Australasian Society of Cosmetic Dermatologists

IN THIS ISSUE

Procedural Skills for Benign Skin Lesions

OPINIONS AND PROGRESS IN

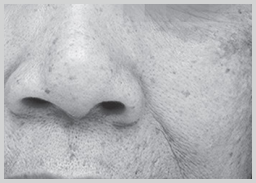
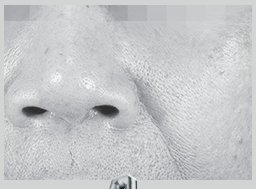
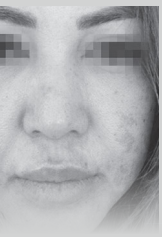
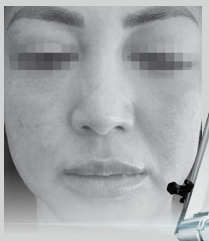
Cosmetic Dermatology

VOLUME 04 / ISSUE 01 / AUGUST 2024

Australasian Society of Cosmetic Dermatologists

DERMATOLOGY TRADECRAFT



The Many Faces of MELASMA

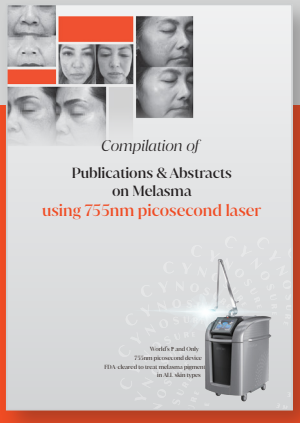
The World's 1st and Only Picosecond Laser FDA-cleared to treat Melasma Pigment in ALL Skin Types

The PicoSure Pro device delivers 755nm energy in picoseconds; the delivery is so quick that it spares the skin from high thermal damage while optimally targeting unwanted pigment, wrinkles, acne scars and pores with less downtime than traditional lasers

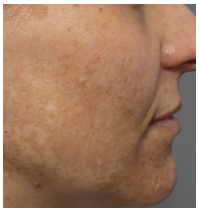
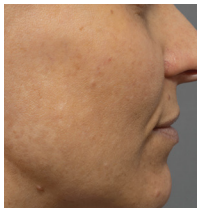
- 1 Zoom handpiece (2-6mm) and 4 fixed handpieces (5, 6, 8, 10mm) with adjustable fluence for customizable treatments
- Platinum focus™ lens for unique skin revitalization with no downtime
- Flat lens for treating unwanted pigment in all skin types
- Optional 532nm and 1064nm add on for tattoo removal capabilities

Key Indications

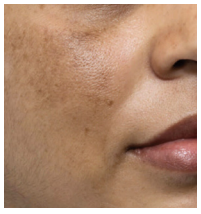
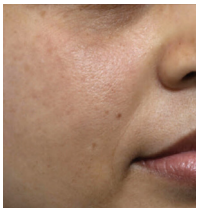
- Remove unwanted pigment safely and effectively in all skin types; the only picosecond device FDA-cleared to treat melasma pigment, nevus of Ota and Hori's nevus
- Reduce wrinkles, fine lines, acne scars and pore size with no downtime
- Improve overall skin tone & texture; providing patients with lighter, brighter and more radiant complexion
- PicoSure combines patented PressureWave™ Technology with the use of three nominal wavelengths (532, 755 and 1064nm) alongside stringent certifications from the FDA and TGA to give you the confidence and ability to treat even the most complex tattoo indications



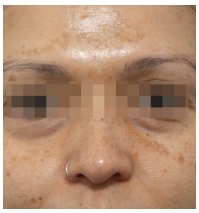
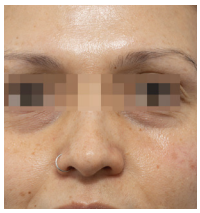
Download our Compilation of Publications & Abstracts on Melasma using 755nm Picosecond Laser

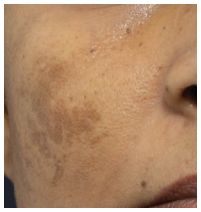
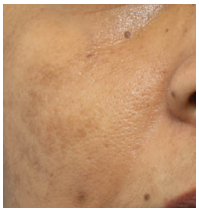
2x TX sessions of PicoSure for Melasma
Courtesy of Lotus Hansford, Cutis Dermatology

4x TX sessions of PicoSure for Melasma
Courtesy of Cutis Dermatology

3x TX sessions of PicoSure for Melasma
Courtesy of Lara, Cutis Dermatology

4x TX sessions of PicoSure for Melasma
Courtesy of Cutis Dermatology

cynosureaustralia.com
infoaustralia@cynosure.com
+61 2 9484 4546

PICOSURE pro by CYNOSURE

Australasian Society of Cosmetic Dermatologists
www.ascd.org.au/medical_journal

OPINIONS AND PROGRESS IN
Cosmetic Dermatology
VOLUME 04 / ISSUE 01 / AUGUST 2024

DERMATOLOGY TRADECRAFT
Procedural Skills for Benign Skin Lesions

The ASCD follows guidelines on ethical publishing, including editorial independence, produced by the International Committee of Medical Journal Editors (http://www.icmje.org/recommendations/), the World Association of Medical Editors (http://www.wame.org/about/policy-statements) and the Committee on Publication Ethics (http://publicationethics.org/resources).

Australasian Society of Cosmetic Dermatologists
www.ascd.org.au/medical_journal

OPINIONS AND PROGRESS IN
Cosmetic Dermatology
VOLUME 04 / ISSUE 01 / AUGUST 2024

DERMATOLOGY TRADECRAFT

Procedural Skills for Benign Skin Lesions

Welcome to Dermatology Tradecraft – our ninth issue is dedicated to practical dermatological procedures for benign skin lesions.

I am delighted to welcome back Dr Belinda Welsh as the Guest Editor for this issue on dermatology "Tradecraft." Dr Welsh previously served as Guest Editor for Issue 2 on rosacea. She is a prominent Melbourne dermatologist and a regular convenor for the Australasian College of Dermatologists' annual Aesthetic Dermatology session. This issue features 18 expertly produced procedural clips on the treatment of common benign skin lesions. Dr Welsh's suggestion of "Dermatology Tradecraft" beautifully encapsulates the essence of these clips, which will undoubtedly inform, educate, and entertain.

As you know, Professor Saxon Smith AM, my co-Editor-in-Chief, passed away in February this year. Professor Smith was awarded the ACD Silver Medal, the Australasian College of Dermatologists' highest honour, for his contributions to dermatology. In his memory, a new college award and scholarship have been established. The ASCD will similarly set up the Saxon Smith Scholarship for Australian and New Zealand dermatology trainees to attend the ASCD annual symposium and Emerging Trends in Cosmetic Dermatology events.

The OPCD journal is now listed with the National Library of Australia. OPCD welcomes article submissions on all aspects of cosmetic dermatology, including case studies, case series, original studies, review articles, procedural tips and tricks, opinion pieces, and correspondence letters. As always, we appreciate any feedback to help us improve future editions and meet your educational needs.

Editor-in-Chief
Dr Adrian Lim

Contents

CONTENTS CONTINUE TO FOLLOWING PAGE »

Australasian Society of Cosmetic Dermatologists
www.ascd.org.au/medical_journal

OPINIONS AND PROGRESS IN
Cosmetic Dermatology
VOLUME 04 / ISSUE 01 / AUGUST 2024

DERMATOLOGY TRADECRAFT
Procedural Skills for Benign Skin Lesions

Contents — continued

Guest Editorial

Dr Belinda Walsh

Correspondence: Belinda Welsh belindawelsh1@gmail.com

Walsh B. Guest editorial. Opin Prog Cosmet Dermatol 2024;4(1):1.

Welcome to Dermatology Tradecraft — our ninth issue is dedicated to practical dermatological procedures for benign skin lesions.

Dermatology is a speciality that is very procedural by nature. The organ we care for is luckily very accessible, allowing us to address many problems with relative ease in our rooms.

Patients are often very grateful that their benign but cosmetically annoying lesions can be efficiently fixed with seemingly straightforward, cost-effective procedures. These procedures, however, are generally not undertaken in busy public hospital outpatient clinics during registrar training as there is no time or they are of secondary or “cosmetic” importance. For this reason, they tend to be passed down or “discovered” only when people enter private practice.

My idea for this issue was to create a library of these little procedures, otherwise dubbed “Dermatology Tradecraft.” This will allow broader access to this knowledge base, thus enhancing not only practitioner skills but also patient care.

Procedural skills need to be seen to be taught and understood. For that reason, I felt that moving from a written format to short videos might make these more engaging, interesting, and helpful.

I genuinely hope this becomes a useful resource for dermatologists.

Sincerely,
Belinda

Botulinum Toxin and Filler in the Management of Scars

Joshua Farrell[1], Deshan F Sebaratnam[1,2]

1. Faculty of Medicine and Health, The University of New South Wales, Kensington, New South Wales, Australia.
2. Department of Dermatology, Liverpool Hospital, Liverpool, New South Wales, Australia.

Correspondence: Joshua Farrell joshua.farrell1@uqconnect.edu.au

Disclosures: This research did not receive any specific grant from any public, commercial, or not-for-profit funding agency. Deshan F Sebaratnam has received consulting fees from Galderma, AbbVie, Bristol Meyers Squibb, Amgen, Pfizer, Novartis, Janssen, Leo Pharma, Ego Pharmaceuticals, Viatris, and Sun Pharma, and material support from Candela Medical and Heine Optotechnik. Joshua Farrell has no conflicts to report.

OUTLINE: Scars are an inevitable consequence of disruption to the dermoepidermal junction due to trauma or surgery. Botulinum toxin and dermal fillers have been used increasingly in the management of scars over the past two decades. Botulinum toxin has a demonstrated role peri-operatively in reducing the degree of scar formation through its effects on reducing tension on the wound and modulating fibroblast activity. It may provide benefits in the management of hypertrophic and keloid scars.

Dermal fillers play a more prominent role in managing certain atrophic scars, most commonly related to previous acne. Therapy with fillers aims to replace volume to elevate the surface of the scar to that of the surrounding skin. They can be used either alone or as a combination therapy.

KEYWORDS: Scarring, botulinum toxins, dermal filler

Farrell J, Sebaratnam DF. Botulinum toxin and filler in the management of scars. Opin Prog Cosmet Dermatol 2024; 4(1):2–5.

