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## Forehead Anatomy CPD

Mr Dalvi Humzah and nurse Anna Baker provide an update on forehead anatomy

### Special Feature: Static Lateral Canthal Rhytids

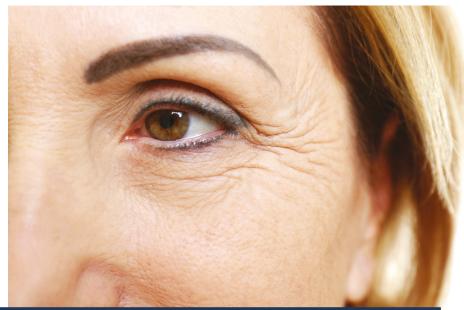
Practitioners discuss considerations around treating crow's feet

## Dermal Filler Blindness

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# Treating Static Lateral Canthal Rhytids

# Aesthetics explores the causes, assessment and treatment approaches for static lateral canthal lines

Static lateral canthal rhytids, commonly known to patients as crow's feet, are one of the most common concerns patients will present with. In one study of 603 women between 30-65 years of age, 82% chose lateral canthal rhytids as the facial feature they were most likely to seek treatment for first. The same group identified the lines as the number one facial feature that bothered them the most.<sup>1</sup>

According to aesthetic practitioner Dr David Jack, around 95% of his patients aged 45-50 will have concerns regarding lines in this area. Surgeon and aesthetic practitioner Miss Sherina Balaratnam adds, "Lateral canthal lines are a very common concern amongst patients and we see this presentation daily with our patients. The eyes are a key facial feature – they are 'the window to the soul'. The eyes are what we look into, what we communicate and express ourselves with, and hence patients naturally want their eyes to look as aesthetically pleasing as possible." While male patients may also present to clinic with concerns in this area, this article will focus on the assessment and treatment approaches of lateral canthal rhytids in females, while also addressing how to maintain successful results.

### Causes

Before constructing a treatment plan, it is important practitioners understand the underlining causes of static lines in the periorbital area and what the patient's individual needs are. Ageing in the periorbita is associated with a combination of muscle movement, loss of volume within the fat pads, skeletal changes and a reduction in skin quality.<sup>2</sup> Consultant aesthetic oculoplastic surgeon Mrs Sabrina Shah-Desai explains, "The orbicularis oculi muscle is a large free-floating muscle that is situated around the eye and attached to its inner corner. When we are young, the activity of this muscle, as well as the zygomaticus muscle, through movements such as smiling, is hidden by a fat layer



below and above the muscle, which is protecting and translating its movement to the skin above. In youth, when you have that fat pad between the muscle and the skin, every time you smile or crinkle your eyes, the movement is happening, but you don't see it as lines and wrinkles because of the fat pad. With age, the fat pad gradually shrinks and movements are eventually relayed to the skin." These factors cause dynamic lines, or those that are only apparent with movement, explains Mrs Shah-Desai.

The deeper lateral canthal lines that appear without movement (known as static lines) usually come with additional decrease in skin quality and thickness in the area, Mrs Shah-Desai says. Aesthetic nurse prescriber Jackie Partridge explains that there is a decrease in bone density associated with ageing that has an effect. "Changes in volume of the temple and orbit, for example, can have an impact on the appearance of the periocular area as you don't have the same skeletal support for the tissue and muscle above," she says. Partridge adds that individuals who have not had the best lifestyle will get particularly bad lines in this area, and may be likely to get them earlier. For example, she says, "Those who have had a lot of sun exposure, are

smokers, have a poor diet, live in polluted areas, or have been overly exposed to the elements, for example, through a lot of outdoor activity, are more likely to present with severe lines."

Partridge also mentions that expressive people, such as those who smile a lot, or who do activities that might cause them to squint or express their face in anticipation such as mountain bike riding or skiing, might be more likely to have worsening lines. "Many patients who present with deep lateral canthal lines have also generally not been on an active skincare regime or used SPF as a preventative ageing measure," she adds.

Miss Balaratnam agrees that lifestyle factors play a huge part in the ageing of the periorbital area. She says, "In this digital era, I am especially noticing a connection between the increasing use of gadgets, smartphones and technologies which in turn causes an

"Many patients who present with deep lateral canthal lines have also generally not been on an active skincare regime or used SPF as a preventative ageing measure"

Jackie Partridge



Figure 1: Static lateral canthal line treatment of 51-year-old patient. Treatment involved VISIA and consultation, new skincare regime using iS Clinical Youth Eye Complex, Firming Complex, Cleansing Complex, Super Serum, Extreme Protect SPF 30 and monthly HydraFacials. Images courtesy of Miss Sherina Balaratnam.

increased frequency of repetitive eye movement and blinking. This then impacts the lines in the periorbital region, causing many patients to have a faster degree of accelerated ageing, due to increased dynamic movement with the periorbital muscles." Mrs Shah-Desai agrees that this constant muscle action is having an effect on her patients' periorbital ageing too.

