Apriline®: Needle or Cannula?

Early-on in the filler injection era, the question of whether to use a needle or cannula did not arise. Today, the range of cannulas and micro-cannulas offered by manufacturers meets most of the varied technical demands of practitioners. Needle and cannula practices have evolved over the years, reflecting an improvement in safety, less bruising, and less discomfort to the patient. Ongoing research has also resulted in greater efficiency on all levels.

Practitioners can now choose between several devices brands, each of which offers various lengths, external diameters, internal calibers, and flexibility, to meet diverse needs. All tools are well adapted for each clinical application. Whether a clinician chooses a needle or a micro-cannula will depend on the area of injection, the area’s depth, and mainly the viscosity of the filler.

The main advantages of the cannula are due to the device’s blunt tip, which offers flexibility, safety, and minimized trauma to tissues. Albeit they are relatively minor compared to the advantages, the cannula does present disadvantages: they require slightly more handling (therefore more time is needed for usage, presenting septic risk), and they are more expensive, and the entrance hole is generally bigger than with a needle.

Technique

Using a needle with a larger diameter than that of the cannula, a pre-hole enables the procedure to be more comfortable, especially when inserting the cannula. Cannulas are sometimes available in kit form, containing the needle necessary to make the pre-hole the same calibre as the micro-cannula.

Two General Safety Rules

1. The deeper the injection area, the more obvious choice of instrument becomes – a blunt micro-cannula. Indeed, during a deep injection, the tip of the needle is blind and may pose a risk to the nerves or blood vessels. On the other hand, a more superficial injection will be easier performed with a needle.

2. A cannula is preferred near the point where neurovascular bundles emerge: the supraorbital ridge, the suborbital, and the chin area, as well as, the top of the nasolabial folds on the sides of the nose, near the nostrils.

With a needle, there is always the risk of pricking a nerve or a blood vessel, even piercing right through it. Worst case scenario would be injecting into the blood vessel, thus causing localized necrosis. These incidents are fortunately very rare, even with needles. However with cannulas this risk goes further down and therefore such incidents are even less likely to occur.

By Didier Dubois
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if one takes the precautionary measure of systematically checking the vessels by aspiration before the injection.

Calibre
A larger internal calibre cannula offers greater ease of injection thanks to a lesser resistance to force applied to the piston. This is quicker and easier for the clinician, but requires more control and restraint on the movement as there is a risk of pushing the piston too quickly at the start of a linear threading injection. A smaller calibre cannula requires the clinician to apply more pressure on the piston to give more strength to the movement, usually pushed with the base of the thumb. Because the flow is slower, more controlled, and regular – the filler is better distributed. A smaller calibre is less traumatic for the skin tissue and more comfortable for the patient. The pre-hole is also smaller and more discreet.

Specific Injection Areas:
- **Forehead wrinkles**: Treat thin lines with a needle by linear threading injection or using the postage stamp technique, and massage well afterwards. Deeper lines can be treated with a small calibre cannula (30G). For thin lines, *Apriline® Normal* should be used. Do not inject *Apriline® Forte* in superficial wrinkles.
- **Glabella or frown lines**: Beware of areas with numerous vascular anastomoses. In case of intra-vascular injection, choose *Apriline® Normal* to minimize risk of necrosis, and use with non-thick filler. The cannula is a safe option here. In this situation, the 4 rules for a safe injection are:
  1) Always use *Apriline® Normal*, never *Apriline® Forte*, considering the thickness of the filler
  2) Always use a cannula
  3) Always aspirate prior to injection, to verify that you are not located in an artery
  4) Inject slowly, and stop injecting immediately if the skin coloration around entrance changes to white or blue
- **Bridge of nose**: An area not highly vascularised. The injection is easy because the cannula slides alone, exactly in line with a bridge of the nose.
- **Temple’s volume**: An area of neurovascular risk; use fanning technique with the cannula.
- **Crow’s feet**: Generally a needle is used here because the lines are thin, though it is possible to do with a cannula for deep wrinkles. It is expedient to fill each wrinkle of crow’s feet separately. This periorbital area is not a dangerous area because the injections are superficial. The 2 main risks are: 1) bruising, because of many little veins; 2) visibility of the filler if too much volume is injected. Whether using a needle or cannula, always finish with a strong massage to smooth the filler. *Apriline® Normal* is highly recommended for a long-lasting effect, or use *Apriline® Hydro* for excellent results.
- **Dark Under-Eye circles**: This periorbital area is a risky and difficult area to work in. There is “thin line” between injecting too superficially or too high. Injecting too superficially may cause a blue visibility of the filler under the skin (Tyndall effect). Injecting too low is not a danger, but will not have efficient results. The suborbital neurovascular bundle is not far from this area. In the image below (see image 1), the indication of injecting the dark circles under the eye is shadow tear through, not skin discoloration. The choice of filler with a low degree of cross-linking (*Apriline® Normal*) is expedient for supraperiosteal injection in this area.

The 2 possible techniques (see image 1):
1. With a needle, 3 or 4 perpendicular injections, at contact with bone, no thick filler (therefore choose *Apriline® Normal*), then massage the bolus well.
2. With a micro-cannula, one single lateral entrance point, supraperiosteal linear threading injection.

Image 1.
Correction of Dark Under-Eye circles.
A. Needle, bolus.
B. Cannula.
• **Cheekbone volume:** Beware of the suborbital neurovascular bundle. In this case, the cannula appears to be a safer choice for injecting *Apriline® Forte*, a minimum 1ml on each side, with a lateral insertion point (see image 2). For volume expansion of cheekbones, the tenuous anatomical structure to avoid is the suborbital nerve and artery located just between the pupil and the first premolar, at bone contact. It is also located on a vertical line passing on the lateral edge of the pupil, below the orbital edge of the maxilla bone. It is possible to inject 3 or 4 (up to 6) bolus at a perpendicular angle with a needle, at contact with bone, avoiding the suborbital neurovascular bundle. Inserting the needle slowly and gently prevents any injury of the nerve and artery. The patient will immediately alert you if you touch a nerve and pain is felt. To inject the thick, dense filler, choose *Apriline® Forte*, then massage the bolus (minimum 1ml for the 3 or 4 bolus on each side).