Introduction

Scarring is an inevitable consequence of disruption to the dermis and dermoepidermal junction and often creates physical and psychosocial distress.[1] Scars may be atrophic, as classically seen in acne scarring, or hypertrophic in nature. The normal wound healing process consists of three overlapping stages: inflammation, proliferation of granulation tissue and remodelling.[1–3] The inflammation phase is prolonged in pathologically healed wounds, creating increased collagen synthesis and deposition of glycosaminoglycans. This then causes widening of the scar, pruritus, and erythema.[2] The wound healing process is affected by local factors, such as wound tension, and systemic factors, like vascular disease and genetic disorders).[3]

Various techniques have been described to reduce the formation of new scars and improve the cosmesis of existing scars. Over the past two decades, two methods have gained increasing prominence, namely neurotoxins and dermal fillers. Compared to other options, neuromodulators and dermal fillers have minimal downtime.[4] They are thus used for an increasing variety of indications and are now the most popular nonsurgical modalities in facial cosmetic surgery.[5] Their use in managing a wide variety of scars is increasing and is the focus of this article.

Botulinum toxin

Botulinum toxin is a neurotoxin derived from the bacteria *Clostridium botulinum*.[5] Although seven immunologically distinct serotypes exist, botulinum toxin type A is the most widely used in clinical practice.[6] Type A neurotoxins block the release of acetylcholine from the presynaptic receptors (at nerve endings with striated muscle, smooth muscle and autonomic exocrine glands) of muscle fibres, preventing contraction. The duration of effect is typically three months, although it may last from two to six months.[3,5] New scar tissue formation is minimised through muscle paralysis, decreasing underlying muscle tension, which in turn reduces fibrosis and collagen formation.[2,3] Additionally, botulinum toxin may affect the activity of fibroblasts by altering the apoptotic, migratory and

fibrotic pathways seen within hypertrophic and keloid scars.[3,7] Botulinum toxin minimises the appearance of scars in elective surgery, traumatic laceration repairs, and the treatment of pre-existing scars.[3]

When used peri-operatively, botulinum toxin reduces scar width, pigmentation, vascularity and height. Patient satisfaction is thus superior in surgical wounds treated with botulinum toxin.[2] The botulinum toxin can be injected pre-, intra-, or post-operatively. The typical injection technique takes the form of 5–10 IU placed 5–10 mm from the incision at intervals of 1cm.[3] The injections should be placed into the musculature directly or intradermally on the face, as most facial muscles insert into the dermis. Thus, the botulinum toxin diffuses into the muscle layer.[2] However, positive results have been achieved with a wide range of injection times and volumes.[6] A general recommendation is to inject during the procedure or suture removal.[8] Low doses and superficial injections are preferred to avoid compromising deeper muscle activity.[8]

Botulinum toxins are also used to treat pre-existing hypertrophic and keloid scars. Hypertrophic and keloid scars arise in aberrations during the remodelling phase of wound healing, creating excess granulation tissue formation.[1] Although the exact aetiology of hypertrophic and keloid scars is unclear, the tension on the wound is widely considered a factor.[2,3] Hypertrophic scars are not only cosmetically concerning but cause pain, pruritus, and restriction of motion. They can be challenging to manage, with the literature describing excision, steroid injection, radiation therapy, laser, intralesional 5-fluorouracil injections, and pressure therapy as possible management options.[3,7]

Botulinum toxin injected into hypertrophic scars decreases erythema, pruritus, and pliability.[2,7] Unlike injections to minimise scarring, described techniques for active treatment for hypertrophic scars include monthly injections of 2.5IU per cubic centimetre.[7] Where other therapeutic options for hypertrophic scars, such as intralesional steroid injections, are associated with skin atrophy, intralesional botulinum toxin injections have a more favourable side effect profile.[3] In addition to treatment of existing hypertrophic scars, there is evidence that botulinum toxin also prevents their formation, particularly in patients with darker Fitzpatrick skin types and scars on the face and neck[2].

Keloid scars differ from hypertrophic scars in that they grow beyond wound margins and may occur spontaneously with no regression over time.[3,6] Similar treatment options to those used for hypertrophic scars have been suggested, including intralesional steroid injections as the preferred treatment, alongside excision, radiation, and cryotherapy.[6,9] Although tension is considered a critical factor in the formation of keloids,[6] the mechanism of action of botulinum toxin injections on keloids is otherwise less well understood.[3] As with hypertrophic scars, intralesional botulinum toxin injections can reduce associated itch and pain, soften the texture, and reduce the volume and erythema of keloids.[3,6,9] Symptoms may improve within several weeks, although changes in appearance may not be seen for several months.[3] Suggested treatment regimens include injection every eight weeks at a dose of 5 IU/cm^3 for six months. When administered at the same frequency and duration, the efficacy is similar to intralesional corticosteroid injections, although the added advantage is that there are fewer adverse effects associated with botulinum toxin.[9] Botulinum toxin has also been examined as a combination treatment with intralesional steroids, with a more favourable effect on pain and itch symptoms.[6] Additionally, combining botulinum toxin and intralesional corticosteroids with topical hyaluronic acid may improve scar thickness substantially.[6]

Other therapeutic options for keloid scars include excision of keloid scars followed by post-operative injection of botulinum toxin seven days after suture removal. This appears to have superior cosmetic outcomes compared to excision followed by corticosteroid injections until six months post-operatively.[10] Botulinum toxin has been assessed in managing treatment-resistant keloids. Excision of keloid scars followed by a single dose of botulinum toxin and 5-fluorouracil nine days later appears effective with a recurrence rate of only 3.75%. Further, it is only associated with transient local reactions 2–4 weeks post injections.[11] However, there is a notable limitation in the published evidence as most studies only have a follow-up period of up to 12 months.[3,6]

Finally, botulinum toxin can improve the appearance of existing scars by treating the surrounding skin. This is especially the case for scars that are more prominent with movement (for example, scars that cross relaxed skin tension lines). The aim is to reduce the tension created by movement and, thus, the visibility of existing scars.[8] Atrophic scars, in particular, may benefit from a combined approach: injection of botulinum toxin first, with subsequent injection of dermal filler two weeks later once the effect of the botulinum toxin is established.[8] For treatment of these existing scars, anatomic locations of the forehead, periorbital region, glabella, and chin are associated with optimal results.[8]

Neurotoxins are generally considered safe, although common adverse effects include headaches, local injection reactions, muscle weakness (often seen as brow and eyelid ptosis), or rarely hypersensitivity reactions. The risk of local injection oedema, bruising, and pain can be reduced with smaller needle gauges, superficial injections, avoidance of visible vessels, and application of

ice packs post-procedure.[4] Brow and eyelid ptosis can be minimised with conservative treatment for Botox-naïve patients or by avoiding overinjection.[4] There appears to be no risk of more serious adverse events, including wound dehiscence or infection[2].

Fillers

Dermal fillers have been used since the 1970s to add volume to the target location.[4] Fillers with smaller particle sizes are less viscous and more appropriate for areas with thinner skin (lips, lower eyelids). Conversely, fillers with larger particle sizes are more appropriate for deeper injections (preperiosteal).[4] Medium viscosity hyaluronic acid is often used for moderate lines and wrinkles (glabellar and nasolabial folds) and injected into the mid-to-deep dermis.[12] Due to increased hydrophilic properties with more viscous fillers, they also tend to have greater longevity (up to 12 months compared with three months).[4] The most popular dermal fillers currently comprise hyaluronic acid, are considered non-permanent, and have the advantage of reversibility with a hyaluronidase injection.[13] Non-hyaluronic acid fillers are more durable, although they do not have a reversal agent.[4]

Where botulinum toxin is more suited towards preventing scarring and treating hypertrophic and keloid scars, fillers play more of a role in managing atrophic scars where they can replace the lost volume. Atrophic scars arise from many causes, the most common of which are acne, varicella, surgery, and trauma.[13] Atrophic scars from acne are often classified into three types: rolling, boxcar, and icepick.[14] Rolling scars occur from dermal tethering of otherwise normal-appearing skin and are wider than 4 mm. Boxcar scars are round depressions with sharply demarcated vertical edges. Icepick scars are less than 2 mm wide, sharply marginated tracts that extend vertically to the deep dermis or subcutaneous tissue. This is below the depth reached with usual skin resurfacing options; thus, this subtype of atrophic scar is the most challenging to treat.[14]

Options to treat atrophic scars include fillers, chemical peels, laser, dermabrasion, punch techniques, microneedling, and subcision.[13,14] Fillers may be preferable because punch techniques, microneedling, and laser resurfacing often require several treatments to the target area. Fillers have the added benefits of inducing collagen production in both the scar and adjacent skin, as well as more precise volumisation to the scar itself.[12,13] There is moderate quality evidence suggesting that injectable fillers provide at least a short-term benefit for up to six months in treating acne scarring.[15] However, more recent evidence indicates that hyaluronic acids may last longer than three to twelve months, even up to ten years.[16] This is consistent with the opinion that hyaluronic acid fillers last longer in atrophic scars as there is no continued trauma or inflammation to increase metabolisation.[13]

When used as monotherapy, previously described techniques for injecting fillers include the modified vertical tower technique.[17] This entails topical analgesia to the target area before injecting each scar at 90° into the deep dermis with gradual tapering as the needle is withdrawn to create a 'tower' of filler.[17] Applying this technique to atrophic acne scars twice, with an interval of two weeks, can significantly improve skin contour and cosmetic outcome measured at three months.[17]

Although it may be less effective for fine, sharply depressed scars such as ice-pick scars, a filler is particularly suitable for rolling scars and may have a role in boxcar scars.[13,15,17] Scars that appear tethered to the underlying dermis (that produce a depression on lateral inward pressure on the skin) may be better suited to alternative techniques such as subcision. Scars with deeper edges and lack of normal epidermal connection are also unlikely to be amenable to treatment with fillers.[13] Adjunctive treatment with an ablative laser to soften the edges of these scars before injection of filler is a treatment option, alongside deeper chemical peels and dermabrasion.[13] Subcision followed by injection of filler can also be considered: one technique is subcision repeated at four-week intervals for twelve weeks, followed by filler injected via the tower technique.[18] This technique is associated with slightly higher rates of mild oedema, pain, and ecchymosis but may be effective for deeper acne boxcar scars.[18] An alternative option may be 2–5 sessions of fractional laser resurfacing followed by filler placed in the superficial dermis one to two months later.[12]

Dermal fillers have risks of pain, bruising, oedema, and erythema over the first ten days after treatment, but these are usually transient.[4,12] Permanent fillers carry a higher complication rate, including skin depression, granuloma formation, migration, and translocation.[4] although there are no established protocols for treating these, options include transection, surgical removal, liposuction, ultrasound-guided removal, and injection of triamcinolone or 5-fluorouracil.[4] Non-permanent fillers infrequently are associated with skin necrosis, vision loss, and blepharoptosis. They are only rarely associated with hypersensitivity reactions.[17] A notable risk of dermal fillers is vascular occlusion, which, although rare, is challenging to manage.[4] The highest risk areas are the glabellar region, nasolabial fold, nasal tip, and alar triangle. Signs include pain and blanching, with livedo reticularis followed by skin necrosis and sometimes filler embolism. Hyaluronidase is the preferred treatment option.[4]

Conclusion

Both botulinum toxin and dermal fillers are increasingly popular in managing scars, either by themselves or in combination with other treatment modalities. Botulinum toxin has diverse uses in minimising scarring and treating pre-existing hypertrophic and keloid scars. Fillers, on the other hand, are more helpful in managing atrophic scars. Both treatment options are broadly considered safe, while hyaluronic acid fillers have the added advantage of having a reversal agent if required.

