

The Science of Chemical Peels

What is a chemical peel?

Chemical peels cause intentional damage to the epidermis and/or dermis with the goal of stimulating new tissue to improve skin texture and tone.

Chemical peels have been used dating back to Ancient Egypt. Cleopatra used sour milk to improve the appearance of her skin, according to some sources. Lactic acid (an alpha hydroxy acid) is the active ingredient in sour milk.

How can chemical peels benefit the skin?

Chemical peels improve skin texture and firmness, decreasing fine lines and wrinkles. Peels also even out skin tone, improve acne-prone skin and reduce pore size appearance.

How are chemical peels classified?

Chemical peels are classified as superficial, medium or deep, depending on the depth of penetration of the ingredients used. Superficial peels exfoliate to various levels of the epidermis. Medium-depth peels treat through the papillary dermis and deep peels to the mid-reticular dermis.

The strength of a chemical peel is determined by the type of ingredients used, their concentrations and the pH of the formulation.

How do superficial chemical peels work?

Superficial chemical peels decrease the pH, which loosens the connections between dead skin cells, inducing exfoliation and stimulating new cell growth. This process causes superficial layers of dead skin to peel off, revealing a smoother and more radiant complexion. Chemical peels can also thicken the epidermis, increase dermal volume and stimulate collagen.

Superficial peels rarely cause side effects. However, hyperpigmentation can still occur with darker skin types.

How do medium and deep chemical peels work?

Medium and deep chemical peels cause protein coagulation and cell necrosis (cell death) in the epidermis and dermis. This induces inflammation and the wound-healing cascade, which leads to dermal regeneration including collagen stimulation. Since medium and deep chemical peels treat through to the dermis, re-epithelialization starts from the epidermal lining of hair follicles outwards.

Medium and deep chemical peels require more downtime and carry with them a higher chance of side effects including hyperpigmentation, hypopigmentation, infection and scars.

On what areas of the body are chemical peels used?

Chemical peels are usually performed on the face, but may also be used on the neck, décolleté, back and hands.

What are common peeling agents?

Some common peeling ingredients include alpha hydroxy acids, beta hydroxy acids, trichloroacetic acid (TCA) and retinol. Alpha hydroxy acids include glycolic acid (originally from sugar cane), lactic acid (originally from milk), malic acid (originally from apples and pears), tartaric acid (originally from grapes) and mandelic acid (originally from bitter almonds). Salicylic acid (related to aspirin) is the only beta hydroxy acid.

Not all peels are created equal, and one peel type doesn't suit all. Certain ingredients may be more effective for treating acne, while others may be more successful in treating hyperpigmentation or the signs of aging.

What is the difference between an AHA and a BHA (salicylic acid) peel?

AHA peels work by reducing sulfate and phosphate groups from the surface of corneocytes to decrease corneocyte cohesion leading to exfoliation of epidermal cells. Salicylic acid peels are lipid soluble allowing deeper penetration into the follicle. As well as exfoliating, salicylic acid works as both a keratolytic and comedolytic agent by causing

cells of the epidermis and in the follicle to shed, clearing the pores and allowing room for new cell growth. In addition, salicylic acid has anti-inflammatory properties and is able to neutralize bacteria at low percentages. These properties make salicylic acid ideal for acne.

What is an enzyme peel?

Like a chemical peel, an enzyme peel is also a treatment used to improve skin texture and appearance. Enzymes are applied to the skin, which loosen the connections between dead skin cells, inducing exfoliation and stimulating new cell growth. This process causes superficial layers of dead skin to peel off, revealing a smoother and more radiant complexion. Enzyme peels both nourish and exfoliate the skin and are usually made with fruit enzymes. The most popular fruit enzymes are papain, found in papayas, and bromelain, found in pineapple.

What is AlumierMD's peel philosophy?

We offer a selection of superficial to medium depth peels known for their excellent results and safety profile. We believe in repeated treatments for progressive and gradual results, and to avoid the side effects and downtime associated with deeper peels. Chemical peels should be performed by a trained skin care professional in a clinical setting so that they are delivered safely and effectively.

When peels are performed regularly, the skin gets used to this process and begins to rejuvenate itself like younger skin. To be sure that the body doesn't react to this deep exfoliation as it would to trauma, which can lead to pigment changes, exfoliation must be introduced gradually giving the skin time to adjust.

Your skin care specialist will complete a thorough skin analysis and recommend an individualized treatment program to address your skin concerns. She will create a personalized program that combines professional treatments with home care products since they work synergistically to improve the health and beauty of skin. Pre-treatment products precondition the skin, accelerate results and minimize complications. Post-treatment products minimize complications, soothe the skin and then maintain the results. Professional treatments enhance the results of your home care products.

Why should beneficial ingredients be applied post-peel and not within the peel solution?

Most beneficial ingredients for the skin tend to degrade or denature when placed in the low pH of chemical peel formulas. With that scientific information in mind, AlumierMD peels use only the pure acids; anti-aging, antioxidant and brightening booster ingredients are applied post-peel in our Brightening Accelerator keeping all components effective.

Peels remove the outer dead layers of the stratum corneum, so the booster ingredients are better absorbed when applied post-peel. Our multilayer process can be customized by your skin care professional according to your skin profile and concerns.

Treatment expectations

Beautiful skin doesn't happen overnight. A single chemical peel can provide the immediate effect of bright and radiant skin. However, more significant results in treating textural issues, fine lines and inflamed acne take time.