BBC Learning English
6 Minute English
Deleting memories

NB: This is not a word-for-word transcript

Finn: Hello and welcome to 6 Minute English. I'm Finn.

Rob: And I'm Rob.

Finn: Rob, I'm going to ask a personal question – do you have any bad memories?

Rob: Yes. When I was young I was bitten by a dog. And he bit my arm. Not nice.

Finn: Really? Do you ever wish you could **delete** – or remove – that memory?

Rob: Oh yes, absolutely. Yes. I don't want to remember that.

Finn: OK. Well, today we'll be talking about new research that has successfully deleted memories. We'll also explain some vocabulary related to the brain. But, as always, first let's start with a question.

Rob: A good idea Finn.

Finn: We're talking about the role of **neurons** in the brain – these are the cells that transmit information. So, roughly how many neurons do scientists think we have? Is it:

a) 8-10 million
b) 8-10 billion
c) 80-100 billion

Rob: Wow. I know we have a lot of neurons; however, a 100 billion would be a lot to get into your brain, so I'm going for the small number, 8 to 10 million.

Finn: OK, Rob. We'll find out if you are right or wrong at the end of the programme. So, how have scientists managed to remove specific memories? Well, the research was carried out in the Netherlands at Radboud University, Nijmegen.

Rob: Yes, they've been using something called ECT – electroconvulsive therapy – this treatment involves electric **pulses** through the brain.

Finn: Yes – it's quite a **controversial** treatment, partly thanks to films like One Flew over the Cuckoo's Nest, where a terrified patient is strapped to a table and forced to receive these shocks…

Rob: But it's used as **a last resort** – a last option - for people with severe **depression**. Now, in this study they've been looking at neurons – and

memories are actually stored in the connections between these neurons, according to Dr Martin Kroes on the team.

Finn: He says these connections take some time to become permanent, and "if you disturb this process, you lose the connection between the brain cells altogether".

Rob: So, if you lose the connection – you lose the memory. That was the idea. Could they make it work in an experiment? Listen to BBC reporter Anna Holligan talking about what happened to the patients.

BBC reporter Anna Holligan:
Participants were patients already being treated with ECT. They were shown two sets of picture cards each telling a story. Then just before an ECT session they were shown one of the stories again to reactivate that particular memory. The results were remarkable, after the ECT they forgot the story they just looked at, while the memory of the other story was unaffected.

Finn: So – patients were shown two sets of cards. Then, just before ECT, they were shown one of the sets again to **reactivate** it – to make it active again.

Rob: They then had ECT – and when they woke up, they forgot the memory of the card they had just looked at – the one that had just been reactivated.

Finn: Yes. Now, we should mention that one of the side-effects of ECT is memory loss – so why is this surprising? It's because they were able to target specific memories.

Rob: OK. Well, it's thought that this new technique could help people with **PTSD** – post-traumatic stress disorder. It's a memory-related illness where people who experience something very stressful and upsetting, something **traumatic**, such as war, continue to be affected by it psychologically.

Finn: Yes, the hope is that these traumatic memories could be deleted.

Rob: Which would be an exciting development. Now, before *we* forget, let's *remind* everyone of today's question.

Finn: Yes, very good. Well, it was about the number of neurons in the human brain. Now, are there:

a) 8-10 million
b) 8-10 billion
c) 80-100 billion

Rob: And I thought it was just a mere 8 to 10 million.

Finn: Well there are, supposedly, 80 to 100 billion of these things in our brains. Not all scientists agree on the exact number. But still it's about as many as there are stars in the whole Universe.

Rob: It would take forever to count those!

Finn: I don't know who's counting – one by one! Now, Rob, can you remind everyone about today's vocabulary?

Rob: I think that memory has been removed!

Finn: Oh, it's been deleted? OK!

Rob: Only joking.

Finn: You have it?

Rob: Yes, I have it now, it's come back to me! We heard:

delete
neurons
pulses
controversial
a last resort
depression
reactivate
PTSD (post-traumatic stress disorder)
traumatic

Finn: Thank you very much Rob. And that's it for this week's 6 Minute English. We hope you've enjoyed today's programme. Please join us again soon.

Rob: Bye.

Finn: Bye.

Vocabulary and definitions

delete	remove, take away
neurons	cells in the brain that transmit information
pulses	short period of energy or electricity
controversial	causing disagreement
a last resort	a method used when all other methods fail
depression	a mental illness where someone is very unhappy and anxious
reactivate	bring back into action
PTSD (post-traumatic stress disorder)	a mental illness where somebody feels very anxious after a frightening or shocking experience, such as war
traumatic	causing severe emotional anxiety

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