References

1. Profyris C, Tziotzios C, Do Vale I. Cutaneous scarring: pathophysiology, molecular mechanisms, and scar reduction therapeutics Part I The molecular basis of scar formation. J Am Acad Dermatol 2012;66:1–10.
2. Guo X, Song G, Zhang D, Jin X. Efficacy of botulinum toxin type A in improving scar quality and wound healing: a systematic review and meta-analysis of randomized controlled trials. Aesthet Surg J 2019;40:273–85.
3. Carrero L, Ma W, Liu H, Yin X, Zhou B. Botulinum toxin type A for the treatment and prevention of hypertrophic scars and keloids: updated review. J Cosmet Dermatol 2019;18:10–5
4. Quach B, Clevens R. Complications of injectables. Atlas Oral Maxillofac Surg Clin North Am 2024;32:57–63.
5. Busby E, Fattahi T. Historical and biological properties of injectables. Atlas Oral Maxillofac Surg Clin North Am 2024;32:1–5.
6. Sohrabi C, Goutos I. The use of botulinum toxin in keloid scar management: a literature review. Scars burn heal 2020;6:1–13.
7. Xiao Z, Zhang F, Cui Z. Treatment of hypertrophic scars with intralesional botulinum toxin type A injections: a preliminary report. Aesth Plast Surg 2009;33:409–12.
8. Goodman G. The use of botulinum toxin as primary or adjunctive treatment for post acne and traumatic scarring. J Cutan Aesthet Surg 2010;3:90–2.
9. Shaarawy E, Hegazy R, Abdel Hay R. Intralesional botulinum toxin type A equally effective and better tolerated than intralesional steroid in the treatment of keloids: a randomized controlled trial. J Cosmet Dermatol 2015;14:161–6.
10. Pruksapong C, Yingtaweesittikul S and Burusapat C. Efficacy of botulinum toxin A in preventing recurrence keloids: Double blinded randomized controlled trial study: Intraindividual subject. J Med Assoc Thai 2017;100: 280–286.
11. Wilson A. Eradication of keloids: surgical excision followed by a single injection of intralesional 5-fluorouracil and botulinum toxin. Can J Plast Surg 2013;21:87–91.
12. Halachmi S, Ben Amitai D, Lapidoth M. Treatment of acne scars with hyaluronic acid: an improved approach. J Drugs Dermatol 2013;12:e121–3.
13. Siperstein R, Nestor E, Meran S, Grunebaum L. A Split-face, blind, randomized placebo-controlled clinical trial investigating the efficacy and safety of hyaluronic acid filler for the correction of atrophic facial scars. J Cosmet Dermatol 2022;21:3768–78.
14. Jacob C, Dover J, Kaminer M. Acne scarring: a classification system and review of treatment options. J Am Acad Dermatol. 2001;45:109-17
15. Abdel Hay R, Shalaby K, Zaher H, et al. Interventions for acne scars. Cochrane Database Syst Rev 2016;3(4):CD011946.
16. Master M. Hyaluronic acid filler longevity and localization: magnetic resonance imaging evidence. Plast Reconstr Surg 2021;147:50e–53e.
17. Goodman G, Van den Broek A. The modified tower vertical filler technique for the treatment of post-acne scarring. Aust J Dermatol 2016;57:19–23.
18. Ebrahim H, Nassar A, ElKashishy K, Artima A, Morsi H. A combined approach of subcision with either cross-linked hyaluronic acid or threads in the treatment of atrophic acne scars. J Cosmet Dermatol 2022;21:3334–42.

Use of Botulinum Toxin in Eccrine Disorders

Grace X Li[1], Deshan F Sebaratnam[1,2]

1. Faculty of Medicine and Health, University of New South Wales, New South Wales, Australia.
2. Department of Dermatology, Liverpool Hospital, New South Wales, Australia.

Correspondence: Grace X Li z5367037@unsw.edu.au

Disclosures: This research did not receive any specific grant from any funding agency in the public, commercial, or not-for-profit sectors. Deshan F Sebaratnam has received consulting fees from Galderma, AbbVie, Bristol Meyers Squibb, Amgen, Pfizer, Novartis, Janssen, Leo Pharma, Ego Pharmaceuticals, Viatris, and Sun Pharma, and material support from Candela Medical and Heine Optotechnik. Grace X Li has no conflicts to report.

OUTLINE: Botulinum toxin injections have been widely used to treat eccrine gland disorders, such as primary focal hyperhidrosis at various sites, most commonly the axillary, palmar, plantar, and craniofacial surfaces. There is also promising evidence supporting its application in relieving symptoms of pain and hyperhidrosis associated with eccrine angiomatous hamartomas, as well as in the clinical resolution of eccrine hidrocystomas. The desired clinical effects achieved following injection typically only last several months, and repeated treatments are often needed to sustain results. This review outlines the clinical evidence supporting the on- and off-label uses of botulinum toxin in various eccrine gland disorders and the expected durations of efficacy, dosing recommendations, and adverse effect profiles.

KEYWORDS: botulinum toxin, eccrine disorders, hyperhidrosis, angiomatous hamartoma, hidrocystoma

Li GX, Sebaratnam DF. Use of botulinum toxin in eccrine disorders. Opin Prog Cosmet Dermatol 2024; 4(1):6–9.

Introduction

Botulinum toxin (BTX) has been extensively researched and utilised in medical practice, particularly in the treatment of dermatological conditions. One such application is for disorders affecting the eccrine glands, which have a crucial role in thermoregulation through the facilitation of sweat secretion.[1] BTX inhibits the presynaptic release of acetylcholine from postganglionic sympathetic fibres, innervating eccrine glands to prevent excessive sweating.[1]

In Australia, three BTX-A formulations are commercially available: onabotulinumtoxinA (Botox), abobotulinumtoxinA (Dysport), and incobotulinumA (Xeomin).[2] Since 2013, onabotulinumtoxinA (Botox) has been rebated under Medicare for use in severe primary axillary hyperhidrosis for patients who are refractory to topical aluminium chloride after 1–2 months.[2] The other off-label applications of BTX-A for eccrine disorders include the treatment of hyperhidrosis at other sites, angiomatous hamartomas, and hidrocystomas.[3,4,5] This review aims to summarise the published evidence for the efficacy and safety of BTX injections in these conditions.

Primary focal hyperhidrosis

Appropriate candidates should have a diagnosis of primary focal hyperhidrosis, with the exclusion of other underlying medications or conditions that may be causing the symptoms.[6]

Axillary hyperhidrosis

The efficacy of BTX-A for axillary hyperhidrosis (AH) is well established. A recent 2021 meta-analysis based on eight studies across a period from 2001–2019 affirmed the conclusions of a 2018 meta-analysis regarding the efficacy of BTX in sweat reduction and improving patient quality of life (QoL) compared with placebo.[3,7] At 2–6 weeks post-treatment, BTX decreased axillary sweating by more than 50% compared with placebo (risk difference (RD): 0.63, 95% confidence interval (CI): [0.51, 0.76]).[3] At 2–8 weeks, the treatment decreased the Hyperhidrosis Disease Severity Scale (HDSS) by at least 2 points (RD: 0.56, 95% CI: [0.42, 0.69]) and improved the Dermatology Life Quality Index (DLQI) scores (mean difference: −5.55, 95% CI: [−7.11, −3.98]).[3]

An Australian retrospective cohort study of 200 patients treated with onabotulinumtoxinA for AH reported that, on average, patients experienced a 75–100% improvement in signs and symptoms, with 97% identifying at least 'some improvement' to their QoL.[6]

The median duration of efficacy was seven months, ranging from 2 weeks to 43 months.[6] Another study reported a duration of efficacy of 6–10 months, suggesting that there may be substantial variation across patient populations.[8] Although repeated injections are necessary to sustain the anhidrotic effects, evidence suggests that the duration of efficacy may be prolonged around 2.5–3 months with repetitive treatment.[6,9]

The cumulative dose of onabotulinumtoxinA can range from 50–200 units (U) per axilla, although 50 U is the recommended value, with 2–4 units volumes injected intradermally 1–2 cm apart.[8,10] Injection-site pain is commonly reported; however, the use of topical anaesthetic before injection can improve patient tolerance.[6,8] Other possible adverse effects include compensatory sweating, haematomas, ecchymosis, headaches, and pruritus.[6,8]

The efficacy of BTX in treating AH in terms of patient satisfaction, QoL, and duration of response does not appear to be influenced by prognostic factors such as age, gender, family history, and unsuccessful prior treatment.[6]

Palmar hyperhidrosis

Despite being an off-label use, the role of BTX-A injections in treating palmar hyperhidrosis is recognised in the literature, with a treatment algorithm by Solish et al. proposing its use as either a first- or second-line therapy for mild and severe palmar hyperhidrosis, respectively.[11] Although there is less available evidence than with AH, systematic reviews conducted in 2009 and 2018 reflected the sustained consensus regarding the promising success of BTX in treating palmar hyperhidrosis, with a reported efficacy of around 80–90%.[7,12] Compared with placebo, BTX-A had a statistically significant improvement in objective sweat production at 3–13 weeks and patient self-assessed disease severity.[7]

A 2021 Australian retrospective cohort study of thirty patients receiving onabotulinumtoxinA for palmar hyperhidrosis found a 2-point decrease in the HDSS, correlating with an 80% reduction in sweating.[13] Interestingly, the study reported that following palmar BTX injections, some patients also experienced an improvement in plantar hyperhidrosis. This can be attributed to the action of a central feedback loop.[11]

Cumulative dose recommendations vary across studies, ranging from 50–220 U of onabotulinumtoxinA per palm.[8,10] Doses are typically higher than AH due to the larger surface area of the injection site.[10] Generally, 0.05–0.1 mL volumes (corresponding to 1.7–3.3 U) are injected 1–1.5 cm apart, although each digit may need 2–3 injections.[8] The duration of efficacy is around six months, ranging from 4–12 months, and appears to increase with repeated injections.[12,13,14] Farrell et al.'s cohort study identified a mean increase in duration of efficacy of 9 weeks between initial and final treatments.[13]

A significant factor that may deter patients from utilising BTX injections for palmar hyperhidrosis is the associated injection pain.[14] The most common and convenient pain management strategies are cryoanalgesia, topical anaesthesia, and vibration, which can also be used in conjunction with each other to optimise relief.[15] However, they provide less adequate analgesia than nerve blocks (targeting the median, ulnar, and radial nerves), intravenous regional anaesthesia, and needle-free anaesthesia, requiring greater physician expertise and equipment.[15]

