

Stable landmarks

Facial photo study shows periorbital change, but little descent



Contrary to what the eye may perceive, the aging face is not all about vertical descent. One recent study shows that, when it comes to the periorbital region, the skin remains remarkably stable.

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NATIONAL REPORT The aging face may take on an overall appearance that testifies to the forces of gravity, but recent research indicates that, at least in the periorbital region, the skin, in fact, rather defies gravity and remains remarkably stationary over the years. Instead of falling, facial landmarks tend to stay in place, and perceptions of the skin's descent, meanwhile, are largely an illusion of shifting contours and shadows.

STAYING PUT The study involved the comparison of photos of women taken 10 to 45 years earlier with current photos in which patients were carefully positioned to match the earlier photos. With the use of the software tool Photoshop to superimpose the old and new photos and enable the fading between one image and the other, the study showed not only that orbicularis wrinkles on the cheek and moles in the upper midface remained in the same position over decades, but that the border of the pigmented lid skin and the thicker cheek skin also remained in a stable position over time.

Instead of a vertical descent, the two simply became more distinctive because of their contrast with one another, according to the study.

Specifically, among 83 patients whose lid-cheek junctions could be seen and evaluated, only three, or 3.6 percent were seen to descend.

SHIFTING PEAKS The photo comparisons also showed distinctive changes in the shape of the upper eyelid that occurs over time, providing additional subtle but highly distinctive hallmarks of youth and older age. The changes involve the upper lid peak becoming more central in the older lid, and the younger lid more commonly having a medially-biased peak.

"In younger people, the arc of the upper lid often peaks medially, forming a true almond-shaped eyelid aperture," according to the study. "The medial peak of the young upper eyelid moves laterally with age, making the lid appear more fusiform. This 'arc shift' seems to be primarily a phenomenon of youth, but one can see remnants of it over time."

The study showed that 50 of 130 patients, or 38 percent, exhibited the upper lid arc shift, and out of 108 patients whose lateral canthal angles could be identified, 80 exhibited medial drift of the lateral canthal angle.

Various reasons likely explain why the skin in the periorbital area doesn't descend with age, including interactions between ligaments, muscles and bones, along with the supportive structure of the face, according to the study's author, California plastic surgeon Val Lambros, M.D., F.A.C.S., tells *Cosmetic Surgery Times*.

"One reason why the periorbital regions of the face don't move is the retaining ligaments are simply stronger than gravity and hold them in place," he explains.

"In addition, the contours of the face set up barriers that, even in old age, offer support for adjoining sections," he continues. "The lower lid, for instance, has the malar bony prominence just beneath it, with dense retaining ligaments holding it up."

Meanwhile, accentuated angles and creases that appear on the face only emphasize the illusion of drooping skin.

THE SHADOW OF ILLUSION "The way creases form and skin ages give the visual impression that things drop," Dr. Lambros observes.

"With the lid-cheek junction, for instance, it stays in place, but it becomes more visible as you get older and because the fat the lower lid sticks out and makes a shadow around the lid-cheek junction — it reinforces the visual illusion that it drops."

Regional differences in fat metabolism also occur throughout the face, and the upper midface is no exception, experiencing losses and gains of volume. The longevity of fat in some areas may be further influenced by the malar bony prominence or repetitive action of muscles, Dr. Lambros postulates.

Previous studies have underscored the role of those fat gains and losses in the aging face, and understanding the nuances of fat placement in the periorbital area, in particular, is critical when working to restore a youthful look, states Rod Rohrich, M.D.

ASCENT ON DESCENT "It's true that you don't see descent as much as the loss of fat, and that's what really characterizes aging in the periorbital region," concurs Dr. Rohrich, professor and chairman of the Department of Plastic Surgery at the University of Texas Southwestern Medical Center.

Blepharoplasties that routinely remove upper lid fat, in fact, risk taking away the very hallmarks of youth that are critical for natural-looking results, in his opinion.

"Taking fat from the eyelid is often unnecessary, as we've seen in a lot of

previous blepharoplasties and that was why people tended to look so unnatural. It is instead important to preserve the fat and tighten the structures around the lid to restore the natural look."

"You may even want to add fat in the periorbital area, especially around the brow to make the patient look youthful and have fullness in this important area," he advises.

ANGLE SOFTENING In addition to fat, other dermal fillers, such as hyaluronic acid and poly-L-lactic acid, can help to smooth out those creases and contours, restore volume and diminish some of the accentuated angles that contribute to the perception of an aged face.

TOO MUCH OF A GOOD THING But Dr. Lambros cautions that going overboard with volume restoration can result in another undesirable illusion — that of a bloated face.

"The trouble in cosmetic surgery is we have these waves of enthusiasm for new approaches, and the result is you start seeing overdone people," he observes. "That can quickly put a damper on the enthusiasm and things can move closer to where they should be."

The challenge is to find the right balance or combination of approaches to address the often subtle nuances of facial aging with equally subtle correction.

"There is much yet to be learned about

the mechanics of the face, the way that it ages, and which visual cues are most powerful in generating the perception of age," Dr. Lambros concludes. ♦

DISCLOSURES
Dr. Lambros and Rohrich report no disclosures related to this article.

REFERENCE
Lambros V. Observations on periorbital and midface aging. *Plast Reconstr Surg.* 2007 Oct;120(5):1367-76; discussion 1377.

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