Why you should stop freezing your patients! And some golden tips



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By Dr Giulia D'Anna



osmetic injectable treatments are part Jof the dento-facial treatment plan, and can really complete the result for your patients. The teeth and lips, skeletal structure and musculature of the patient all equally contribute to the result you can achieve for your patient. Whether we treat our patient orthodontically, whether it be with veneers or similar, we constantly assess the facial profile, to ensure that we have balance, symmetry and harmony in the results we achieve. To finalise the aesthetic results and to complete our treatment plan, the use of botulinum toxin can be engaged to enhance the traditional cosmetic treatments that dentists are used to employing for a great outcome. One of my favourite techniques to use botulinum toxin in my practice is for facial rebalancing.

But what is rebalancing?

Our entire body is based on balance. To stand up, we engage certain key muscles in our core and legs, just as we engage different muscles to move our arms and so on. So let's look at the face. The same can be said of the face. We have muscles that balance each other so that we can have a neutral expression. When we smile, we activate muscle to elevate the lips, raise our brows and eyes into a 'happy' expression and so on. This engagement of muscles is such that the elevators hold the balance, creating uplift and a pleased expression. When we want to show that we are unhappy, we will engage a different set of muscles, so that the balance is held by depressor action.

Newton's third law: For every action (force) in nature there is an equal and opposite reaction

By using our knowledge of elevators and depressors, we can selectively choose and then treat which muscles will hold the balance in our chosen area. This is a key decision making process that I undertake when I treat my patients, and part of the treatment discussion. I need my patient to understand that freezing one muscle completely for the sake of wrinkles and lines, will lead to the opposing muscle having the balance of muscle pull in the other direction.

When we treat one muscle with BTX-A, the opposing muscle will take over. So it is always important to consider the elevators and depressors of the face. There are two pivotal areas where this is extremely important, as we can change the facial contours by selecting where the balance of muscle pull lies. Namely these areas are the brows and lip regions.

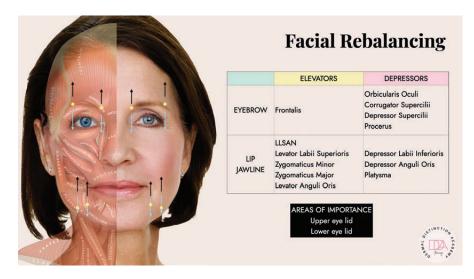
Facial anatomy and muscle action

Lines will run perpendicular to the muscle action. If a muscle pulls up, the lines with run across the face. If the muscle pulls laterally, the lines will run vertically on the face. So when you look at the muscle action map, you can assess which muscles elevate, which muscles pull laterally or medially, and those that are depressors.

The only elevator of the upper face and eyebrows is the Frontalis muscle. So what happens if a patient wants complete freezing of the frontal muscle? This means that the depressors will hold the balance of the brow position, making the brows heavy. This can create a downward pull and heaviness that is undesirable to the patient and the aesthetic outcome. Some of you might be thinking that you can overcome this by undertaking a toxin brow lift, but your efforts will be futile, as the muscle around the eye, the orbicularis oculi pulls down under the brow. Adding toxin here will stop the muscle pulling down. So the balance between the frontal inaction, and the orbiculis oculi brow lift is neutral or no action.

For a patient with heavy eyebrows, it would be important to under-treat the Frontalis, to avoid further creating heaviness in the brow, as the frontalis is the only muscle to lift the heavy brows. Too much relaxation will leave the patient unhappy as the orbicularis oculi muscle cannot lift the brows, and the heaviness will burden the patient. However, if we minimise our frontal doses so that there is still some movement, we can minimise forehead lines, whilst maximising the facial rebalancing of the muscles. Win-win!

Similarly, if we add too much relaxation in the central frontal region, the so called 'drop zone', the frown will bulge and be heavy. Therefore, when we make a decision about dosing and freezing muscles, we are really deciding which muscle gets to hold



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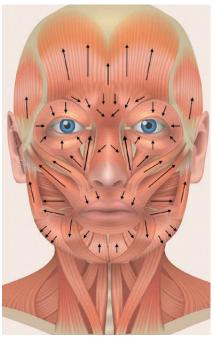
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the balance of function.

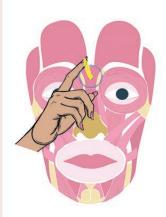
Now let's look at the oral commissures and jawline. Again we have elevators and depressor action. Generally speaking, it is aesthetically pleasing if the elevators hold the predominant balance of action. If we are using the facial rebalancing technique, we would select the depressor muscles to treat to improve the jawline and oral commissure position. This means we might add toxin doses to the Depressor Angulis oris, and if appropriate, the Platysma. By minimising their action, the jowl will lift, creating more definition of the jaw line, and the oral commissures may rise at rest. This is an aesthetically pleasing result for our patient.

When treating, we need to avoid accidentally dosing muscles that would create a functional change that would be detrimental to our patient. We need to leave the Depressor Labii Inferioris active,



Muscle action





Tips for use

Important notes:

"Action halo": The toxin effects 1cm diameter around the site injected.

Manual spreading can occur if the injection site is manipulated within 4 hours of injection. Avoidance of this must be in your post-care instructions.

Review at 2 weeks.



or the lip will be incompetent. Similarly, the Levator Labii Superiors Aqualae Nasalis (LLSAN) can be treated where the patient has a gummy smile, even though it is an elevator. Minimising the action of this elevator muscle would create a positive change for a patient with excess gum display.

Golden tips for use of toxin

Great training is essential, and remaining competent is absolutely necessary in any area of dentistry. Cosmetic injecting is no different. A single course is not adequate to have recency of practice and keep updated with your techniques. Always look for a course that is heavy on anatomy and medical evidence. As with all other dental treatments and techniques, there are advances that occur, and the cosmetic practitioner needs to remain current with the updated

In Australia, there are three brands of botulinum toxin on the ART register. These are Botox (Allergan), Dysport (Galderma) and Xeomin (Merz). No matter which brand of toxin used, each brand will have a "halo" effect. This means that the toxin

will have an effect on the surrounding muscle 1cm from the point of injection. So this becomes important around the eyes in particular, where we should try and stay at least 1cm away from the orbital rim to avoid inadvertent treatment of the ocular muscles, resulting in blurred vision. This can be debilitating for the patient, and the source of a complaint.

Manual spreading of toxin can also occur. The patient should be asked to avoid leaning, touching or sleeping for 4 hours post-treatment. Rubbing the treatment area before this time may result in a changed result or the toxin being diffused to a muscle that was not targeted by the injection. I stress this many times with my patients as I am a skilled injector, and only wish for the best results for my patients.

It is important that your patient does not undertake dental or facial treatments immediately after treatment, to avoid the manual spreading of the Botulinum Toxin. I would recommend deferring all facial and skin treatments for 14 days so that you can properly assess the work you have undertaken without interference. For example, if a patient undertakes skin tightening the day after your botulinum treatment, assessing the result of your work will be difficult. And what if there is an adverse outcome from the skin tightening or in fact your treatment? How can you determine what treatment caused the problem? You may be able to as you know what muscle relaxants do, but how can you explain this to the patient without appearing defensive? It is difficult. I would recommend delaying any other facial treatments until you have assessed the results of your treatment.

If you would like to learn more about the use of Botulinum Toxin and Dermal fillers, especially with the use of facial rebalancing and other cosmetic treatments, visit www.dermaldistinction.com