Pain Blocking through Peripheral Nerve Stimulation

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Technology description

Invention Summary

This technology provides non-intrusive pain blocking to specific parts of the body by means of peripheral nerve stimulation. Electrodes are placed near peripheral nerves on the surface of the body and emit electrical currents that block normal transmissions along nerve pathways, effectively muting all pain signals along them. This technology' s target market would be diabetic individuals that require multiple finger pricks on a daily basis; primarily non-compliant individuals who avoid regular glucose monitoring due to pain or inconvenience factors. Diabetics could utilize this technology by numbing a finger before pricking it to avoid any discomfort. There is currently no industry standard of pain management for finger prick tests.

Over 29 million people currently live with some type of diabetes that requires regular glucose checks on a daily basis. Of that demographic, approximately 12.2 million people do not check glucose levels regularly due to the pain and discomfort form finger pricking. This technology would directly alleviate the reasons for non-compliance. The initial target market is 15% of the total market or 1.8 million people. Estimates show possible revenues from power supply sales (single purchases) for these devices range from $1.3 billion to $2.7 billion. Estimated annual revenue from electrode purchases totals $6.6 billion for diabetic users.

Other markets include circumcisions, infant inoculations, and ingrown toenail procedures. Power supply revenue totaled from these additional sources sum to $25.2-$54 million. Estimate electrode sales from these sources totaled to $42.3 million to $43.5 million.

Advantages

Increase in glucose check compliance: a portable version of this device could increase compliance by alleviating the pain of finger pricks

Replacing anesthetic injections: procedures such as removal of ingrown toenails could utilize this technology to eliminate any anesthetic injections needed.

Infant inoculations: making inoculations as painless as possible for infants could likely increase infant vaccination rates by creating a more positive experience for the parent(s).

Institution

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