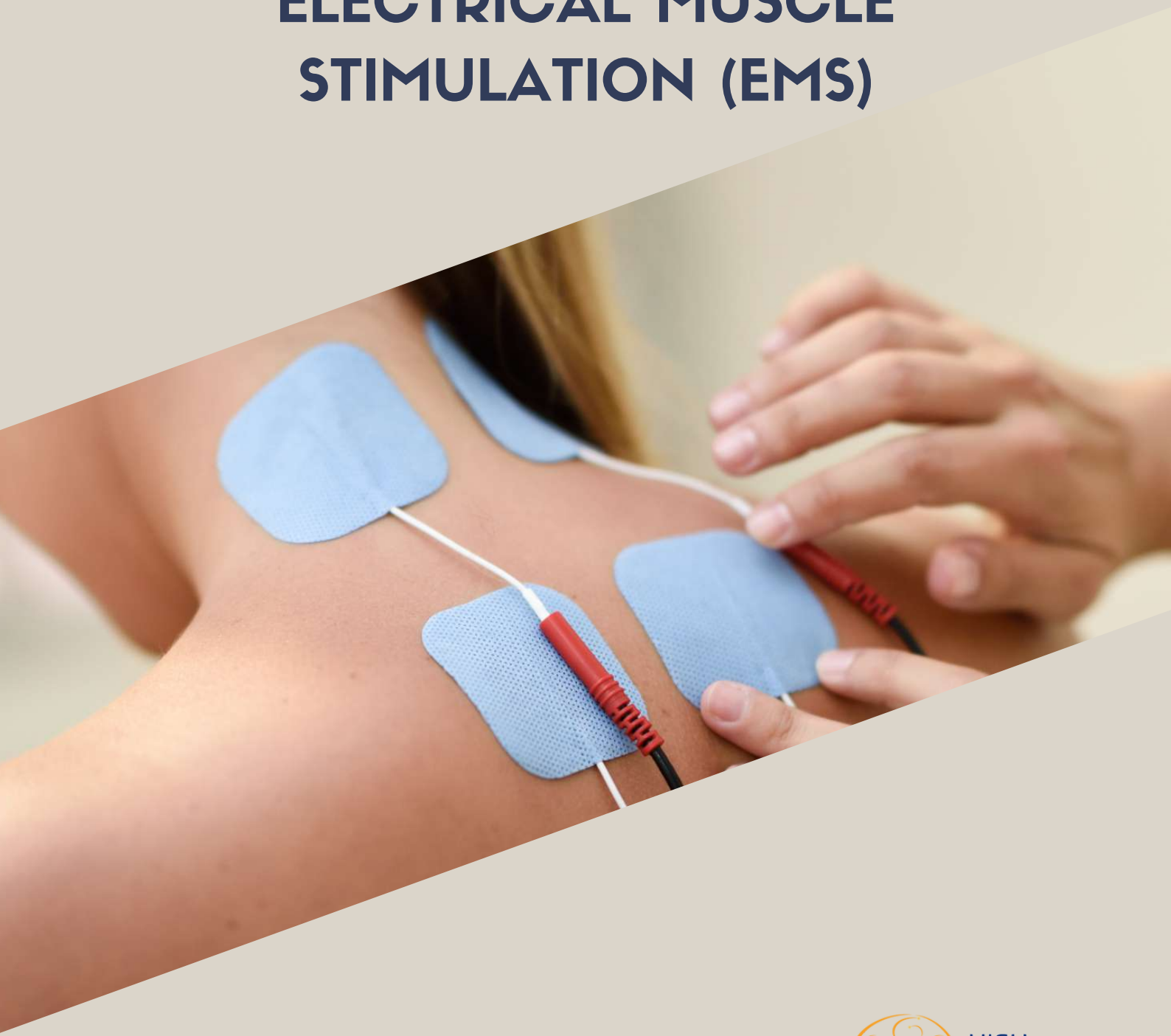
ELECTRICAL STIMULATION

TRANSCUTANEOUS NERVE STIMULATION (TENS)

ELECTRICAL MUSCLE STIMULATION (EMS)



ELECTRIC NERVE STIMULATION & MUSCLE STIMULATION

These two techniques both relieve pain using an electrical current.

However, there are some differences between them that you should understand in order to choose the most appropriate treatment.

HIGH PERFORMANCE BRAIN

ELECTRIC STIMULATION

Nerve stimulation is a technique that aims to relieve pain using an electrical current.

Transcutaneous Electrical Nerve Stimulation (or TENS) involves sending small, low-voltage electrical impulses to a specific nerve via electrodes placed on the skin, with the aim of modifying the way that neurons send signals and preventing the pain signals from reaching the brain.

