

## **Microdermabrasion and Dermabrasion**

**By: Zoe Draelos, MD, and Peter T. Pugliese, MD**

Posted: June 28, 2011, from the *issue of Skin Inc. magazine.*

### **Microdermabrasion Theory**

Microdermabrasion operates on the premise that encouraging exfoliation of the skin is desirable. The word "micro" is used to separate this procedure from true dermabrasion, where the deeper layers of the skin are removed. By using a motorized brush system or bombarding the skin with high-speed particles, it is possible to remove desquamating corneocytes, and make the skin smoother and softer with a better color. It is important not to go any deeper into the skin than the first few layers of stratum corneum to avoid scarring and other problems. Microdermabrasion can be used by trained skin care professionals because it does not enter the living layers of the skin; any procedure that enters the living layers of the skin and causes bleeding should be performed by a physician.

Microdermabrasion improves the appearance of several aspects of the skin, such as increased pigment, which may be contained in the outer corneocytes. This pigment may make the skin look freckled due to the presence of lentigenes, the medical term for brown spots, and scaling brown growths, known as seborrheic keratoses. Microdermabrasion can remove the skin scale that contains the pigment, making the skin more evenly colored. However, it is possible for the lentigenes and seborrheic keratoses to reappear as the skin cells again produce irregular pigment, making the improvement temporary.

There is some evidence that repeated microdermabrasion can have a longer-lasting impact on the amount of ground substance in the skin responsible for holding water. The minor skin injury induced by microdermabrasion may cause wounding that encourages the skin to heal. This healing can stimulate the replacement of skin structure and improve the appearance of photoaged skin. Controlled wounding is the reason both dermabrasion and laser resurfacing improve skin appearance. This same effect is seen to a much lesser degree with microdermabrasion, especially if the procedure is repeated every two to four weeks.

In addition, as the skin ages, the bonds between the cells do break easily, and dead skin can accumulate. This is why exfoliation produces a benefit in mature skin. Microdermabrasion can return the skin exfoliation process to a normal rate if performed on a recurring basis. Between treatments, exfoliant-containing moisturizers with alpha or beta hydroxy acids can be used to maintain the result until the next microdermabrasion session.

Microdermabrasion is a valuable technique for the esthetician to master. It can be used in both young and old clients. Treatments result in improved skin texture, smoothness, pigmentation and possibly function, however microdermabrasion must be properly and safely performed.

### **Microdermabrasion in skin of color**

Microdermabrasion is a versatile procedure. It can be performed on people of all ages, sexes and skin colors. However, special care must be taken when using microdermabrasion in clients of color. Deeply

pigmented clients, such as African-Americans, Asians, Hispanics and Indians, have the tendency for the skin to darken once irritated, which is unattractive and undesirable. When performing microdermabrasion on skin of color, be sure to care for the skin gently. Do not dial up the speed of the machine; use it on a lower setting at first until you better understand your client's skin. Although microdermabrasion can smooth skin of color, it cannot lighten pigmented areas or skin color. Do not attempt to use microdermabrasion for this purpose.

### **Microdermabrasion off the face**

Microdermabrasion can be used on any dry-skin area. It is not recommended for use around the moist areas of the body, such as the eyes, nose, mouth or genitalia. It can be used to smooth the backs of the hands, the décolleté and the neck. Skin in this area is not as forgiving, however, and can be easily scarred. Use a gentle setting on low power when performing microdermabrasion off the face. It is always possible to go back with a more aggressive treatment later when you are more familiar with the client's skin.

Because the skin off the face is thicker, the results are not as dramatic. Areas where skin scale collects, such as the anterior shins and the tops of feet, can be nicely smoothed with microdermabrasion, but the scale will recollect quickly. Even with this type of benefit, most microdermabrasion is performed on the face.

### **Easily incorporated**

Microdermabrasion is a versatile, safe procedure that can be rewarding both for the skin care professional and the client. The procedure can be easily incorporated as part of a professional skin care routine.

*Zoe Draelos, MD, is a practicing board-certified dermatologist and a Fellow of the American Academy of Dermatology (AAD) with a research interest in cosmetics, toiletries and biologically active skin medications. She is in private practice in High Point, North Carolina, and is a consulting professor of dermatology at Duke University in Durham, North Carolina. In 1988, she founded Dermatology Consulting Services, serves on eight journal editorial boards and functions as the editor in chief of the Journal of Cosmetic Dermatology. She is also a member of the 2010–2011 Skin Inc. magazine advisory board.*

*Peter T. Pugliese, MD, earned a Bachelor of Science degree from Franklin and Marshall College in Lancaster, Pennsylvania, and in 1957, a Doctor of Medicine from the School of Medicine at the University of Pennsylvania in Philadelphia. Since 1972, he has been engaged in the study of skin physiology, and is a member of the AAD, the Society of Investigative Dermatology, the Society of Bioengineers of the Skin, the American Chemical Society and the Society of Cosmetic Chemists. He has written more than 60 scientific papers, has published four books and is a member of the 2010–2011 Skin Inc. magazine advisory board.*

**Editor's note:** This article has been excerpted from the new *Physiology of the Skin, Third Edition* book by Zoe Draelos, MD, and Peter T. Pugliese, MD, which was released in February 2011 by Allured Books. The book can be purchased online at