

ANCIENT EGYPT TO TODAY skin peeling 101

CHEMICAL PEELS are designed and formulated to help remove dead skin cells and stimulate the skin's natural regeneration process. Peels can assist in improving damaged skin caused by the sun, aging, acne, excessive oil and other extrinsic and intrinsic factors. But, one must be carefully trained and educated on the types and

applications of each of the major peeling agents and their proper use. It has been estimated that more than one million skin peel procedures were carried out at a cost of \$1 billion in the United States this past year. These procedures are growing because of the efficacy of skin peeling when used properly and its comparatively low cost to clients. ➔

by Rob Trow

Peels with ingredients found in nature, such as lactic acid from milk, are generally milder with little chance of adverse reactions.



The history

The use of skin peeling for skin rejuvenation has been around for no less than three centuries, and some say it is more than 3,000 years old with its roots going back to ancient Egypt where men (yes men, not women) underwent the treatment because they desired a more youthful appearance. The peeling agents used then included animal oils, sour milk, salt, fruit acids and other skin irritants. The Greeks and Romans followed with the addition of mustard seeds, sulfur, sublimate of limestone and tree resins to name but a few of the ingredients that were popular. The Turks started using fire to singe the skin as an exfoliant while Indians mixed urine with pumice as an exfoliating procedure. Gypsies had a variety of secret peeling potions.

By the mid-19th century, skin peeling protocols, as we now think of them, began to emerge along with the science of dermatology. Sulfuric, acetic, hydrochloric and nitric acids found their way into treatment rooms. These agents caused skin blistering, after which the blisters would be pierced, covered with starch and then followed by the removal of skin crusting to hopefully leave a smoother, lightened skin. Phenol came into fashion in the late 19th century followed by salicylic acid, resorcinol and trichloroacetic acid (TCA).

Then, as is the case today, inappropriate and improper use of skin peeling led to many dangers including bacterial and viral infections, post-inflammatory scarring and uneven and unsatisfactory results. Downtime was significant. Ancient Egyptian papyrus stated that men should plan on going into hiding for several weeks after undergoing a peel.

What have we learned since the age of Cleopatra and Nebuchadnezzar about the use of exfoliation and peeling agents? What works, what doesn't? What are the pros and cons of today's peeling agents? What results can you and your clients reasonably expect from skin peeling treatments?

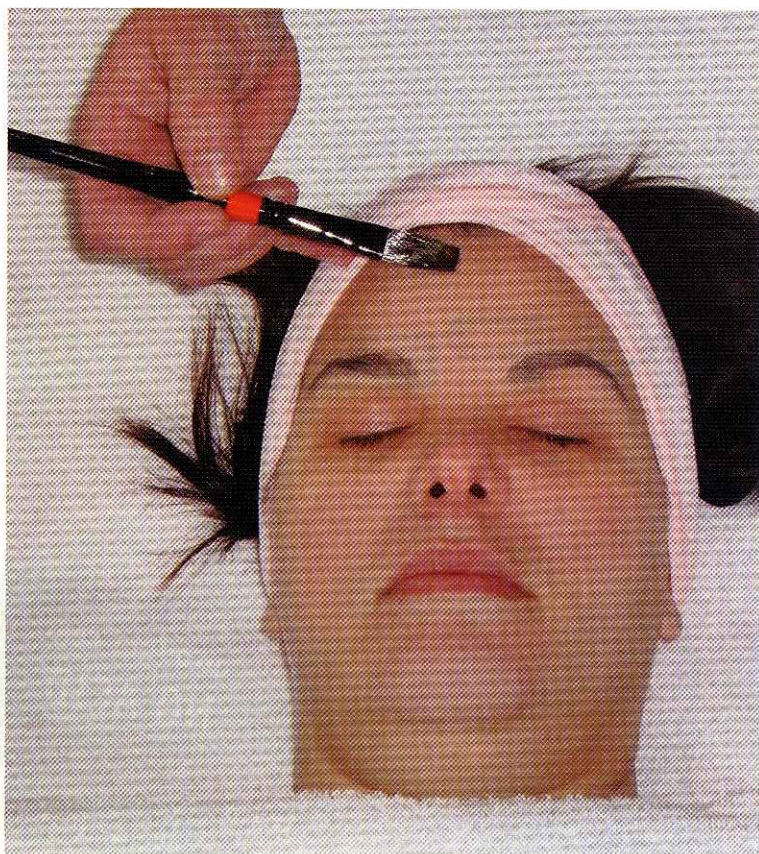
Simply put, chemical peels remove upper parts of the epidermis, allowing for the regrowth of surface skin through a wounding process, which in turn stimulates the growth of new skin cells. The deeper the peel, the more risks but also, theoretically, better results. I say theoretically because I believe that a series of less invasive, lighter peels can achieve impressive results without the inherent risks of deeper peeling agents. More on this later in the article. Let's take a look at today's peeling agents.

