#2011-0247). Infants less than one year of age with PRS, evaluated for surgical management of micrognathia with a CT scan were included. 3D-CT analysis of total mandibular length (Co-Gn) and total midface length (Co-A) was performed in addition to traditional cephalometric analysis – Co-Gn, Co-A, SNA, SNB, ANB – in reformatted sagittal CT scans. Clinical data collected included age at CT scan, sex, and associated syndromic status. Chi-squared and Kruskal-Wallis tests were used to compare values among patients that were managed non-operatively, with mandibular distraction osteogenesis (MDO), and tracheostomy at any point, with Mann-Whitney U test reserved for comparing two groups.

RESULTS: 147 patients met inclusion; 33 non-operative, 73 MDO, 41 tracheostomy. CT scans were performed at an older age in the tracheostomy group compared to the non-operative and MDO groups (96.3, 58.3, 39.4 days, respectively; \(p=0.02\)). Likewise, the tracheostomy group had a greater proportion of syndromic patients compared to non-operative and MDO groups (76%, 36%, 40%, respectively; \(p=0.0003\)). Traditional cephalometric measures demonstrated no differences among the groups: Co-Gn (non-operative: 43.0mm, MDO: 41.2mm, tracheostomy: 41.1mm; \(p=0.17\)), Co-A (41.7, 40.7, 41.5mm, respectively; \(p=0.28\)), ANB (18.1°, 19.2°, 20.3°, respectively; \(p=0.37\)), SNA (84.3°, 83.0°, 84.0°, respectively; \(p=0.46\)), and SNB (66.1°, 63.8°, 63.6°, respectively; \(p=0.14\)). 3D-CT analysis of total mandibular length (46.3, 46.2, 45.2mm, respectively; \(p=0.48\)) and total midface length (49.3, 48.5, 48.5mm, respectively; \(p=0.37\)) did not differ among groups.

CONCLUSION: Cephalometric measurements from computed tomographic scans did not differ among patients that were managed non-operatively, underwent mandibular distraction, or tracheostomy. These results illustrate the limitation of solely using skeletal data as a means to predict the need for surgical intervention for airway compromise.

Reference Citations:
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2. Breugem CC, Evans KN, Poets CF, et al. Best Practices for the Diagnosis and Evaluation of Infants With Robin Sequence. JAMA Pediatrics. 2016;170(9):894. doi:10.1001/jamapediatrics.2016.0796.