

**ACTION ON HEARING LOSS** Formerly **RNID**

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**We're one step closer to finding a cure for deafness**

**ACTION ON HEARING LOSS**

Mrs Brown  
123 Any Road  
Anytown  
Any City  
ABC 123

XXXXXXXXXX/XXXXXX

Dear Mrs Brown

I believe you understand how difficult hearing loss can be – and so I wanted to share some extremely exciting news with you.

**We have come one step closer to finding a cure for deafness.**

Through researching the use of stem cells to restore damaged hearing, we've discovered how to grow new auditory hair cells. This is a huge leap forward in science, a breakthrough that will open the floodgates for new treatments. And though there is still a great deal of work to be done, I feel confident that this and our other research projects will one day mean we can restore people's natural hearing.

Just think of it, no one having to cope with the frustration and isolation of hearing loss – and no more hearing aids!

I've enclosed an article in case you'd like to read more about our discovery. The unfortunate truth is that the government and the private sector often won't invest in experimental projects like this. Loss was able to share some extremely exciting news with you.

**BBC NEWS HEALTH ARTICLE**

**Deaf gerbils 'hear again' after stem cell cure**

By James Gallagher  
Health and science reporter, BBC News

**UK researchers say they have taken a huge step forward in treating deafness after stem cells were used to restore hearing in animals for the first time.**

Hearing partially improved when nerves in the ear, which pass sounds into the brain, were rebuilt in gerbils - a UK study in the journal *Nature* reports.

Getting the same improvement in people would be a shift from being unable to hear traffic to hearing a conversation. However, treating humans is still a distant prospect.

If you want to listen to the radio or have a chat with a friend your ear has to convert sound waves in the air into electrical signals which the brain will understand.

This happens deep inside the inner ear where vibrations move tiny hairs and this movement creates an electrical signal.

However, in about one in 10 people with profound hearing loss, nerve cells which should pick up the signal are damaged. It is like dropping the baton after the first leg of a relay race.

The aim of researchers at the University of Sheffield was to replace those baton-dropping nerve cells, called spiral ganglion neurons, with new ones.

They used stem cells from a human embryo, which are capable of becoming any other type of cell in the human body from nerve to skin, muscle to kidney.

A chemical soup was added to the stem cells that converted them into cells similar to the spiral ganglion neurons. These were then delicately injected into the inner ears of 18 deaf gerbils.

Over 10 weeks the gerbils' hearing improved. On average 45% of their hearing range was restored by the end of the study.

Dr Marcelo Rivolta said: "It would mean going from being so deaf that you wouldn't be able to hear a lorry or truck in the street to the point where you would be able to hear a conversation."

"It is not a complete cure, they will not be able to hear a whisper, but they would be able to maintain a conversation in a room."

About a third of the gerbils responded really well to treatment with some regaining of their hearing, while just under a third barely responded at all.

Gerbils were used as they are able to hear a similar range of sounds to people which hear higher-pitched sounds.

The researchers detected the improvement in hearing by measuring brainwaves. The researchers were also tested for only 10 weeks. If this became a treatment in humans the would need to be shown over a much longer term.

There are also questions around the safety and ethics of stem cell treatment that need to be aessed.

**'Tremendously encouraging'**

Prof Dave Moore, the director of the Medical Research Council's Institute of Hearing in Nottingham, told the BBC: "It is a big moment, it really is a major development in hearing research. However, he cautioned that there will still be difficulties repeating the feat in humans."

"The biggest issue is actually getting into the part of the inner ear where the hearing loss is. It's extremely tiny and very difficult to get to and that will be a really formidable task," he said.

Dr Ralph Holme, head of biomedical research for the charity Action on Hearing Loss, said: "The research is tremendously encouraging and gives us real hope that it will fix the actual cause of some types of hearing loss in the future."

"For the millions of people for whom hearing loss is eroding their quality of life, this is a really exciting step forward."

**Email**

**From:** Janet Taylor  
**To:** Dr Ralph Holme  
**Sent:** Wed 05/12/2012 11:05  
**Subject:** Stem cell research

Dear Dr Holme,

I've been reading about the research you've been doing, trying to give people their hearing back – it's fantastic! It really got me thinking about what it would be like to have my hearing back.

I started to lose my hearing when I was just a teenager and it's got steadily worse. There's times I feel very cut off from everyone else. One of the few jobs I've managed to get with my bad hearing was at a supermarket warehouse. Even though I avoided going on to the shop floor, there were times I had to. Once when I was checking a product I felt a prod in my back and when I turned around I realised someone was shouting 'are you deaf?' It was a customer trying to talk to me. She thought I was just ignorant, deliberately ignoring her. I think she was embarrassed when she realised, but it made me feel awful.

There's a lot of stigma about being hard of hearing. I think because it's a hidden disability, you get looked on as being stupid sometimes – people get angry with you or talk to you as if they're talking to a child.

It can be stressful being around people when you can't hear what they're saying. You do feel isolated. Even with my own family, I get to the point where I can't keep asking them to repeat things. So I just pretend I've heard. I laugh when everyone else laughs. I nod along. We were all together this Christmas and when my daughter was leaving she kissed me on the cheek and said, 'You miss a lot, mum.'

I'm telling you all this so you can see why I think it's brilliant, what you're doing. I guess it'll be a while before people can benefit, but it still gives me a lot of hope. Not for myself, but for my grandkids. I'd like to think, if they have problems with their hearing when they're older, they won't have to put up with what I have.

Please can you pass on my thanks to the scientists at Sheffield University and to anyone else who has helped to make this research happen. If there's anything I can do to help in any way, I'd like to know.

Best wishes,  
Janet Taylor

to us as  
but wanted  
out hearing

of medical  
turn down

**INVESTORS IN PEOPLE**

**You can help us get closer to a cure for deafness**

Dear Mrs Brown

**Gifts in wills are so important to everything we do.**

In years to come, your gift could help fund a pioneering research project and improve life for millions of people with hearing loss.

Would you consider supporting us and help put an end to hearing loss?

I've already put a gift in my will to Action on Hearing Loss/RNID (Don't worry, if you've put a gift in your will to RNID it will automatically come to Action on Hearing Loss.)

I'm going to put a gift in my will as soon as I can

I might do this, not sure yet

It's not for me, thanks

**Make or change your will for free with a solicitor in your area**

We can offer you the chance to make or change your will free of charge at an independent solicitor near you. Your partner can also use the service if you are making or changing similar wills together.

**Please send me more information about your free will service.**

Is there anything you'd like to share?  
We'd love to hear from you. You can use this space to share your thoughts on the stem cell research, to tell us why you've chosen to support us or for anything else you'd like us to know.

**ACTION ON HEARING LOSS**

Just moisten the seal opposite, fold in half and pop it in the post.

**Action on Hearing Loss is the trading name of The Royal National Institute for Deaf People. A registered charity in England and Wales (207770) and Scotland (SC038900).**

**INVESTORS IN PEOPLE**