Chin augmentation with Restylane® SUBQ

In this article Dr Bob Khanna describes his techniques in using Restylane® SubQ for chin augmentation

Introduction
The chin plays an important role in achieving facial harmony and has historically been associated with character definition. A small or retrognathic chin is associated with weakness, particularly in men, and is unfortunately a common problem for both men and women. Surgical resolutions vary from insertion of an implant to a sagittal split osteotomy, where the mandible is cut in order to advance it. In common with aesthetic treatments for other facial areas, a growing number of patients are either seeking a less-invasive corrective procedure or would like to experience the potential benefit of a temporary enhancement before committing to surgery. The development of techniques using non-permanent dermal fillers means that we can offer patients a highly effective, non-surgical 'contouring' option, tailored to their specific needs.

Non-surgical chin augmentation
Non-surgical chin augmentation represents approximately 25% of my aesthetic practice. Cases range from mild 'sculpting' in order to improve the overall facial balance, (possibly in conjunction with cosmetic dental treatment or other aesthetic procedures) to more extensive cases which, historically, would have had to be managed surgically (see Figure 1). However, irrespective of the amount of augmentation required, using Restylane® SubQ allows me to adopt a gradual, three-dimensional approach to contouring and sculpting the chin.

Continued refinement of injection techniques and the availability of products tailored to specific areas of the face have increased the treatment options for patients seeking aesthetic correction or enhancement. The introduction of Restylane® SubQ (Q-Med, Uppsala, Sweden) has played a significant role in the expansion of my aesthetic practice. This NASHA™ product has a larger particle size (1000 per ml) and greater thickness and viscosity than the majority of other products in the Restylane® range. It has been developed specifically for use as a subdermal, submuscular and supraperiostal filler in areas where greater volume augmentation is required. As a product of NASHA™ technology, Restylane® SubQ is supported by extensive safety and efficacy data and published clinical experience of its use in the chin and cheek area shows it to be associated with long-lasting efficacy of at least 9 to 12 months.

The successful use of Restylane® SubQ is dependent on there being an adequate level of underlying soft-tissue support to prevent product mobility. It has been suggested that the dense bands of fibrous tissue present in the chin create natural pockets for the placement of Restylane® SubQ, which may account for both the high levels of patient satisfaction and the longevity of treatment results that I see using my techniques.

When injecting into the mental and labio-mental region, it is essential to be familiar with the relevant anatomical features. The most important muscles are the lower lip depressors, notably, the mentalis and the depressor labii inferioris. Close attention should also be paid to the mental neurovascular bundle (derived from the mental foramen) in order to avoid transient damage to the blood vessels or neural tissue when injecting in the area.

Chin augmentation with Restylane® SubQ – a step-by-step guide
(1) Patient counselling
Managing patient expectations with regard to what they can expect both
Facial aesthetics

during and after treatment is key to achieving success in facial aesthetics. I make an accurate and comprehensive assessment of the area before discussing all aspects of the procedure and likely outcomes with every patient.

(2) Marking of the skin
As with all aesthetic treatments, it is essential to ensure that the lower face is cleansed thoroughly with topical antiseptic to avoid the risk of subsequent infection. I usually mark the area for augmentation prior to numbing as anaesthesia can create distortion of the tissues. The centre line of the area to be treated can be marked by drawing a vertical line from the lower lip to the inferior margin of the chin (see Figure 2). I also prefer to mark the outer lateral boundaries for the planned augmentation. It is important to locate the mental foramen, usually residing between the roots of the lower pre-molar teeth, and I typically give myself a safety margin of at least 1 cm from its location to the lateral extent of the augmentation so as to avoid potential problems with compression of the nerve or vascular supply.

(3) Anaesthesia
After marking the injection site, I usually administer two intra–oral mental blocks before deeply infiltrating the symphysis region centrally with lignocaine plus 2% adrenaline. I find that 2 to 3 ml is usually sufficient to ensure a totally pain-free procedure for the patient. Although topical anaesthesia is an option, in my opinion, local anaesthesia ensures a totally pain-free augmentation.

