

## We've Walked On The Moon.... So Why Haven't We found A Cure For Baldness!!

*[This is just another reason why I love matchcovers—you collect for decades upon decades, and you still find surprises.]*

Now, I should point out at the outset that I am not bald...but my hairline has receded practically to my shoulder blades so I now have a Frazier-like appearance. I'd like to get that hair back!

Every year, people spend about \$8.5 billion on treatments for hair loss. It's an incredible figure, and it speaks to how deeply people are affected by it, and how badly they would like for there to be a cure. But the thing is, there's no treatment that actually regrows large amounts of hair. A cure for baldness might be the most perpetually delayed of all the medical advances. But why is hair such a tricky problem.

Hair, itself, is pretty simple; it's just dead cells stuffed with a protein. But the follicles that make hair are incredibly complex. They're technically an organ like your heart or your kidneys. They're very specialized structures that form early in your development and they can never be regrown. By the 22nd week, a fetus already has all five million of the hair follicles it will ever produce, and the hair that these follicles make can change, getting thicker and darker during puberty, for example.

But you can never grow new follicles. In terms of treatments, back in the 1950s, 60s and 70s we didn't know very much about how hair worked, and cures for baldness were still promised and they were mostly totally ridiculous. There were so many fraudulent cures that, in the mid-1980s, the Food and Drug Administration actually banned any medication that claimed to treat hair loss.



Towards the end of the 1980s, a drug for enlarged prostate called Finasteride was shown to slow down or halt hair loss in some people. The drugs didn't actually regrow full heads of hair, and they didn't work for everybody, but they were incredibly big news at the time. Since the 1990s, even though we haven't found any new drugs, we've learned a lot about how hair actually works. It turns out that, unlike other organs, hair follicles are constantly remodelling themselves, changing structure depending on whether they're growing hair, shedding hair or resting. And they use stem cells to do this. It's sort of like they're constantly in development. And they do use a lot of the same pathways and signals that are used in early human development. There's a biotech company run by a Turkish-American billionaire that has a very secretive drug that works on one of these pathways, that's currently in human trials. They say that it can regrow hair. And there are several Japanese research groups that say that they can clone your hair follicles, grow them up in a dish, and manipulate their signalling to grow new hair. And then presumably transplant it back on your head. And their work is also in human trials.

All of these discoveries have launched massive new projects that make better scientific sense than previous treatments. But they're often in fields that are relatively new and quite complex themselves. Stem cells are historically quite over-hyped. And there's still a lot we don't know about the science behind hair loss itself. So while a cure looks more realistic than at any time in the recent past, expectations are probably still way too high.

*[Stephen Buranyi, <https://www.bbc.co.uk/ideas/videos/why-baldness-is-so-hard-to-cure/p07ktlby>]*