### Consultation and assessment

As lifestyle factors can play such a large part in the causation of these lines, Miss Balaratnam explains that they should always be identified and discussed in the consultation. "I will always tell patients that doing nothing is an option and highlight the importance of addressing lifestyle factors such as smoking, sun exposure, sugar intake, alcohol and pollution; however, patients don't present to clinic to do nothing," she says, adding, "They present for solutions."

In the consultation, practitioners will commonly grade the severity of the lines before planning their treatment approach and determine whether they are static or dynamic. In 2008, a 5-point photonumeric rating scale to objectively quantify the severity and type of lateral canthal lines at rest (static) and at maximum contracture of the orbicularis oculi (dynamic) was developed.<sup>3</sup> The lines are graded on the Crow's Feet Grading Scale from 0 (none) to 4 (severe).<sup>3</sup>

- 0 no wrinkles
- 1 minimal wrinkles
- 2 mild wrinkles
- 3 moderate wrinkles
- 4 severe wrinkles

Mrs Shah-Desai will also perform what's called 'the snap test' to assess the patient's skin quality and laxity. "I do this by pinching the skin in the area to assess the active recall. If it snaps back well, then I know that my patient will likely respond well to an injectable approach, whereas if it is lax and stays put, I know their skin quality and laxity also needs addressing," she explains.

As well as the physical assessment, Miss Balaratnam and Mrs Shah-Desai also do a digital assessment using a VISIA digital skin imaging. "With this, we are able to review the skin closely to assess the severity of these lines, and whether there may be contributing factors like hydration and photodamage. This will determine where patients will start on their treatment ladder," explains Miss Balaratnam. Partridge also emphasises the importance of clinical photography in every consultation. "For static lines in particular, make



sure you're taking photos of people at rest and animation. Then, when the patient returns for their review, you can show them the static lines that were there before and how your treatment approach has helped. It's not only for a reassurance and a best practice point of view, but also many insurance policies are invalid if you haven't got before and after photographs," she advises. As with all other aesthetic procedures, ensuring the patient has realistic expectations and understands the risks associated with treatment is paramount, practitioners state. Partridge also advises to effectively communicate to the patient about prices and budget, as this can really impact treatment strategy.

Treatment

The practitioners interviewed have slightly different approaches to management but recognise that treatment will depend on what is most needed to be addressed: volume replacement, skin quality, muscle movement or a combination. All acknowledge the important role skincare plays in both pre-treatment and maintenance of results, and advise patients are on a good quality skincare regime, with daily use of SPF.

The mainstay of lateral canthal line treatment remains to be botulinum toxin. Partridge reiterates, "Toxin is going to be my first choice 99% of the time when treating somebody with all types of lateral canthal lines." Although, for patients displaying deep, static lateral canthal lines with skin quality concerns, a multifactorial treatment approach is appropriate, according to practitioners.

Mrs Shah-Desai explains, "It's important to understand that static wrinkles need combination therapy and, in this area, the combination is either fillers and botulinum toxin, or if there is a lot of skin laxity associated with those wrinkles then you will need additional methods such as radiofrequency."

Dr Jack adds, "My approach for treatment would be multifactorial and really depends on the individual patient and how far they want to go, how much time they have, how much they can tolerate and what sort of the expectations they have."

Dr Jack usually treats with injectable first, then moves on to skin quality treatments if needed. "I would consider the use of botulinum toxin to relax the downward pull of the muscle and lightweight dermal fillers such as Teosyal Redensity I or Juvéderm Volite. I would offer injectables first because I find you can get to a stage where the lines are so improved that you don't necessarily need to perform resurfacing treatments through methods such as radiofrequency or soft surgery. I think these approaches can have more variability in the eventual outcome and they are different for each patient." Dr Jack likes using a controlled micro-droplet technique in the area and says that using injection pens such as Teosyal Pen or Juvapen work well for him to monitor injection depth and product quantities. Partridge has a similar approach to Dr Jack. Two weeks following toxin injection, she will assess the impact it has made, before planning further intervention. "For less severe static lines, Skinboosters can be really good for both skin quality and hydration. For older patients with deep, severe lines I would need to consider radiofrequency - I use the Exilis Elite, which I find great for stimulating collagen and elastin. For those requiring extra skin rejuvenation I use the RevLite laser, which I find is effective for



## "As practitioners, we need to do more than provide a quick fix and really understand how we can help in the long-term"

Miss Sherina Balaratnam

stimulating the fibroblasts for collagen production."

