

**Personal experience  
in the filling  
of wrinkles and remodelling lips  
with Juvederm®**

**M. ZBILI, Nice**

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The aim of this article is to share my experience with you in the field of filling wrinkles with injectable implants and more specifically with Juvederm®, an implant which I currently have experience of using for 18 months. I have been specialised for more than 10 years in the treatment and prevention of facial wrinkles, which is nowadays my main activity (more than 3,500 patients). The different filling products, which are currently available on the market, are of high performance and the research and development departments of different laboratories continue to work to develop new products and to improve existing products. Laboratoire L.E.A. Derm, a subsidiary of the Cornéal group, markets the latest of the hyaluronic acids for filling wrinkles: Juvederm®. The Juvederm® range contains 3 products, each consisting of cross-linked hyaluronic acid of non-animal origin and of different densities: Juvederm® 18, Juvederm® 24 and Juvederm® 50. The indication for the different product varies depending on the localisation of the wrinkle, its depth and the quality of the skin (diagram no. 1).

## 1 WHY USE HYALURONIC ACID?

This molecule, which is naturally present in our skin and is secreted by fibroblasts, disappears with time and with age. Hyaluronic acid is a glycosaminoglycan that is part of the structure required to reconstruct tissues and one of the major functions of which in the dermis is to maintain tissue hydration (acting as a water retainer).

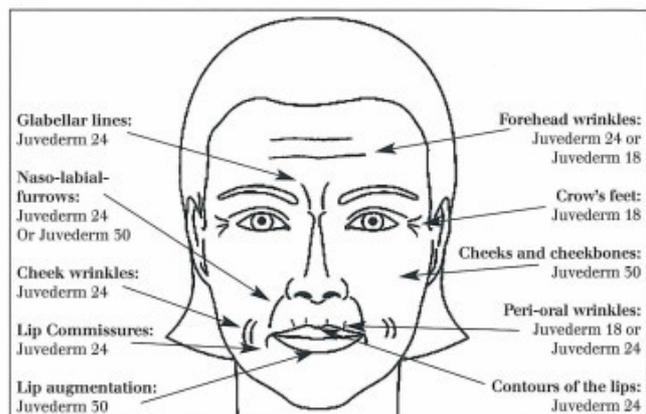


Diagram no. 1:  
Indications for implants from the Juvederm® range

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Treatment involves providing a **replacement source of the hyaluronic acid** to return satisfactory hydration to skin tissues that are damaged by the dermal fracturing which is provoked by facial expression. This solution, involving injection of exogenous hyaluronic acid to fill wrinkles, has now been used successfully for more than 6 years.

We should note, however, that in order to obtain satisfactory filling effect in terms of durability, **the implant used must be sufficiently concentrated and cross-linked:**

- the higher the concentration of hyaluronic acid, the more slowly it is degraded [Piacquadio D., Jarcho M., Goltz R.; 1997]

- non-cross-linked hyaluronic acid has a lifespan of only a few days in the body. It therefore needs to be cross-linked, i.e. the molecules need to be bound to each other in order to make them more resistant to degradation.

The Juvederm® implants have these two characteristics, Juvederm® 50 being the most cross-linked in the range and the concentration of hyaluronic acid in Juvederm® 24 and Juvederm® 50 is 24 mg/g.

In addition, the implants are provided in the form of two x 0.6 ml syringes per box, i.e. 1.2 ml per patient. This is a sufficient amount to treat 2 pronounced nasolabial furrows or even to perform a complete facial treatment. It is important for ourselves as doctors not to have to "economise" on the product so that the patient is satisfied from the first session onwards.

## 2 MY PERSONAL EXPERIENCE

Since starting my practice in aesthetic medicine I have become specialised in the treatment of wrinkles using injectable products, leaving laser treatments and deep peelings to my corresponding specialists.

Everyday practice of a specialised procedure and the reaction of each skin type are major essential factors that have to be controlled for the appropriate indication for a therapeutic technique and to obtain optimum results.

