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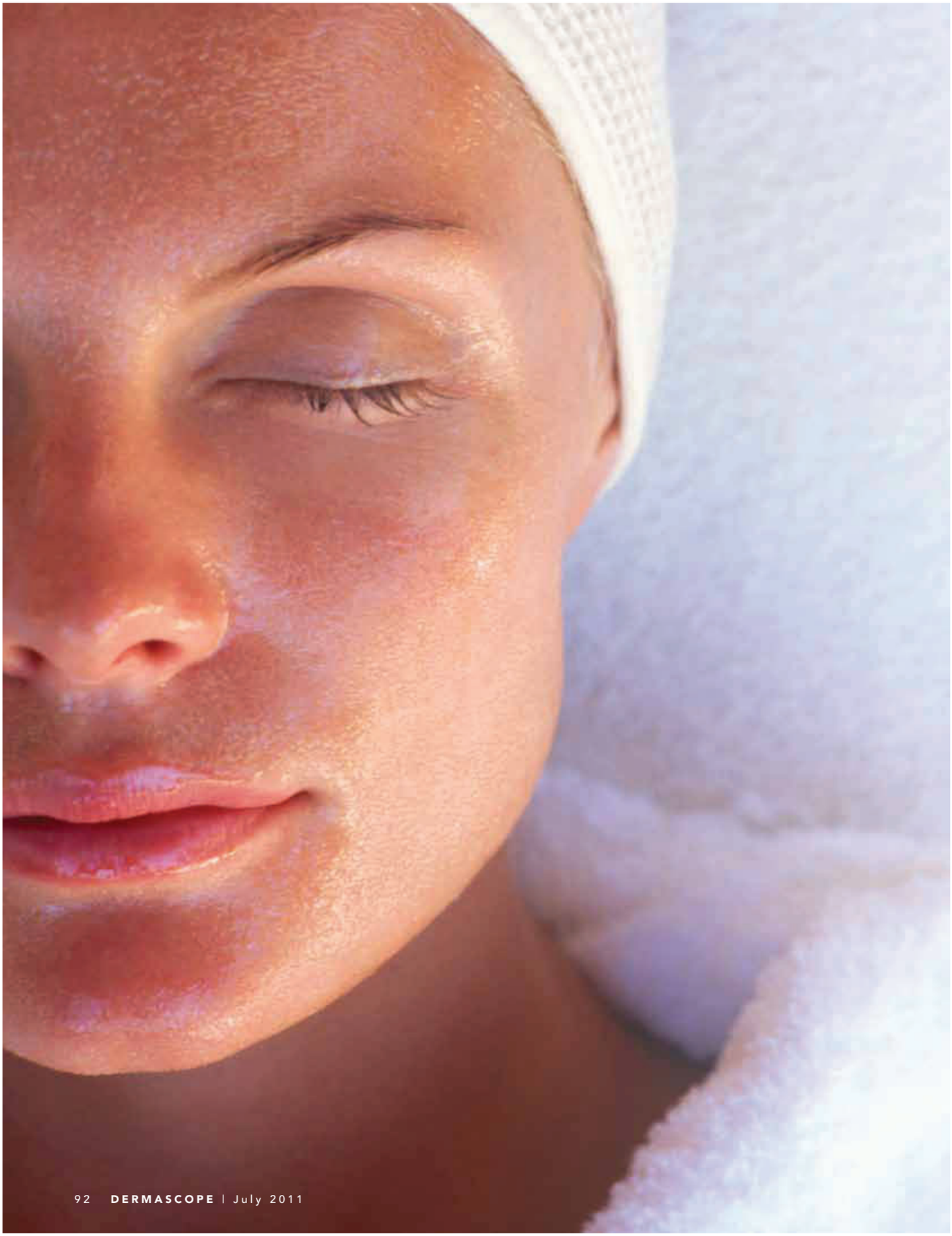

A Deeper Look at *Chemical Peeling*

by Jennifer Linder, M.D.

Chemical peeling is one of the most effective and reliable methods of improving the general health and look of the skin – and delivers the results your clients desire with little to no downtime. These treatments have been used to successfully treat diverse skin conditions for decades, making chemical peeling the skin health professional's trusted solution for a broad spectrum of clientele. With the proper knowledge and understanding of the different types of chemical peels – and awareness of the latest developments in these treatments – you will be well-prepared to help your patients achieve healthy, beautiful skin.

Peel Basics

At the most fundamental level, chemical peeling refers to the topical application of acids to the skin with the ultimate goal of regulating and enhancing the cellular turnover process. This eventually leads to the shedding of cornified, or dead, skin cells.

When applying a chemical peel, it is vital to understand peel depth, which ranges from very superficial to deep. Peels applied at the very superficial level only affect the stratum corneum, and stop penetrating at the granular layer. Superficial peels penetrate through the stratum corneum, to the basal layer, and are still suitable for clients who wish to receive monthly treatments, as lower level exfoliation and faster healing time allows for repeat visits.

A medium-depth peel can penetrate down to the papillary dermis, which is why this treatment is typically performed by a physician or under a physician's supervision. Similarly, a deep peel that can reach the reticular dermis and potentially cause deep wounding should always be performed by a physician.

Several factors help determine the depth of a peel, and each client has different needs. Consider the type and percentage of acid, as well as the client's skin type and thickness, their pre-treatment skin care regimen, and if applicable, their history of exfoliating treatments.

Evolution of the Chemical Peel

Centuries have passed since the ancient Egyptians first used sour milk – and its active ingredient, lactic acid – to improve the appearance of their skin. Today, alpha hydroxy acids (AHA) – which include lactic, glycolic, citric, malic, mandelic, and tartaric acids – are still a commonly used superficial peeling agent, along with tricholoracetic acid (TCA), salicylic acid, retinoids, modified Jessner's solutions, and blended acid peels.

