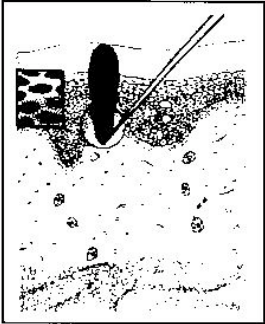


THE EPIDERMIS – AN ANESTHETIC CHALLENGE



One of the most daunting challenges we face as professionals is how to safely and effectively anesthetize the surface of the skin prior to and during painful procedures, such as laser, permanent makeup, tattooing, piercing and other body modification procedures.

The unbroken epidermis (stratum corneum) functions as a protective breathable barrier and is the main obstacle to achieving penetration of anesthetics to the dermis and subcutaneous layers of the skin.

WHY EXFOLIATION AND ROLLING IN ANESTHETICS INCREASES THEIR PERFORMANCE AND INTENSITY

Trans-epidermic penetration is directly influenced by a combination of skin thickness, hydration, temperature and integrity. These all combine to affect the ability of active analgesics to penetrate the epidermis quickly and efficiently. For that reason, it is important that the skin is exfoliated, healthy and hydrated. Exfoliate the skin with a foam resurfacer. Then aid in the penetration and intensity of the anesthetics by rolling the skin with a Derm Ease roller prior to and immediately following the application of anesthetic.

WHY OCCLUSION INCREASES AN ANESTHETICS' PERFORMANCE

The skin's hydration has a direct affect on how quickly and well an anesthetic works. The permeability of how a normally hydrated epidermis is ten times superior to a completely dry epidermis. Doing the math, this means that increasing the water content of the epidermis up to 50% multiplies the epidermis' absorption by TEN. What this means to the practitioner is that if your anesthetics remain liquid and wet and they are applied to hydrated skin, they will penetrate the skin more quickly and effectively. You keep them hydrated by "occluding" them against the skin. According to Webster's dictionary, *occlusion* means cutting off from the surface of the air. **Barrier Film** is the perfect occlusive dressing.

An anesthetic's effectiveness depends on several factors: 1) the level of active ingredients in the product; 2) pH of the product (the pH of skin is approximately 5.5); 3) quantity of product applied; 4) the environmental condition of the skin (hyperpigmented, exposed, sun-damaged skin will have a thicker epidermal layer which decreases penetration); and 5) the thickness of skin which decreases penetration.

SO HOW DO I GET THE MOST FROM MY ANESTHETICS?

(This is for all areas excluding eyeliner.)

1. Cleanse the skin thoroughly to clean the epidermis of dead skin cells and increase circulation.
2. When possible, exfoliate the skin with a skin buff, to further diminish the surface thickness.
3. Roll the skin to be anesthetized in a cross hatched pattern with a Derm Ease roller.
4. Apply a sufficient amount of anesthetic to the area, roll the anesthetic in, and cover it (occlude) with a plastic covering, such as **Barrier Film**.
5. Remove your anesthetics (with the exception of the eye area) with a liquid anesthetic such as **SJ3** or **Vasocaine**, to further penetrate the anesthetic into the skin.

References:

Cynthia Audet, *The Laws of Absorption*, Skin, Inc. (March 2000)
N. Michalum, et al., *Skin Care and Cosmetic Ingredients Dictionary*, Milady Publishing (1994)