



The 'H-Lift': The Hammock Principle of Lower Facial Rejuvenation and Contouring

Mr Dalvi Humzah and Anna Baker share their techniques for rejuvenating the mandibular region

When considering rejuvenating the lower face (mandibular region) there are several concepts to keep in mind. Many of the changes associated with this area originate with changes in the mid-face; descent of the facial skin and mid-face fat pads result in the appearance of the jowl and soft tissue disproportion. As a consequence, there is commonly a change in the shape of the lower third of the face – often referred to as the inverted triangle (of youth) to the Pyramid (of ageing). Therefore, minor lower facial rejuvenation can be achieved through addressing the mid-face changes by lifting and re-contouring the mid-face. With progressive changes, however, the lower mandibular region has to be addressed directly due to changes in that area. The main concept to consider with a non-surgical procedure is combining the '3R' techniques to: Rebuild, Reposition and Revolumise the area. To apply this technique, which I have developed to achieve effective results while performing the 'H-Lift' procedure, the specific tissues that will need to be treated are the bone (mandible), soft tissues, fat pads and skin.

Ageing of the mandibular region

We are aware that, with age, maxillary and zygomatic retrusion results in loss of soft tissue support and descent of the superficial fat pads of the mid-face.¹ The jowl fat increases in volume inferiorly² with sagging, resulting in it 'folding over' and forming the marionette line. The labiomandibular fat pad (medial to the marionette line) undergoes a loss of volume along the lateral edge (adjacent to the marionette fold) thus accentuating the line. Although the bigonial width is thought to undergo minimal senescent changes,³ further bone-related changes accentuate this appearance of jowling. The height of the body of the mandible reduces; with a concomitant

loss of the width of the bone. The protrusion of the chin is also reducing (anterior and posterior) by approximately three to four millimeters by the age of about 60.³ Finally, the ramus angle changes from approximately 90/94 degrees to roughly 120 degrees.³ The mentolabial crease (below lower lip) is also pronounced as the area of attachment of the mentalis reduces, causing the mentalis to contract and 'cobblestone' the skin attachments.⁴ The two fat pads in this area are the superficial chin fat and the deep submental fat, which is located supraperiosteally and underlies the mentolabial sulcus. The inferior part of this fat overlies the mentum and shapes the inferior chin.⁴ The soft tissue sagging appears worse as the mandible size reduces and the jowls now represent the hanging, the angle of the ramus and the chin protuberance representing the fixed points.

The '3Rs' in practice

The principles of rejuvenation and recontouring in the mandibular region that the practitioner has to consider include:

1. Rebuilding the bone changes
2. Revolumising the marionette area
3. Repositioning the soft-tissues

This is tailored to the individual patient's requirements and, having understood the changes in the soft tissues, the mandible is recontoured to effectively elongate the angle and chin protuberance. This tightens the soft tissue between the two distal points, with additional volume to the inferior border of the mandible body to reshape the underlying bony support and reduce the sagging; effectively producing what we refer to as the 'H-Lift'.

The lengthening and reshaping effect will relax the mentalis muscle, and further relaxation may be obtained by botulinum toxin treatment

Before



Two weeks post procedure



Three months post procedure





to relax the muscle and revolumise the deep fat pad in the crease. The superficial subcutaneous chin fat pad, which lies inferior to the labiomental sulcus, should not be revolumised, as it will result in the deepening of the sulcus.⁴ The marionette line is approached in a layered manner; the cephalic part of the fold (superior to the buccal sulcus) requires revolumisation around the lateral side of the labiomandibular fat in the subcutaneous plane, with a deep supra periosteal revolumisation of the superior-lateral extension of the deep submental fat pad. Further repositioning can be achieved by vectoring the soft tissues to cause fibrous contraction and further tighten and reposition the soft tissues.

