

**DOSSIER**





# Botox

## Not All Botulinum Kills

Botox has completely revolutionised the way we look at wrinkles. According to the *American Society for Aesthetic Plastic Surgery (ASAPS)*, Botox injections have now become undisputedly the most popular of all cosmetic procedures.

**Saadiya Ahmad** takes a closer look at the wonder toxin that promises to enhance, correct and modify...

### HISTORY

Ironically Botox was not originally developed for cosmetic purposes but for eye disorders in the 1970s by a San Francisco doctor looking for ways to correct crossed eyes *strabismus*. He found that injections of purified botulinum toxin (an often lethal poison commonly produced by the bacteria in improperly prepared canned food) paralysed the overactive muscles that cause *strabismus* and this allowed other eye muscles to operate normally. Pharmaceutical giant Allergan purchased the rights to the doctor's discovery in 1987, and started marketing Botox for strabismus and similar conditions that causes eyelid spasms after it received FDA approval in 1989.

Botox began to emerge from obscurity in the mid-1990s when doctors noticed something else intriguing: the drug's paralysing properties seemed to greatly reduce frown lines and wrinkles in patients getting it for eye problems. A husband-and-wife team in Canada did some experiments and reported the results to Allergan. As word of the Botox effect spread, more and more doctors began using it to relax the facial muscles that create eyebrow furrows, crow's-feet, and horizontal forehead lines. Allergan conducted clinical trials, which led to regulatory approval - and fame. In April 2002 FDA Approval was granted as the governmental body was satisfied by its review of studies indicating that Botox reduced the severity of frown lines for up to 120 days and the rest is history.

## THE MANY FACES OF BOTOX

### Medical

Dr. Hervé Raspaldo, board certified Consultant Facial Plastic Surgeon in Dubai's Aesthetica Clinic and Nice University Hospital, points out that Botox is also a fantastic drug suitable to relax muscles in pathology. "For example, in cases of hyper-contraction when a muscle is contracted, even when the face is relaxed, Botox relaxes the muscle and in cases of hypertrophy where there is excessive volume of a muscle because of its hyperactivity/contraction in which case Botox reduces the volume of hypertrophic muscles," he says. Botox injections have also helped patients suffering from hyperhidrosis (excessive sweating) and with headaches which are the last brand new official indication of Botox, approved in the US last year. Medically it is also used to treat writer's

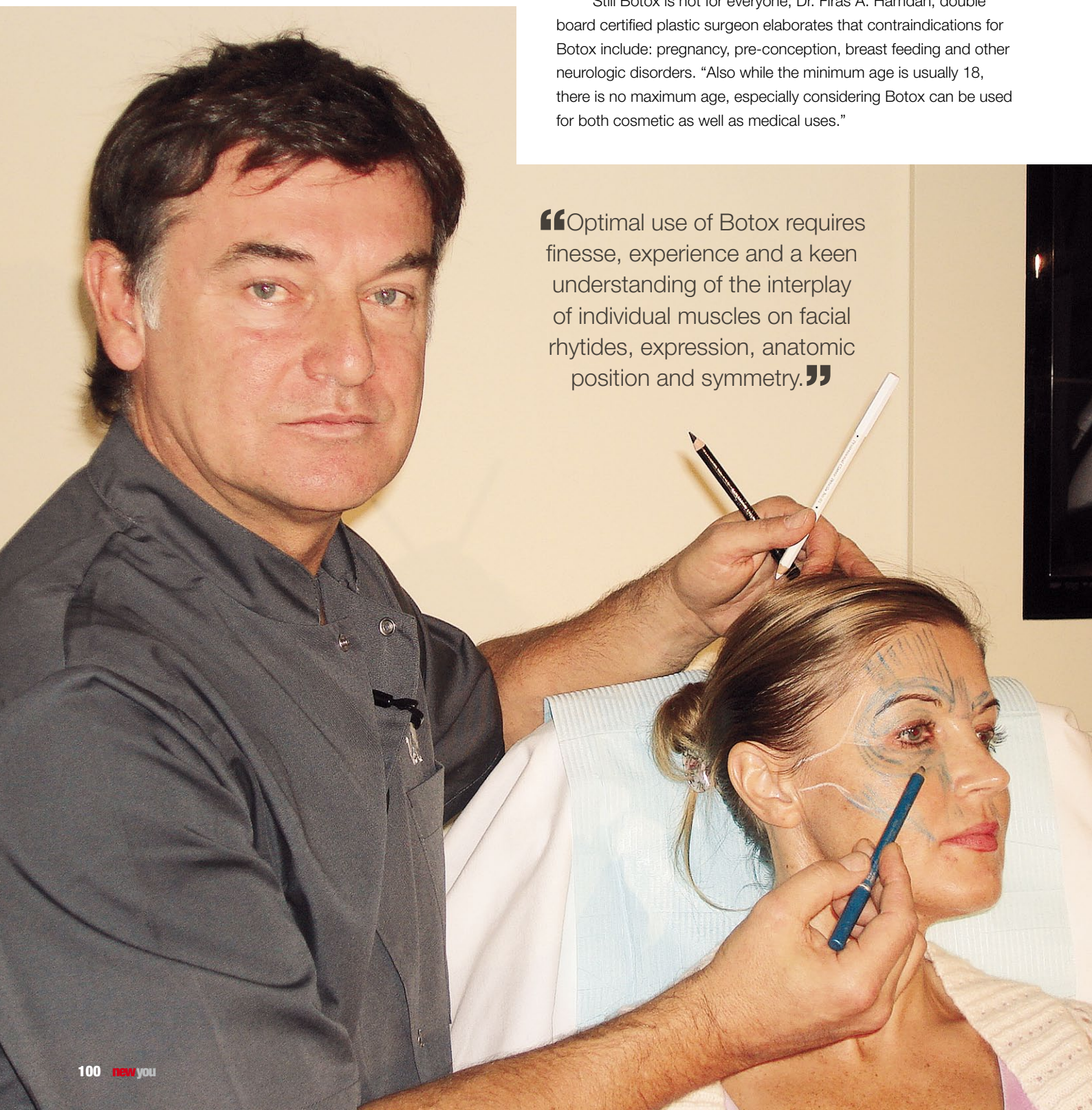
cramp, facial spasms, chronic pain, and neuropathy. Researchers from King's College London School of Medicine, say that Botox can improve the quality of life for people with overactive bladders. Men with enlarged prostates can also benefit from Botox injections directly into the prostate.

