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Using advanced injection techniques, dermafillers can rejuvenate the skin, augment the cheeks and lift the brow. Dr Rohit Kotnis and Dr Sonali Kotnis show how these techniques, when combined with basic filling procedures, can provide aesthetically pleasing results

Filling the gaps

Dermafillers are non-animal gel-like substances that are injected into wrinkles and skin folds to plump them from underneath. Longevity ranges from four to nine months, depending on the type of filler used, with gradual absorption by the body. Common indications include the filling of nasolabial folds (lines between the nose and mouth) and marionette lines (from the corners of the mouth downward).

In addition, advanced indications include cheek augmentation, filling the frown lines, correction of nasal deformities, eyebrow lift, lip enhancement and skin rejuvenation (table 1). Dermafillers

have more recently been used for treatment of the tear trough or lower eyelid volume loss, which was once the exclusive domain of plastic surgeons.

Table 1: Treatment options using dermafillers

Cheek augmentation
Frown lines
Brow enhancement
Nasal correction
Skin rejuvenation

With advancing age, our skin loses volume and strength due in part to the gradual loss of collagen and relative dehydration. This can lead to lines,

wrinkles and a gaunt appearance to the cheek bones. Hyaluronic acid (HA), a polysaccharide, is a natural constituent of living organisms and provides volume to the skin, shape to the eyes and elasticity to the joints. The aesthetic practitioner should use a filler that will give the patient the cosmetic result they desire and that the physician is most trained with.

Before treatment, the aims and expectations of the client should be accurately identified and a plan drawn up to maximise the chances of a successful outcome. An honest approach with realistic expectations is crucial for this.

Injection techniques: Treating volume loss can be achieved by using a

It is important to appreciate that volume loss may extend around the visible line or fold

number of techniques (table 2). These are dependent on the area to be treated and the degree of volume loss. The linear threading technique is commonly taught on basic courses but as the prac-

Table 2: A number of techniques can be used to treat volume loss

Linear threading technique: fill a fold with a singular “thread-like” shape after puncturing the epidermis once to provide linear volume. Uses – nasolabial region and marionette lines

Serial puncture technique: fill a fold with multiple injections placed in a row to provide linear volume. Uses – nasolabial folds, cheek augmentation and skin enhancement.

Fanning technique: puncturing the epidermis once, “fanning” the needle in a fan pattern to provide volume in a triangular shape. Uses – proximal part of the nasolabial fold and marionette lines.

Cross hatch technique: combines multiple injections of linear threading that criss-cross at right angles to provide volume in a square shape. Uses – marionette lines, cheek augmentation and deep nasolabial lines.

Fern technique: the needle is inserted perpendicular to the fold and advanced a few millimetres away from the fold

titioner becomes more confident, we would recommend combining this with other filling techniques to achieve an optimum result.

used not just as a dermafiller, but rather as a skin-stiffening agent to increase its stiffness on either side of the dynamic line. Unlike linear threading or serial puncture, the needle is inserted perpendicular to the fold and advanced a few millimetres away from the fold. HA is then injected in the mid-dermis.

The entire procedure is repeated along the length of the fold, alternating between its left and right sides. One advantage of this technique is that, by withdrawing the needle from the centre of the fold, any HA material deposited superficially will enhance the correction of the fold because the needle was originally inserted into the base and deepest point.

When deciding on which filler to use, refer to the individual product characteristics. This will lay out particle volume, which will reflect the amount of filling that is possible.

Cheek augmentation: As collagen decreases, the lower face drops with gravity and the cheeks become more sunken. We find more clients are looking for cheek enhancement. A range of HA and non-HA fillers can create volume

and youthfulness to the face. As long as some rules regarding cheek enhancement are followed (table 3), the client should have a good result. A minimum of 1ml filler is required per cheek.

Prior to injecting, it is important to mark the face and take pre- and post-procedural photographs. Topical anaesthesia is usually sufficient. The tip of the needle should enter the deep reticular dermis/subdermis and filling may be achieved using serial puncture or fanning techniques. Massage is important after each injection to prevent nodules.

