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**CANNULA
TREATMENTS**
SPECIFIC INDICATIONS

**SKIN TIGHTENING
AND WRINKLE REDUCTION**

LIP REJUVENATION
A CASE STUDY

HAIR
REJUVENATION
with platelet-rich plasma

INDICATION SPECIFIC CANNULA TREATMENT

With opinion seemingly split between the use of blunt tip cannulas and hypodermic needles, **Sabine Zenker** explains when and how she uses cannulas over other alternatives

ABSTRACT

Blunt-tip cannulas have been developed for use with dermal fillers. Microcannulas can help to improve the way dermal fillers are injected into the dermal and subdermal structures. There is a lot of discussion on whether to use a blunt tip cannula or a hypodermic needle. The objective of this article is to give some guidelines on where and how the use of cannulas does make sense.

FILLER INJECTIONS ARE SOME OF THE most popular cosmetic procedures on the market today. They are a quick and generally safe treatment to undertake; nevertheless, from the author's point of view, there is a need to improve the quality in filler injections itself. More precise and elegant techniques will increase the quality of the overall aesthetic outcome and will reduce the amount and degree of injection related side-effects, such as pain, swelling, bruising, irregularities, and overcorrection.

Cannula or needle?

There is no straightforward answer to this question. Looking at two main aspects in filler injections, manageability and our patient's comfort in filler injections, there is a lot of scientific as well as overall clinical evidence that the use of blunt tip cannulas does facilitate filler injections^{1,2}. When blunt-tip cannulas were introduced, they were designed to eliminate possible complications associated with the use of traditional sharp tip hypodermic needles. By making the tip end 'blunt' with an injection port on the side of the cannula instead of at the tip, and the whole cannula long and flexible, several advantages over traditional hypodermic

needle came into play. Its length and flexibility allow the cannula to cover a larger targeted area. This means that typically fewer injection points are required to achieve optimal results. Secondly, those cannulas glide more softly and easily through the subcutaneous layer rather than cutting through tissue and vessels like the traditional hypodermic needle would do. With less damage combined with improved maneuverability, filler injections with blunt-tip microcannula are performed faster and with less pain than a hypodermic needle^{1,3}. But cannulas are not always the right equipment as you obviously couldn't perform intradermal injections with cannulas.

Cannula features

With cannulas becoming evermore popular among physicians, one should understand the important features of these little auxiliary tools. The insertion/penetration force as well as the gliding capacity depends very much on their manufacturing process; a silicone coating will tremendously ease their insertion and maneuverability. The wall design has a great impact on the extrusion force of the filler material; a thinner wall gives more room for the product, reduces the extrusion force, and eases injectability. This is especially true in >



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KEYWORDS

Cannula, needle, filler, Indication
specific treatment

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▷ sensitive areas, such as the periorbital area (one should think of the palpebral line). A marking to allocate the hole of the cannula enables for an even flow-out of the material as close to the tip as possible and therefore enables for the precise placement of filler.

Indication specific cannula technique

Prior to any treatment, the indication has to be set. Injection techniques as well as the equipment (the filler material itself), and the use of injection equipment, such as cannulas, needles, injection systems have to be planned and applied in an indication-specific manner. This means, that they should be used according to each indication and in a specific way.

Looking at one specific indication now, the sagged lateral upper area of the cheeks; in the author's opinion, using a blunt tip cannula is preferable (Figures 1-2). It's not only about the above-mentioned overall advantages as we reduce side-effects and increase the overall outcome. There are specific aspects to evaluate and reflect on in this case of sagged lateral upper cheeks.

To effect a smooth, regular, and effective lateral lift in this area of the upper cheek, the use of a cannula is essential; giving the practitioner the ability to augment a relatively large area by using just a single entry point (compared, for example, with the sunken corners of the mouth where the use of a cannula does not really make sense). For this indication, the use of a blunt tip cannula is elegant, as the filler material can be applied in continuous threads, even while crossing different anatomical layers based on one entry point, the 'zygomatic arch entry point' (ZAE) (Figure 3).

Addressing the sagged lateral cheek area

A blunt cannula's length depends on the anatomical parameters; typically varying from 1½ to 2 inches, gauge depends on the filler requirements—basically 22-27G cannulas can be used; the most common size might be the 25G. Entry point is the ZAE. The linear threading technique should be used in a fan-shape, covering the whole area of volume depletion and managing the injection from this one entry point. The filler material has to be placed supraperiostally on the medial portion of the cheek. The volume injected per thread will be approximately 0.1-0.2cc per thread; the goal is to only correct up to the clinical endpoint and not to overcorrect. Gentle moulding after injection is ideal. The clinical result, notably the reshaping and lifting of the lateral upper part of the cheeks, is illustrated by Figure 1.