Plantar hyperhidrosis

Currently, there remains a lack of high-quality evidence investigating the use of BTX-A in plantar hyperhidrosis, with data supporting its efficacy primarily sourced from several smaller case studies.[16] Although BTX has previously been described to be less efficacious for plantar hyperhidrosis than palmar and axillary sites, a recent retrospective case series of 129 patients receiving BTX-A for primary plantar hyperhidrosis from 2003–2022 identified that many patients were either satisfied (21.7%) or very satisfied (58.9%) with the treatment.[8,17] Sweat production (assessed by the starch iodine test) reduced, with a mean onset of action of 5.61 days and a mean duration of response of 6.16 months out of a 9-month follow-up period.[17] This affirms prior literature findings of anhidrotic effects occurring within 7–10 days post-treatment and persisting for 3–6 months.[8]

A cumulative dose of 100–200 U of onabotulinumtoxinA is recommended per foot, with 2.5 U injections spaced 1–2 cm apart.[8,17] Reduced injections of 1.25 U may be used for the toes.[17] Possible adverse effects include haematoma, transient muscle weakness and difficulty walking for several hours post-treatment.[8,15] As previously described with palmar injections, a significant deterrent for patients is pain related to the injections, and the same analgesic techniques are applicable.[15,16] Nerve blocks used in plantar hyperhidrosis instead target the sural and posterior tibial nerves. Patients generally have a low acceptance, given this procedure's invasive and time-consuming nature.[15,16] Cryoanalgesia, particularly ice and ethyl chloride spray, has been reported to increase injection tolerance.[16] Dermojet, which allows for direct intradermal injection of BTX-A without anaesthesia, has been proposed as an alternative application method.[15] Although reported to be effective for plantar hyperhidrosis, it is not recommended for use on palmar surfaces due to the risk of damaging superficial structures.[15]

Craniofacial hyperhidrosis

The efficacy of BTX-A in treating craniofacial hyperhidrosis (CH) is well-reported in the literature.[3,18,19,20] A 2015 systematic review of 27 studies recommended the use of intradermal BTX-A injections,

alongside topical 2% glycopyrrolate and oral oxybutynin, as a first-line therapy in the treatment of primary CH.[18]

A subsequent 2022 study of 24 patients showed comparable efficacy between BTX-A and topical 2% glycopyrrolate with a complete response in 75% of patients in both groups.[20] All patients had reduced sweat production (evaluated using the starch iodine test) and improved DLQI and HDSS scores groups.[20] However, BTX had a slower onset (ranging from 1–7 days) and longer duration of efficacy (up to 6 months) compared with topical 2% glycopyrrolate groups.[20] These conclusions are affirmed by a 2023 systematic review, which reported that out of 14 patients with CH that received BTX-A treatment, 71.4% had decreased sweating, with an average duration of efficacy of 5.33 months (ranging from 2–9 months).[21]

Recommended cumulative dosing of onabotulinumtoxinA varies according to treatment sites: 50–100 U for the forehead and frontal hairline, 200 U for forehead and scalp boundaries, and 300 U for the forehead and entire scalp.[8] These are typically divided into 2–3 U injections spaced 1–2 cm apart, although using 1 U injections spaced 0.5 cm apart for the upper lip and chin area has also been reported.[8,20] It is recommended that the region 1 cm above the eyebrows should be avoided to reduce the risk of eyelid ptosis.[20]

The most common adverse effects were frontalis muscle weakness, injection pain, compensatory sweating, eyebrow drooping and mild ptosis.[8,18,19,21,] Unlike palmar and plantar hyperhidrosis, injection pain did not seem to be a potential deterrent to seeking repeated treatments.[19]

Eccrine angiomatous hamartoma

Eccrine angiomatous hamartoma (EAH) is a rare, benign neoplasm that comprises eccrine and vascular structures.[22] Whilst aggressive management is not needed for asymptomatic lesions, treatment may be considered for enlarging lesions and aesthetic concerns or to address associated symptoms of pain or hyperhidrosis.[4,23] Although complete excision is the definitive treatment, BTX may be a viable alternative to target specific symptoms such as hyperhidrosis or when surgical intervention is unsuitable, such as due to patient preference or the size or location of a lesion.[4]

To date, the evidence base supporting the use of BTX is limited to a few case studies.[4,22,23] In a 2023 case report, pain and hyperhidrosis associated with 4 x 4 cm facial EAH were reduced following an intralesional injection of 30 U BTX diluted in 2.5 mL normal saline.[22] Similar results were achieved for a larger 18 x 25 cm EAH lesion on the upper back, where 2 U injections at 2 cm intervals across the site (100 U total) reduced focal sweating.[23] There was no alteration of the size and shape of the lesion, indicating that the clinical value of BTX use for EAH lies in its potential for symptom relief rather than cosmetic improvement.[23]

Based on limited case reports, the duration of efficacy ranges from 5–12 months following treatment.[4,23] In a patient who received a second injection following a recurrence of hyperhidrosis symptoms at five months, the treatment remained effective.[4] It is recommended that injections be applied superficially, avoiding vascular sections of the lesion.[4] Despite the lack of literature in this area, BTX may be a viable treatment option, with patients reporting a substantially improved QoL due to symptom relief .[4,23]

Eccrine hidrocystoma

Eccrine hidrocystomas are rare, benign cystic lesions of the eccrine sweat glands.[5] For solitary hidrocystomas, excision remains the primary treatment modality, with a low recurrence rate of 4.7%.[24] However, for multiple eccrine hidrocystomas (MEH), intradermal BTX-A injections are recommended as a commonly used effective therapeutic option for patients unresponsive to other treatment modalities or even as a first-line therapy.[5,24,25] A 2020 systematic review comparing hidrocystoma treatments identified a 90.7% response rate when BTX was used for MEH (Figure 1).[24]

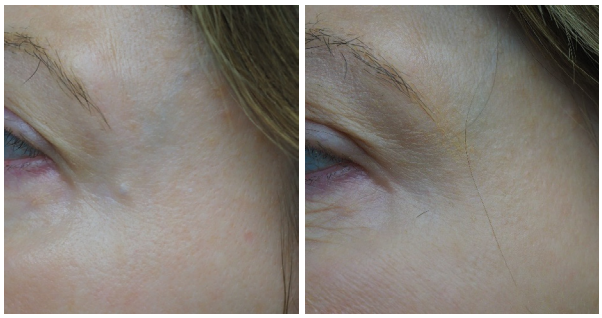


Figure 1. Photographs of a facial hidrocystoma prior to (left) and following (right) treatment with 2 U of onabotulinumtoxinA.

In a prospective study of 20 patients with MEH, up to 1.5 U of abobotulinumtoxinA was injected into each lesion, resulting in the resolution of more than 75% of lesions without scarring in all patients after seven days.[25] Cumulative doses used varied across patients according to lesion distribution, ranging from 15–60 U.[25] Similar outcomes were recorded in a 2010 case report, where 1 U injections of onabotulinumtoxinA spaced 40 mm apart (60 U cumulative dose) almost completely clinically resolved the patient's lesions by 14 days.[26] The reported duration of efficacy appears to vary across studies, ranging from two to over eleven months.[25,26,27]

Interestingly, a case report identified electrocautery as superior to BTX-A for treating periocular MEH despite minor post-inflammatory hyperpigmentation, which may be explained by the need for repeated BTX treatments to sustain therapeutic effects.[24,28] However, this factor also makes BTX a particularly suitable treatment option for patients who experience annual flare-ups of MEH.[24] Positive clinical results appear to be sustained with repeated BTX injections.[27]

Adverse effects reported in 41.9% of patients include temporary ecchymosis and facial muscle defects.[24] Transient lagophthalmos and mild smile asymmetry resolving within three weeks have also been described.[25] BTX-A is a well-tolerated procedure that is an appropriate conservative treatment for MEH, particularly considering the cosmetic concerns associated with the affected sites.[28]

Summary

Although primary axillary hyperhidrosis is currently the only eccrine disorder which BTX-A is approved for, adequate literature exists to support the viability of BTX in the described off-label uses. Some recommendations outline its potential use as either first- or second-line therapy for various sites of primary focal hyperhidrosis, eccrine angiomatous hamartomas and hidrocystomas. When considering the application of these injections for different eccrine disorders, it is essential to remain cognisant of the considerable variability in the quality of available evidence, dosing and injection recommendations, duration of efficacy, and adverse effect profiles.