The H-Lift procedure

The patient is appropriately examined and informed of the details regarding the procedure prior to treatment. Complications of soft tissue fillers are discussed (**Figure 1**) and, if required, a period of reflection is advised. Having received patient consent for treatment and photographed the area for documentation, the face is thoroughly cleaned and disinfected from the zygomatic arch to the neck with an antiseptic solution (e.g. 2% chlorhexidine in 70% alcohol). The product used in this case is Radiesse 1.5ml, mixed with 0.1 ml 1% Lidocaine, however, practitioners could also use other products with a high-lifting capacity. Additional local anaesthetic may be used to infiltrate from skin entry points to the periosteum, with a further 0.1-0.2ml along the periosteum of the ramus and body supraperiosteally. A dental syringe with a 27G is used to provide the anaesthetic and infiltration around the inferior dental nerve, and completes the anaesthesia of the area. The entry points are located at the angle of the mandible posteriorly and anterior-inferiorly at the mentum. We use a TSK Steriglide 25G x 50mm or 22G x 50mm which allows easy gliding in the soft tissue and accurate placement in the supraperiosteal plane. Having made an entry point, the cannula is 'screwed' to place the tip at the supra periosteal layer. The cannula is then steered along the inferior border of the mandible towards the area where the facial artery crosses the mandible. Although it is possible to steer the cannula behind the artery, we would recommend that until one is proficient in the use of cannulas, and has treated this area extensively, not to go beyond this area. Linear retrograde placement of the product is performed (0.4-0.6ml) and, from the same entry point, the cannula is introduced into the supraperiosteal layer along the ascending ramus. A bolus technique is used to place a right-angle triangle shape on the posterior border and recreate the 90/94 degree angle (0.4-0.6ml).

Figure 1

Potential complications include:¹

- Injection site reactions
- Infection
- Erythema
- Oedema
- Pain/tenderness
- Bruising
- Itching
- Nodule
- Systemic responses to infection
- Granulomatous inflammation
- Erythema varying from subclinical
- Disfiguring nodules
- Hypersensitivity
- Migration of filler
- Aseptic abscess
- Discoloration
- Redness
- Whiteness
- Hyperpigmentation
- Local tissue necrosis caused by vascular occlusion
- Potential blindness

The anterior point is approached in a similar manner, the cannula is steered along the inferior border along to the area of the facial artery and no further. The linear threads are, therefore, away from the area of the facial artery and prevent compression of the vessels. A further 0.4-0.6ml can be placed in this plane. The cannula is then turned superiorly to place an additional bolus 0.2-0.3ml on the supraperosteal region of the protuberance of the mandible. If required, a further superior placement in line with the labiomental crease can be performed carefully, as this may be close to the oral sulcus in an elderly patient. The volumes stated are approximate amounts and are tailored to the patient's requirements. If larger volumes are required, this is performed in a staged approach over a two-week period. Other ancillary procedures can also be performed with the anterior entry point, the marionette fold area can be revolumised in the supraperiosteal plane inferiorly, and then subcutaneously superiorly. Both entry points may be used to place threads to vector the soft tissue. Finally, in those patients who request an enhancement of the bigonial distance (masseter enhancement), the posterior entry point can be used to place the product as multiple threads around the masseter region in the subcutaneous region, and deep to the masseter to produce the 'masculine' jaw.

The injected areas are gently moulded and the patient is advised to avoid manipulating the area. Analgesia is advised as required and plans are made for a review of the patient after a period of two weeks. Further recontouring and top-ups may be performed at this review.

Conclusion

The 'H-Lift' technique is based on the dynamic anatomical changes that are associated with ageing. The foundation of this rebuilds the bony tissue and then revolumises and repositions the soft tissues. This technique addresses the changes in the mandibular region and allows recontouring to be performed as an evidence-based technique in a safe plane, in order to reduce potential complications in a highly mobile area. The use of high volumising fillers produces the recontouring with low product volumes and results in a natural-looking appearance. The 'H-Lift' procedure is an advanced technique that requires specific anatomical knowledge and training to perform safely.



Anna Baker runs a nurse-led cosmetic and dermatology clinic at Nuffield Health Hospital Cheltenham. With a special interest in photodynamic therapy, she holds two specialist clinics and is currently undertaking post-graduate study in applied clinical anatomy, specialising in head and neck anatomy at Keele University.



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