How Does Menopause Affect the Skin?

by Dr. Diana Howard

Menopause is an incredibly complicated process that all women endure as they reach middle age. For some, symptoms appear to be a mere end to the monthly cycle. For others, it is a difficult process that can last for a few years and cause a variety of changes.

Menopause not only affects the internal body, it affects the skin as well. But before we look at menopause and the affect it has on skin, let's discuss the changes to a woman's hormones during menopause.

What Happens to Hormones During Menopause?

Hormonal changes and declines, as well as the slowdown in ovarian activity (which includes the decrease in B-Estradiol levels), cause many of the changes we see associated with menopause. Hormones can cause hot flashes, which are intense feelings of warmth in the skin, particularly of the face, accompanied by profuse sweating. In addition, the adrenal glands and ovaries of post-menopausal women secrete increased androgens. These hormones, in the absence of estrogens, cause some menopausal symptoms such as voice deepening, enlargement of the clitoris and appearance of facial hair.

Menopause and the Skin

So what does this have to do with the skin? A lot. The hormonal changes that occur during and after menopause tend to change the skin's physiology in new and different ways.

We know that the decline of B-Estradiol during menopause is one of the culprits in the accelerated aging of the skin. We also know that menopause is mostly caused by age-related changes in the ovaries, and the number of follicles remaining in the ovaries of menopausal women is significantly reduced. In addition, the follicles that remain become less sensitive to stimulation by pituitary hormones, even though their levels are elevated, resulting in fewer mature follicles and a reduction in the production of corpora lutea. This results in lowered estrogen and progesterone production, which in turn leads to changes in the skin.

As a woman gets closer to menopause, the following changes begin to occur in the skin:

Oily Skin: During the reproductive years, B-Estradiol stimulates a more fluid sebaceous gland secretion ("anti-acne" effect). During menopause, as estrogen levels decrease, testosterone (produced by the adrenal glands) is no longer masked in the woman's body. Testosterone reveals itself by stimulating sebaceous glands to secrete thicker sebum, giving the appearance of oily skin (and the tendency toward adult acne in some women).

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Facial Hair: Also due to the unmasking of testosterone, some women may develop facial hair, particularly in the chin area.

Sagging Skin and Wrinkles: Estrogens stimulate fat deposits over the female body; as estrogen levels drop during menopause, fat deposits tend to become redistributed and often concentrated over the abdomen and/or on the thighs and buttocks. The result is a loss of supportive fat below the skin of the face, neck, hands and arms; this allows sagging wrinkles to appear, and the skin over these areas is less easily compressed, as it loses its mobility. Also, fat deposits are reduced in the breasts, resulting in loss of turgor, which causes the breasts to begin to sag and flatten.

Elastosis: Protein synthesis, particularly that of collagen and elastin, are partially controlled by estrogens. Thus, during menopause, the lowered estrogen levels result in less production and repair of collagen and elastin in the dermis of the skin. This lack of repair is particularly pronounced if the skin is exposed to ultraviolet (UV) rays. UV rays are very destructive to collagen, and if we lose our repair mechanism, then we lose our skin's resiliency. This results in elastosis.

Thinning Epidermis: The growth and maintenance of blood capillaries in the dermis are partially under the control of the estrogens. Thus, blood flow through the dermal capillaries is reduced during menopause, and less nutrients and oxygen are available to the Stratum Germinativum or Basal Cell layers of the epidermis. This contributes to the thinning of the epidermis and a slower cell turnover rate, which is accompanied by a reduction in the barrier function of the epidermis, leading to increased trans-epidermal water loss and dry skin.

An interesting note, the cells that make up the surface of the skin are similar in structure to those of the urinary tract and vagina. Often times when a woman begins to notice changes in her skin (wrinkling, sagging, dryness, flaking, loss of resiliency, etc.), there are similar changes occurring in the lining of the urethra, bladder and vagina. Thus, the skin may be revealing other tell-tale signs of menopause.

More Prone to Sun Damage: The maintenance of Melanocytes (cells that manufacture the pigment Melanin) is under the control of estrogens. As menopause progresses, the number of melanocytes in the skin is reduced (they degenerate). With less melanocytes, we produce less of the protective melanin and skin appears lighter. Menopausal skin is, therefore, more prone to sun damage, making it even more important to protect the skin with a sunblock.

Hyperpigmentation / Age Spots: Estrogens also temper melanin production. That is, estrogen exerts a regulatory effect on the production of melanin; it keeps it under control. In areas of the skin that have been exposed to UV rays over the years, as menopause arrives, melanin synthesis increases (due to lack of regulation by estrogen). This can result in brown "age spots" appearing on the face, hands, neck, arms and chest of many women.

Hot Flashes: Hot flashes are typically defined by a strong sense of warmth in the skin, (mainly the face), followed by excessive sweating. It had long been thought that hot flashes were caused directly by the abrupt lowering of B-Estradiol levels, but we now know that a woman's sympathetic nervous system is

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more active after menopause because of low estrogen, causing the dilation of skin arterioles and sweating, as well as the rise in body temperature and an increase in heart rate. Hour-to-hour changes in the secretion of the Luteinizing Hormone (LH) from the pituitary gland of post-menopausal women have also been associated with hot flashes.

Other Symptoms of Menopause

Menopause affects much more than the skin. Some possible internal symptoms can include dizziness, numbness, heart palpitations, insomnia, backaches and dry mouth, among others.

About 85% of women have menopausal symptoms both before and after they reach it; the occurrence and intensity of symptoms vary from woman to woman. For most, these symptoms stop within a year, but for some, symptoms can last as much as three years or more.

Treating Menopausal Clients

The greatest challenge for the professional skin therapist in addressing the needs of the menopausal client will be to provide professional expertise on how to meet the ever-changing skin care needs during this critical time. The effects of fluctuating hormones on the skin's physiology and structure will require new professional treatment remedies, as well as a revision to the at home skin care regimen.

Regardless of the treatments you incorporate into your professional service menu, it is recommended that you obtain postgraduate education to ensure that you are fully cognizant of menopause and how it can affect your female clients.

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