

Editorial

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Chemical Peels: A Must Have Armamentarium

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Chemical peeling is one of the most commonly performed cosmetic procedures in any aesthetic practice, for the controlled breakdown of a part or the entire epidermis (with or without the dermis), leading to exfoliation and removal of the superficial layer of the skin. This leads to regeneration of new epidermal and dermal tissues. A chemical peel is a versatile tool in a cosmetologist's armamentarium which is simple to use and is result oriented. It is also perhaps the most lucrative procedure for any physician; hence, becoming one of the most commonly practiced cosmetic procedures by any new practitioner. Treating various skin types can however be challenging due to the unpredictability of peels, especially when using deep chemical peels or higher concentration peels on darker skin types. Although, various parameters such as time, concentration and erythema are taken into consideration for safety purposes, the methods and procedures vary slightly depending upon the physician's expertise in the procedure. Having performed more than 6000 chemical peels, this article is based on my practical experience and knowledge about chemical peeling, especially on darker skin types.

Chemical peel by definition is a method of causing controlled damage to the skin, resulting in a blistering effect that loosens the targeted outer layer of the skin, eventually causing the skin to peel off. This promotes exfoliation and accelerates the skin cell turnover. This invariably gives rise to a fresh layer of superficial skin with less pigmentation and improved texture. It also reduces clogged pores, oiliness, fine lines, and reduces the intensity of scars to a certain degree depending on the depth of penetration. It is one of the most commonly performed outpatient procedures by experts as well as by beginner aestheticians because the results are satisfactory if performed well. However, if not monitored well and performed without caution, there might arise serious complications. Regardless of how experienced the cosmetologist is, the patient could develop serious burns if proper precautions are not taken. Also, the room where the procedure is performed should be well lit in order to properly assess and monitor the developments.

Peeling is a minimal investment method with multiple advantages, as it addresses various issues like retexturizing the skin, restores radiance, skin rejuvenation, minimizes fine lines and wrinkles, restores moisture, improves acne, hyperpigmentation, improves light scarring, improves imperfections, stimulates new skin growth, stimulates collagen and elastin. Chemical peels are classified as very superficial, superficial, medium depth and deep peels.

The depth of penetration usually depends on the ingredients, its concentration in the peel, amount of chemical applied and the time that it is left for on the skin. Another factor that affects the result of the peel is the thickness and type of the skin.

In a very superficial peel only the stratum corneum is removed and the idea of such peels is to even the texture and make the skin smoother. There is hardly any downtime, as usually the results are visible from the very next day and patients have the liberty to attend any social occasions or events from the very next day itself. However, in such cases, the results do not last longer as compared to deeper peels. A glycolic acid peel of 20-35%, kept for about 3 minutes would come under this category of peels, along with certain combination peels. This can be repeated every 7-10 days.

A superficial light peel, like a Glycolic acid 70% or Jessener's solution would cause damage to the entire epidermis down to the basal layer, stimulating regeneration of fresh new epithelium. This has a longer downtime of about 3-7 days. However, the results last longer and patients require adequate protection during this time to prevent post-inflammatory hyperpigmentation. The patient is also advised to avoid direct exposure to heat and sunlight. Ideally, even though this peel is advisable only once in a month, depending on the patient's tolerability, can be performed fortnightly too.

A medium depth peel, like a TCA 20-35%, or TCA-Glycolic combination, would cause injury through the entire epidermis and papillary dermis. During the first few days there is epidermal necrosis, papillary dermal edema and lymphocytic infiltration. However, under proper care, within 7-10 days the patients is completely fine and there is significant improvement in various skin problems like pigmentation, fine lines, wrinkles and also there is increased collagen production for the next 3 months. Such kinds of peels aren't performed on a monthly basis unless advised.

In deep peels, there is injury through the papillary dermis, into the upper- reticular dermis and may extend to mid-reticular dermis. A TCA more than 50% or a Phenol containing preparation is used for such deep peels. It is usually not recommended for first time users and many factors such as the patient's work profile, indication, skin type; other underlying diseases have to be considered before performing such a peel. However, it is mainly recommended for Fitz-Patrick skin types 1-3 only. There is a downtime of about 10-14 days and the patients have to be extra careful as peeling is extensive, so proper dressing, moisturizing and sun protection are extremely essential.

Combination peels are perhaps the safest with fewer side effects. However, the effectiveness may not always be very satisfactory. To begin the practice with, Glycolic acid 20% can be used as a part of the combination peel. The level of penetration is controlled better in this type of peel. However, depending upon varying concentration of ingredients in the combination peel, it can act as a superficial or deep peel too.

The most commonly performed peel is the glycolic peel, as it is quite safe in lower concentration and also has non-toxic naturally occurring compounds alpha-hydroxy acids (AHA). Glycolic acid is derived from sugar cane. Other similar peels would be lactic acid from sour milk, citric acid from citrus fruits and phytic acid from rice. The depth of injury depends upon the concentration of free acid, volume applied, and duration of contact. A glycolic acid peel has to be neutralized preferably with sodium bicarbonate solution once frosting occurs; however, cold water is also sufficient. This peel is light insensitive and is stable for more than 2 years. When it comes to salicylic acid peels, they are mainly recommended for treating acne vulgaris, seborrhea, open pores and pigmentation. The white precipitate that appears is called pseudo-frosting. This indicates that the areas have been covered by the acid, therefore, helping in identifying areas which have been left out. Also, the frosting occurs more in areas which have excessive sebum production. The peel can be left as it is, since it neutralizes once it comes in contact with water in the epidermis. However, it is safer to neutralize and remove the precipitate with cold water to avoid irritation and erythema. Trichloroacetic acid peels (TCA) have to be used with caution. Different concentrations are suggested for different cases. For example, 10-15% TCA is used for superficial to medium depth intra epidermal peeling, which helps in improving fine wrinkles and dyschromias to give a smooth and healthy appearance, whereas, a concentration of 30-35% TCA is used for medium depth peels, causing epidermal and dermal necrosis without systemic effects. One should be cautious with such peels especially while working on dark skin types. The clinical end point of a peel is frosting and if kept longer can penetrate deeper causing burns. Frosting occurs due to denaturation of proteins. A cross TCA of higher concentration (70%) can be used to treat scars, especially ice-pick scars.