### Aesthetic

In aesthetics, Dr. Raspaldo elaborates that Botox indications in facial rejuvenation, at the level of the lower face and neck, have expanded to lower face and neck remodelling, facial recontouring and to reshaping. He explains, however that the "optimal use of Botox requires finesse, experience and a keen understanding of the interplay of individual muscles on facial rhytides, expression, anatomic position and symmetry."

Still Botox is not for everyone; Dr. Firas A. Hamdan, double board certified plastic surgeon elaborates that contraindications for Botox include: pregnancy, pre-conception, breast feeding and other neurologic disorders. "Also while the minimum age is usually 18, there is no maximum age, especially considering Botox can be used for both cosmetic as well as medical uses."

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## HOW IT WORKS

Some wrinkles are caused by repeated contraction of muscles in the face and often over time, creases formed can lead to a persistent frown and a more aged appearance. The precise use of Botox is the best approach to prevent and eliminate these lines. Botox blocks impulses from the nerve to the tiny facial muscles that are related to expression lines and subsequently relaxes the muscles so they become chemically relaxed for an average of three to four months.

Prior to Botox injections, the lower face, explains Dr. Raspaldo, should be carefully marked on first. Then using a tiny micro-needle, a very small amount of Botox is injected, very precisely, into several locations on the face. Because the needle is so fine and only a small amount of liquid is used, the pain associated with the injections is minimal. Most patients compare the sensation to a bug bite. No sedation or local anaesthetic is required, and you can resume normal activities immediately. Some patients experience a slight temporary bruising at the injection site that can easily be covered with makeup. After the treatment, Dr. Raspaldo advises that patients should avoid sports for about 24 hours, avoid facial massage and lymphatic drainage for 48-hours and do not wear a helmet for 12 hours.

According to Natasha Bennett, Operations Manager at Dermalase Clinic, the most common areas injected are the forehead, *glabella* (muscle in between the brows) and the crow's feet (small lines at the corners of the eye). "The least popular is the nose and the masseter (jaw line) and I think the main reason is that people are not fully aware of how effective this treatment can be. Those with heavy or square jaw lines can have dramatic improvements with small amounts of Botox," she says, adding, "Botox is not used around the 'smile lines' in the face purely because the effect of Botox is temporary paralysis of the muscle. If you inject the incorrect muscle you can cause a down turned mouth which can make eating difficult as well as smiling."

