by micro-CT analysis of 10 randomly selected mice. Vasculature entering the matrix was observed macroscopically at both 2 weeks and 8 weeks. Electron microscopy demonstrated cellular infiltration into the matrix as well as encapsulation of the material. Immunohistochemistry showed infiltration of fibroblast cells as well as increased vascularization in the matrix without evidence of immunogenic cell infiltration of T cells or macrophages.

**DISCUSSION:** This study demonstrates the potential to use Integra Flowable Matrix as a soft tissue filler for reconstructive patients or aesthetic patients requiring soft tissue volume. Volume retention over time was comparable to current soft tissue fillers on the market, and higher than autologous fat grafting. Electron microscopy and immunohistochemistry data demonstrate vascularization of the matrix and infiltration of fibroblasts and mesenchymal stem cells. Future research combining Flowable Matrix with autologous stem cells and adipose cells may also be promising.

**Meta-Analyses in Plastic Surgery: Can We Trust Their Results?**

**Presenter:** Connor McGuire, MHSc

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**PURPOSE:** The objectives of this manuscript is to assess the overall quality of meta-analyses in plastic surgery from 2007–2017, assess whether there has been an improvement in quality over time, and evaluate variables that may be associated with scientific quality.

**METHODS:** A systematic review of meta-analyses was undertaken using a computerized search of Medline, Embase, Cochrane Database for Systematic Reviews. Articles from seven plastic surgery journals published between the years 2007 to 2017 were included. Publication descriptors (author, year, country of publication), methodological and statistical methods were extracted. Each article was then assessed using the A Measurement Tool to Assess Systematic Reviews (AMSTAR) instrument.

**RESULTS:** A total of 67 studies were included. The number of meta-analyses increased consistently between 2007 and 2017 with the majority of studies coming from the United States. Most studies were outcome based, assessing a single intervention, from the journal *Plastic & Reconstructive Surgery*, pooled a mean of 21 primary studies (range: 2–134), and utilized a mean of 2465 patients (range: 44-14884). Most meta-analyses analyzed primary studies in the middle tiers of evidence levels (II to IV), with a small percentage analyzing randomized controlled trials (16.4%). Random effect modeling was most commonly used (47.8%) and meta-analyses generally had positive (82.1%) and significant results (74.6%). Meta-analyses evaluated clinical (80.6%), methodological (65.6%), and statistical heterogeneity (50.7%) variably in terms of appropriateness and a substantial portion did not acknowledge or report methodological (7.5%) and statistical heterogeneity (25.4%). AMSTAR scores ranged between two and ten, with a mean of 6.7 out of 11. AMSTAR scores were correlated with year of publication ($p=0.04, R=0.25$). Multivariable linear analysis indicated that more recent studies, studies that included a rationale for statistical pooling, and studies that properly managed methodological heterogeneity were correlated with higher AMSTAR scores ($r=0.66, p<0.01$).

**CONCLUSION:** The quality and number of meta-analyses have increased; however, despite an improvement in quality, the overall quality of most meta-analyses remains low. Meta-analyses should utilize proper data pooling methods and account for clinical heterogeneity appropriately. Readers, authors, reviewers, and journal editors should utilize validated instruments to evaluate meta-analysis to uphold methodological integrity.

**AESTHETIC SESSION 3**

**Post-Operative Intravenous Iron Sucrose Versus Post-Operative Oral Iron to Treat Post-Bariatric Abdominoplasty Anaemia (ISAPA): A Prospective, Open-Label, Randomised Controlled Trial**

**Presenter:** Juan Carlos Montano-Pedroso, MD, PhD

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BACKGROUND: Anaemia and iron deficiency are common following post-bariatric abdominoplasty. Given the low oral absorbability of iron resulting from bariatric surgery, it has been hypothesised that post-operative intravenous iron supplementation could be used to treat anaemia in these patients.

METHODS: In this randomised trial, 56 adult women undergoing post-bariatric abdominoplasty were allocated for post-operative supplementation with 2 intravenous applications of 200 mg of iron saccharate or 100 mg of iron polymaltose complex orally, twice a day for 8 weeks. The primary outcome was the difference in mean haemoglobin levels between groups at post-operative week 8. Secondary outcomes evaluated at post-operative weeks 1, 4 and 8 included iron profile, reticulocyte count, quality of life (SF-36 and FACIT–Fatigue), adverse effects and complications.

FINDINGS: The mean baseline haemoglobin levels were 12.71 g/dL (SD 1.06) in the oral group and 12.24 g/dL (SD 1.09) in the intravenous (iv) group, with a drop at post-operative week 8 to 12.54 g/dL (SD 1.18) in the oral group and an increase to 12.80 g/dL (SD 0.81) in the iv group (p = 0.009). The oral group had a haemoglobin deficit of 0.14 g/dL (SD 0.76), whereas the intravenous group had a gain of 0.57 g/dL (SD 0.87; p = 0.002). Iron deficiency was higher in the oral group (81.5%) than in the iv group (40.7%; p = 0.002). There were no differences in reticulocyte counts, quality of life or complications. The intravenous group had no adverse effects, whereas the oral had constipation (17.9%) and diarrhoea (10.7%).

INTERPRETATION: Post-operative intravenous administration of iron promoted higher haemoglobin levels and less iron deficiency.

Peri-operative anemia is an independent risk factor for comorbidities and mortality. Although blood transfusion is a traditional treatment for anemia, this intervention is associated with increased morbidity and mortality. For these reasons, procedures aimed at better utilisation of the patient’s own blood, rather than donor blood, termed “patient blood management”, have now been recommended. Post-operative intravenous iron supplementation meets this paradigm shift. The results of this trial may imply changes in the guidelines addressing the treatment of patients undergoing post-bariatric plastic surgeries, including the recommendation of intravenous iron administration for a more effective recovery of haemoglobin levels and iron stores, especially important outcomes for post-bariatric patients who will undergo a second surgery in a short period of time.

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New Approaches to Body Shaping & Cellulite

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Added social and cultural Aesthetic demands mainly due to the social media and the “selfie” phenomenon has increase the requirement on the superficial contour including the superficial skin. The Cellulite is an orphan condition not well studied and considered as part of the normality and not a disease. It Is rare on males due to the strong skin attachments to the underling fascia. It is more common to find it on the overweighted an obese, however it can also occur on thin patients. The cellulite is a common concern and a frequent consultation. Many invasive and noninvasive treatments have been described with discrete improvement. The current work shows the authors experience using and an invasive approach with ultrasound energy (VASER).