The Oska Pulse and Bone Density

Precisely designed PEMF therapy may help improve bone density by mimicking the body's natural electrical signals—the very signals that prompt your cells to repair and renew. Let's walk through, in plain language, how it supports strong, healthy bones.

> **What is "bone density"?** *It's a measure of how much mineral (mostly calcium) is packed into your bones — in other words, how strong and solid they are. Higher density means tougher, more fracture-resistant bones.*

1. Encouraging the bone-building cells

The main way PEMF supports bone density is by activating your osteoblasts—the cells responsible for building new bone.

- **A gentle "jumpstart."** By delivering soft, low-frequency pulses, the Oska Pulse helps restore the natural electrical charge of bone cells — a bit like recharging them — encouraging them to multiply and lay down fresh bone.
- **Keeping bone renewal in balance.** PEMF helps maintain a healthy balance between osteoblasts (the builders) and osteoclasts (the cells that break down old bone). That balance is key to preventing thinning seen in osteoporosis and osteopenia.

> **Builders and removers:** *Osteoblasts build new bone, while osteoclasts remove old bone. Healthy bones need both, working in balance. Osteoporosis and osteopenia are conditions in which bone becomes thinner and more fragile than it should be.*

2. Better mineral uptake

For bones to be dense and strong, they need to absorb and store minerals well.

Opening the doorways. PEMF mimics the body's natural "voltage differences," which help open tiny transporter channels in cell membranes—allowing essential minerals (ions) such as calcium and magnesium to flow into the bone.

Making the most of your diet. By supporting cell metabolism, PEMF helps your body use the minerals in your food better and build them into bone (*a process called mineralisation*).

3. Improved blood circulation

Healthy bone repair needs a steady supply of oxygen and nutrients.

Better micro-blood flow. PEMF is shown to improve circulation, so the "raw materials" needed for bone repair reach the right areas more efficiently.

Growing new supply lines. It also supports the formation of new blood vessels within bone tissue (angiogenesis) — a crucial step in healing fractures and keeping ageing bones strong.

> **"Angiogenesis," explained:** *the body's natural creation of new blood vessels — like laying down fresh supply lines to deliver oxygen and nutrients where they're needed.*

4. Calming chronic inflammation

Long-term inflammation is a major contributor to bone loss. By helping to reduce inflammation and swelling (oedema), PEMF creates a more favourable environment in which bone cells can thrive rather than be broken down.

> **Chronic vs oedema:** *"Chronic" means long-lasting or ongoing. "Oedema" is the medical term for swelling — a build-up of fluid in the tissues.*

5. The piezoelectric effect

Here's a fascinating one. Bones are **piezoelectric**, meaning they create a tiny electric charge when they're under mechanical stress—like walking or lifting.

Gently mimicking exercise. PEMF produces similar electrical charges within the bone without high-impact activity. This gently "nudges" the bone into a state of repair and strengthening—making it a great option for people with limited mobility who can't manage heavy weight-bearing exercise.

> **"Piezoelectric," in plain terms:** *It means something that produces a small electrical charge when it's squeezed or stressed. Your bones naturally do this when you move — and PEMF can recreate a similar effect.*

The benefits for bone health, in a nutshell

- **Faster fracture healing —** speeds up recovery for broken bones by encouraging tissue regeneration.
- **Helping prevent bone loss —** may help slow the progression of degenerative conditions like osteoporosis.
- **Gentle, drug-free support —** a non-invasive, pain-free way to complement traditional bone-health strategies like good diet and exercise.

Strong bones are the quiet foundation of an active life — and the Oska Pulse offers a gentle way to help look after them.

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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