

# A cure for baldness could be on the way

Marie Claire Dorking, Yahoo Style UK • June 28, 2019

Scientists have had a breakthrough in the search for a cure for baldness after discovering they can create natural-looking hair using stem cells.

According to the NHS, baldness affects approximately half of men in the UK by the age of 50.

The process of hair loss usually begins when men are in their twenties or thirties kickstarting an often long and distressing period after discovering a receding hairline.

Recent statistics have revealed that 40% of men are likely to have experienced hair loss by the age of 35.

But a new advance could mean we're close to finding a potential 'cure' for baldness.

Researchers in America claim to have refined a method which allowed them to grow hair through the skin of mice using dermal papilla cells derived from human pluripotent stem cells.

Presenting their results at the annual meeting of the International Society for Stem Cell Research (ISSCR) in Los Angeles, experts said the findings could prove to be a "critical breakthrough" in the treatment of hair loss.

The study, by researchers at Sanford Burnham Prebys Medical Discovery Institute in California, involved the human stem cells being combined with mice cells before they were attached to a 3D biodegradable scaffold made from the same material as dissolvable stitches.

The scaffold controls the direction of hair growth and helps the stem cells integrate into the skin, a naturally tough barrier.

"Our new protocol overcomes key technological challenges that kept our discovery from real-world use," says Alexey Terskikh, an associate professor in Sanford Burnham Prebys' Development, Ageing and Regeneration Program and the co-founder and chief scientific officer of Stemson Therapeutics, which licensed the technology.

"Now we have a robust, highly controlled method for generating natural-looking hair that grows through the skin using an unlimited source of human iPSC-derived dermal papilla cells.

"This is a critical breakthrough in the development of cell-based hair-loss therapies and the regenerative medicine field."

Speaking at the ISSCR, Dr Richard Chaffoo added: "It could improve the lives of millions.

"Hair loss profoundly affects many people's lives. A significant part of my practice involves both men and women who are seeking solutions to their hair loss."

Researchers now hope they might be able to apply the same science to humans, claiming there is an "unlimited" supply of stem cells which can be derived from a simple blood draw.

Current treatments for hair loss include the drugs minoxidil or finasteride, while hair transplants can cost anywhere between £1,000 and £30,000.

It isn't the first time we've been close to finding a cure for baldness. Back in 2017 South-Korean scientists revealed they had developed a biochemical substance which encourages new hair follicle growth.

A team of researchers led by Yonsei University's professor Choi Kang-Yell discovered a protein called 'CXXC-type zinc finger protein 5' which binds to Dishevelled protein.

The scientists understand that this binding process interrupts the development and regeneration of hair follicles.

And in 2018, scientists revealed they could be on the cusp of finding a treatment for balding, and it's all down to sandalwood.

Sandalore, the artificial scent made to smell like sandalwood, a scent used in many of our perfumes and soaps, has been found to stimulate hair growth by increasing keratin levels in the scalp.

Further advancements revealed scientists were also exploring a method which would help to reverse the process of gradually going bald by successfully regrowing hair on wounded skin.



Hair loss affects almost 50% of men by the age of 50 [Photo: Shutterstock]