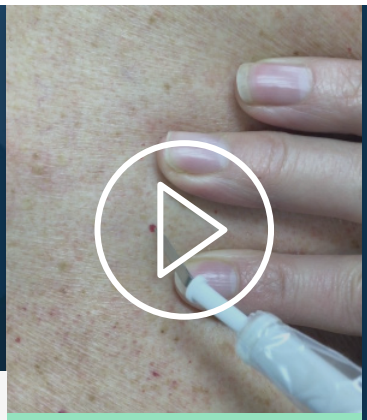
References

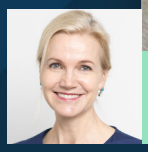
1. Hu Y, Converse C, Lyons MC, Hsu WH. Neural control of sweat secretion: a review. Br J Dermatol 2018;178(6);1246–1256.
2. Medicare Benefits Schedule – Item 18362 (MBS Online).
3. Obed D, Salim M, Bingoel AS, Hofmann TR, Vogt PM, Krezdorn N. Botulinum toxin versus placebo: A meta-analysis of treatment and quality-of-life outcomes for hyperhidrosis. Aesthetic Plastic Surgery 2021;45(4);1783–1791.
4. Barco D, Baselga E, Alegre M, Curell R, Alomar A. Successful treatment of eccrine angiomatous hamartoma with botulinum toxin. Archives of dermatology 2009;145(3);241–243.
5. Alster TS, Harrison IS. Alternative clinical indications of botulinum toxin. Am J Clin Dermatol 2020;21(6);855–880.
6. Rosen R, Stewart T. Results of a 10-year follow-up study of botulinum toxin A therapy for primary axillary hyperhidrosis in Australia. Intern Med J 2018;48(3);343–347.
7. Wade R, Llewellyn A, Jones-Diette J, Wright K, Rice S, Layton AM, Levell NJ, Craig D, Woolacott N. Interventional management of hyperhidrosis in secondary care: a systematic review. Br J Dermatol 2018;179(3);599–608.
8. Nawrocki S, Cha J. Botulinum toxin: Pharmacology and injectable administration for treating primary hyperhidrosis. J Am Acad Dermatol 2020;82(4);969–979.
9. Lecouflet M, Leux C, Fenot M, Célerier P, Maillard H. Duration of efficacy increases with the repetition of botulinum toxin A injections in primary axillary hyperhidrosis: a study in 83 patients. J Am Acad Dermatol 2013;69(6);960–964.
10. Naumann M. Evidence-based medicine: botulinum toxin in focal hyperhidrosis. J Neurol 2001;248 Suppl 1(1);31–33.
11. Solish MJ, Savinova I, Weinberg MJ. A practical approach to the diagnosis and treatment of palmar hyperhidrosis. Plast Reconst Surg 2022;10(3);e4172.
12. Grunfeld A, Murray CA, Solish N. Botulinum toxin for hyperhidrosis: A review. Am J Clin Dermatol 2009;10(2);87–102.
13. Farrell J, Stewart T, Singh B, Singh G, Rosen R. Retrospective analysis of the efficacy and duration of botulinum toxin A injections in 30 patients with palmar hyperhidrosis. Intern Med J 2021;51(9);1517–1521.
14. Gregoriou S, Sidiropoulou P, Kontochristopoulos G, Rigopoulos, D. Management Strategies of palmar hyperhidrosis: Challenges and solutions. Clin Cosmet Investig Dermatol 2019;12;733–744.
15. Nasser S, Farshchian M, Kimyai-Asadi A, Potts GA. Techniques to relieve pain associated with botulinum injections for palmar and plantar hyperhidrosis. Dermatol Surg 2021;47(12):1566–1571.
16. Singh S, Kaur S, Wilson P. Plantar hyperhidrosis: A review of current management. J Dermatol Treat 2016;27(6);556–561.
17. Tsiogka A, Agiasofitou E, Tsimpidakis A, Kontochristopoulos G, Stratigos A, Gregoriou S. Management of primary plantar hyperhidrosis with botulinum toxin type A: A retrospective case series of 129 patients. Aust J Dermatol 2024;65(1);49–54.
18. Nicholas R, Quddus A, Baker DM. Treatment of Primary Craniofacial hyperhidrosis: A systematic Review. Am J Clin Dermatol 2015;16(5);361–370.
19. Campanati A, Martina E, Gregoriou S, Kontochristopoulos G, Paolinelli M, Diotallevi F, Radi G, Bobyr I, Marconi B, Gualdi G, Amerio P, Offidani A. Botulinum toxin type A for treatment of forehead hyperhidrosis: Multicenter clinical experience and review from literature. Toxins 2022;14(6);372.
20. Nofal E, Salem S, Khashaba SA. Intradermal botulinum toxin A injection versus topical 2% glycopyrrolate for the treatment of primary facial hyperhidrosis: A pilot study and review of literature. Dermatol Surg 2022;48(8);843–848.
21. Nguyen B, Perez SM, Tosti A. Botulinum toxin for scalp conditions: A systematic review. Dermatol Surg 2023;49(11);1023–1026.
22. Ahmad SM, Mohammad T, Elsebaey AM. Facial eccrine angiomatous hamartoma in a 52-year-old woman: A case report. SAGE Open Med Case Rep 2023;11;2050313X231161440.
23. Nygaard U, Dalager S, Spaun E, Hedelund L. Large eccrine angiomatous hamartoma: a novel clinical presentation of disease. J Dermatol Case Rep 2015;9(3);58–61.
24. Trischman T, Scott JF. Comparative efficacy of hidrocystoma treatments: A systematic review. J Cutan Med Surg 2020;24(5);474–480.
25. Gheisari M, Hamedani B, Robati R, Mozafari N. Intralesional botulinum toxin-A injection for the treatment of multiple eccrine hidrocystomas. J Cosmet Laser Ther 2018;20(5);287–292.
26. Kontochristopoulos G, Markantoni V, Stefanaki C, Kanelleas A, Rigopoulos D, Gregoriou S. Multiple eccrine hidrocystomas treated with botulinum toxin A. Clin Exp Dermatol 2011;36(1);95–96.
27. Correia O, Duarte AF, Barros AM, Rocha N. Multiple eccrine hidrocystomas – from diagnosis to treatment: The Role of Dermatoscopy and Botulinum Toxin. Dermatology 2009;219(1);77–79.
28. Meys R, Perrett C. Treatment of multiple periocular eccrine hidrocystomata: is botulinum toxin or electrocautery more effective? Clin Exp Dermatol 2015;40(1);101–103.

PROCEDURAL CLIP

Angiomas and Fibrous Papules – Electrodessication

Electrodessication involves the use of an unheated electrode which passes a high-frequency low-amperage electric current to cause superficial dehydration of the tissue with direct contact.





PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_02:16

I generally treat small angiomas quickly without local anaesthetic. For larger lesions, I use injected local anaesthetic (1% xylocaine with adrenalin buffered with sodium bicarbonate).

I use a Hyfracator 2000 on a high setting of 2 W. A very light touch is needed just to the point where the red vessels disappear. Too much energy and pressure can leave a small scar. If it is a larger lesion, it may be hypopigmented or atrophic on the face.

Smaller Fibrous papules, particularly if they are very erythematous, can be treated with this technique. Local anaesthetic is usually required as these are on the face and may require higher power to clear the tissue component as well as the vessels.

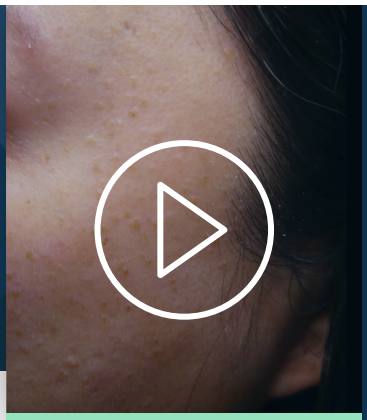
Although not an absolute contraindication, patients who have cardiac pacemakers and implantable cardiac defibrillators should be monitored. Lower power settings and short bursts of energy (less than 5 seconds) should be used, and the area around the cardiac device should be avoided.

Buslach N, Foulad DP, Saedi N, Mesinkovska NA. Treatment modalities for cherry angiomas: A systematic review. Dermatol Surg 2020;46(12):1691–1697.

PROCEDURAL CLIP

Dermatosis Papulosa Nigra – Electrodessication

Dermatosis papulosa nigra (DPN) is a benign skin condition commonly seen in individuals of African or Asian descent, though it can affect people of any ethnicity. DPN presents as small, skin-coloured, dark brown or black papules or bumps on the face, neck, chest, and back.



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_02:31

Electrodessication is a common and effective method for removing DPN. It involves using a high-frequency electrical current to cauterise and destroy the affected tissue.

Electrodessication allows for precise targeting of individual DPN lesions, minimising damage to surrounding healthy tissue. Recovery time is relatively short, and most individuals can resume their normal activities shortly after treatment. Electrodessication is highly effective in removing DPN lesions, with minimal risk of scarring.

It is often useful to treat a test area first before treating broad areas in one session.

Before the procedure, a topical local anaesthetic such as 23% lignocaine, 7% tetracaine ointment, or 10% lignocaine cream can be applied for 45–60 minutes.

During the procedure, a sharp tip on a machine such as the Conmed Hyfracator 2000 is used to deliver the electrical current to each DPN lesion. The current heats the tissue, causing it to coagulate and eventually slough off.

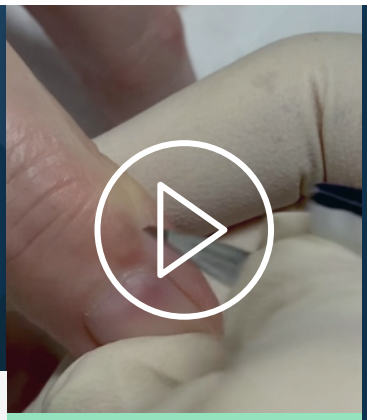
Following electrodessication, the treated areas may appear red, swollen, or slightly crusted. This is normal and should resolve within 1–2 weeks. To aid in healing, an ointment or moisturiser can be applied post-treatment.

Multiple treatment sessions may be required to achieve desired results depending on the number and size of DPN lesions.

Following electrodessication treatment, strict sun protection is recommended. Sunscreen with a high SPF should be applied daily to prevent hyperpigmentation and ensure optimal healing.

PROCEDURAL CLIP

Digital Mucous Cyst – Manual Expression



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_00:49

A digital mucous cyst is a ganglion (soft tissue tumour) that arises from the dorsum of the distal interphalangeal joint (DIP joint). It is commonly associated with underlying DIP joint osteoarthritis.

Surgery yields the highest cure rates, but they can also be treated with sclerotherapy, cryotherapy, and expressing the contents with follow-up compression. Expressing the contents gives immediate relief but the recurrence rate is around 50%.

I usually refer patients for surgery for these lesions, but expressing the contents is very simple if they are symptomatic or need immediate control. If they have been experiencing pain, though, it is important to point out that expressing the cyst may not improve this as the pain may be due to the underlying joint osteoarthritis.

The technique involves carefully cleansing the area with chlorhexidine, making a small incision at the top of the cyst, and gently expressing the clear gel-like contents.

Cleanse again before applying a pressure dressing. For example, micropore tape is followed by a small square of nonstick dressing such as Interpose, followed by a second micropore layer.

Continuing the compression for at least 2 weeks may help prevent recurrence.

Kim EJ, Huh JW, Park HJ. Digital mucous cyst: A clinical-surgical study. Ann Dermatol 2017;29(1):69–73.

Jabbour S, Kechichian E, Haber R, Tomb R, Nasr M. Management of digital mucous cysts: a systematic review and treatment algorithm. Int J Dermatol 2017 Jul;56(7):701–708.

PROCEDURAL CLIP

Epidermoid Cysts – Punch Excision

Epidermoid cysts are asymptomatic, dome-shaped lesions often arising from a ruptured pilosebaceous follicle.

The punch excision technique is less invasive than complete surgical excision.

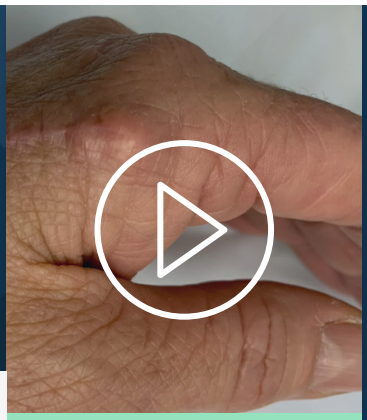
It involves creating an exit path for the cyst contents with a 3 mm punch biopsy, expressing the cyst contents through compression and extracting the cyst wall through the incision.

Vigorous finger compression is used to express the cyst contents and loosen the cyst wall from the surrounding tissues to facilitate the sac's removal. It is advisable to wear glasses for this procedure and have your assistant have gauze at the ready, as occasionally the cyst contents may spray out.

The small wound can be closed with a single suture.

The rarity of associated cancer makes histologic evaluation necessary only if unusual findings or clinical suspicion of cancer is present.

Inflamed cysts are difficult to excise, and postponing excision until inflammation has subsided is often preferable. Also, inflamed cysts may have developed fibrosis around the epithelial wall under the skin and be less easy to pull out.

