NEW Regular Feature

Incorporating facial rejuvenation procedures into the dental practice

Eminent Canadian facial aesthetics expert Dr. Warren Roberts gives us his perspective on dentists performing such treatments

Is there a place for Botox in dentistry? Should dentists be providing facial rejuvenation procedures that have been commonly performed at spas and by the medical profession? Looking at the facts surrounding Botox may cause a paradigm shift in your attitude towards this treatment modality.

My family background is in the commercial fishing industry and my father is a famous seine boat fishing captain. At an early age, he instilled in me that the key to success is to use the latest technology and advancements to chart your course before the tide begins to change.

Recognising that the tide was changing, we decided to include facial rejuvenation procedures into our 'smile design' treatment. Our most exciting adventure to date has been the opening of a Dental and Facial Rejuvenation/Aesthetic Dentistry centre, appropriately named A Smile Above'. We are enjoying the practice of dentistry more today than ever before.

Facial rejuvenation is any cosmetic, dental or medical procedure used to restore a younger appearance to the human face without surgery Facial rejuvenation comprises a number of treatment modalities. Two of the most common are Botox and dermal fillers, both of which are minimally invasive and reversible. Approximately three to four months after the initial Botox treatment the treated muscles will return to their pre-treatment condition. Nine to twelve months after hyaluronic acid dermal filler treatment, the filler is naturally resorbed by the body. Botox (the natural purified protein of the clostridium botulinum bacteria) is used to cosmetically soften lines and wrinkles of the face and neck. Hyaluronic acid dermal fillers restore volume that is lost through the natural ageing process.

These two treatments are a natural adjunct to aesthetic dentistry and their use can have a major impact on the aesthetic outcome of 'The True Smile Makeover' and comprehensive restorative treatment through their effect on tooth display and the draping of the soft tissue around the mouth. Even dentists who may not be inclined to provide these treatments themselves should educate themselves in how Botox and dermal fillers influence the dental treatment they provide.

Aesthetic dentistry has evolved and photography has taken on an even increasing role. From cosmetic imaging that allows a patient to preview a potential course of treatment to laboratory communication and accurate record keeping, photography is essential.

In the area of facial rejuvenation, patients often have difficulty understanding and communicating what they wanted to improve. A series of photographs that allows them to view themselves from all angles is required… but none existed. To fill this need we created the Roberts Facial Rejuvenation Photography (RFRP) series of 29 digital photographs.

The series allows the patient to view themselves from angles they are unaccustomed to seeing, with various muscles activated. It also helps the dentist to critically analyse the face and demonstrate how the muscles of facial expression affect the smile design.

Figure 1: Full-face frontal relaxed, pre first Botox appointment

Figure 2: 45° right relaxed, pre first Botox appointment

Figure 3: 45° left relaxed, pre first Botox first appointment

Figure 4: Full-face frontal high smile with gingival display, pre first Botox appointment

Figure 5: 45° right high smile with gingival display, pre first Botox appointment

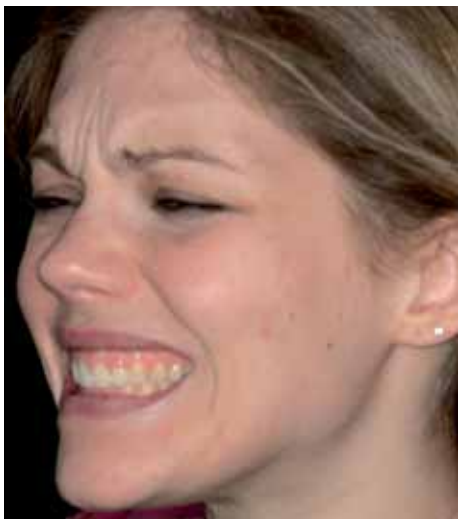

Figure 6: 45° left high smile with gingival display, pre first Botox appointment

Patients who are interested in enhancing the appearance and function of their teeth also frequently want to improve their overall facial appearance. In the past they have sought treatment for facial enhancement elsewhere.

