

# Scientists develop swab test to identify premature skin aging

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Professor Mark Birch-Machin. Credit: Newcastle University

Experts at Newcastle University have developed a personalized non-invasive test that can reveal if somebody's skin is at risk of aging prematurely.

Aspects of lifestyle, including exposure to sunlight, [environmental](#)

[pollution](#), and poor sleep, can damage [skin cells](#). Initially this harm is invisible to the eye, but the new non-invasive test reveals damage before visible symptoms appear—making the invisible, visible.

Skin Life Analytics, a Newcastle University spin-out company, uses technology that draws on 15 years of research by Professor Mark Birch-Machin and colleagues to help slowdown the [skin](#) aging process.

The team has investigated damage to skin cell mitochondria—which can be thought of as the rechargeable batteries of our cells—and have developed a unique test that can measure skin aging, determine skin DNA damage from sun exposure, track treatments targeted at skin protection and determine potency of cosmetic actives.

## **Skin sample**

A non-invasive skin swab is taken from the face and the DNA damage inside the mitochondria is analyzed by experts in the lab using cutting-edge equipment.

The results from the test can be partnered with lifestyle assessments and face scan technology to facilitate [lifestyle changes](#) and pinpoint skin areas for targeted treatment respectively. The same technology is used to determine the potency of protection of cosmetic actives in skincare brands.

Mark Birch-Machin, Chief Scientific Officer and founder of Skin Life Analytics, who is a Professor of Molecular Dermatology at Newcastle University, said: "Spinning out a company allows us to commercialize our unique and non-invasive skin care test and skin damage assessment technology.

"Our test can be used widely by aesthetic clinics, cosmetic and

ingredient companies and individuals to prevent premature aging and identifying any potential skin damage that could cause issues later.

"Skin collects damage over 30 to 40 days. It develops in lower layers and eventually reaches the surface of the skin.

"As a result, our test is a 'barcode' of your skin stress over the previous month. We can help track skin DNA damage over time, evaluating interventions of skin protection to help reduce damage as well as determine the potency of actives in skincare applications."

**More information:** For more information about the non-invasive test, see [skinlifeanalytics.com/](https://skinlifeanalytics.com/)

Provided by Newcastle University

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