

Nasal cell transplant allows paralyzed man to walk

A paralysed man has been able to walk again after a pioneering therapy that involved transplanting cells from his nasal cavity into his spinal cord.

Darek Fidyka, who was paralysed from the chest down in a knife attack in 2010, can now walk using a frame.

The treatment, a world first, was carried out by surgeons in Poland in collaboration with scientists in London.

The treatment used olfactory ensheathing cells (OECs) – specialist cells that form part of the sense of smell.

OECs act as pathway cells that enable nerve fibres in the olfactory system to be continually renewed.

In the first of two operations, surgeons removed one of the patient's olfactory bulbs and grew the cells in culture.

Two weeks later they transplanted the OECs into the spinal cord, which had been cut through in the knife attack apart from a thin strip of scar tissue on the right. They had just a drop of material to work with – about 500,000 cells.

About 100 micro-injections of OECs were made above and below the injury.

Four thin strips of nerve tissue were taken from the patient's ankle and placed across an 8mm (0.3in) gap on the left side of the cord.

The scientists believe the OECs provided a pathway to enable fibres above and below the injury to reconnect, using the nerve grafts to bridge the gap in the cord.

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