

## Why the Electronic Nerve Stimulator Works

Pain signals are sent to the brain through biochemical mediators, sending mild electrical impulses in the nervous system, from the point of pain to the brain<sup>1</sup>. Traditional TENs units work by sending their own electrical impulses to the area of pain and disrupting the nerves pain signals, tricking the brain into thinking that the biochemical electrical pain signals are just ‘electrical noise’ instead of pain.

**Arctoro Medical’s Patent Pending Electronic Nerve Stimulator (ENS)’s Probe** picks up on the biochemical build up at the source of pain which are sending the pain signals, and then ‘electronic pain circuit’ is completed between the Probe and the Electrode Patch. As this ‘electronic pain circuit’ is being completed, Arctoro Medical’s ENS measures the resultant current in milliamps (mA) and voltage. Once the ‘electronic pain circuit’, i.e. the **source of pain** is found, the ENS will test the validity by automatically raising the voltage and current, thus forming the positive sloping curve in both milliamps (mA) and voltage. If the **source of pain** in question is not valid, there will not be a run-up in voltage and milliamps.

The ENS’s Probe sends electrical pulses at the frequency which interacts with the biochemical electrical pain mediators. This enables an electrical connection between the probe and electrode patch to be completed at a lower current. It takes less current (mA) to begin the completed circuit on people with constant or chronic pain because the biochemical mediators build up over time at the source of the pain<sup>1</sup>. Arctoro Medical developed the ENS with the ability to adjust the current output by using an on-screen control. This is used to select a current (mA) level in which the patient can feel the ‘tingle’ of the electricity before proceeding with finding the **source of pain** test using the Electronic Nerve Stimulator.

**References:** 1. Pfizer|Lilly. *About Chronic Pain Drivers* (<https://www.chronicpaindrivers.com/>)