Deep peels such as Baker's formula consist of pure undiluted 88% phenol, croton oil, septisol liquid soap and water. It is not a very popular peel and one has to be highly cautious while using it, due to its longer downtime and chances of complications like burns, infections and post-inflammatory hyperpigmentation (PIH). However, the results are relatively good. However, chemical peels are a contraindication to pregnant, lactating clients or the ones suffering from herpes simplex or on oral retinoid (controversial).

Priming of the skin done before peeling, yields good results. Photo-protective measures (in the morning), Tretinoin (at night), bleaching agents hydroquinone (at night) are recommended 2-4 weeks prior to the peel for priming. Also, antivirals such as acyclovir 400 mg 3x daily for 2 weeks (medium or deep peel only), is advisable especially if the patient has a history of herpes. Priming of the skin helps in reducing wound healing time, allows uniform penetration of peeling agent, decreases the PIH, enforces the concept of a maintenance regimen and determines which product suits the patient's skin and also establishes patient compliance.

A consent form has to be signed by the patients before any chemical peel. Pre- and post-peel care must be explained thoroughly and photographs must be taken.

The process of peeling begins with cleansing the skin to degrease it, along with scrubbing. The skin is analyzed and based

on the skin type and condition to be treated, the best suitable peel is chosen.

One of the most important steps is the detailed examination of the skin type. Thin skin requires lower concentration of peel, while thick skin requires higher concentration. Greasy skin gives better results than dry skin.

As a safety precaution, it is always necessary to check all the labels by yourself. It is recommended, that the date of the preparation on the bottle are noted down and always shake or tilt the bottle before use. The patient's eyes must always be covered during the procedure by placing a wet gauze piece, to prevent the peel from getting into the eyes and if any tears are observed, they are dried immediately; tears running down can create a streak of peeling. Never pass an open container over the patient's face. An important tip would be to start with the forehead and then go to either of the cheeks. Do not begin with peeling the eyelids, especially if it is dry. It is advisable to do a test patch behind the ears, and observe any irritation or changes before doing the peel on the face. Some doctors perform this, a week before the actual peel. Preferably, extend the peel below the jaw line to attain evenness of the tone.

Post-peel, the patient experiences a stinging sensation with superficial peels. Instant burning sensation is also felt with medium depth peels, which subsides completely by the time of discharge. Rinsing with water or cool saline compressions, gives symptomatic relief in such conditions. Sodium bicarbonate after glycolic acid for neutralization is preferred. If extensive erythema and accidental burn is observed in the patient, then it is required to apply topical potent steroids or antibiotic-steroid combination ointment immediately until the peeling has subsided.

The application of an AHA peel (alpha-hydroxy acid) lasts less than 2-15 minutes and may cause temporary discomfort, redness, and irritation. These symptoms diminish as the skin becomes more accustomed to the chemical peel treatments. Due to the rapid penetration of BHA's (Solutions), during a BHA peel, it last about 5 minutes (or until a white mask forms). BHA peels (Beta hydroxyl acid) are slightly less irritating than AHA and TCA peels, due to the anti-inflammatory properties they possess. A TCA peel application should last less than 3-5 minutes whereas with the AHA peel, a temporary stinging may be experienced immediately after the peel is applied. Any immediate discomfort associated with a TCA peel typically subsides within a few minutes. After a BHA peel, the skin will feel tight for several days. After 2-4 days, following the peel, the skin will feel burnt for another three days. People with darker skin have a slightly higher risk of scarring pigment changes as a result of BHA. Hence, one has to be cautious while undergoing or performing these treatments. With a TCA peel there is more frosting, erythema and stinging sensation. The neutralization point is determined by the erythema, frosting, patient comfort (very important) and time.

After neutralization, a sunscreen, along with hyaluronic acid gel is applied for faster healing and protection. The patient is advised sunscreen three times a day along with either moisturizers, white soft paraffin, glycerin or HA gels at night. It is advisable not to pluck or scratch irritated dry skin or the scab and washing the face is best done with sensitive skin cleansers. Temporary redness, flaking, and dry skin are typical following a chemical peel treatment. Following a peel treatment, the skin often looks and feels similar to sunburned skin if it has undergone a superficial peel and burnt look if medium depth to deep peels. At first, the skin turns red and dry, before flaking and peeling. A smoother, fresher skin results from the initial peel itself, giving the patient satisfactory visible results.

To conclude, I believe all aestheticians should be artists in their mind and heart to understand beauty and what it takes to rectify the flaws present or to enhance the beauty. Hence, in the hands of an experienced and knowledgeable physician, with techniques to back up his imagination, a peel can yield excellent results with great patient satisfaction. As mentioned in the beginning, all aestheticians develop their own method of peeling eventually and even though it may not be the most glamorous aesthetic procedure, it truly serves the purpose for the treating physician and patient. Hence, I conclude that it is one of the most versatile armamentarium in the hands of any treating physician-aesthetician.