- **Cheeks:** For the fanning technique, using the cannula is quicker and will avoid bruising. The crossed fanning technique is best (see image 3). *Apriline® Hydro* is a good choice for smoothing out crumpled skin, *Apriline® Normal* for a long-lasting effect, or *Apriline® Forte*, injected deeply, to correct depressions or volumize cheeks.

- **Nasolabial folds:** This is a safe area. Use a needle or cannula according to the practitioner’s habits. The cannula seems more comfortable, with one single insertion needed. Avoid using needles at the top of the nasolabial folds, in the last centimetre near the nose.

- **Bitterness folds** (marionette lines): As above, but this area bruises more easily with the needle.

- **Lips:** I prefer the needle so I can combine different techniques in a short time.

- **Lip wrinkles:** The needle is essential.

- **Chin fold:** Either. The best, most efficient results are obtained by injecting 2 or 3 bolus perpendicular with a straight needle until bone contact, followed by strong massage.

- **Oval of face, chin wrinkles:** Needle or cannula, according to the practitioner’s habit (see image 4). The cannula seems more comfortable, and all the more so since this will often be a fanning injection. One single insertion is necessary. This area is not risky, far from the mental neurovascular bundle, the facial artery...
and vein, and the submental artery and vein, all of which are deep. In these cases, bruising is frequent with needles. *Apriline® Forte* appears to be the best choice for maximum volume effect.

- **Back of hands:** Cannula, with 3 insertion punctures. *Apriline® Normal* is more malleable. Strongly massage the closed fist of the patient.

### Further Procedure Notes

The pre-hole with the 21G needle is sensitive during the half-second it takes to use. After this, the patient experiences neither pain nor discomfort during the insertion of the cannula or during the filler injection. After the total injection of *Apriline® Normal*, the redness lasts for only 10 to 15 minutes, or 30 minutes maximum, which enables the patients to go about their business. The procedure leaves only a small hole, with a maximum size of a pinhead, and half the time there are no traces at all. With the *Apriline® Forte*, the injection is deeper and there is no redness at all.

Used in conjunction with either a needle or cannula, the advantages of *Apriline®* line are easily seen: simplicity of range, ease of injection, and affordable price. *Apriline®* line is the only 100% effective monophasic crosslinked hyaluronic acid gel created using the unique A.P.R.I technology, a patented ecologically safe method of crosslinking hyaluronic acid molecules in one phase. The product range, including *Apriline® Normal*, *Apriline® Forte*, and *Apriline® Hydro*, safely refreshes, rehydrates, and rejuvenates the skin. In general, *Apriline®* line possesses many positive features, such as plasticity, cohesiveness, and safety further complimenting very well with either a needle or cannula.

![Image 4](https://example.com/image4.png)

**Correction of oval of face.**

### In conclusion: sharp needles or blunt micro-cannulas?

To inject with almost 100% safety, for ease of procedure and for making your patients happy, the cannula is preferred for most injection areas. Aspirate just before starting the injection, do not use thick fillers in the glabella, inject slowly, spread the product evenly, and massage after the injection. As you can see, my personal preference is clearly with the use of cannulas. I often use a 27G x 37 mm cannula, which offers great versatility and enables me to easily inject *Apriline® Normal* into varying wrinkles. For *Apriline® Forte*, a 25G x 50 mm, or 23G cannula is more adaptable. Of course, the choice of instrument depends on the experience and habits of the practitioner, but the advantages of cannulas seem obvious to me, in terms of comfort and safety for most areas, and in terms of the greater satisfaction expressed by doctors and above all by patients.

**Dr Didier DUBOIS, MD, Aesthetic Physician, France.**

Some of the patients in my practice whom I recently injected with Apriline (see images 5-9)

<table>
<thead>
<tr>
<th>COMPARATIVE ADVANTAGES:</th>
<th>Needle</th>
<th>Cannula</th>
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<tbody>
<tr>
<td>faster</td>
<td>safer</td>
<td></td>
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<tr>
<td>fewer manipulations</td>
<td>more flexible</td>
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<tr>
<td>less small equipment</td>
<td>much less risk of bruising</td>
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<tr>
<td>lower cost</td>
<td>better respect for the skin</td>
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<tr>
<td>easier for pricking</td>
<td>more comfortable for patient</td>
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<tr>
<td>smaller hole</td>
<td>fewer holes</td>
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**Image 5.** Nasolabial folds, woman, 40 years old.
Filler: *Apriline® Forte*, 1 syringe, cannula 25G x 50 mm, 2-3 mm depth, very good result.

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**Image 6.** Nasolabial folds, woman, 51 years old.
Filler: *Apriline Forte*, 1 syringe, cannula 25G x 50 mm, 2-3 mm depth.
A. Before. B. Just after.

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Image 7. The same lady as on the image 6, 1 month later, 1 more syringe.
Filler: Apriline® Normal, 1 syringe, cannula 27G x 37 mm, 1-2 mm depth, very good final result
A. Before. B. Just after.

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Image 8. Marionnettes lines, woman, 53 years old.
Filler: Apriline® Forte, 1 syringe, cannula 25G x 50 mm, 2-3 mm depth, very good result.
A. Before. B. Just after.

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Filler: Apriline® Normal, 1 syringe, cannula 27G x 37 mm, 1-2 mm depth, very good result.

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