The use of AHA as superficial peeling agents was fully developed in the 1980s and popularized in the 1990s, mainly because they are effective in both lower and higher concentrations and considered an extremely flexible treatment option for both aestheticians and physicians. Alpha hydroxy acids, which are derived from sugars found in fruit carboxylic acids, provide many desirable benefits aside from exfoliation; among them are added hydration, antibacterial properties, and pigment-inhibiting and hyperkeratinization-reducing capabilities.

The versatility of AHA makes them typically safe and effective for all skin types, and ideal for those who desire a very superficial to superficial peel (percentages cover a wide range, from 10 to 70 percent). The percentage of AHA and your client's skin condition will determine peel depth, but AHA generally reduces the stratum corneum, increases cellular turnover, and promotes the production of collagen and elastin.

With the wide range of available AHA in chemical peeling, it is important to understand the specific uses for each. For instance, glycolic acid's degreasing properties make it ideal for oilier skin types because its more drying nature is typically too dehydrating for drier skin. Conversely, lactic acid works best for drier skin types, or those with sensitive skin, because it penetrates more slowly. Glycolic and lactic acids are two of the most frequently used AHA – between them, they cover a wide range of skin conditions.

TCA, which is synthetically derived and consists of acetic acid and chlorine, was first studied in the mid-1900s. Further research indicated that TCA was a safer and more predictable peeling agent than those that penetrate deeper, such as phenol. In the 1980s, the combination of solid carbon dioxide with TCA became what is known as the medium-depth peel, and today, TCA is a popular choice for both superficial and medium-depth peels because there is virtually no risk of toxicity.

Hyperpigmentation, scarring, wrinkling, and uneven surface texture are all aided by the application of a TCA peel, making it another flexible option for the clinician. Percentages range from six to 30 percent for superficial use, though percentages higher than 10 percent should only be used when your client is properly prepped with appropriate daily care products.

Salicylic acid – the only beta hydroxy appropriate for topical use – is an effective treatment for acne, sensitive skin conditions, rosacea, and potentially, concerns such as uneven texture, hyperpigmentation, and photodamage. The properties of salicylic acid were first described in the late 1800s, and further explored in the 1940s when the agent was blended with other ingredients such as lactic acid and resorcinol.

Salicylic acid is generally applied in superficial percentages (20 to 30 percent) to avoid the increased risk of salicylic poisoning if applied in higher percentages. Still, salicylic acid proves to be a versatile exfoliation treatment, and is appropriate for most skin types.

The peel formulation of salicylic acid, lactic acid, and resorcinol first studied in the 1940s became the foundation for the modified Jessner's solution, which is considered the first blended acid chemical peel. Popularized by Dr. Max Jessner in the 1950s, this particular blend of 14 percent each of lactic acid, salicylic acid, and resorcinol is still widely used today to significantly improve acne and hyperpigmentation, as well as reduce the signs of aging. Resorcinol is a commonly used flaking agent and keratolytic that dissolves impacted surface cells upon contact and enhances topical penetration.

The modified Jessner's solution is known to provide a uniform peel depth, making it an uncomplicated treatment for aestheticians and clinicians of all experience levels. Additionally, the formula is a suitable option for nearly all skin types.

Retinoids, which include all forms of vitamin A, can stand alone or be applied with another peeling agent for additional exfoliation. Retinoic acid, retinaldehyde, and retinol are the most common retinoids found in professional treatment products. Percentages for retinol and retinaldehyde can go up to 10 percent, while retinoic acid is usually compounded using a 0.3 percent ethanol alcohol solution. These ingredients help increase cellular turnover, smooth uneven skin texture, boost collagen production, and improve hyperpigmentation.

The Latest in Chemical Peeling

Since Dr. Jessner first introduced his precise formula, blended acid chemical peels have continued to evolve and grow in popularity. They combine the best benefits of the commonly used peeling agents, providing treatment options that also have the potential to hydrate, soothe inflammation, and infuse the skin with antioxidants. Examples additional ingredients found in blended chemical peels include: Kojic and azelaic acids for pigment-reducing benefits, soy isoflavones for plumping and hydrating benefits, and meadowfoam oil for anti-inflammatory properties.

Because of their ability to create desirable results with limited complications, the renewed interest in blended peels in recent years is not surprising. The straightforward application technique makes a clinician feel comfortable and confident. The gentle yet highly effective approach that results in practically no downtime – with noticeably improved skin – eases the patient's mind. Furthermore, the exfoliation capabilities, along with the assortment of ingredients that offer a long list of benefits, make blended peels an ideal treatment option for nearly every skin type and condition.

When choosing the type of chemical peel to perform on your client, it is essential to have a thorough understanding of the most commonly used peeling agents and their specific uses. Though each has unique advantages, blended peels have come to the forefront for their versatility, reliability, and effectiveness. The wide range of benefits they provide is unparalleled, and the results achieved without downtime will be much appreciated by your patients – offering exceptional treatments and arming yourself with the knowledge to perform them successfully is sure to help your business grow for years to come.

Jennifer Linder, M.D., serves as chief scientific officer for PCA skin®, guiding all product development and clinical trials for the company. A board-certified dermatologist and a fellowship-trained skin cancer surgeon using the Mohs micrographic technique, Linder is one of the foremost U.S. experts in the use of the cosmetic filler, Sculptra. She holds a clinical faculty position in the Department of Dermatology at the University of California, San Francisco.