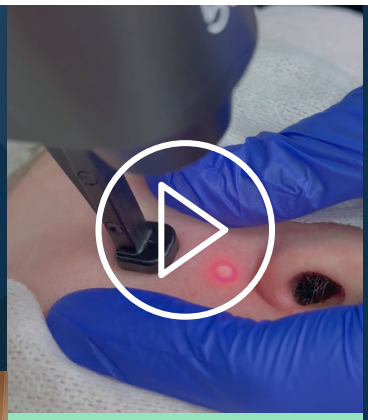


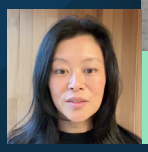
PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_02:27

PROCEDURAL CLIP

Fibrous Papule – CO_2





PRESENTED BY
Dr Wenyuan Liu

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:13

Lesion /Patient selection

Ensure confidence in the diagnosis. Differential diagnoses include BCC, benign appendageal tumour, naevus, and amelanotic melanoma. If in doubt, shave excise first.

CO_2 is excellent for:

1. Recurrent fibrous papules following a previous shave excision with histological confirmation of diagnosis.
2. Residual fibrous papules following a previous shave excision.
3. Fibrous papules with a vascular component as CO_2 photo-coagulates.

Possible risks

- Scarring
- Hypopigmentation/Hyperpigmentation
- Recurrence

Analgesia

Topical anaesthesia with 23% lignocaine/ 7% tetracaine is generally sufficient.

Technique

Settings in principle: superficial ablation mode, full ablation or high density ablation, adjust energy based on the depth of ablation, small spot size for control and precision.

On my eCO_2 machine (Lutronic), I use the 500 tip (superficial ablation mode), 2mm spot size, 100% ablation, and 80-120 mJ energy depending on the thickness of the lesion.

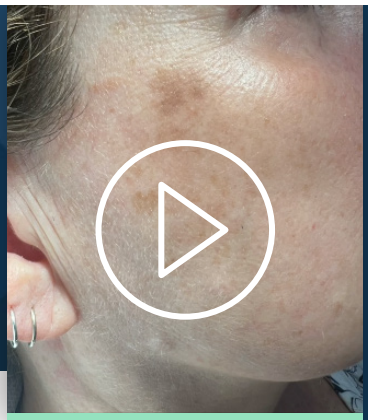
Aftercare

Vaseline and photo-protect

Healing 5-7 days

PROCEDURAL CLIP

Lentigines – Trichloroacetic Acid Peels



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_08:57

1. The product

TCA is an acid that denatures proteins in the skin. The concentration can range from 10–35% for this indication, with 25% being most used, e.g., 25 g in 100 ml of distilled water. It is not light-sensitive but is usually stored in glass amber bottles. It is stable at room temperature and does not need refrigeration. It retains potency for about 6 months but can have a shelf life of up to 12 months.

KEY POINTS

Peel penetration is increased by:

- Increasing the TCA concentration
- Increasing applications per session
- Greater pressure and repeated rubbing

Peel penetration is decreased by:

- Stratum corneum thickness and oiliness of the skin

Clinically, peel depth correlates with the intensity of the peel frost.

2. Patient selection

This method works best for Fitzpatrick skin types I and II. Skin type III can be done with care. Skin quality is also an important consideration.

Those with very fine, thin skin with barrier dysfunction from actinic damage and actinic keratoses will be more likely to have the TCA penetrate more deeply and quickly, leading to a more intense frost. This is to be avoided as it will lead to prolonged healing with erythema and possibly hypopigmentation and scarring.

Those with greater epidermal thickness and sebaceous (oily) skin will tolerate concentrations up to 35%.

Most precautions and contraindications primarily pertain to medium and deep chemical peels.

Contraindications and precautions for all chemical peels include:

- Fitzpatrick skin types III to VI
- History of an allergic reaction to a peeling agent
- Open lacerations or wounds in the peel area
- Active treatment with isotretinoin

Precautions include:

- Active Atopic dermatitis / psoriasis / rosacea
- Poor wound healing
- History of herpes simplex in the area being peeled
- Prior exposure to radiation therapy (absent adnexal structures)
- Very thin, fine skin
- Unrealistic expectations

continue to next page

3. Lesion selection

This technique is only for benign epidermal pigmented lesions.

Macular lentigines are ideal. Many lentigines have areas that will evolve to seborrheic keratoses, which will be less responsive.

You must have a higher index of suspicion for pigmented lesions located on the central face (medial to a vertical line from the lateral canthus of the eye) as (in my opinion) these have a higher risk of being melanomas. Finally, beware of recurring lesions, as these should be biopsied.

4. Procedure

a) Equipment

- Skin cleansing solutions, such as acetone or 70% alcohol or chlorhexidine.
- Application tools such as cotton-tipped swabs or brush.
- TCA in an amber bottle or decanted into a stainless-steel container.
- Saline to flush eyes in the case of accidental exposure.

b) Procedure

- Informed consent – include incomplete clearance and need for more treatment and possible recurrence.
- Photo documentation (pre-treatment photos and frosting endpoint).
- Delipidise the skin with 70% alcohol wipe or chlorhexidine.
- Aiming for a uniform frost.

5. Post-peel instructions

- Avoid picking or peeling the desquamating skin. Allow it to "slide" off when it has adequately healed.
- Use a gentle cleanser with a patting motion morning and night, avoiding rubbing or using a washcloth. Gently pat dry with a towel after washing their face.
- Apply a moisturiser after cleansing and as many times during the day as needed.
- Apply sunscreen daily and try to avoid excess sun exposure.

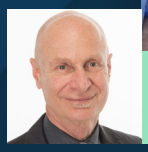
6. Reactions and complications

These can be classified as immediate or delayed. Immediate complications occur during or shortly after the procedure, while delayed complications may occur weeks or months later.

Immediate skin responses (during or shortly after the procedure)
Immediate skin reactions include skin oedema, burning and itching sensation, surrounding erythema within minutes, and transitioning to a darker brown colour within hours.

Delayed complications (weeks or months later)
Delayed complications are more common with 35% peels but can include persistent erythema, post-inflammatory hyperpigmentation, hypopigmentation, incomplete response, recurrence, and very rarely scarring.

Lipoma — Surgical Removal



PRESENTED BY
Assoc Prof Philip Bekhor

CLICK ON IMAGE TO WATCH VIDEO DURATION_03:25

Key concepts

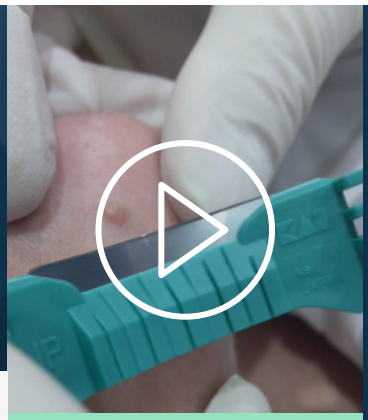
- Lipoma is conceptually like a sac filled with multiple smaller sacs of fat surrounded by septal collagen and its blood supply.
- Removal involved pulling out and squeezing little balls of fat along with the septae and associated blood supply.
- Lipoma fat is palpably different from normal fat because each lobule is contained in its own tight collagen sac – use palpation to guide whether removal is complete.

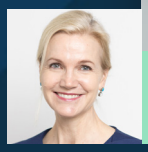
Procedural technique

- Procedure performed under sterile technique.
- Start with smaller lipomas - these are superficial and easily palpable.
- Mark the centre of lipoma with a marking pen (point) and draw the lipoma margins (circumferential ring).
- Puncture the centre of lesion with a 15-blade (stab incision).
- A curette small enough to fit into the lesion can be used to dislodge the lipoma tissue with a back-and-forth movement.
- Artery forceps (demonstrated here) can also be used to extract the lipoma tissue.
- Palpate the skin to feel for residual lipoma remnants that will require further curette or forceps extraction.
- Sometimes squeezing on the skin can push lobules out.
- The end point is reached when palpation does not reveal any more lumps.
- Close opening with internal buried Marini suture.
- Apply a compression dressing over the lesion at the end of the procedure.
- Scarring is typically small and imperceptible.
- Be patient, it may seem that no progress is being made in the beginning but if you keep at it, the lipoma will all come out.

PROCEDURAL CLIP

Melanocytic Naevi – Shave Excision





PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_02:28

1. Consent and baseline photos

2. Lesion selection

Prior to initiating the shave excision procedure, careful lesion selection is essential for a successful cosmetic outcome. Ensure that the lesion in question meets the criteria for shave excision, including:

- Clinically benign naevi: sending all lesions for histopathological confirmation is prudent.
- Superficial dome-shaped lesions with well-defined borders, ideally not exceeding a few millimetres. Very large naevi with a broad base will be more likely to leave a scar.
- Skin-coloured naevi with no or very minimal pigment. Pigmented naevi can initially look clear, but pigment can recur at the base over time and occasionally be dark and irregular and, therefore, cosmetically undesirable.
- Naevi with terminal hairs can have these regrow after shave excision, which is important to warn patients about.
- Naevi in areas with thinner skin and at higher risk of scarring, such as the chest.

3. Analgesia

I use 1% lignocaine with adrenalin buffered in sodium bicarbonate to reduce the acidity of the adrenalin and improve comfort. This is generally done with a 9 or 10:1 dilution,[1] but 3:1 dilutions[2] have been reported to be as efficacious but less painful. Vibration and ice can also be used during infiltration to assist with patient comfort.

4. Technique

Cleanse the area surrounding the lesion with an antiseptic solution and allow it to dry. Stabilise and gently stretch the surrounding skin with the fingers of the non-dominant hand.

Carefully shave off the lesion parallel to the skin surface using a flexible biopsy blade (Biopsiblade) or sterile surgical blade (e.g., a #15 blade). This is a horizontal excision with a side-to-side motion—it should not require any significant pressure or pushing. The aim is to be no deeper than superficial papillary dermis to avoid a scar and, ideally, hypopigmentation.

For moles with terminal hairs, gentle fine wire diathermy with a very fine needle can be used after shaving Gentle fine wire diathermy with a very fine needle can be used after shaving to try to damage the hair bulb and prevent regrowth (akin to electrolysis)

Maintain gentle but firm pressure to ensure complete lesion removal while minimising trauma to the surrounding tissue.

If bleeding occurs, apply pressure using sterile gauze or a cotton-tipped applicator until haemostasis is achieved.

Inspect the wound bed to ensure complete excision of the lesion. If any residual lesion remains, additional shaving is performed as necessary.

Haemostasis is achieved with 20% aluminium chloride hexahydrate (commercially available as Driclor). Light electrodessication can be used if needed, but it needs to be gentle to avoid the risk of scarring.

continue to next page

5. Dressings

Consider the following options:

Dressings can be kept simple. An initial layer of micropore tape (skin-coloured and cut in a circle) is followed by a non-adherent dressing such as Interpose and a second layer of micropore for pressure over the first 24 hours. This top layer can be removed, and the micropore can be kept in place until it heals or comes off.

