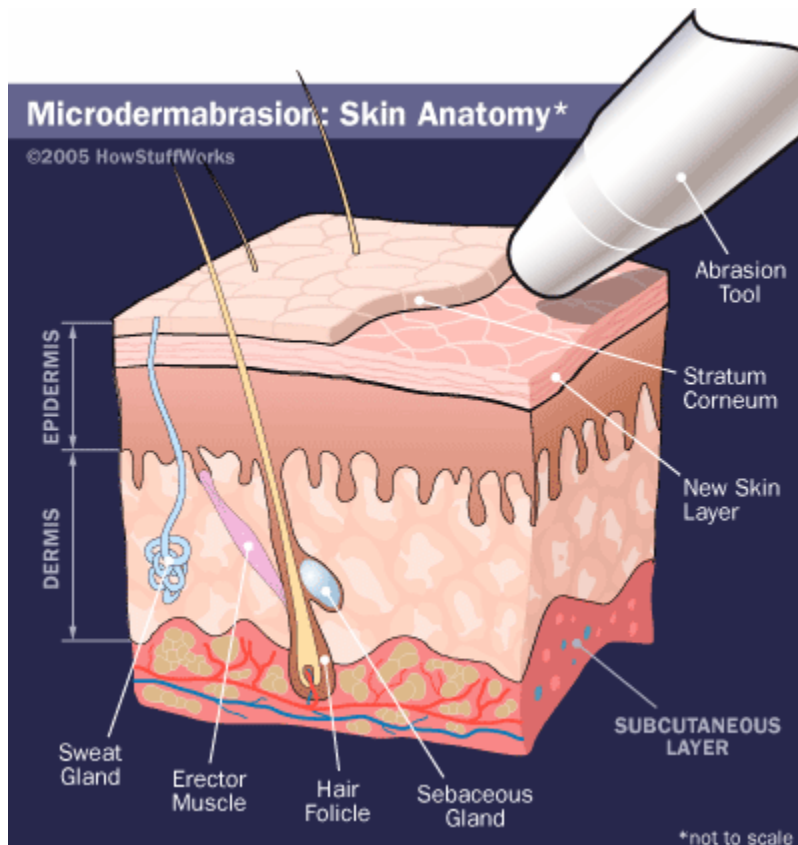


## The Basics

Microdermabrasion is a general term for the application of tiny rough grains to buff away the surface layer of skin. Many different products and treatments use this method, including medical procedures, salon treatments and creams and scrubs that you apply yourself at home. It's usually done to the face, chest, neck, arms or hands. Before we can understand how microdermabrasion does what it does, it's important to understand **how skin works**.

Your skin is made up of two main layers, the **epidermis** and the **dermis**. The epidermis is the layer closest to the outside world. It's a set of dead skin cells on top of another layer of cells that are in the process of maturing. The topmost layer is called the **stratum corneum**. The stratum corneum mostly acts as a barrier between the outside world and the lower skin layers. It keeps all but the smallest molecules from getting through.



When you put lotions or creams on your skin, some of the moisture passes through the stratum corneum, but not all of it. This layer is home to many minor skin imperfections like fine wrinkle lines and blemishes.

All of the action in microdermabrasion takes place at the level of the stratum corneum. Since it only really targets the epidermis (and not the dermis), it is more accurate to call it **micro-epi-dermabrasion**. Affecting deeper layers of skin would be painful and harmful, and it would risk permanently embedding the tiny grains into the skin.

## How it Helps

Whether done with a product at home or in a professional setting with a specialized tool, the principal of microdermabrasion is the same. The idea is that if you remove or break up the stratum corneum, the body interprets that as a mild injury and rushes to replace the lost skin cells with new and healthy ones. In the first hour after treatment, this causes mild edema (swelling) and erythema (redness). Depending on the individual, these side effects can last anywhere from an hour to two days.



### **Actual Microdermabrasion Treatment**

This process has a few beneficial effects. With the stratum corneum gone, the skin's surface is improved. The healing process brings with it newer skin cells that look and feel smoother. Some of the skin's visible imperfections, like sun damage, blemishes and fine lines, are removed. Also, without the stratum corneum acting as a barrier, medicinal creams and lotions are more effective because more of their active ingredients and moisture can find their way down to the lower layers of skin. As microdermabrasion temporarily removes some moisture from the skin, it is always followed by the application of moisturizing creams.

Early studies suggest that repeated microdermabrasion treatment at regular intervals may influence the way the lower layers of skin grow, as well, removing deeper blemishes over time. Some evidence seems to indicate that the rapid loss of skin moisture may be what triggers the lower skin layers to work overtime in speeding healthy cells up to the surface.

