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NEURAL STIMULATION DEVICE FOR TREATING OBESITY

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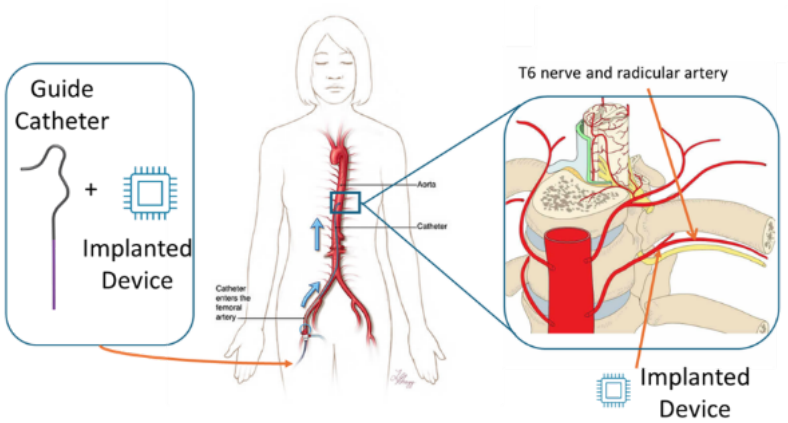
Value Proposition: *Device designed to stimulate neural structures to increase weight loss in people affected by obesity.*

Technology Description

Researchers at Washington University in St. Louis are developing an endovascular stimulation device that can be implanted in an artery or vein to provide stimulation to nearby neural structures to treat obesity. Despite significant advances, current weight loss solutions remain intolerable, inaccessible, or ineffective for many patients. Previous work has shown that percutaneous electrical nerve stimulation of the T6 dermatome is one strategy for weight loss. When used in conjunction with diet, this results in decreased appetite, improved dietary compliance, and significantly greater weight reduction than diet alone.

This device is implanted in the T6 radicular artery and stimulates the T6 spinal nerve, then works through a somato-autonomic reflex with vagal nerve branches to the stomach to enhance weight loss in people with obesity.



Stage of Research

Proof of concept: We have demonstrated that a thoracic radicular artery can be accessed in a porcine model. When electrical current is applied trans-arterially, we observe muscle twitch in the corresponding area of the torso, implying that the nerve is stimulated.

Applications

- Weight loss treatment

Key Advantages

- Decreases appetite and hunger
- Improves dietary compliance
- Significantly reduces weight
- Can be expanded to other targets in the peripheral and central nervous system

Patents

Patent application filed

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