(4) Injecting Restylane® SubQ
Following sterile procedures at all times, I prefer to inject with the patient sitting in a semi-upright position so that I can allow fully for gravitational effects on the face. The size of needle used is really down to personal choice. I tend to use various sizes (between 18G and 23G) with a length of at least 1.5 inches so that I can perforate the skin and gain wide access to the treatment area without making multiple punctions. The needle entry point depends on the amount of augmentation needed. In mild cases, the area can be accessed centrally just beneath the mandibular border. However, in moderate or extensive cases, where...
a greater volume of Restylane® SubQ is required, I find that accessing laterally and injecting towards the midline is usually a better approach (see Figure 2).

Restylane® SubQ can be placed either supraperoistally, beneath the muscle layers and along the mandibular bone, or in the deep subdermal tissue. As with the needle entry point, placement may also depend on the extent of augmentation required. For example, in mild or moderate cases, such as those shown in Figures 3 and 4, it is appropriate to place Restylane® SubQ subdermally. However, where more extensive augmentation is required (see Figure 5), it is best placed supraperoistally initially to avoid the temptation for over-augmentation in the immediate subdermal plane and therefore potential damage to the skin, such as ischaemia. Injecting here initially also gives you a good platform on which to add further layers subdermally if needed. One of the advantages of using Restylane® SubQ is that you can evaluate and adjust in a controlled and systematic manner. I inject between 0.5ml and 1.0ml at a time and then immediately assess the three dimensional effect. Although this involves removing the needle and re-entering the site each time, it enables me to accurately regulate the degree of augmentation required and hence ensure optimal aesthetic results. When the procedure is complete I usually help sculpt the area and develop an even contour by applying careful directional massage. This also ensures there are no step tissue deformities.

There is no question that extensive hands-on training and ongoing clinical practice are essential if you are to become familiar with not only the volumes required in a given case but the three dimensional assessment before, during and after the procedure. Although all patients are assessed individually, I find that I use between 1 to 2ml for a mild augmentation, 2 to 4ml for a moderate augmentation and > 4ml for an extensive augmentation. For example, the patient in Figure 5 required a total of 8ml of Restylane® SubQ to achieve the desired effect.

(5) Post-treatment recommendations
My recommendations to patients following treatment of the chin are similar to those following any facial aesthetic procedure involving Restylane®. I instruct the patient to avoid manipulation of the area, which includes advising them to go to sleep lying flat on their back and not on their side. In addition, I usually warn patients that they may experience a little post-procedural discomfort, such as a slight stiffness or a tautness in the skin in the area, and recommend the use of standard NSAIDs for a couple of days following treatment if required. Bruising is rare in the chin; however, some patients may experience temporary difficulty with lower lip mobility, particularly when they smile, due to the transient effect of the procedure on the function of the lower lip depressor muscles.

(6) Patient review
I usually review patients three weeks after treatment for a ‘fine-tuning’ appointment. At this point, I assess for any asymmetry and check for patient satisfaction with the result. If necessary I re-inject, using small volumes of Restylane® SubQ as described above or Perlane®, to address any small inaccuracies. However, due to the fact that I adopt a very careful, systematic approach during the procedure, it is extremely rare for me to have to re-inject a treated site in this way.

Conclusion
As ethical professionals, it is our responsibility to discuss both surgical and non-surgical options for facial aesthetic enhancement with our patients. Restylane® SubQ is a safe and effective, non-invasive option for chin augmentation. It is extremely easy to use and, by using a systematic approach of injecting and evaluating throughout the procedure, it promotes the opportunity to sculpt the perfect chin. I see increasing opportunities for its use in patients in a symbiosis with cosmetic dentistry to optimise facial harmony and correct this common aesthetic problem without major surgical intervention.

I would like to sincerely thank all my patients for their kind permission to use their clinical photographs in this article.

References
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