Addressing the lips General aspects

The size and form of the vermillion of the lip varies greatly over time and even at a young age. Typical features patients ask for are improvement to the overall form and symmetry of the lips, volume, and contour. In most cases, an upper to lower lip ratio 1:2 is aesthetically appealing. Too much of a projection of the upper lip has to be avoided as otherwise a ducky aspect shows. ▷



Figure 1 (A) before, (B) After lifting the sagged lateral upper part of the cheek with hyaluronic acid (Perfectha Subskin 1,5cc in a total)

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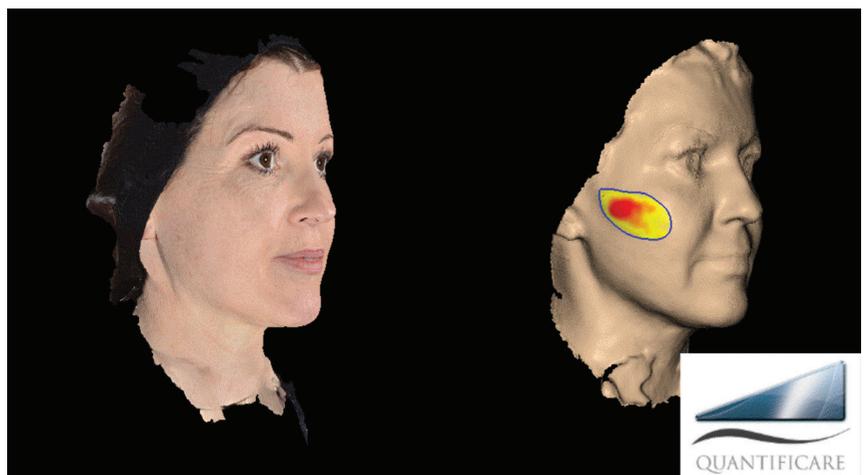


Figure 2 3D reconstruction highlights the volume change and placement of hyaluronic acid in the upper cheek

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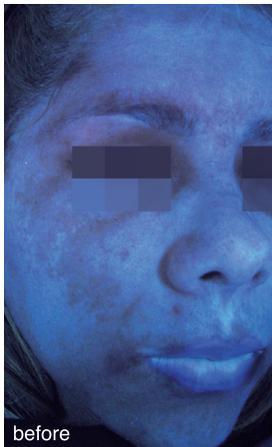


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▷ Hyaluronic acids are the filler of choice⁶, with fat grafting the alternative⁷.

Technique

The classical approach is to place the material starting from the vermilion border, the demarcation between mucosa and epithelium and the location of the Fordyce glands.

The author's technique also begins at the border but encompasses placing multiple boli of the required filler from the center and ending up laterally. To redefine the contour of the lip, the author injects all along the vermilion border of the upper and equally of the lower lip using a blunt cannula with a linear threading technique starting from the most lateral end of the lip; placing the filler into this anatomical channel allowing it to then flow naturally all along this space. In this case (Figure 4), Perfectha Deep (Sinclair Pharma, London, UK) mixed in a 20% ratio with Lidocaine 1% without adrenaline (off-label-use) as well as an automated injection system are used. It is crucial not to forget about redefining the lateral part of the lips, where typically the colour fades with age and contributes to the 'fading' of the demarcation and secondly to place less material in the lateral areas to avoid the 'ducky' aspect as well as overcorrection. The use of a cannula enables the injector to effectively reduce the number of injection points in this indication.

Conclusion

Using blunt-tip microcannulas is a very elegant solution for specific indications, such as the lifting of the sagged upper and lateral parts of the cheeks or contouring the lips. In the author's opinion, this technique does not only result in a very appealing aesthetic result but provides essential advantages to the patient, such as less pain and bruising with far fewer injections points and a notably quicker treatment time.

► **Declaration of interest** None

► **Figure 1** © Sabine Zenker/Sinclair; **2** © Quantificare/Sabine Zenker; **3-4** © Sabine Zenker;

Key points

- 1 Cannulas have to be used in an indication-specific way
- 2 Indications such as the sunken-in lateral upper part of the cheeks or the jawline are very suited for the treatment using blunt cannulas
- 3 The size and length of cannulas must be chosen according to the filler features
- 4 Cannulas enable for injections with fewer entry points
- 5 Risk of bruising and swelling is lowered through the use of cannulas

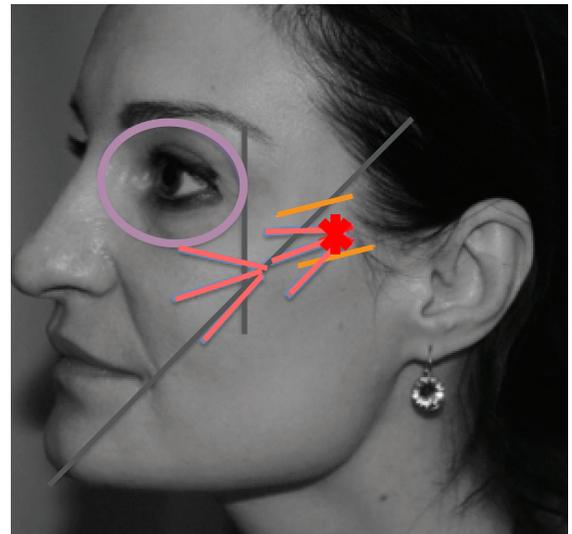


Figure 3 Zygomatic Arch Entry-Point. The entry-point to treat the sagging lateral part of the cheeks is the starting point from which the lateral lifting will be achieved

“ The author's technique begins at the border but encompasses placing multiple boli of the required filler from the center and ending up laterally. ”



Figure 4 (A) before, (B) After volumising (PERFECTHA® Deep 1cc, premixed Lidocain 20%) and contouring (PERFECTHA® Derm 0.5cc, premixed Lidocain 20%) the lips

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