Scientists use HAIR to create cells to repair damaged nerves for the first time

16:48, 6 AUGUST 2015 **BY** [ANDREW GREGORY](http://www.mirror.co.uk/authors/andrew-gregory/)

## Breakthrough could pave way for new treatments for disabling peripheral nerve damage without resorting to transplants, say experts



**Hair today, gone tomorrow: Scientists have created cells which could help treat nerve damage**

British scientists have created cells to repair damaged nerves with hair for the very first time.

The major advance could pave the way to new treatments for disabling peripheral nerve damage without resorting to transplants.

A team from the [University of Newcastle](http://www.mirror.co.uk/all-about/newcastle-university) used a cocktail of chemicals to turn stem cells isolated from [hair follicles](http://www.mirror.co.uk/all-about/hairstyles) into Schwann cells.

These are specialised support cells that play a vital role in nerve repair.

Prof Maya Sieber-Blum, of the university’s Institute of Genetic Medicine, said: “We observed that the bulge, a region within hair follicles, contains skin stem cells that are intermixed with cells derived from the neural crest - a tissue known to give rise to Schwann cells.

“This observation raised the question whether these neural crest-derived cells are also stem cells and whether they could be used to generate [Schwann cells](http://www.mirror.co.uk/all-about/genetics).

“We then used pertinent small molecules to either enhance or inhibit pathways that are active or inactive, respectively, in the embryo during Schwann cell differentiation.”

The peripheral nervous system is a network of 43 pairs of motor and sensory nerves that connect the brain and spinal cord to muscles and organs throughout the body.

They control functions of sensation, movement and motor co-ordination and unlike the nerves of the central nervous system are able to regenerate.

Nerve grafts are currently used to bridge areas of peripheral nerve injury, but this approach has disadvantages and can cause further nerve damage.

Prof Sieber-Blum’s team showed it was possible to create large populations of human Schwann cells in the lab, which interacted with nerves in the correct way.