## TRENDS

Botox trends have shifted from yesterday's frozen face to today's more relaxed and natural look. So how much is too much? Too much Botox, reinforces Dr. Hamdan, is when a dose "relaxes a group of muscle too much to show evidence of paralysis, such as a dropped eyelid or weak lip, for example. "The latest trend is to stay natural with less prominent wrinkles and if possible elevate the brow position and corner of the mouth." Also Botox is ideal when dynamic lines or wrinkles (those that come with movement such as smiling or frowning) become prominent and are bothering the patient", says

Dr. Hamdan. "The advantage of starting at an early age is that we can prevent those dynamic lines from becoming permanent lines at which stage even Botox will not help and we have to resort to other techniques such as surgery, laser peeling or filling."

## AREAS

### Nasal Tip

The nasal tip is one of the most important aesthetic parts of your nose as being in the middle of your face; it often defines the nose and sometimes the whole look of the face. If the tip seems rounded, bulbous or disproportionately large, it can distract from the eyes and make the nose seem undefined. "An ideal candidate for this procedure is an individual who requires nasal tip lifting as a complementary procedure, associated with injection of filler like Juvéderm ultra 3 or 4," suggests Dr. Raspaldo. The result is visible after 10 to 15 days and lasts around 3 to 5 months."

### Dilated Nostrils

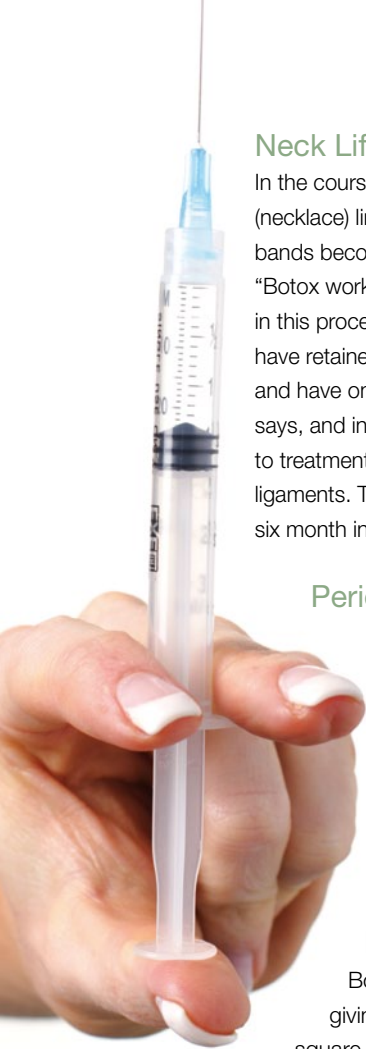
Dr. Raspaldo asserts that dilated nostrils are caused by the contraction of the dilator *naris* muscle, the *alar* part of the *nasalis* muscle, as well as in situations of anger or emotional upset, an increase in breathing efforts during mild exercise and also as a habit. "Treatment is geared to the nostril dilator muscles which lead to relaxed nostrils for three to four months and helps keep the cartilage graft in a good position in the nostril," he says.

### Gummy Smile

An excessive display of gingival tissue during a smile, observes Dr. Raspaldo, is partially related to the hyperactivity of the upper lip elevator muscles. Botox can weaken these hyperactive muscles and reduce the elevation of your upper lip, thereby reducing your gummy smile. "The muscular response is in two to four days with full effect at 7 to 10 days with a follow-up visit at two weeks," he says.

### Chin (Mentalis)

Over time, collagen and subcutaneous fat loss in the chin, loss of definition around the mandible, in conjunction with the hyperactivity of the *mentalis*, cause a pebbled appearance with skin wrinkles called "peau d'orange" and contribute to the exaggeration of the mentalis crease, says Dr. Raspaldo. "For both distinct indications, "peau d'orange" and mental crease, Botox injections must be placed low to avoid diffusion to the depressor *labii inferioris* muscle to soften the activity of the mentalis muscle producing a smoother chin contour."



## Neck Lift (Platysmal Bands)

In the course of the ageing process, horizontal (necklace) lines form on the neck, and the platysmal bands become more prominent, explains Dr. Raspaldo. "Botox works on hyperactive muscles lines however in this procedure, patient selection is critical and must have retained satisfactory skin elasticity in the neck and have only minimal descent of submental fat," he says, and in fact young patients respond much better to treatment because of the integrity of their retaining ligaments. The treatment must be done every four to six month intervals and follow-up at two weeks.