However, as dentists we are uniquely skilled to provide these treatments for our patients. Who has better training and understanding of facial anatomy than dentists? Who is more skilled at giving injections? Who do patients trust to work in areas around their mouths? If dentists can be trained to perform delicate endodontic procedures, sinus lifts for implants and other involved procedures, are they not capable of performing tiny injections into superficial muscles of the facial area and injecting resorbable gels into superficial areas of the skin, especially given the fact that these injections can have a direct influence on other treatment the dentist is providing? For example, the muscles responsible for the 'mid face expression' can have a drastic aesthetic effect in some patients. Have you ever met a beautiful person only to have them smile and show an inch of gingival tissue (a gummy smile)? No matter how you attempt to look away, your gaze keeps returning and waiting for the gingival display to appear again. Treatment for a 'gummy smile' often is an invasive surgical Leforte I procedure or surgical crown lengthening. Alternatively, Botox may significantly improve the appearance. A two-unit placement of Botox is often all than is required to improve the appearance. A two-minute $50 procedure repeated every 3-4 months can provide alternative non-invasive aesthetic improvement in many cases. Those dentists that perform orthodontic procedures should be reminded that young women have a 13.8% incidence of excessive gingival display.[1] After several years of orthodontic treatment, learn how to finish these cases by diminishing the muscular hyperactivity that produces the 'gummy smile'.

Figure 7: Full-face frontal relaxed, five months post treatment with two units of Botox Cosmetic with normal relaxed contour

Figure 8: 45° right relaxed, five months post treatment with two units of Botox Cosmetic with normal relaxed contour

Figure 9: 45° left relaxed, five months post treatment with two units of Botox Cosmetic with normal relaxed contour

Figure 10: Frontal high smile, five months post treatment with two units of Botox Cosmetic, demonstrating normal gingival display

Figure 11: 45° right high smile, five months post treatment with two units of Botox Cosmetic, demonstrating normal gingival display

Figure 12: 45° left, five months post treatment with two units of Botox Cosmetic, demonstrating normal gingival display

Case studies of excessive gingival display

In the two case studies illustrated (Figures 1-18), both are attractive females in their late twenties who are self-conscious about smiling. The first will utilise Botox only, to reduce gingival display and the second will demonstrate the need for a combination of Botox and gingival surgery to accomplish the treatment goals.

Utilising the RFRP series, we can visualise both patients' main concern of a gummy smile (post-op photos are taken to assess treatment results).

Another example of the direct influence on other treatment the dentist is providing is Platysma, one of the muscles of facial expression that may have a previously unrecognised effect on gingival attachment. The muscle is often treated with Botox to relieve so-called 'necklace lines' around the neck. It arises from the fascia covering the pectoral major and deltoid muscles, inserts into a broad area of the mandible, the skin, and subcutaneous tissue of the lower part of the face. In a patient with fragile gingival attachment, hyperactivity of this large muscle may predispose them to gingival recession and bone loss.

Training – our initial training in Botox and dermal fillers was provided by a physician colleague. Once the basic skills had been learned, the major challenge we faced was how to incorporate these skills into our dental practice. After taking any new course and learning new skills, the most difficult task is training your team to incorporate the newly learned information into your existing systems.

Although challenging, this task can invigorate the team and provide stimulation for those eager to improve themselves and expand their horizons in the art and science of dentistry.

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Dr. Warren Roberts is a leading Botox® educator whose Vancouver clinic is the number one administrator of Botox® across North American dental practices. Since 2008, he has trained over 7,000 doctors nationally and internationally, and has treated hundreds of Botox® patients.

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Figure 13: Full-face frontal smile with excess gingiva on the right maxillary lateral

Figure 14: 45° right smile with excess gingiva on the right maxillary lateral

Figure 15: 45° right high smile with entire maxillary anterior gingival display

Figure 16: Full-face frontal relaxed, three months post treatment with two units of Botox Cosmetic with normal relaxed contour

Figure 17: 45° right relaxed, three months post treatment with two units of Botox Cosmetic with normal relaxed contour

Figure 18: 45° right high smile, three months post treatment with two units of Botox Cosmetic demonstrating reduction of 'Gummy Smile'. The maxillary lateral may require minimal crown lengthening

The training we provide dental teams through the Pacific Training Institute for Facial Aesthetics (PTIFA) draws on the experiences we gained as pioneers in blending dental and facial rejuvenation.