Mild peels

While not a true peel, these treatments modestly thin the stratum corneum. Included are mild alpha hydroxy, glycolic, lactic and fruit acids in low concentrations applied for short periods of time. These solutions are put on topically with a brush, sponge, cotton square or in another similar manner. The number of applications or layers, strength of the concentration and time left on the skin all affect the depth, downtime and results. No anesthesia or sedation is needed. The patient feels only mild discomfort via a tingling or stinging sensation that can be instantly relieved with the use of a skin peeling neutralizer. There is little if any downtime, results are immediately visible and peeling procedures can be added quite easily to a regimen of professional and at-home skin treatment protocols.

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Some experts believe that a series of lighter, milder peels is better, safer and more efficacious in the long run, compared to a deep, one-time peel.



Alpha hydroxy and beta hydroxy acids: A family of peels, alpha hydroxy includes glycolic (sugar cane), lactic (milk) and pyruvic acids. These peels are, for the most part, found in nature and are generally milder with little chance of adverse allergic or other negative reactions. The concern I have with glycolic acids is that they must be thoroughly neutralized to terminate their action, otherwise they can "over peel." Glycolic can free impacted debris from the skin and can improve texture but has little effect on smoothing out acne scars or fine lines and wrinkles. Lactic acid is ideal for sensitive skin as it is hydrating as well as effective in maintaining the skin's proper pH to help eliminate germs, toxins and dead cells. It comes in many concentrations, both buffered and unbuffered, and is a versatile, safe and effective agent.

Salicylic, a beta hydroxy acid, can be obtained from plants (willow bark and wintergreen) and also synthesized in a lab. It is an active ingredient in many skin care products used in the treatment of psoriasis and acne, as it causes skin cells to slough off and helps to prevent the

clogging of pores. In concentrations of 2 percent, it can be an effective exfoliant. However, in peels above 5 percent, it can cause nausea, dizziness and ringing in the ears. Individuals with an allergy to aspirin are not candidates for this product.

Medium peels

These peels, in stronger concentrations than the agents described earlier, remove parts of the epidermal layer and result in deeper penetration. A series of treatments, over time, produce measurable and sustained results with little downtime. The treatments become cumulative with each subsequent peel improving on the previous one. Some slight flaking or peeling can occur, which can be ameliorated with topical treatment products. These peels should be part of an ongoing professional skin care protocol with a peel taking place once every two to three months for better, sustained and measurable results. These peeling agents include stronger levels of glycolic, salicylic and lactic acids; Jessner peels, which are a combination of salicylic, resorcinol and lactic acids; resorcinol; and TCA.

Trichloroacetic acid (TCA): This is one of my favorite peeling agents as it can be used in a myriad of concentrations and forms (gels or creams). Each state has its own set of regulations that must be checked to determine who can administer TCA peels. It is an effective medium-depth peel that can address fine lines, wrinkles, uneven skin tone and problematic skin. It can be used on all parts of the body with a shorter-than-most recovery time. The depth of the peel can be easily controlled. In proper concentrations and carried out in a series, the milder forms of TCA, under 25 percent, can yield wonderful results without the potential of major complications. Use of TCA above 35 percent can be fraught with a plethora of complications and must be left to the purview of physicians. In my opinion, I feel strongly that a series of lighter TCA peels is better, safer and more efficacious in the long run than a very deep, one-time peel. This peel can also be used on all skin types including darker skins that have been pretreated with a vitamin A topical product for at least six weeks to prevent post-inflammatory hyperpigmentation.

Jessner's peel: This is a medium-depth peeling agent that consists of a mixture of salicylic

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and lactic acid combined with resorcinol, an exfoliating agent. A peel of this type will cause cracking and peeling of skin after an initial period of darkening. Patients must be urged not to pick at their skin as complications can result. After a Jessner's peel the skin looks and feels soft and smooth. Pigmentation may even be temporarily improved along with fine lines. Post-procedure use of an effective sun care product is a must to avoid rebound pigmentation.

Resorcinol: Although less popular today, it has long been used as an effective peeling agent. While not without potential complications, it is vital to test a patient prior to use as some individuals are extremely sensitive to this ingredient.