In the last 18 months I have treated **512 patients with Juvederm® implants**, 93% of whom were women and 7% were men. The average age of the patients who have been treated is 45 years old.

### A - THE CONSULTATION

The first **consultation is of fundamental importance**. It is in this first contact that dialogue is established and the patients describe their wishes, expectations and determination.

It is also during this first interview that I explain the possible results and limitations of treatment to the patient. In order to establish a relationship of trust between the doctor and the patient, it is essential to inform the patient in as much detail as possible about the results which the patient may expect from injectable treatments.<sup>1</sup>

A detailed and complete past medical and surgical clinical history (allergy, labial herpes, autoimmune diseases, pregnancy, etc.) is needed before the injection.<sup>2</sup>

It should be noted that young patients (those who are 30 years old and above) are increasingly being seen in consultations for prevention. In these cases, the treatment is, above all, preventative.

### B - PREVENTATIVE TREATMENT

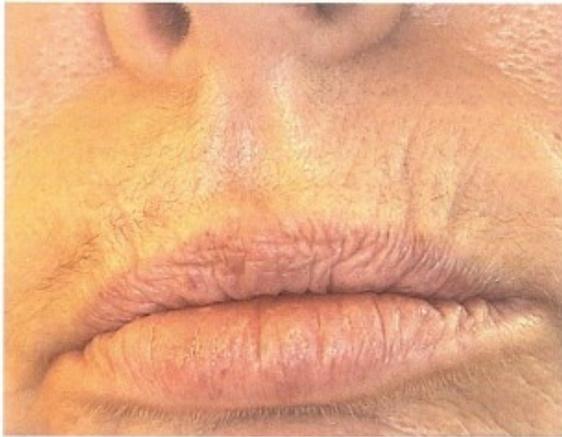
These young patients are not refusing to grow old but are increasingly aware about ageing of their face. How they see their mother and grandmother may make them concerned about prevention.

We perform a role of providing information and advice for prevention and rejuvenating our patients' faces and it seems essential to me to offer them preventative treatment; a non-aggressive preventative treatment, which can delay the time for a more demanding process (lifting, deep peelings or laser, etc.), is very attractive.

In addition, it is important during the consultation to observe the patients' facial expressions and fragile areas, which appear with the patients' expression. This evaluation will allow us to treat at risk areas before skin fracture, which leads to the development of a wrinkle. This final point is particularly important for localisations such as around the lips, eye contours and the cheek area where the effects of skin treatment are limited. In some cases filling treatment needs to be combined with medium or deep peeling or alternatively, laser treatment.

<sup>1</sup> An informed consent form is available on request from the laboratory.

<sup>2</sup> A pre-injection questionnaire is available on request from the laboratory.



*Photos 1a and 1b : Perioral lines  
Results before and after Juvederm® 18*



*Photos 2a and 2b : Puckering of the lips  
Results before and after Juvederm® 24*



*Photos 3a and 3b : Nasogenian folds  
Results before and after Juvederm® 24*

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### C - INDICATIONS

The indications for each product depend on the type of wrinkle, as shown in diagram no. 1.

The major sites that I have treated for these patients have been the following:

- lips, contour and volume:	76%
- nasolabial furrows:	68%
- glabellar lines:	48%
- crow's feet:	32%

Juvederm® 18	Juvederm® 24	Juvederm® 50
Fine wrinkles	Moderate wrinkles	Deep wrinkles and lips
Crow's feet, peri-oral lines	Glabellar lines, forehead wrinkles, moderate nasolabial furrows, cheeks, lips (contour)	Deep nasolabial furrows Lips (vermillion border)
Injection into the superficial dermis	Injection into the mid dermis	Injection into the deep dermis

### D - INJECTION TECHNIQUES

The **multipuncture** technique does not allow the product to be injected evenly and I therefore usually prefer the **linear retro-tracking technique**.