Additionally, the medical training does not appreciate the effect that treatment of the upper face can have dramatic effects on the dental exposure.

Case Study – effects on dental exposure

Furthermore, it is important to realise that Botox and dermal fillers (hyaluronic acid) have transient effects and need to be replenished at 3 and 9-month intervals respectively. Dental offices are renowned for their 3 & 6 month re-care appointments. The magic is in incorporating Botox into your re-care programme. Facial rejuvenation can be seamlessly incorporated into an already existing re-care system and also provide patients a discreet way or maintaining their Botox and dermal fillers.

Dentists are extensively trained in the anatomy and physiology of the head and neck and the majority are skilled in the delivery of painless injections. In many medical offices and spas, Botox and dermal fillers procedures are performed by nurses and assistants with less training. Our university training requires us to examine the entire head neck area.

Sometime after graduation, many dentists lose track of this training and begin to dive in and see only the teeth.

Today the sophisticated patient has access to unlimited information, with the result that there are increasing aesthetic demands placed upon dentists by patients. The critical relation between facial soft tissue contours, anterior dental aesthetics and function must be addressed.

Figure 19a: Full-face frontal relaxed, pre Botox treatment

Figure 19b: Full-face frontal relaxed, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased maxillary tooth display

Figure 20a: Close-up face frontal relaxed, pre Botox treatment

Figure 20b: Close-up face frontal relaxed, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased maxillary tooth display

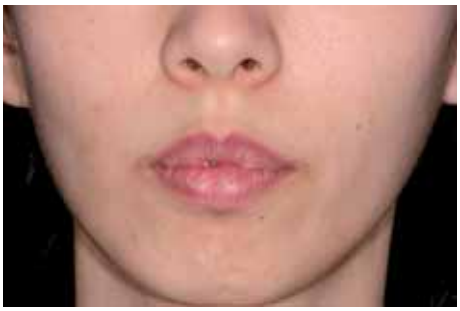

Figure 21a: Lower face relaxed, pre Botox treatment

Figure 21b: Lower face relaxed, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased maxillary tooth display

Figure 22a: Full-face frontal relaxed, pre first Botox appointment

Figure 22b: Full-face frontal relaxed, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased smile

Figure 23a: Close-up face relaxed, pre first Botox

Figure 23b: Close-up face relaxed, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased smile

Figure 24a: Close-up face smile, pre Botox treatment

Figure 24b: Close-up face smile, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased smile

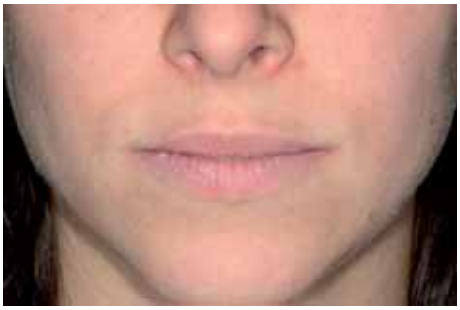

Figure 25a: Lower face relaxed, pre first Botox

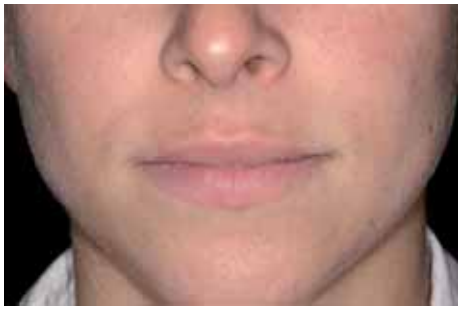

Figure 25b: Lower face, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased smile

If the ageing soft tissue aspects associated with the smile are addressed, prior to the definitive dental treatment, *the final restorative approach may need to be significantly modified*. The importance and effect of facial rejuvenation upon smile design cannot be overestimated and should be included into the diagnosis and treatment plan.

