

Baldness Can Be Cured By Plucking Remaining Hair: Study

Lord Marin | Apr 12, 2015 01:29 AM EDT



Baldness might actually have a cure, but it involves plucking the remaining hair, a new study says. Researchers from the University of Southern California found that out eliminating hair can lead to the growth of more hair. They tried plucking (Epilating) 200 hairs in a specific pattern on a mouse's back and 1,300 hairs grew right back.

Lead researcher Cheng-Ming Chuong said that the meticulous experiment is a good model of how one basic research can be very valuable and that it could lead to new treatments for the alopecia, another name for hair loss, according to CBS.

The research team believes that the method relies on a stimulate system called "quorum sensing." Once the hair follicle is damaged by plucking, it triggers a release of inflammatory proteins which sends out a kind of distress signal, which attracts certain molecules that promote hair growth in both undamaged and damaged follicles.

Chuong said that their findings might have broader implications. For instance, they theorize that minor damage to body organs might stimulate regeneration, but it is not as observable compared to hair growth. However, some are still skeptical over the new study, which is published in the Cell journal, according to Medical News Today.

Professor Chris Mason from the University College London in U.K. said that the researchers are smart for pointing out quorum sensing in their hair regeneration study. But, there is still no clear and direct evidence on its effectiveness for human hair growth.

Instead, Mason advised that men, or even women, do not wait until they go completely bald before opting for hair growth treatments and medicine.

The study follows another hair regeneration research from the Sanford-Burnham Medical Research Institute in January where the potential of pluripotent stem cells is highlighted.

■ Depilator ■ Depilador ■ depilatore
■ Máquina de cair os pêlos



🇬🇧 Leg hair removal.
🇪🇸 La eliminación del piel de la pierna.
🇮🇹 Togliere I peli delle gambe.
🇵🇹 Reduzir os pêlos das pernas.



🇬🇧 Hair removal from sensitive areas.
🇪🇸 Depilación en la área sensitiva.
🇮🇹 La depilazione della parte privata.
🇵🇹 O trabalho de rapar os pêlos na região sensível.



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Painful baldness cure: Regenerate hair by plucking what's left

- 13:29 10 April 2015 by [Michael Slezak](#)

Losing your hair? Paradoxically, the answer to growing it back might be to pluck a lot of it out. Better yet, the finding – in mice, so far – could lead to a drug that supplies the gain without all the pain.

"Each hair follicle undergoes seasons," says [Cheng-Ming Chuong](#) from the University of Southern California in Los Angeles. Its "anagen" phase is like summer – during that stage the stem cells in the hair follicle are active and make the hair grow longer. It then undergoes a rest phase where it doesn't grow and then one where the hair falls out.

As people – particularly men – [start to lose their hair](#), the growing phase gets shorter and the rest phase gets longer until the stem cells don't become active at all, says Chuong.

For almost a century, [people have known that plucking a hair can make that particular follicle start growing again](#). But that's a zero-sum game, so of little use to balding people.