Instruct the patient on proper wound care and provide them with written instructions for reference.

6. Risks and complications

While shave excision is a relatively simple and low-risk procedure, potential risks and complications may include:

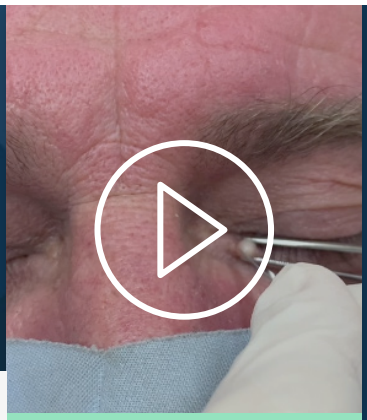
- **Incomplete excision:** Ensure thorough removal of the lesion, especially at the edges, so the skin surface is perfectly smooth.
- Recurrence of the mole over time.
- **Recurrent pigment over time:** If this occurs, it is generally macular and may need punch excision to remove.
- **Persistent erythema:** I generally deal with this with the pulsed dye laser if needed.
- Hypopigmentation
- **Scar formation:** Although shave excision typically results in minimal scarring, inform the patient that some scarring may occur.

1. Frank SG, Lalonde DH. How acidic is the lidocaine we are injecting, and how much bicarbonate should we add? Can J Plast Surg 2012;20(2):71–3.
2. Slawson DC, Garcia CM. Buffering lidocaine 1%/ epinephrine with sodium bicarbonate in a 3:1 ratio is as effective and less painful than a 9:1 ratio. Am Fam Physician 2021;103(2):Online.

PROCEDURAL CLIP

Milia around the Eyes – Extraction

Removing milia involves stretching and stabilising the skin with the free hand, making a small incision over the top with a size 11 scalpel blade, and expressing the contents. Generally, no anaesthesia is needed.



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:32

This is more difficult for very mobile skin, for example, around the eyes. In this situation, stabilising the cyst gently between non-toothed forceps before making the incision is very helpful. The contents can be gently expressed with the help of forceps.

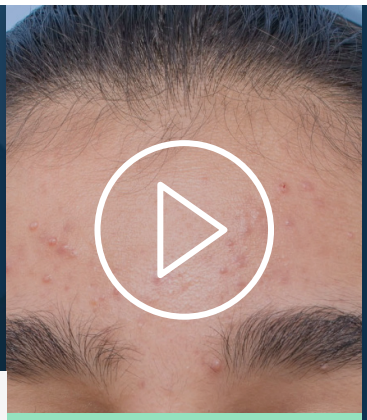
In older individuals, these can become quite large but remain very superficial, so a similar technique can be used. If these are encapsulated, it is ideal to remove them in their entirety to avoid recurrence.

Bleeding is minimal (if at all), and no dressing is needed. A small amount of Dermeze or Vaseline petroleum jelly can be applied as a wound dressing.

Healing takes 7–10 days.

PROCEDURAL CLIP

Molluscum Contagiosum – Pulsed Dye Laser



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_03:43

The first report of using PDL for molluscum was in 1997.[1] Since then, several reports have demonstrated the excellent efficacy, safety and tolerability of PDL when used to treat molluscum contagiosum.[2–4] It has also proved successful in patients who have recalcitrant lesions and are immunosuppressed.[4,5]

Although the mechanism of molluscum clearance is uncertain, local tissue oedema and inflammation may trigger immunological pathways.

Most reports used a 1.5 ms pulse duration. However, this patient was of Indian descent, so I chose a 3 ms pulse duration, 3 mm spot size, and 21 J. The longer pulse duration minimized the risk of post-inflammatory pigmentary changes.

I modified the technique by treating through a layer of clear plastic (Glad wrap) to try to reduce the risk of the plume potentially containing virus particles.

She was treated with a 10% lignocaine cream for 30 min before treatment, which was tolerated very well.

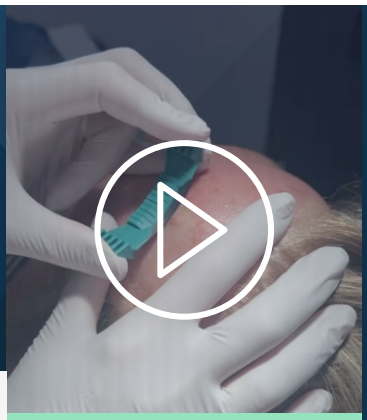
It is important to warn the patient that the molluscum may swell and flare before clearing, which should occur over 5–7 days. Not all lesions may clear and need retreating.

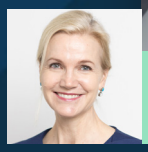
No specific aftercare was needed. Moisturisers such as Dermeze ointment can be applied to the crusts as they are healing. Encourage daily sunscreen.

1. Hindson C, Cotterill J, Treatment of molluscum contagiosum with the pulsed tuneable dye laser. Clin Exp Dermatol 1997;22(5): 255.
2. Binder B, Weger W, Komericki P, Kopera D. Treatment of molluscum contagiosum with a pulsed dye laser: Pilot study with 19 children. J Dtsch Dermatol Ges 2008;6(2):121–5. English, German.
3. Griffith RD, Yazdani Abyaneh MA, Falto-Aizpurua L, Nouri K. Pulsed dye laser therapy for molluscum contagiosum: a systematic review. J Drugs Dermatol 2014;13(11):1349–52.
4. Omi T, Kawana S. Recalcitrant molluscum contagiosum successfully treated with the pulsed dye laser. Laser Ther 2013;22(1):51–4.
5. Fisher C, McLawhorn JM, Adotama P, Stasko T, Collins L, Levin J. Pulsed dye laser repurposed: Treatment of refractory molluscum contagiosum in renal transplant patient. Transpl Infect Dis 2019;21(2):e13036.

PROCEDURAL CLIP

Seborrhoeic Keratoses – Shaving





PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:15

Lesion selection

Smaller lesions with well-defined edges and raised edges are ideal. Lesions of all sizes can be shave excised, but larger lesions are at risk of being too deep and cause scarring, incomplete removal, or a large area to heal (especially on scalps, which can be harder to dress). Caution is needed in patients with skin of colour, as hypopigmentation is a risk.

Possible risks

- Scarring if the shave is too deep
- Hypo or possible hyperpigmentation
- Incomplete removal – particularly the edges
- Recurrence
- Infection is rare

Analgesia

I use 1% lignocaine with adrenalin buffered in sodium bicarbonate to reduce the acidity of the adrenalin and improve comfort. This is generally done with a 9 or 10:1 dilution,[1] but 3:1 dilutions[2] have been reported to be as efficacious but less painful.

Technique

Shaving can be done with a scalpel blade, but my preferred instrument is a sterile, single-use, thin biopsy blade with an easy-grip handle that is flexible (Derma Blade). This thin blade is excellent for shave biopsies and excisions, and the flex allows for good depth control.

This is a horizontal excision with a side-to-side motion. It should not require any significant pressure or pushing. The aim is to be no deeper than the superficial papillary dermis to avoid a scar and, ideally, hypopigmentation. The aim is for minimal bleeding.

Haemostasis is achieved with 20% aluminium chloride hexahydrate (commercially available as Driclor). Light electrodessication can be used if needed, but it needs to be gentle to avoid the risk of scarring.

A simple dressing can be used. Healing is generally over 7–10 days.

1. Frank SG, Lalonde DH. How acidic is the lidocaine we are injecting, and how much bicarbonate should we add? Can J Plast Surg 2012;20(2):71–3.
2. Slawson DC, Garcia CM. Buffering lidocaine 1%/ epinephrine with sodium bicarbonate in a 3:1 ratio is as effective and less painful than a 9:1 ratio. Am Fam Physician 2021;103(2):Online.

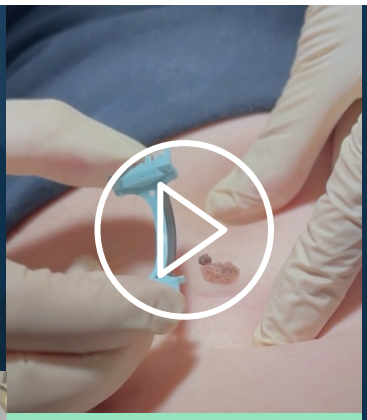
PROCEDURAL CLIP

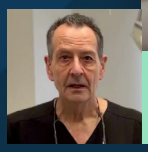
Seborrhoeic Keratoses – Shave Biopsy

The shave removal of exophytic lesions is performed with a dermablade or similar instrument. This is attempted as much as possible to shave the entire lesion, but a 15# blade is also used the shave the edges of the wound to blend this into the skin surrounding the shaved zone and also to tease out any residual lesion from the base.

After care is the dressing that is kept on for one week – the first layer is an open weave paper dressing (eg Fixumoll, Mefix, Logifix, Hypafix) that stays on for the healing time without being changed and may be washed through. The external dressing is for mild pressure only and is an absorbent waterproof dressing.

Adverse reactions include incomplete removal, scarring and alterations in pigment.



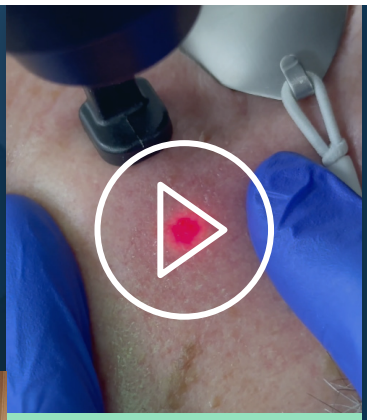


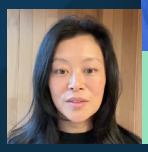
PRESENTED BY
Prof Greg Goodman AM

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:32

PROCEDURAL CLIP

Seborrhoeic Keratosis – CO_2 Laser





PRESENTED BY
Dr Wenyuan Liu

CLICK ON IMAGE TO WATCH VIDEO DURATION_00:51

Lesion /Patient selection

- When complete removal of the seborrheic keratosis in one session is important for the patient.
- In cosmetically sensitive areas where precision is important.
- As part of a full face laser resurfacing procedure.

Possible risks

- Scarring
- Hypopigmentation/Hyperpigmentation
- Recurrence

Analgesia

Topical anaesthesia with 23% lignocaine/ 7% tetracaine is generally sufficient.

Technique

Settings in principle: superficial ablation mode, full ablation, adjust energy based on the depth of ablation, small spot size for control and precision.

On my eCO_2 machine (Lutronic), I use the 500 tip (superficial ablation mode), 2mm spot size, 100% ablation, and 50 -100mJ energy depending on the thickness of the lesion.

In patients with skin of colour, I would choose a more superficial ablation mode to treat conservatively, wipe away the tissue, cool the skin with Zimmer, and then repeat.