In April 2009, a research article was published and linked the use of Botox with decreased anxiety and depression.[2] In the June 2009 issue of the Journal of the Canadian Dental Association another article addressing the current concepts in oral-systemic health[3] discussed how anxiety and depression play a role in periodontal disease. Recognising the connection between Botox and anxiety and depression, should we be investigating a possible role for Botox in treating some periodontal disease? As Botox therapy becomes more mainstream in dentistry we may find other uses for a cosmetic treatment often dismissed as unrelated to the practice of dentistry

PTIFA – having successfully incorporated Botox and dermal fillers into our practice, we also created the Pacific Training Institute for Facial Aesthetics (PTIFA), in order to share what we had learned with our dental and medical colleagues. We provide complete team training that facilitates immediate implementation of newly acquired skills. PTIFA offers the world's only 'Online Botox Course' (ptifa.com/botoxonline) with an introduction to facial rejuvenation and complete anatomy review. There is also a 'Anatomy/Cadaver Lab' review.

After the basics, PTIFA offers the only two-day Comprehensive Botox course. We review the facial ageing process and what motivates a patient to have aesthetic changes performed.

Figure 26a: Full-face frontal relaxed, pre first Botox appointment

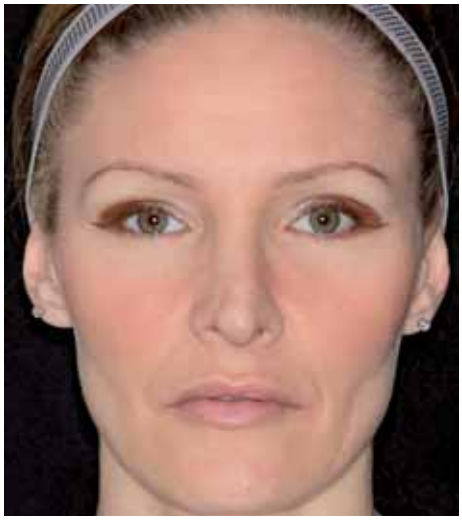

Figure 26b: Full-face frontal, two weeks post Botox Cosmetic with treatment to the upper face only. Note the increased maxillary tooth display

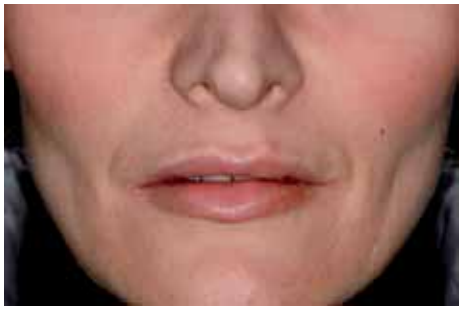

Figure 27a: Lower face relaxed, pre first Botox appointment

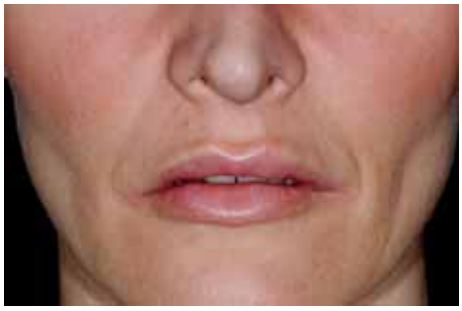

Figure 27b: Lower face relaxed, two weeks "post Botox Cosmetic with treatment to the upper face only. Note the increased tooth display

An intensive review of facial anatomy is undertaken to facilitate an understanding of the effect that each muscle has on the face at various ages. The RFRP series is taught to the entire team as is the cornerstone for successful results. Supervised hands-on treatment gives a sound foundation for injection technique, and attendees leave with the skills and support necessary to start their Botox journey and immediately implement the training.

In order to provide an ongoing educational support we have also established the 'Botox Study Club'. We offer members online training, live webinars and further hands-on training in a variety of locations throughout Canada and the United States.

It is time for dentists to take a good look at facial rejuvenation and sail with the tide. Our patients deserve our attention and these ubiquitous treatments.

References

1. JPD1984:51:24-28, Tijan, AHL et al
2. J Cosmetic Dermatology 2009; 8: 24-26 Lewis MB, Bowler PJ
3. J Canadian Dental Association 2009; Vol.75, No. lacopino AM

Drs Janet and Warren Roberts established the Pacific Training Institute for Facial Aesthetics in Vancouver British Columbia Canada (www.PTIFA.com 604-581-0066) where they train dentists and their dental team in Botox, dermal fillers and laser therapy. Please contact PTIFA for information on available courses. Details on the Botox Online course can be found at ptifa.com/botoxonline