Deeper peels

Superficial peels normally penetrate .06 mm to the papillary dermis while deeper chemical peels can reach .45 mm of the upper reticular dermis. This leads to excessive shedding of the skin and significant patient downtime. Possible

complications include scarring, excessive redness, infection, hypo- and hyperpigmentation along with infections and scarring.

Active agents used in deeper peels include Baker's phenol; extreme concentrations of glycolic (70 percent non-buffered); TCA above 35 percent; and combinations of the above with or without the addition of lasers.

Deeper peels must be left to physicians to perform as the complications, contraindications and required anesthetic are all potentially problematic. These are very serious procedures with potential short- and long-term complications—some of which can never be reversed.

Phenol: This agent—combined with croton oil and septisol, is one of the strongest if not the strongest peeling chemical—is used to treat clients with extremely coarse skin, deep facial wrinkles, damaged and scarred skin or precancerous growths. The smoothing of the skin can be outstanding, but the risks are great. As the epidermis is destroyed in this process, it is likely that damage to the rete pegs will result. Other potential complications include scarring, hypo- and hyperpigmentation, permanent lines of demarcation, and cardiac arrest. This is a physician-only product with a need for operating-room procedures and safeguards, sedation and/or anesthesia, and complete cardiac and pulmonary monitoring. In addition, it can be two to four weeks before the patient can appear in public.

Pre- and post-peel preparation

Preparation of the client is extremely important to obtain the best results and avoid complications. Make sure you obtain a complete client medical history including current medications. Check with the peel manufacturer to ensure you know the dos and don'ts associated with the use of their chemical peels. Not everyone is a candidate for chemical peeling nor is chemical peeling an anti-aging panacea.

Clients should be told to avoid, as much as possible, sun exposure, strong scrubs and masks, self-tanners, waxing, bleaching and excessive tweezing.

Clients should expect, to varying degrees based on the peel used, increased sun sensitivity, redness and dry skin; some swelling and scabbing, and peeling. It is vital to use sun protection that includes chemical and physical blockers plus a brigade of antioxidants. Sun care products

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It is important to recommend the proper home care regimen. Sun protection and high-grade topicals with antioxidants are a must!



should be applied no less than every 30 to 90 minutes and the client should never go out, even on a cloudy day, without sun protection.

Follow-up care should include use of high-grade topical skin care products that contain vitamins A and C, antioxidants and growth factors.

Remember to make sure your clients wash often with a gentle creamy cleanser, avoid scratching and peeling their skin, limit exercise the first week, drink plenty of water, use moisturizer, stay out of the sun and/or use an antioxidant sunscreen with UVA and UVB protection, and have a realistic expectation of the healing process.

Things to consider

Peeling is an effective, useful tool for the skin care professional when used properly. Make sure you are educated fully in both the science of skin peeling, practical applications and hands-on training. Most manufacturers will provide this service to you at little or no cost. Seek this specialized training. It is necessary and worth it! Also, take the time to familiarize yourself with local and state regulations as there are significant variations across the United States and from country to country.

I do think it is preferable to offer your patients and clients a series of six mild peels, once every two months, as opposed to very superficial or deep peels. This avoids negative complica-

tions, creates little or no downtime and produces significant and sustainable results that can rival deep peeling with all the inherent risks and complications. Do not attempt to start peeling without having all the resources at your side and having completed a comprehensive training program. Make sure your patients are selected properly and that you have taken the time to let them know the benefits of the procedure and what to expect to ensure they have realistic expectations.

Researchers at Stanford University found interesting results when they conducted a small, 24-subject study involving skin resurfacing including chemical peels. Compared to untreated patients, those who underwent chemical or laser peels had a lower risk of skin cancer. While this study is very small and more research is needed, the results are worth serious consideration for older clients with sun-damaged skin.

Chemical peels can also be used in a series in combination with microdermabrasion as long as treatments are appropriately spaced out and the patient's skin is prepared properly for each procedure.

Skin care professionals should be mindful of an FDA warning about skin peeling issued more than a decade ago. The FDA cautions consumers and professionals alike that the use of peeling agents can cause serious injuries if not done properly. As in all areas of the skin care industry, many new methods of exfoliation are being developed. In the very near future, you can expect to see the emergence of more effective home peeling kits to continue and maintain the work started in the professionals' treatment rooms. ■

Rob Trow owns *DermaConcepts USA*, the *Eastern United States (excluding metro NYC)* distributors for *Environ Skin Care*. Trow's background includes two decades in higher education as a faculty member, administrator and business consultant. He has been in the skin care field for more than 10 years. Trow is a published author and frequent speaker on current and emerging topics of interest to medical spas, estheticians and physicians. He holds two master's degrees and did his doctoral studies at Harvard University.

