

Glial Cells and How the Body Responds to Injury

Every now and then — and it really is rare — someone finds that using the Oska Pulse seems to make their pain worse. Usually, it works well for the first few sessions, but the original pain returns. If they're willing to stick with it, that flare-up almost always settles again, and the Oska Pulse goes on to do its job beautifully. So, what's going on here? Let's explain.



So why does this happen?

Part of the answer may lie in a particular kind of brain cell called a glial cell (sometimes just “glia”) — the most common cell in your central nervous system, which comprises your brain and spinal cord. Unlike neurons, which carry electrical messages, glial cells don't conduct electricity themselves. Their role is more supportive: they act a bit like glue, holding neurons in place, protecting them, and keeping them neatly separated.

Neurons vs glial cells: *Neurons are the “messenger” cells that carry electrical signals around your brain and body. Glial cells are their support crew — holding them in place, feeding them and protecting them. (“Glia” actually comes from the Greek word for glue.)*

There are several types of glial cells. Some deliver oxygen and nutrients to neurons, while others act as the body's rubbish collectors, clearing away germs and dead cells. There are five main types in total, but two of them — **astrocytes** and **microglia** — are thought to lead the response when tissue is injured.

Astrocytes are star-shaped cells that help form the brain's physical scaffolding and are common around insulated nerve fibres. They're real multitaskers, playing a vital role in keeping the brain's wiring functioning. Microglia are much smaller and act as the brain's own immune system, springing into action whenever there's inflammation in the central nervous system.

The two first responders: *Astrocytes are star-shaped “support and repair” cells that keep the brain's wiring healthy. Microglia are the brain's tiny built-in defence cells, first on the scene when there's irritation or injury.*

Here's the interesting bit. These two cell types respond to “something happening” at the site of an old injury. It's a bit like poking a stick at a beehive — they raise the alarm and send a warning signal to the nervous system. Once they realise it's a false alarm and there's no real threat, they stand down and let normal healing continue. That brief “alarm” may be what some people feel as a temporary increase in pain.

A reassuring note: *That short-lived flare-up isn't a sign something is wrong — quite the opposite. It can mean the Oska Pulse is starting to get things moving, and it usually settles within a few sessions.*

In those rare cases, our advice is simple: move the Oska Pulse about 4 or 5 inches (10–13 cm) away from the sore spot for the next three or four sessions, and gently push through the uncomfortable phase. It's actually a sign that Oska is working, and a little persistence usually pays off. In our 21 years with this technology, only a very small number of people have found they couldn't use PEMF therapy at all.

A closer look at glial cells, and why they matter

Glial cells — also known as glia or neuroglia — are found throughout both the central nervous system (brain and spinal cord) and the peripheral nervous system (the nerves running through the rest of your body). They support and protect the neurons, keeping the neighbourhood around each one healthy, supplying nutrients and managing the surrounding fluid. Here are the main types:

Central vs peripheral: *The central nervous system is your command centre — the brain and spinal cord. The peripheral nervous system is the vast web of nerves branching out to the rest of your body.*

- **Astrocytes** — these star-shaped cells help maintain the blood–brain barrier (the protective filter that decides what may pass from the bloodstream into the brain), feed the nervous tissue, keep the surrounding chemistry in balance, and help with repairs after injury.
- **Oligodendrocytes** — in the brain and spinal cord, these produce myelin — a fatty coating that wraps around the “wires” of the neurons, rather like the insulation on an electrical cable, helping signals travel faster.
- **Schwann cells** — these do a similar myelin-making job, but out in the body's peripheral nerves, each one insulating a single stretch of a nerve fibre.
- **Microglia** — the resident clean-up and defence cells of the central nervous system, clearing away waste and debris and acting as its front-line immune protection.
- **Ependymal cells** — these line the fluid-filled spaces in the brain and the central canal of the spinal cord, helping to make and circulate cerebrospinal fluid.

Two terms worth knowing: *Myelin is the fatty “insulation” around nerve fibres that helps messages travel quickly and smoothly. Cerebrospinal fluid is the gentle cushioning liquid that surrounds and protects your brain and spinal cord inside their bony casing.*

In short, glial cells are absolutely essential to a healthy nervous system. They don't just support and shield the neurons; they also fine-tune how nerve messages are transmitted, shape how efficiently the whole network runs, and — when their own function goes awry — can contribute to neurological illness.

If you'd like to read more about how immune and glial cells contribute to persistent pain, read the article [“Beyond Neurons”](#).

So if you ever hit a brief rough patch early on, don't lose heart — it may simply be your body's alarm system settling down before the real healing begins.

This document is for informational purposes only and is not a substitute for professional medical advice. Please do not change or stop any current medication without first consulting your doctor.

With warm regards,
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