To improve skin quality, Dr Jack advises practitioners choose treatments that will stimulate the dermis. "I would consider using a resurfacing radiofrequency device such as the Morpheus8. This is great for people who are 40-50 with crepey, lax skin," he says. Dr Jack adds that soft surgery can also be used in this area, "I sometimes use Plexr, but the downtime is usually seven to 10 days and there is a risk of redness that remains for a period after, which can deter patients. I always advise practitioners against treating the line directly with soft surgery – treat the skin either side of the line, which should create tension and draw the line out outwards."

Conversely, Mrs Shah-Desai would always address skin laxity before using injectables. "This is when I go down the energy-based devices route, and will be looking at Tixel, or the Morpheus8 radiofrequency microneedling device. I always tighten before I volumise because as you tighten the skin it thickens itself and I find that it retains the filler better. In my experience, if you try to revolumise something that's loose, it's not as effective. Once I start seeing improvement in the skin quality, I will start looking at dermal fillers," she says, adding, "There are so many lovely hyaluronic acid products that will improve the structure and hydrobalance in the skin such as Skinboosters, Viscoderm, Redensity I, RHA I, or mesotherapy products."

Miss Balaratnam also likes to address skin quality prior to the injectable route. Following a good skincare routine and lifestyle advice, Miss Balaratnam says, "My treatment ladder will often involve high-tech facials. Facials such as the HydraFacial encourages increased oxygenation to the skin which in turn produces new cell formation. We have a very specific eye treatment called the HydraFacial Perk, which gives a greater degree of controlled exfoliation and skin conditioning to the skin around the eye area and pushes active topicals onto the epidermal layer of the skin to hydrate this area."

After skin conditioning treatments, Miss Balaratnam will take patients to the next stage, which she says involves energy-based devices. She explains, "My top treatment for addressing the skin causing lateral canthal lines would be the EndyMed 3DEEP Fractionated Skin Resurfacing, which creates superficial microchannels for skin resurfacing and collagen stimulation. Something new in my clinic that is getting excellent and fast results for treating pigmentation and skin texture is the PicoSure laser. This works in a trillionth of a second, targets the epidermal tissue causing a focused and photomechanical injury to the skin without breaking the tissue. This elegant injury to the skin causes cell signaling which brings about skin revitalisation." Miss Balaratnam continues, "To address skeletal issues, I will use dermal fillers in the temple, lateral cheeks and periorbital area to provide volume from within which in turn supports the skin - I use the MD Codes techniques and use the Juvéderm Vycross range of facial fillers to address this. Following this, if there is remaining muscle activity, I will also address this with botulinum toxin. I administer toxin after the fillers as, in my experience, muscles will behave differently once you use dermal fillers underneath and around them. We call this concept myomodulation." Toxin is also usually last on Mrs Shah-Desai's treatment plan. "I would look to do toxin if the patient has a lot of dynamic movement. I also find that when we restore the volume and take the underlining anatomy back to where it used to be, we tighten the skin, so we don't necessarily need to inject very much toxin," she explains.

### Aftercare and maintenance

"You can't underestimate the importance of maintenance," highlights Partridge, noting, "If a patient thinks they can come in, have a treatment and then go home and not do anything to support their welfare then they won't achieve their best results. I always stress the importance of hydration, diet, SPF, and general lifestyle factors," she says. Dr Jack likes to keep his maintenance advice simple. "Skincare is really important; I always recommend vitamin C, SPF and a light retinol. I also recommend supplementation with vitamins such as C, E, and biotin, which I think can really benefit patients," he says. Mrs Shah-Desai also values supplements for skin maintenance, she says, "There is not a lot of literature on this, but just from my own use I have noticed that it helps my own skin, particularly my periocular lines and wrinkles. I stock both bovine collagen – Totally Derma – and marine collagen - Skinade - to give my patients a choice." Mrs Shah-Desai also recommends microchanneling patches such as Radara, which she says can help encourage new collagen and deeper penetration of hyaluronic acid into the skin.

The practitioners also acknowledge that it's important to tell patients that their results will need to be preserved through regular maintenance of in-clinic treatments, as per the treatment protocols.

### Summary

As with many other aesthetic concerns, practitioners have various different approaches for rejuvenation of the static lateral canthal rhytids. Dr Jack's top advice is, "Treatment of these lines requires a multifactorial approach, as with anything these days, for the best outcome." Miss Balaratnam adds, "My approach very often is a blend of skin conditioning and energy based-treatments, with topical skincare driving the results forwards. As practitioners we need to do more than provide a quick fix and really understand how we can help in the long-term. Our profession is a minefield and each of us will have different treatment options, hence patient education is key, so that patients will have a better understanding as to the science behind the treatments they are receiving."

Finally, Miss Balaratnam says, "When treating static lateral canthal lines in an older patient, I always 'leave a little bit behind' so that patients just look more real, with a natural result. This keeps their friends and family second-guessing, which I believe is a nice place to be, instead of saying, 'Where did you have your work done?' If they pass this test and go unnoticed, then I have done my job well."

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