



AMERICAN SOCIETY OF
PLASTIC SURGEONS®

Face It: Twins Who Smoke Look Older, Says Study in *Plastic and Reconstructive Surgery*

Study at Twins' Convention Helps Clarify How Smoking Affects Facial Aging

Arlington Heights, Ill. (October 29, 2013) – Twins who smoke show more premature facial aging, compared to their nonsmoking identical twins, reports a study in the November issue of *Plastic and Reconstructive Surgery*®, the official medical journal of the [American Society of Plastic Surgeons \(ASPS\)](#).

The study finds significant differences in facial aging between twins with as little as five years' difference in smoking history, says a new report by ASPS Member Surgeon Dr. Bahman Guyuron, Professor and Chairman, Department of Plastic Surgery, University Hospital Case Medical and Case School of Medicine, Cleveland. The results also suggest that the effects of smoking on facial aging are most apparent in the lower two-thirds of the face.

Facial Aging in Smoking vs Nonsmoking Twins

Taking advantage of the annual Twin Days Festival, held in Twinsburg, Ohio, the researchers identified pairs of identical twins who differed by smoking history. In each pair, either one twin smoked and the other did not, or one twin smoked at least five years longer. Fifty-seven of the 79 twin pairs studied were women; the average age 48 years.

A professional photographer took standardized, close-up photographs of each twin's face. The twins also completed questionnaires regarding their medical and lifestyle histories.

Without knowledge of the twins' smoking history, plastic surgeons analyzed the twins' facial features, including grading of wrinkles and age-related facial features. The goal was to identify "specific components of facial aging" that were affected by smoking.

Scores on several measures of facial aging were significantly worse for the smokers. The smokers had more sagging of the upper eyelids, as well as more bags of the lower eyelids and under the eyes. Twins who smoked also had higher scores for facial wrinkles, including more pronounced nasolabial folds (lines between the nose and mouth), wrinkling of the upper and lower lips and sagging jowls.

Among twins with more than five years' difference in smoking history, the average difference in smoking history was 13 years. Twins with a longer duration of smoking had worse scores for bags on the lower lids and under the eyes and lower lip wrinkles.

New Insights into Why Smokers Look Older

Most of the smoking-related differences affected the middle and lower thirds of the face. There were fewer differences in aging of the upper face, such as forehead lines or "crow's feet" around the eyes.

In most cases, the examiners were able to identify the smoking or longer-smoking twin based on the differences in facial aging, as rated in photographs. The twin pairs were similar in other environmental factors that can affect facial aging, including sunscreen use, alcohol intake, and work stress.

Smoking is one of several lifestyle factors that have been linked to premature facial aging. However, few previous studies have focused on those aspects of facial aging that are most affected by smoking. The Twin Days Festival provided a unique opportunity for detailed analysis of facial aging in twins who differed by smoking history.

The results show differences in several markers of facial aging for identical twins who differ by smoking history—especially in the middle and lower face. "It is noteworthy that even among sets of twins where both are smokers, a difference in five years or more of smoking duration can cause visibly identifiable changes in facial aging," Dr. Guyuron and coauthors write. The study also provides clues as to the cellular-level mechanisms by which smoking leads to premature aging, which may differ for different facial features.

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LaSandra Cooper or Marie Grimaldi
American Society of Plastic Surgeons
847-228-9900
media@plasticsurgery.org
www.plasticsurgery.org

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About ASPS

The American Society of Plastic Surgeons (ASPS) is the world's largest organization of board-certified plastic surgeons. Representing more than 7,000 Member Surgeons, the Society is recognized as a leading authority and information source on aesthetic and reconstructive plastic surgery. ASPS comprises more than 94 percent of all board-certified plastic surgeons in the United States. Founded in 1931, the Society represents physicians certified by The American Board of Plastic Surgery or The Royal College of Physicians and Surgeons of Canada. ASPS advances quality care to plastic surgery patients by encouraging high standards of training, ethics, physician practice and research in plastic surgery. You can learn more and visit the American

