Face scans show how fast a person is aging

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Study says images more reliable than blood tests in determining the toll of time, lifestyle.

Every face tells a story, and that story apparently includes hints of how quickly a person is aging, a new study contends.

Facial features have proven even more reliable than blood tests in spotting those for whom time is taking a heavier toll, a Chinese research team reports in the March 31 issue of the journal *Cell Research*.

A computerized 3-D facial imaging process uncovered a number of "tells" that show if a person is aging more rapidly, including a widening mouth, bulging nose, sagging upper lip, shrinking gums and drooping eye corners, the researchers said.

"This suggests not only that youth is 'skin deep,' but also that health is 'written' on the face," the study authors concluded, suggesting that facial

scanning could more accurately assess a person's general health than a routine physical exam.

This sort of facial imaging is part of a cutting-edge technology aimed at estimating life expectancy and assessing health risk factors simply by taking a scan of your face, said Jay Olshansky, a professor at the University of Illinois at Chicago's School of Public Health and a board member of the American Federation for Aging Research.

"A lot of your risk factor for disease shows up in your face," Olshansky said. "You can identify the precise places on the face where these risk factors show up."

In fact, Olshansky predicts that insurance companies eventually could turn to such technology to improve underwriting of life insurance, predicting a person's future health with a simple face scan rather than a complex panel of blood tests.

"All of that blood chemistry, all of the money spent on it, is mostly a waste of money and time," he said. "You can get at these risks a much simpler way through a combination of facial analytics and asking the right questions."

In the new study, researchers at the Chinese Academy of Sciences collected 3-D facial images of 332 people of Chinese descent between the ages of 17 and 77.

Based on this data, the researchers constructed a model for predicting age, generating a map of the aging human face that recognized certain patterns of aging based on specific facial features.

They found that up to age 40, people of the same chronological age could differ by up to six years in facial age. Those older than 40 showed

even wider variation in facial age.

"In aging science, we know people who look young for their age are aging more slowly," Olshansky said. "They look younger because they probably are younger. One year of clock time is matched by something less than one year of biological time. It's real. We can see it."

The researchers compared the results of their facial scans to routine blood tests they took from the participants, and found that age estimates based on facial features were more accurate than blood screenings for cholesterol, uric acid or the blood protein albumin.

The findings track with what doctors already know about how age can affect a person's face, said Dr. Anne Taylor, chairwoman of the American Society of Plastic Surgeons' Public Education Committee.

"Our lips are shrinking, and the distance between the nose and the mouth increases as we age," Taylor said. "And there's a reason for the saying, 'Long in the tooth.' Your gums are shrinking as you age, so more of your teeth are showing."

Olshansky added that facial features also reveal evidence of behaviors that can affect your health.

Smokers tend to develop wrinkles around the mouth, caused by constant pursing of the lips to suck on a cigarette, he said. Drinkers develop a "W.C. Fields" nose, red and bulbous at the tip.

Researchers currently are exploring the ways in which diabetes, obesity, drug use and other detrimental personal behaviors affect the aging of the face, Olshansky noted.

Even though the Chinese findings jibe with what is known about facial

aging, they need to be verified through follow-up research, said Dr. Stephen Park, president of the American Academy of Facial, Plastic and Reconstructive Surgery.

Park argued that the new study could not show whether some people are physically aging faster than their years, because the researchers did not include a control group for comparison.

"It's not fair to say some are physiologically aging faster or more slowly than their chronological age suggests, because they use the data from these participants to define what the age group should look like," he said.

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