Collective communication

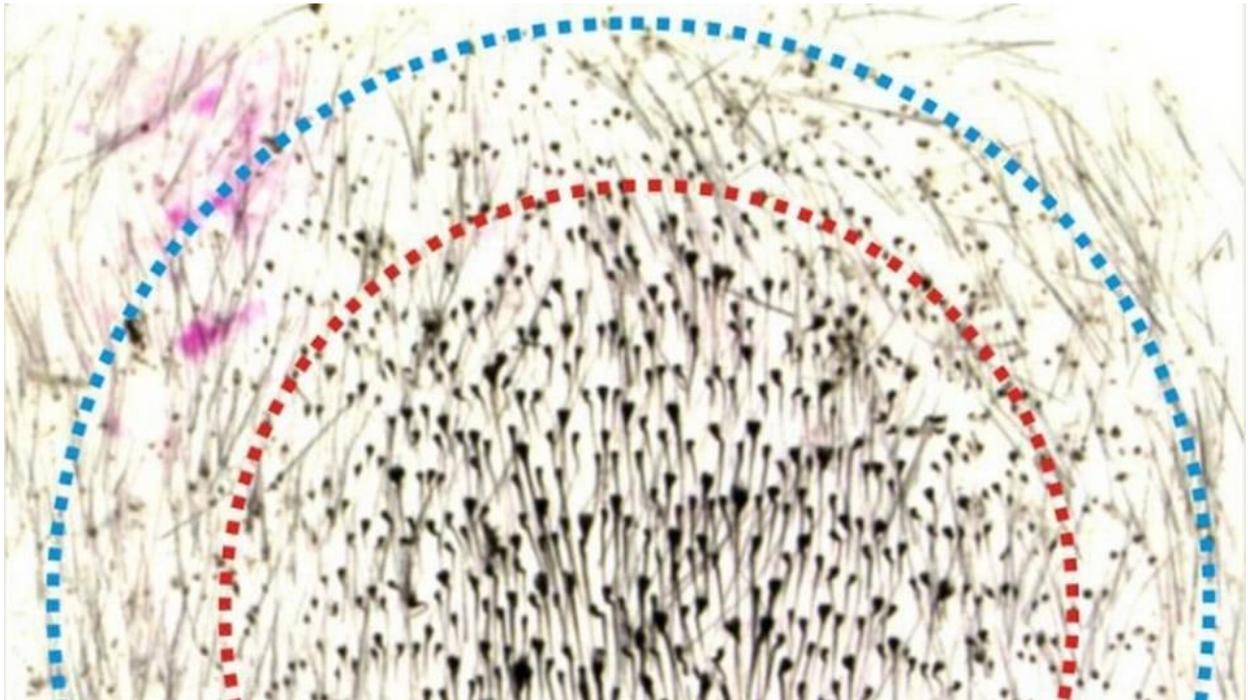
But now Chuong and colleagues have found that if you pluck out enough hairs in mice, it triggers a widespread reaction where a whole patch of hair flips back into the growth phase.

Chuong says that there is a kind of threshold effect. The skin treats one plucked hair as a "micro-injury", and only prompts that one follicle to regenerate. But when you pluck enough, you get a coordinated

response, where a whole region of skin regenerates its hair follicles. Chong says the hair follicles collectively decide when that threshold has been reached via "quorum sensing", a type of communication used by social insects and [bacteria](#).

They found the optimum response – where the most hair was regenerated with the least plucking – occurred when they plucked 200 hairs in a circle 5 millimeters in diameter. In that case, they were able to get 1300 nearby hairs to regenerate into the growing phase.

Delving into the mechanisms, Chuong found that when one hair is plucked, it sends out a distress signal – an inflammatory cytokine called CCL2 – which normally triggers that follicle to regenerate. But pluck enough hair and the CCL2 accumulates, triggering a signal that prompts a widespread regenerative response.



When they repeated the experiment in mice genetically engineered not to have some of these cytokines, the wider regeneration didn't happen.

Going...going

Will it work in humans? "That's the obvious six million dollar question," says [Nadia Rosenthal](#) from Monash University in Melbourne, Australia. She says unlike humans, mice grow hair in waves, which means they could have more coordination between hair follicles, making this effect possible only in mice. "And these were healthy young mice – not balding old mice," she notes.

Even if the same effect is seen in people, [Annemiek Beverdam](#) of the University of New South Wales in Sydney is unconvinced that this could help people who are already bald. "Baldness is caused by an ageing stem cell population and the loss of hair follicles mostly from excess testosterone. You may be able to slow down progressive hair loss using therapeutics based on this finding by getting in there at the earliest signs of hair loss," she says. "But once bald means bald forever, unfortunately."

However, both Rosenthal and Beverdam are excited by the suggestion that immune signals are responsible for triggering the regeneration effect. "This quorum-sensing mechanism that they've uncovered may extend beyond the skin to other organs," says Rosenthal, noting that how tissue regeneration is coordinated is often a mystery. "It might be a general principle that, if more completely understood, could be manipulated to increase regenerative capacity beyond just hair follicles."

"It is another demonstration that the immune system acts as a vehicle for communication within an organism," says Beverdam. "It is becoming increasingly accepted that this may actually be the main role of the immune system, rather than fighting infection and disease alone."

Journal reference: *Cell*, DOI: [10.1016/j.cell.2015.02.016](https://doi.org/10.1016/j.cell.2015.02.016)

