

Walking again, paralysed man with electronic implant in back

A PARALYSED man can walk again after having a small electronic implant fitted in his back.

Jered Chinnoek, 29, feared he would never use his legs again after completely severing the nerves in his spine in a snowmobile accident.

But he can now move on his own thanks to the device which sends mild electrical currents to his spinal nerves and allows him to control his limbs using his mind.

The implant is operated by a computer with electrodes connected to nerves below the break.

Fitted in 2016, three years after his accident, it directs the

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impulses to the nerves which activate the muscles in his legs.

'It definitely feels like science fiction,' said Mr Chinnoek. 'The first day they turned it on, it was almost mind-blowing. Right away I was able to move my toes.'

Before surgery to fit the device, Mr Chinnoek spent six months on a special treadmill and harness system to build up his muscles.

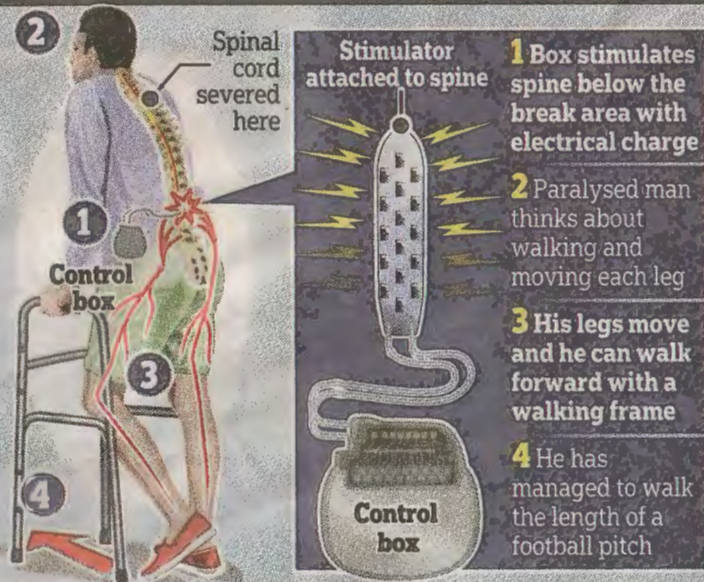
Exactly how the electrical impulses enable him to walk with a frame despite the break in the middle of his back is unknown.

Neurosurgeon Dr Kendall Lee co-lead the team which performed

HOW THE POWER OF THOUGHT GETS HIM MOVING



Jered Chinnoek: Able to enjoy archery



the operation at the Mayo Clinic in Rochester, Minnesota. He said: 'After implant and turning on the stimulation, the patient was able to regain voluntary control of the movement of his legs.'

'The patient's own mind, thought, was able to drive movement in his legs. Just as important is that we were able to get him to stand independently and take his own steps. It's very exciting.'

In the first year after surgery, Mr Chinnoek, of Tomah, Wisconsin,

achieved milestones such as walking 111 yards, taking 331 steps and walking non-stop for 16 minutes.

But once the device is turned off, he becomes paralysed again.

The electrode used by the Mayo Clinic was inspired by decades-old technology, the journal *Nature Medicine* reported.

It was adapted from similar devices commonly used to treat pain but had to be inserted in exactly the right location with just the right kind of pulsed signal.

Scientists believe it could depend on residual nerve fibres keeping open a channel of communication with the brain.

The clinic said a second patient had received the same treatment and was being assessed.

Yesterday a separate report in the *New England Journal of Medicine* told how two other spinal injury patients had been able to walk again after epidural stimulation by researchers of the University of Louisville.