



# LEARNING ENGLISH

6 Minute English



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## 6 Minute English

### What causes hearing loss?



This is not a word-for-word transcript.

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**Neil**

Hello, this is 6 Minute English from BBC Learning English. I'm Neil.

**Georgie**

And I'm Georgie. As we get older, many of us notice our sense of hearing getting worse. Maybe we need to concentrate harder or ask people to speak more loudly. Has that happened to you, Neil?

**Neil**

Not really. A while ago I thought maybe my ears were getting worse, but I had a check-up and everything was fine, thankfully.

**Georgie**

Oh, that's great! In the UK alone, hearing loss affects 18 million people and that number is increasing. In this programme, we'll discover why we lose hearing with age and, as usual, learn some useful new vocabulary.

**Neil**

And you can also find a transcript of this episode on our website, [bbclearningenglish.com](http://bbclearningenglish.com). But now listen up, Georgie, because I have a question for you! Did you know that the three smallest bones in the human body – the hammer, the anvil, and the stirrup – are all located in the ear? But which one of those is the smallest? Is it:

- a) the hammer,
- b) the anvil, or
- c) the stirrup bone?

**Georgie**

Hmm. That one's a difficult one. I'm going to say the anvil bone.

## Neil

OK. Well, we'll find out the answer later on. To understand why our hearing gets worse with age, it's useful to know a little about how the ear works in the first place. Here's Mr Nish Mehta, an ear, nose and throat surgeon at Royal National ENT Hospital in London, giving a beginners' class to BBC Radio 4 programme, Inside Health:

## Nish Mehta

Hearing is an amazing sense. It's a special sense, and the ear is really the hearing organ. So, the ear is split up into three main parts: there's the outer ear, the middle ear and the inner ear. The outer ear is the bit that you see – it's on the side of your head. We call that the pinna. Think of that as the satellite dish. It collects the sounds and it **funnels** them in towards the **sense organ**. That then gets transmitted to the middle ear. The middle ear's main job is to amplify those sounds. That's done by having an eardrum, which catches it and then vibrates sympathetically to the vibration of the noise that you heard. And then that's passed on to the three smallest bones in the body: the hammer, the anvil and the stirrup.

## Georgie

The ear is made up of outer, middle and inner parts. It's one of our **sense organs**: specific parts of the body – your ears, eyes, tongue, nose and skin – which allow you to experience the outside world.

## Neil

The visible part – the outer ear or pinna – acts like a satellite dish, collecting sounds which it **funnels** into the middle ear. The verb **funnel** means to move or direct something through a narrow space.

## Georgie

Once in the middle ear, the eardrum amplifies the sounds before transmitting them to tiny hairs in the inner ear, which then sends electrical signals to the brain. It's an incredible system, but unfortunately one that can go wrong at any stage. Here, James Gallagher, presenter of BBC Radio 4's Inside Health, asks Nish Mehta when problems tend to start.

## James Gallagher

We're going to spend a lot of today, Nish, thinking about age-related hearing loss. When does that start?

**Nish Mehta**

**Wear and tear** of your hearing starts from around the age of eight. OK?

**James Gallagher**

OK. So, **we're doomed** already!

**Nish Mehta**

We're already on a **downward spiral**, but we've got a lot of **redundancy in the system**. And the speed at which our hearing declines is partly based on the genetics that you're born with and then partly based on the environment that you're exposed to. So, someone who has really strong genetics to protect them from hearing loss, but spends their life on a pneumatic drill, may have a much faster decline than someone on the other side. You can imagine that your brain is doing so much computation behind the scenes just to listen to someone speaking and understand the words they are saying. So, whilst hearing is going, the brain tends to increase its listening effort, and so often it's a very slow process for you to realise that you're struggling with hearing.

**Neil**

**Wear and tear** of our hearing starts as young as eight. **Wear and tear** means the damage that comes from ordinary, everyday use.

**Georgie**

When Nish says this, James exclaims, "**We're doomed!**" – an informal way of saying we're destined to fail. From the age of eight our hearing is on a **downward spiral** – a situation which gets worse and worse.

**Neil**

But don't worry just yet! Human hearing has evolved with **redundancy in the system** – a technical phrase meaning that there are many ways to achieve the same outcome so that a backup system can take over if other systems fail. Here, for example, the brain works harder to compensate for a weaker sound signal reaching the inner ear.

**Georgie**

And there are other ways hearing loss can be helped as well, including hearing aids, surgery or even just removing extra ear wax – not a job I would like very much! After that fascinating journey into the world of hearing, I think it's time to reveal the answer to your question, Neil.

**Neil**

I asked you, "Which is the smallest bone in the body?" and they are all in the ear. Is it a) the hammer, b) the anvil, or c) the stirrup bone?

**Georgie**

I said the anvil, didn't I?

**Neil**

You did, but I'm afraid you obviously weren't listening in Biology class because you are wrong. It is, in fact, the stirrup bone.

**Georgie**

Ah!

**Neil**

OK. Let's recap the vocabulary we've learned, starting with **sense organs** – specific parts of the body, like your ears and eyes, which allow you to experience the world.

**Georgie**

To **funnel** means to move or direct something through a narrow space, and a **funnel**, the noun, is a cone-shaped tool which does this.

**Neil**

**Wear and tear** refers to the damage that comes from using something every day.

**Georgie**

If you say, "**We're doomed!**" you mean we're going to be defeated or fail.

**Neil**

And a **downward spiral** is a situation which continuously gets worse and worse.

**Georgie**

And finally, **redundancy in the system** refers to having more than one way to achieve an objective so that a backup can take over if other methods fail. You'll be sad to hear that, once again, our six minutes are up, but why not head over to our website, [bbclearningenglish.com](http://bbclearningenglish.com), to try the quiz and worksheet for this episode. Goodbye for now!

**Neil**

Goodbye!

## **VOCABULARY**

### **sense organs**

specific parts of the human body (ears, eyes, tongue, nose and skin) which allow you to experience the outside world

### **funnel**

move or direct something through a narrow space

### **wear and tear**

the damage that comes from ordinary everyday use

### **we're doomed!**

(informal) used to say that we are destined to be defeated or to fail

### **downward spiral**

situation which continuously gets worse and worse

### **redundancy in the system**

having more than one way to achieve an outcome so that a backup method can take over if other methods fail



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