



TITUS ADAMS

PLASTIC SURGEON

CROTON PEELING TO THE FACE

Croton peeling to the face is not new. In the past, croton oil has been used in existing deep phenol peels, but in higher concentrations. More recently the formula for deep peeling of the skin with croton oil and phenol has been modified and refined. The new formula is now regarded as safer when applied correctly and is the gold standard for removing deep wrinkles and pigmentary blemishes of the facial skin.

Whilst face lifting lifts sagging tissues of the face, and fat injections or fillers replace soft tissue volume loss during ageing, *neither* will even out *nor* remove deep wrinkles of the face. Numerous fine and deep wrinkles are difficult to manage in any suitable way other than peeling. Wrinkles can resist “filling” and the consequences are that the “filling” can become unnatural and that one’s face can look odd or different. Similarly, lasers can be difficult to control, can be painful and can cause scarring from thermal injury.

Chemical peeling is versatile, allowing for different depths of peeling according to the thickness and texture of facial skin. When used carefully, there is simply no substitute to croton peels when aimed at removing deep (or more superficial) wrinkles of the face and improving skin quality, and for even rejuvenating areas such as the nose and around the eyes. Peeling can be performed to the whole face or directed specifically at difficult or resistant areas.

There are many different agents used for chemical peeling. The best known of the mild peeling agents are so-called fruit acids, such as glycolic acid. Because of their mild action they can only disrupt the most superficial layer of the skin - the stratum corneum – which flakes away but does not have any effect on wrinkles alone. Mid range peeling can be achieved with Trichloro-acetic acid (TCA) peels for finer wrinkles. Profound, deeper peeling is now achieved with croton oil peels which have benefits including the management of fine and deep wrinkles, “age spots or age patches” and even removing areas of actinic damage, keratoses and superficial skin cancers. The skin colour can be made more homogenised as darker pigmentary age spots are removed, and the skin tone replaced with a lighter, consistent shade.

Preparation of the skin with creams and tablets before peeling:

Before croton peeling of the face, the skin has to be prepared in readiness for peeling. This involves the use of two creams mixed simultaneously together each night and gently smeared on the face where peeling is to take place. Half a-nail volume of Tretinoin cream (0.05%) is mixed with half-a-nail volume of



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Obagi blender (hydroquinone 4%) and applied nightly for up to 4 weeks.

The aim of these two creams is to “rev up” the skin cells, preparing it for the main peel. The Obagi blender cream aims to limit any hyper-pigmentary changes to the skin during and after peeling. The pigment-forming melanocytes in the skin are suppressed. Tretinoin increases skin activity and helps to reduce the outer layer of thickened skin to allow improved and more uniform penetration of the future peel. Tretinoin also facilitates the skin to regenerate promptly after the peel and to reduce prolonged redness of the skin once the skin has re-sealed and the skin matures once again. Throughout the weeks of nightly application, you will notice that the skin will start to tingle and the surface will very gently flake. Mild redness can occur. This is normal and should be expected. If the skin becomes painful and red, then the creams can be applied on alternate nights. After a few weeks the skin will start to look and feel smoother and well hydrated. Even age spots start to fade during this time. It is sensible to avoid direct sunlight and be prepared to use a sun cream (SPF 50) during the day.

The use of the Tretinoin and Hydroquinone (blender) creams must stop five days before the date of peeling to allow the skin to recover.

When peeling is expected on the face and particularly around the lips, you will also be prescribed some acyclovir tablets to be taken two days before the peel procedure and continued for five days after the peel to reduce the risk of cold sores developing. Cold sore outbreaks can occur when the skin of the face is stressed and can cause unwanted discomfort and avoidable scarring. In order to prevent this, acyclovir is given to everyone *irrespective* of whether they have a history of cold sores, as some people can still develop cold sores during this treatment, despite never having a prior outbreak.

An hour before the peel begins in the hospital, you will be asked to take some pre-med tablets (often paracetamol, diclofenac, OxyNorm and Diazepam). A pre-med is *not* meant to make you go to sleep but to relax you. You are expected to have a clean face without any make-up present.

In theatre, small nerve blocks (1% plain lignocaine) can be administered to the face to help numb the areas – just like going to the dentist. Your skin has to be prepared for peeling by removing any oily substances or residues by using both a gentle acetone and alcohol. This removes any physical barriers to the peel, allowing it to permeate evenly through the skin.

The next step involves application of a very thin layer of phenol to the skin, which helps to anaesthetise and numb the area to be peeled. This application can cause a stinging sensation for 10 seconds or so only and is performed slowly.

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Once this initial pass of phenol has taken place, the specific areas of the face are peeled with the croton oil at different concentrations and depths during which a frosting occurs to the skin. This frosting takes on many different, but subtle, colour changes which, along with its duration, is a guide to the appropriate depth of peeling necessary to achieve the desired effect. The full face peel can take 60-90 minutes to complete. This time is important to allow for improved control in peeling and to allow the phenol to be excreted safely from the body. The peeling procedure is essentially painless when appropriately sedated.

At the end of the procedure, the peeled areas will be covered in a pink occlusive tape mask. In a full face peel, the mouth, eyes and nostrils are not covered. Petroleum jelly is applied around the hairline to prevent the pink mask from sticking to the hair. Chloramphenicol ointment is put in the eye to reduce the risk of any eye infections. The full face mask is kept on with the use of a head netting or stocking, such as Tubigrip.

You will go home and expected to rest with your head up. You can eat a soft diet and drink fluids. Avoid smoking and alcohol.