The **superposition** technique, which involves treating the deep and superficial dermis simultaneously or in successive sessions, is particularly suitable for the treatment of nasolabial furrows. For optimum correction Juvederm® 50 can be injected into the mid/deep dermis, Juvederm® 24 into the mid/superficial dermis and Juvederm® 18 into the superficial dermis.

I reserve the **cross-hatching** technique, which involves performing a homogeneous coverage of the treatment area, for fragile delicate areas such as crow's feet, peri-oral lines and cheek areas.

I do not use the needles provided by the manufacturer to administer the injections:

	Juvederm® 18	Juvederm® 24	Juvederm® 50
Needles supplied	50 G 1/2	27 G 1/2	27 G 1/2 (12 mm long)
Needles used	30 G	27 G 1/2 ou 30 G	27 G (20 mm long)

I have learned with experience to handle the 20 mm long needles, which allow me to limit the number of injection sites. By limiting the number of needle penetration points this reduces haematomas in fragile skin. Using longer needles also allows me to implant the product more evenly.

**The lips**, the anatomical area which is most requested in consultation, are a delicate and sensitive part.

In this correction it is important not to define the lip too much, the treatment must not draw the eye, must be as natural as possible and must respect the physiomy of the face.

The treatment must be more a remodelling of affected tissues than an excessive increase in volume, which does not respect the natural situation.

Depending on the disorder of the mucosal and mucocutaneous tissues, a specific technique is used:

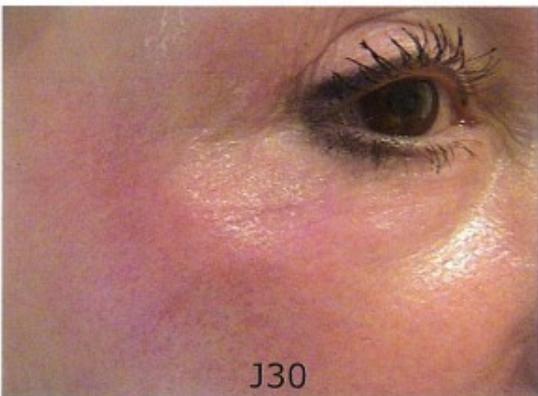
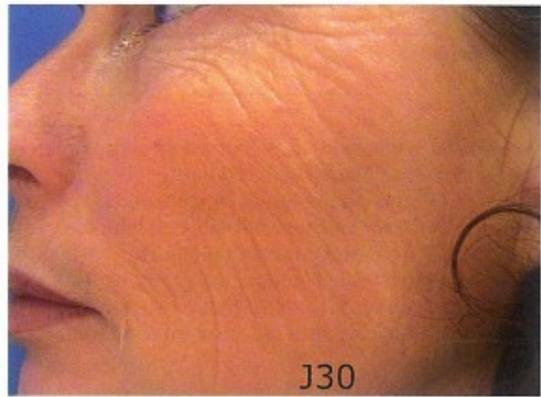
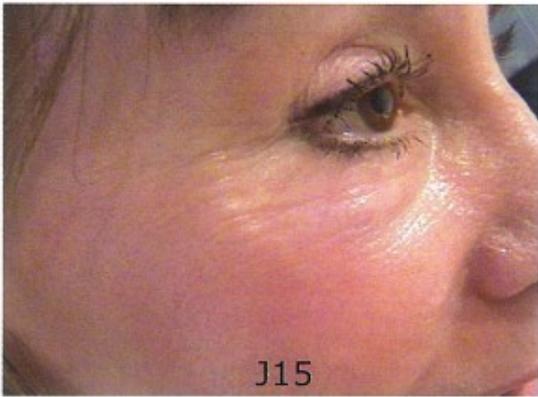
- The muco-cutaneous line: to treat changes in contour.
- Peri-oral lines: to treat and to prevent fragility in this area.
- The vermillion border: different techniques depending on the morphology of the lip and stage of ageing of the lip.