## Microdermabrasion Candidates

Microdermabrasion works especially well as a way to clean out **clogged pores**. It's a useful alternative for patients whose skin is too sensitive to use anti-acne drugs like Retin-A. It's not recommended for those who have active oral herpes. Here's a list of the conditions that make someone unsuited for microdermabrasion:

- Active rosacea
- Fragile capillaries
- Vascular lesions
- Widespread acne
- Herpetic lesions (herpes)
- Warts
- Open sores
- Skin lesions
- Anyone who takes anti-coagulants
- Eczema
- Dermatitis
- Psoriasis
- Lupus
- Erythematosis
- Diabetes mellitus

## Professional Treatment

If you went to a clinic or salon to get microdermabrasion done, the technician or dermatologist would use a specialized tool for the procedure. The tool shoots a stream of tiny crystals, like aluminum oxide, sodium chloride or sodium bicarbonate, and collects the leftover dead skin cells and used crystals.

The vacuum action of the machine has four main functions:

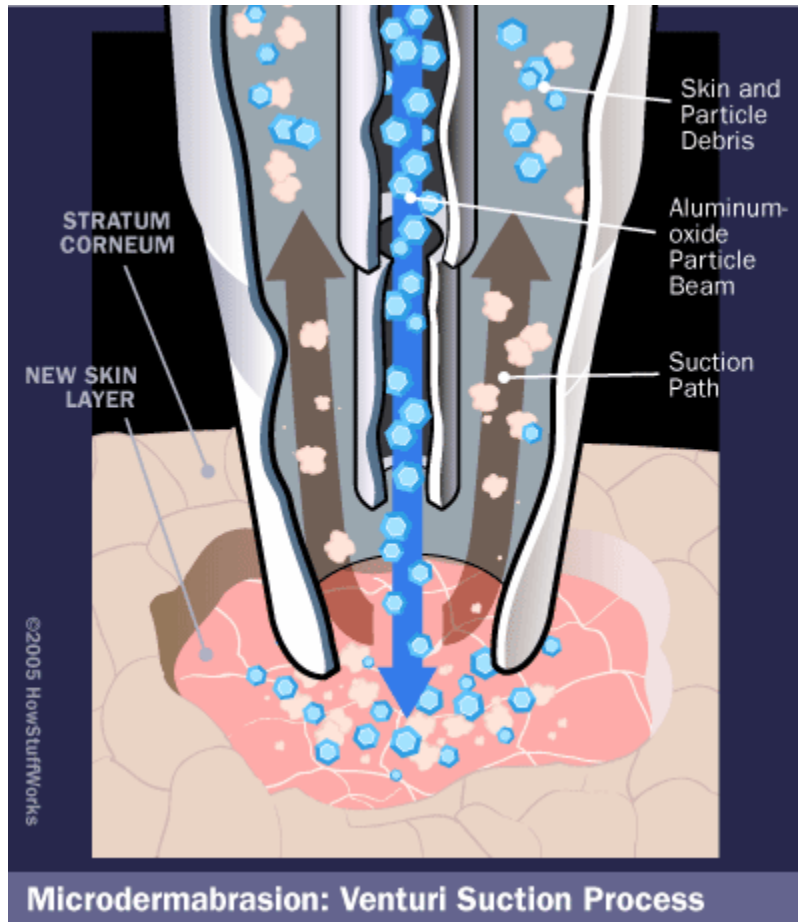
- It pulls and raises a small section of skin to work on.
- It creates mild swelling and brings some of the impurities to the surface.
- It shoots a stream of crystals across the targeted skin patch.
- It collects the used crystals and dead skin for disposal.

Some tools perform all of these functions with one circuit. The suction process in these devices is called **Venturi suction**. More powerful versions use two circuits, one to shoot the crystals out and another to collect them.

## Dangers

Professional microdermabrasion can bruise or discolor the skin if done incorrectly. The vacuum action tends to cause blemishes if the skin tension is let up or uneven. The lip area is particularly susceptible to bruising, and the eyelids should never be treated with microdermabrasion. Treatment that is too deep or intense can cause permanent discoloration to the skin.

There are also newer tools that use a single, diamond-tipped wand on the skin instead of a stream of particles.



The technician steadily moves the tool over the target area, applying even and steady pressure to remove the stratum corneum without affecting the lower skin layers. A standard session usually consists of one to three passes with the tool. In most cases, the patient is then asked to apply specialized lotions and creams to the affected area between sessions. This rehydrates the area and assists in promoting healthier new skin.

These treatments cost around \$100 to \$200 per session, and several sessions spaced throughout the year are usually recommended for maximum effectiveness.

## Home Treatment

As an alternative to a clinic or salon, there are also microdermabrasion creams and scrubs that you can apply yourself. These contain the same crystals you'd find in professional treatment, but many cut out the use of the specialized tool.

**Self MicroDermabrasion™ kit**

You use your hands to rub the products into your face, neck or arms, pushing the crystals against your skin so that they grab and remove the dead cells of the stratum corneum. Some of these creams also contain nutrients and moisturizers -- you remove the dead skin and effectively hydrate the new skin in the same step.

The home treatments cost in the range of \$50 to \$80 per jar.