From 6 hours and for up to 24 hours, you will experience facial swelling. This can be (but not always) throbbing in nature and responds well to painkillers including diclofenac (a stronger form of Ibuprofen). Any peeling around the lips and eyelids will swell significantly which is entirely normal. A cold pack applied to the face mask may provide relief in addition to any anti-inflammatory medication, but is not normally necessary. You will notice that the mask and stocking dressing might become a little oozy or wet and the skin may have a distinct smell. You must be expected to sleep more upright and on your back if possible. The first night can be disruptive.

The day after your peel, you will return to the hospital and the pink face-mask is removed. After some gentle cleansing of your skin with clini-sept, a soothing yellow face cream (Bismuth Subgallate) is applied all over the treated skin. This yellow cream dries thickly onto the skin (similar to a clay mask) and has soothing, anti-inflammatory and antiseptic qualities. It dries as a thick crust and remains on your skin until it drops off to reveal healed yet pink wrinkle-free skin beneath. This can take 5-10 days in practice and the yellow mask comes away as a flaky powder. The advantage of this new dressing technique is that it covers the wet skin as it heals and reduces any anxiety. Secondly, you are no longer expected to apply ointments every few hours (as once was the case). Indeed, you are *not* allowed to wash you face or hair during this week and you must not pick the yellow crusts off either, but instead allow them to fall away when ready. It is true that the yellow powder will cover your clothing and bedsheets during this time, yet this is the best way to protect your skin during

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the immediate healing phase.

The events described above will be illustrated to you with photos and videos – an important part of the preparation for this treatment.

After the crusts have fallen off to reveal pink skin, you will be expected to apply regular coats of Eucerin (Original Healing) Cream to the extremely dry pink skin. A tub (454g) of this costs £12 (www.iherb.com). This is used daily until the skin colour returns to normal at 12 weeks. Tinted make-up can be applied before any social occasion from two weeks after the peel.

Finally, to reduce hyperpigmentation you will be expected to use a high factor SPF 50 block (with or without tint) during daylight hours.

As with all medical and surgical procedures, there are risks involved and these should be discussed with me or the nursing staff.

The following can occur after peeling:

- 1. Infection:** This uncommon complication is one of the causes of scarring after chemical peeling. It can be prevented by following instructions, especially during the post-peeling period, and judicious use of eye antibiotic and antiviral medication. Routine oral antibiotics are not recommended.
- 2. Scarring:** This is an unusual complication which could happen only during the healing process. If the healing process is interfered with it may increase the depth of the original injury and the skin underneath is unable to regenerate in the usual fashion and can form a scar. Scratching or attempted removal of the yellow crusts can cause skin injury and possible scarring. Failure to suppress cold sore outbreak is another example. It is recommended that you have Piriton available at home to help relieve you of any itching symptoms. Piriton can also cause mild drowsiness which can be particularly useful at night.
- 3. Uneven pigmentation:** Those who have patchy pigmentation, such as melasma, can have a relapse of the condition after peeling. Treatment with Hydroquinone can usually help to suppress this post-inflammatory hyperpigmentation (PIH).
- 4. Permanent loss of pigment (hypopigmentation):** This problem used to



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occur notably after some of the old Baker-Gordon phenol peels. One should expect a lighter colouring to the facial skin as part of croton peeling. Those with blue eyes and a fair complexion tend not to find this an issue. Indeed, light freckles and age-spots tend to vanish and the skin is more homogenous in its colour. Darker or olive skin types can be troubled much more so by this problem. This problem can be camouflaged with tinted moisturisers nowadays.

5. **Relapse or persistence of wrinkles:** Some deep wrinkles can be difficult to eradicate in one treatment. However, croton peeling can be readily repeated to select areas as early as 6 months later if necessary. Persistent deep wrinkles tend to be common with more superficial TCA peels rather than croton oil peels.
6. **Increased skin pigmentation (hyperpigmentation):** Increase in pigmentation can occur during the first few months after peeling. This is more likely to happen in those with darker skin, those who have a history of pigmented patches, such as melasma and in those who have not used the pre-peel (tretinoin & hydroquinone) cream preparations. It is important to stay out of direct sunlight for 6 months after the procedure and use a strong UV protection (SPF 50).
7. **Skin hypersensitivity:** Peeled skin can become more sensitive for a short period of time. This temporary problem can be controlled by the use of a mild (0.5-1%) hydrocortisone cream. You will be advised further.
8. **Redness (erythema):** This is simply an expression of the skin reaction to injury. Some skins are more prone to it than others and the deeper the injury the more profound the redness. It is caused by increased blood supply through the skin. Erythema gradually settles over a period of time depending on factors such as skin sensitivity, depth of peeling, nature of the agent, etc. The use of the pre-peeling creams aims to limit its extent and duration.

In the past, phenol peels were thought to be linked to cardiac rhythm disturbances during peeling. There is no evidence that this is true. There is no link between the new, safer approach to croton or phenol peeling and cardiac arrhythmias. In any event, and as a precaution during a full face peel, you will be monitored and hydrated. It is important to disclose any heart, liver or kidney

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conditions to us.

Useful Checklist in preparation of a croton peel:

1. Follow the guidelines on creams and tablets before any peel. 2. Purchase paracetamol, Eucerin (Original Healing) cream and Piriton. 3. Be well hydrated on the morning of your peel.
4. Avoid make-up and wash your hair on the morning of your peel.
5. Bring a hair band with you to keep the hair away from the face.
6. Wear old clothing and use old bed sheets at night.
7. Use several pillows to help sleep more upright for the first 3 nights.