### E - THE IMPORTANCE OF THE TREATMENT PROTOCOL IN PATIENT SATISFACTION

The treatment of a wrinkle must be planned as **several injections**; two or three sessions performed at intervals of between four and six weeks followed by a bi-annual maintenance session. The second session a few weeks later is important because of the method of degradation of the hyaluronic acid. Hyaluronic acid is degraded in the body by two principal mechanisms:

- by hyaluronidases, specific enzymes;
- by hydroxyle radicals, generated by inflammation.

The activity of the hydroxyle radicals, which is predominant over the activity of the hyaluronidases, is produced in the days following the injection because of the inflammation. It is important for this reason to perform the second session 4 to 6 weeks after the first.



*Photos 4a, b and c  
Crow's feet  
Results 15 days and 30 days after Juvederm® 18*

*Photos 5a, b and c  
Wrinkles and multiples lines of the cheeks  
Results 1 month and 3 months after Juvederm® 18*

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I offer my patients a treatment time course that is tailored to suit their wrinkles. An indicative treatment protocol is shown in the table below depending on the types of wrinkles to be treated.

	Session 1	Session 2	Session 3	Maintenance	Satisfaction 6 months	Satisfaction 12 months
Mild to moderate wrinkles	D <sub>0</sub>	D <sub>0</sub> + 50 days	/	Every 6 to 9 months	70 %	85 %
Deep wrinkles	D <sub>0</sub>	D <sub>0</sub> + 50 days	D <sub>0</sub> + 90 days	Approximately every 6 months	50 %	60 %

These satisfaction rates are obtained as approximately 65% of patients adhere regularly to the follow-up plan that is established in the initial consultations. Approximately 12% of patients were not satisfied with the treatment. Lack of satisfaction is mostly due to lack of understanding of the technique used and its limits. Of the patients treated, 15 to 20% do not return mostly because of financial difficulties in entering a maintenance schedule.

In some cases (4%) the substance may last for less than expected (3 months). This applies particularly when very dehydrated skin is treated: the initial doses injected are then absorbed more rapidly until the skin achieves re-equilibrium with its level of hydration.

Conversely, the durability of the product is astonishing in 20% of cases, in the order of 12 months or even more. This durability is linked mostly to exceptional skin quality and to regular maintenance treatment.

### F - SIDE EFFECTS

The side effects following treatment almost all resolve spontaneously. Only three cases of severe mucosal oedema following an injection into the red part of the lip required oral corticosteroids for a few days and one case of severe redness, which lasted for three days, required a topical corticosteroid to be applied.

Moderate redness lasting for one day occurred in 5% of cases, mostly in patients with sensitive skin.

I have seen slight redness, which resolves and lasts for an average period of 15 to 30 minutes, in 50% of cases. Oedema of moderate intensity may develop in fragile areas, the contours of the eyes, contours of the lips. The-

se resolve on application of a topical agent and/or ice. Short-lasting oedema (15 to 30 minutes), resolving spontaneously or with a little ice, associated with needle injury usually occur in the lips and around the contour of the eye.

Itching, of moderate intensity and entirely tolerable, may occur on reactive skins. This disappears spontaneously.

A colourless trace that is visible underneath the epidermis occasionally develops following an excessively superficial injection or overcorrection in places where the dermis is thinner. This resolves very slowly.

The patient may occasionally experience sensitivity in the area treated following an injection of a large quantity of the product.

## 3

### CONCLUSION

As doctors we are all looking for implants, which provide both safety and efficacy in filling wrinkles and restoring facial volumes. Hyaluronic acid is a compound that fully meets these two requirements.

The combination of the three implants in the Juvederm® range has allowed me to offer my patients a treatment which they generally follow and with which they are satisfied. The packaging in 2 x 0.6 ml syringes enables a satisfactory result to be obtained from the outset and thereafter allows suitable amounts to be used in the following sessions.

The three devices offer an optimal range for the regular practice of injections. Nevertheless as for any product, training in the injection procedure is essential, during specific workshops. This training allows the capacities of a product to be best used and a better understanding to be gained about what may be expected from a treatment.