ELECTRIC STIMULATION

Electrical stimulation is a technique that aims to stimulate the muscles using an electrical current in order to achieve a specific result.

Electrical Muscle Stimulation (EMS) involves delivering small, low-voltage electrical impulses to a muscle via electrodes placed on the skin, in order to cause the muscle to contract.

This muscle contraction can have two, very different purposes:

- to relieve inflammation,
- to strengthen the muscle without involving the nervous system, which avoids pain and fatigue.

COMO FUNCIONA

A **TENS** machine, also known as a TENS unit or a nerve stimulator, consists of an electrical impulse generator connected to electrodes placed on your skin.

TENS machines work in three different ways:

- They block the transmission of pain signals to the brain.
- They stimulate the production of endorphins (which are natural painkillers).
- They improve blood circulation.

HOW IT WORKS

An **EMS** machine works in more or less the same way. It also consists of an electrical impulse generator connected to electrodes that are placed on your skin around the muscle to be treated. It also works by sending small electrical impulses, which this time are delivered directly to the muscle, causing it to contract.

The muscle contracts and relaxes repeatedly, which helps to improve blood circulation, which in turn serves to:

- Relax the muscle
- Minimise any inflammation
- Prevent muscle atrophy
- Speed up muscle healing
- Stimulate muscle growth

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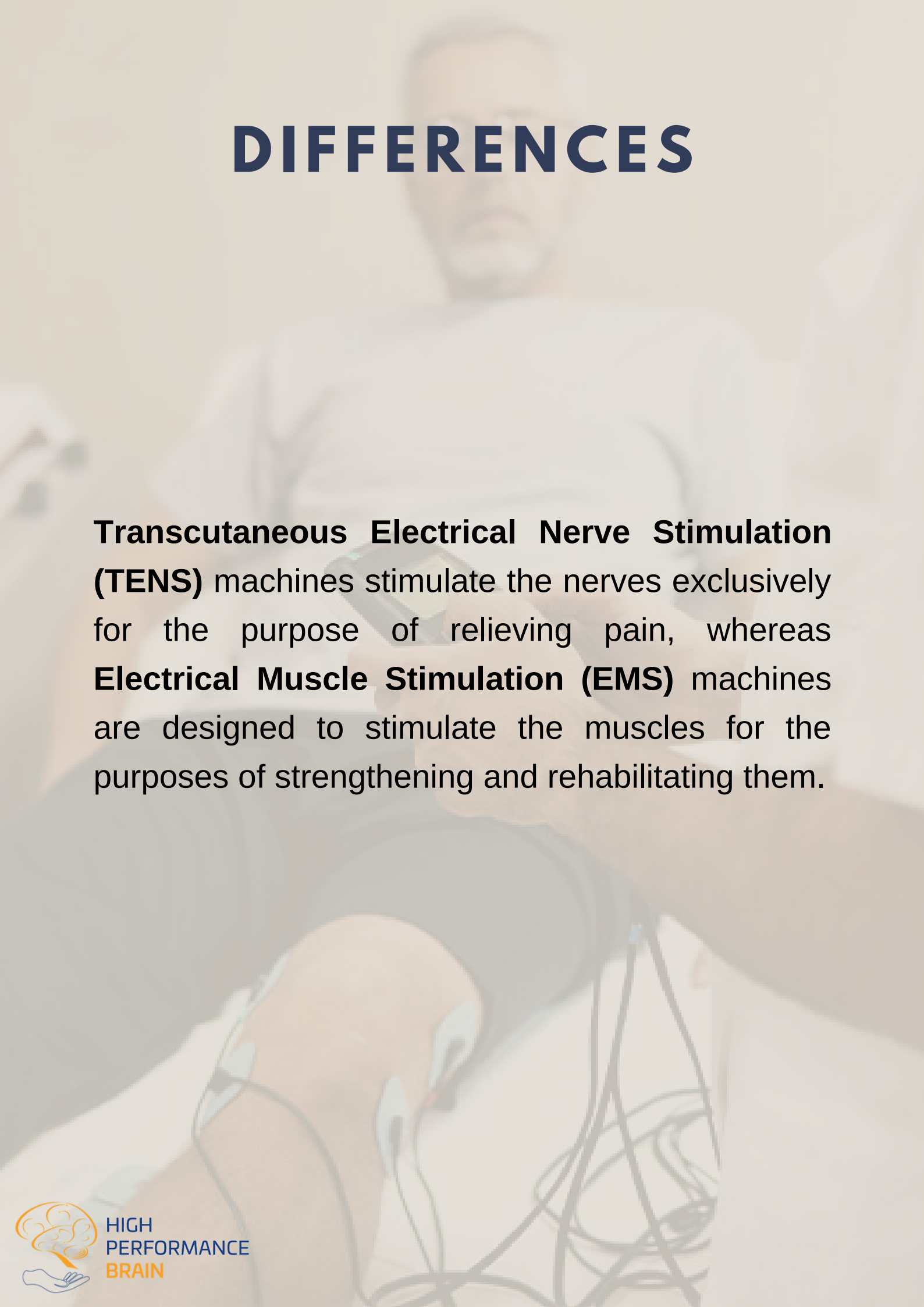
DIFFERENCES

