

**Docket #:** S16-358

# **Wearable device to treat hyperhidrosis**

A team of Stanford researchers has invented a product that can be used to provide relief to patients with hyperhidrosis (excessive sweating), with a particular focus on palmar hyperhidrosis (excessive sweating of the hands). Palmar hyperhidrosis is a dermatologic condition that affects ~1-2% of Americans and has a dramatic impact on quality of life. However, current treatment options suffer from a variety of drawbacks. They can be: ineffective in many patients (antiperspirants); expensive (Botulinum toxin); risky and invasive (surgery); or inconvenient and uncomfortable (tap water iontophoresis). This new device overcomes those issues by applying the principles of iontophoresis without a tap water bath. Instead, electrical current is delivered through an electrode set powered by a wearable generator. For palmar hyperhidrosis, the electrode set can be combined with a specially designed glove to help maintain constant contact with overactive sweat glands while allowing freedom of movement. This improves comfort and convenience by reducing tingling sensations during therapy and decreasing the time dedicated to the treatment.

## **Stage of Research**

The inventors have developed and bench-tested a prototype of the device. They also own intellectual property on other components of this wearable iontophoresis technology.

## **Applications**

- **Hyperhidrosis device** - to reduce sweat on palms, with potential applications for feet or other body parts

## **Advantages**

- Convenient and comfortable:
  - Wearable device allows users to move freely and use hands while undergoing treatment
  - Could improve compliance compared to conventional tap water iontophoresis devices which limit mobility and are messy to set up
- Reduced tingling sensations during therapy compared to conventional iontophoresis
- Non-invasive - no surgery or painful injections
- Localized administration - only delivers current to sweat glands as defined by the electrode set rather than the entire hand

## Patents

- Published Application: [20190374768](#)
- Issued: [10,406,348 \(USA\)](#)
- Issued: [11,331,472 \(USA\)](#)

## Innovators

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