

PNS System

Peripheral Nerve Stimulation



The Device: Neurostimulation device for various points of the body.

Project Scope: Develop a complete peripheral nerve stimulation (PNS) system for pain management.



CHALLENGES

Component variation in mfg

Allow for continuous therapy without interruption

Prevent lead pull out during bandage changes

Develop miniature lead connector

ENGINEERING SOLUTIONS

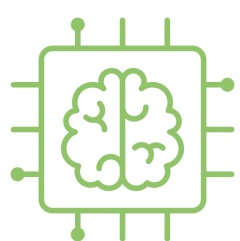
Test and calibration fixture to verify correct operation prior to final assembly

Provide patient with two replaceable & rechargeable batteries (12 hrs ea)

Magnetic connection between lead connector and patient cables allows breakaway without disturbing lead

Incorporate features to guide lead connector and patient cables with a simple pinch between thumb and finger

Results:



Battery Optimization

Implemented a system to charge external batteries to a specific State of Charge (SoC) prior to shipment.



Testing Laboratory

Designed the product for battery life optimization.



Testing & Calibrating

Utilized Nextern's internal software team to develop an app to connect via Bluetooth to the device.



Clinician Programmer

Developed a clinician programmer using an off-the-shelf android tablet.

Project Wins:

Water ingress (IP22) achieved without gasketing or glueing around enclosure seam.

End point:

We now manufacture their commercially available product.