Transcutaneous Electrical Nerve Stimulation (TENS) machines stimulate the nerves exclusively for the purpose of relieving pain, whereas **Electrical Muscle Stimulation (EMS)** machines are designed to stimulate the muscles for the purposes of strengthening and rehabilitating them.



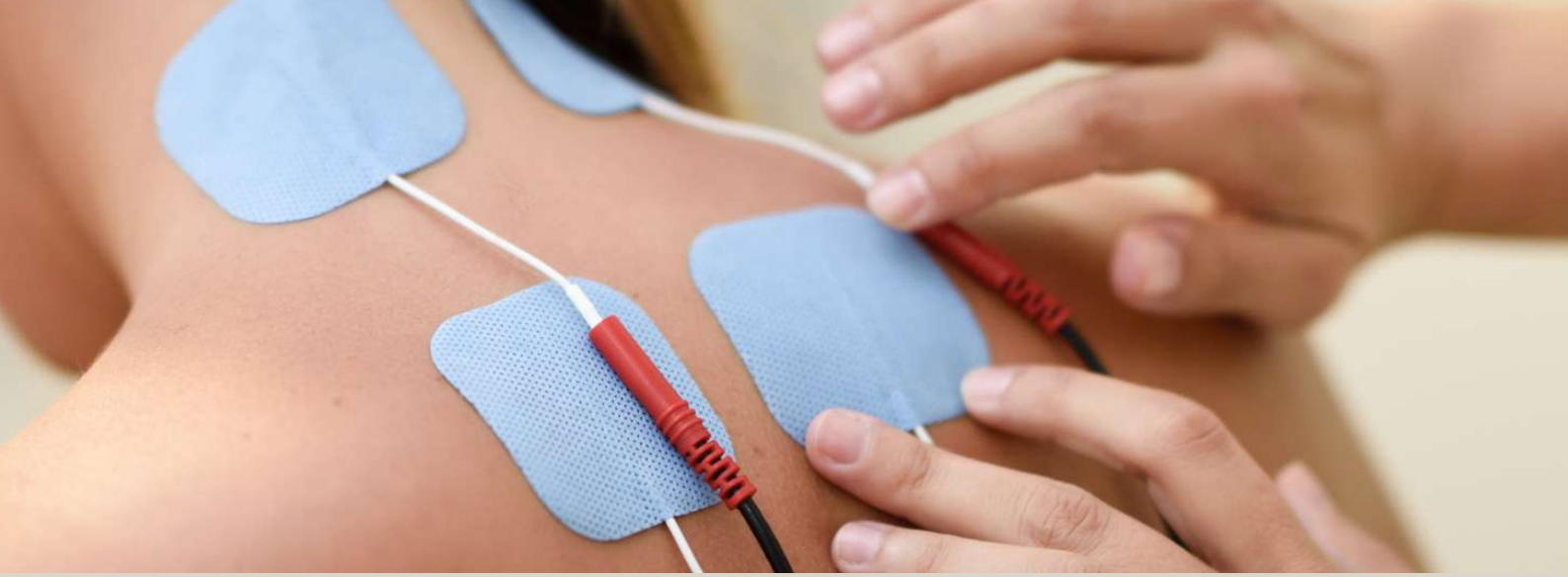
HIGH PERFORMANCE BRAIN

WHICH TREATMENT TO CHOOSE

TENS machines are used to relieve **nerve, muscle or joint pain**, which is often chronic and takes various forms, including i**nflammatory arthritis, back pain, foot pain, contractions during childbirth, or post-operative pain.**

Migraine pain can be relieved by specialized TENS machines.

EMS machines, on the other hand, are used to relax or strengthen the muscles, for example in cases of **muscular spasm, poor blood circulation (particularly in the back and nape of the neck), muscle atrophy after an illness or as part of rehabilitation from an injury**.



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