## Perioral Area (Smokers Lines)

Fine and deep lines on the upper lip and around the mouth are called 'perioral wrinkles.' Dr. Hamdan explains that the injections are made directly into the prominent lines and an ideal candidate is a smoker treating their lines early on. "The results last from about four to six months," he says.

## Masseter Muscle

Botox can weaken the masseter muscle giving a softer angle at the jaw and a less square jaw. By blocking the action of selected muscles, very much like in treating wrinkles, there is an eventual atrophy (loss of muscle size) in those muscles. Patients generally notice softening of the masseter muscle at one week and softening of the jaw line at around six to eight weeks. Ideal candidates for this, points out Dr. Hamden, are those individuals suffering from Trismus (TMJ) problems and referred ear problems with results lasting from four to six months.

## Undereye Area

For tiny lines under the eye area, Bennett advises that the technique is to inject superficially as the area is so delicate it must be treated with extreme caution therefore only a minimal amount of Botox is used. An ideal candidate is an individual who is starting to show early signs of fine wrinkles, those who want a refreshed look but nothing drastic.



Before

After



Before

After

## Forehead

While the forehead is one of the most common areas that Botox is injected, Bennett points out that in each case, the area is measured carefully and points are marked using a white pencil. "We have to be aware of facial symmetry as often a line will be deeper on one side of the forehead than the other so this will depend on the amount injected," she says.

## PROS AND CONS OF BOTOX

### Pros

- Help with pain management: headache, TMJ, *torticollis* and muscle spasms.
- Cosmetic help: relax dynamic wrinkle for aesthetic reasons at early stages, and prevent them to become 'permanent' wrinkles later on. Help elevate eyebrow position, help with smokers lip lines and crow's feet.

### Cons

- High dosage or the wrong dilution: muscle paralysis that will affect the facial expressions such as malposition of the brow, upper lid causing drooping lid, weak lip muscle affecting the smile and so on.
- In very high doses (use of non pure non FDA approved Botox): systemic muscle paralysis causing muscle of breathing to be paralysed and causing patient to be placed on respirators to prevent death.

Dr. Hamdan narrates a case of this: "This happened in Florida when an unlicensed medical practitioner used a foreign Botox and injected himself, his wife and another couple." It ended up with two deaths and six months coma for one of them. The bottle of 'Chinese Botox' had 100,000 units instead of 100 units so they got a mega dose of the toxin that caused systemic paralysis. Of course this is a freak accident not to be used as a reference for Botox complications but it is important to point out that the Allergan brand name, FDA clearance, and correct dosages are all absolutely essential to any cosmetic Botox practice."

(Credit: Dr. Firas Hamdan)



## PRECAUTIONS WHICH CUSTOMERS CAN REFER TO WHEN OPTING FOR BOTOX

- Is the practitioner actually using BOTOX? If they are advertising BOTOX this is what should be used. It is manufactured by a company called Allergan.
- Other line freezing injectables which are safe are VISTABEL and DYSPORT so check this first.
- Does the practitioner put clean gloves on, clean the area of your face to be treated and open a fresh needle?
- Are you shown under a light and holding a mirror exactly where the practitioner is going to inject?
- Are you given homecare instructions upon leaving the clinic?
- Are you invited back between 10 and 14 days post treatment for an observation and if needed a free correction made?
- Have you been asked to consent to treatment?
- Has a list of the possible side effects been shown to you?

(Credit: Natasha Bennett) ■

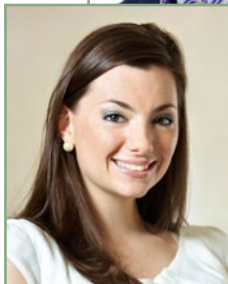
# Expert Profile



**Dr. Hervé Raspaldo** is a board certified Consultant Facial Plastic Surgeon in Dubai's *Aesthetica Clinic* and *Nice University Hospital* in France with over 25 years of experience in conducting aesthetic and reconstructive facial plastic surgery.



**Dr. Firas A. Hamdan**, double board certified Cosmetic Surgeon at *Cosmetic Surgery Clinic*. He received his medical degree from *American University* of Beirut and is also a founding Member of the *World Academy of Cosmetic Surgery*.



**Natasha Bennett**, Operations Manager in *Dermalase Clinic* heads the clinic operations. An expert in aesthetics procedures, she specialises in laser hair removal, skin rejuvenation, anti-ageing and body contouring treatments among others.