Frown lines: Deep frown lines often benefit from dermafillers and should be combined with botulinum toxin if there is strong corrugator or procerus muscle activity. Without a weakening of the frown muscle complex, the patient will continue to frown and the filler will degrade more rapidly. You can inject botulinum toxin two weeks prior to a planned filler date—this combination can achieve superior and lasting results. The filler used should be small or medium particulate in size to minimise the risk of nodules.

Brow augmentation: Eyebrow sculpturing was traditionally performed using botulinum toxin, but more recently fillers have been used to achieve similar results. Individuals vary greatly in the type of eyebrows they desire and time spent finding out what they want will assist greatly at the injection stage. Photographs must be taken pre-procedure and the practitioner is advised to inform the client of any asymmetry. However, severe or moderate ptosis of the eyebrows cannot be improved. The best

Table 3: Simple rules to follow in cheek enhancement

A line extending from beside the nostril through the outer aspect of the eye will determine the upper margin of cheek enhancement.

A line from the outer edge of the nostril to the tragus of the ear determines the lower margin of cheek enhancement

These measures create an area within which augmentation will give the best aesthetic results

It is important to appreciate that the actual volume loss may not just be the visible line or fold, but may extend around the line. The fern technique, in particular, is one that many practitioners may not be familiar with—HA is

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Injecting the lateral aspect of the brow provides eyebrow elevation

results are those with symmetric mild lowering of the brow.

It is important to appreciate the contours of the face. The eyebrows should be 5–6cm below the hairline. The highest point of the arch of the brow occurs on a line running from the nostril, through the centre of the pupil, with the patient looking straight ahead.

When injecting, aim for mild volumetric augmentation and slight elevation of the eyebrow. Assess if medial, central or lateral elevation is required or desired. Manually raise the eyebrow to ascertain mobility of the medial, central and lateral part of eyebrow and to locate the site of optimal aesthetic benefit. To gain lateral elevation, place a small quantity of product—around 0.2ml—

with dermafillers. The types of pathology that may be improved are the nasofrontal angle, the rhinion, the nasal tip and the columella.

Topical anaesthesia is usually sufficient for this treatment. Injection should occur into the deep reticular dermis, using a small amount of product at each injection site. Do not aim for overcorrection and ensure you massage the area frequently. It is important to observe the results achieved throughout treatment.

Skin rejuvenation: Using dermafillers for skin rejuvenation can address the signs of ageing and contribute towards giving the patient radiant and youthful skin. Enhancement of the facial augmentation will occur, such as highlighting prominent features (see table 4).

Fillers can be used to rejuvenate the skin of the face, décolletage and hands, as can be seen in the before and after photos of Restylane Vital in the hands, in which 1ml of filler was used for each area. A series of micro-injections 1–2cm apart are injected at an angle of 45deg into the reticular dermis. The area should be massaged and the patient should be advised that any papules—or nodules—will disappear in 48 hours.

The revitalisation programme should be designed to meet your patient's needs with an initial intensive treatment programme consisting of three treatments (one every four weeks).

Following this, maintenance treatment can be planned with treatment every four to six months.

So dermafillers can combine advanced techniques with basic filling procedures to achieve optimum correction and client satisfaction.

Using these advanced techniques, the practitioner can address the large volume loss that manifests as a deep facial wrinkle or fold. They can then fill not just the line, but recognise the importance of filling the surrounding areas of volume loss.

The confidence to treat cheek volume loss, deep nasolabial and marionette lines, eyebrow asymmetry and nasal deformities allows for a holistic approach and adds to the practitioner's armamentarium. The cosmetic practitioner is advised to attend a recognised training course before embarking on advanced techniques.

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Before and after injections of Restylane Vital in the hand



Table 4: Skin rejuvenation using dermafillers
Replenishes the skin's HA
Skin hydration, provides moisturisation from within
Improves the condition of the dermis
Stimulates the production of collagen, elastin and native HA
Improves skin tone and elasticity
Reduces damaging free-radicals

on the lateral aspect of the brow (see Injecting the lateral aspect of the brow).

Nasal enhancement: Nasal deformities, once the domain of the ENT surgeon, are increasingly being treated