Aftercare

Vaseline and photo-protect

Healing 5-7 days

PROCEDURAL CLIP

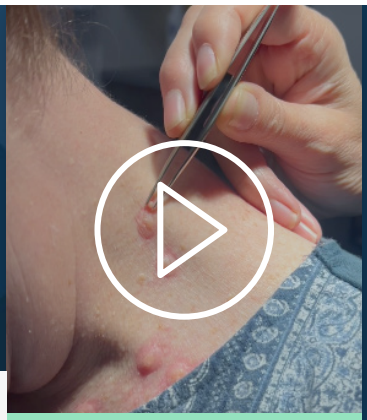
Skin Tags – Cryotherapy with Forceps

This is a nice technique for localising the freeze to the body of the skin tag, trying to avoid injury to the skin at the base of the tag and risking excessive tissue damage.

The other seborrheic keratoses in this video were treated about 20 minutes earlier, demonstrating the erythema and tissue swelling that can develop post-cryotherapy.

This technique is preferable to standard cryotherapy for patients with skin of colour where post-inflammatory hypo or hyperpigmentation is to be avoided.

It simply involves holding the tag firmly with metal forceps and directing the liquid nitrogen spray toward the middle of the forceps, freezing the metal and allowing the freeze to extend to the tip. The cold is then transferred to the skin tag. The forceps can stick to the skin and occasionally need to be manually separated to remove them.



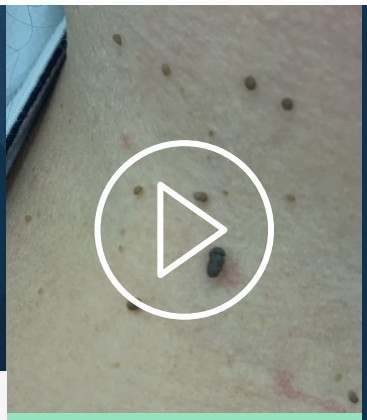
PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:07

PROCEDURAL CLIP

Skin Tags and Polypoid Seborrhoeic Keratosis – Snipping

This is a straightforward and effective technique, which I think is preferable to cryotherapy. It is best for small-to-medium-sized lesions in the periorbital region, neck, axilla, groin and submammary areas.



PRESENTED BY
Dr Belinda Welsh

CLICK ON IMAGE TO WATCH VIDEO DURATION_03:15

It is ideal for patients of all skin types, especially those with skin of colour, as it avoids the risk of post-inflammatory hypo or hyperpigmentation or incomplete response, which can be seen after cryotherapy.

It can be used with or without a small amount of injected local anaesthesia.

Generally, no anaesthesia is required for small lesions, although it is important to warn the patient that it does cause very transient discomfort. Techniques to mitigate this include pre-icing or vibration.

Tools needed include sharp, curved Iris scissors and plain, non-toothed Adson forceps.

Pre-clean the area with gauze soaked with chlorhexidine.

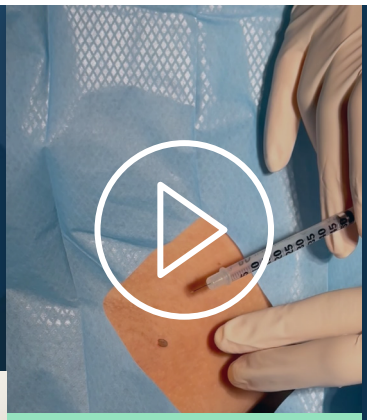
The technique involves gently pulling the body of the skin tag away from the skin without excessive tension and quickly snipping the base. They generally have some pin-point bleeding, which stops quickly with pressure. Aluminium chloride can be applied with a cotton bud. This can cause transient stinging, so it is important to warn the patient. A small spot of micropore tape can be used as a dressing. This can be left on for several days. It is water resistant, so patients can take a shower and let it dry on the skin.

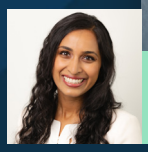
Healing is generally predictable over about a week.

In patients with extensive skin tags, consider underlying diabetes, metabolic syndrome or Birt Hogg Dube Syndrome.

PROCEDURAL CLIP

Skin Tags – Snip Excision





PRESENTED BY
Dr Aakriti Gupta

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:29

Lesion selection

Larger pedunculated skin tags are best suited for snip excision. Smaller skin tags can often be effectively managed using cryotherapy with forceps.

Possible risks

- Bleeding
- Infection (rare)
- Scar – particularly if the snip excision is too wide/deep
- Pigmentary changes
- Incomplete removal and recurrence

Anaesthesia

Local injection of lignocaine (1–2%) with adrenaline.

Technique

Skin preparation with chlorhexidine or povidone-iodine.

Gently pull the skin tag using toothed forceps. Ensure skin tag is pulled just enough to stabilise it. If the skin tag is pulled further away from the skin, the snip excision will result in a wider cut, which may include non-involved skin around the base of the lesion.

The skin tag is snipped at the base using either sharp iris or Gradle scissors.

Aluminium chloride hexahydrate 20% can be used to achieve haemostasis or alternatively, light electrocautery.

A simple dressing should be applied, and healing is usually complete over 1–2 weeks.

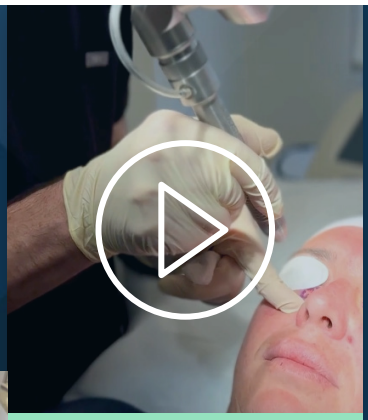
PROCEDURAL CLIP

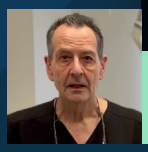
Xanthelasma – Erbium YAG laser

The Erbium laser (2934nm) is being used here as an ablative technology. Set at about 30j/cm^2 using a 1mm spot and a partially collimated beam, it can aid initially in visualising the extent of the xanthelasma as the epidermis is removed. Using focussed and defocussed beam it can slowly remove the xanthelasma under local anaesthesia.

After care is Chlorsig ointment for the healing time 3-4 times a day for 7-10 days.

Anticipated adverse reactions include temporary hyperpigmentation (PIH) which is rare and longer term of permanent hypopigmentation or scarring which is also rare and depends on the depth of the xanthelasma.



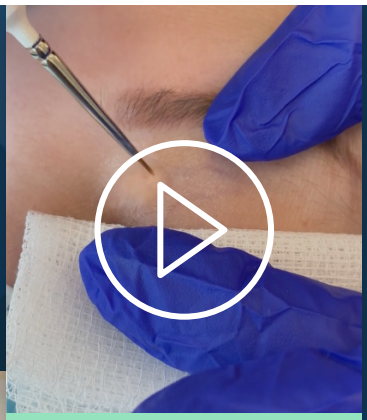


PRESENTED BY
Prof Greg Goodman AM

CLICK ON IMAGE TO WATCH VIDEO DURATION_02:54

PROCEDURAL CLIP

Xanthelasma – Trichloroacetic Acid



PRESENTED BY
Dr Liz Dawes Higgins

CLICK ON IMAGE TO WATCH VIDEO DURATION_01:02

1. Introduction

Xanthelasma is a common condition characterised by the development of yellowish plaques on the eyelids, which is not necessarily associated with hyperlipidaemia. Treating xanthelasma is often requested by patients due to cosmetic concerns.

2. Understanding Xanthelasma

Xanthelasma palpebrum, typically presenting as soft, yellowish, cholesterol-rich deposits on the eyelids. While it may affect all ages, it's more prevalent in middle-aged and older individuals, particularly women.

3. Trichloroacetic Acid (TCA)

TCA is a chemical cauterant used to remove the top layers of the skin. In the context of xanthelasma, TCA induces a controlled chemical burn, leading to the removal of lipid deposits.

4. Treatment Procedure

Preparation: Cleanse the area with a mild antiseptic. Don't use chlorhexidine as this can be damaging to the corneal epithelium. Protect the surrounding skin with petroleum jelly.

Application: Using a fine paintbrush, apply a small amount of TCA (usually 50%) to the xanthelasma plaques, avoiding the surrounding skin.

Safety Precautions: Use eye protection for the patient and wear gloves. Have neutralising agents (e.g., sodium bicarbonate solution) ready in case of accidental spillage.

5. Post-Treatment Care

- Instruct patients to keep the area clean and dry.
- Recommend a gentle moisturiser or antibiotic ointment to promote healing.
- Advise on signs of infection or abnormal healing.

6. Expected Outcomes and Potential Risks

- An expected reaction to the TCA involves the appearance of frosting. This is the appearance of a white or greyish discolouration on the skin during or immediately after the application of TCA.
- Normal healing involves crusting and peeling off of the treated area, revealing new skin underneath.
- Potential risks include hyperpigmentation, hypopigmentation, or scarring. Discuss these possibilities with the patient beforehand.

7. Clinical Efficacy

Clinical studies indicate that TCA is an effective treatment for xanthelasma, with a high rate of lesion clearance. However, recurrence is possible, and multiple treatments may be necessary for optimal results.

DON'T MISS THESE UPCOMING EVENTS!

BROUGHT TO YOU BY

Australasian Society of Cosmetic Dermatologists

LASER SAFETY WORKSHOP

Course content available from 1 - 8 October 2024
Exam available from 8 - 15 October 2024

This enhanced refresher course will ensure you are using best practice safety procedures on the devices you are operating daily.

REGISTER HERE

ONLINE

SUNDAY 17 NOVEMBER 2024

EMERGING TRENDS IN COSMETIC DERMATOLOGY

Crown Conference Centre, Melbourne

This one-day event will delve into the latest advancements and emerging innovations in cosmetic dermatology from the past year. Don't miss this opportunity to stay ahead of the curve in the field!

REGISTER HERE

ONE-DAY EVENT

21 - 23 MARCH 2025

ASCD SYMPOSIUM

Crown Conference Centre, Melbourne

This three-day event offers dynamic workshop-style sessions on Friday, with Saturday and Sunday featuring a comprehensive program that blends both scientific and business perspectives on the theme "Breaking Boundaries."

REGISTER HERE

THREE-DAY EVENT

Australasian Society of Cosmetic Dermatologists
www.ascd.org.au/medical_journal

VOLUME 04 / ISSUE 01 / AUGUST 2024

DERMATOLOGY TRADECRAFT
Procedural Skills for Benign Skin Lesions

Thank you to the ASCD Industry Partners

Allergan Aesthetics
an AbbVie company

Cryomed Aesthetics

DMS
DIGITAL MEDICAL SYSTEMS
CONFIDENT IT

aerolase
Proudly Brought to you by Beauty Technology

LANDER & ROGERS

LUMENIS

Pierre Fabre