## heat it

Hyperthermia

Treatment of itch and pain after insect bites using heat

## What happens when a mosquito bites?

1. Mosquito bites
2. Saliva contains anticoagulant and proteins
3. Body responds with the release of histamines
4. Histamine causes the itchiness, inflammation and swelling
5. Symptoms remain typically from a few hours to a few days


## Insect bite treatment

## Traditional solution: Creme



- Brings only temporal relieve
- Smelly chemicals
- Potential allergies
- Reapplication required
- Unhandy to carry

Increasingly popular: Hyperthermia


+ Scientifically proven
- Inconvenient to carry
- Requires batteries
- Only two settings


## heat Personalized treatment with your smartphone

## Hyperthermic treatment of insect bites

1. Insect injects venom
2. Body responds with the release of histamines
3. Short heat treatment
$>$ Heat shock leads to decreased histamine release
$>$ Heat stimulus acts as counter-irritation on the nerve cells

heat it

## Current scientific studies

## Heat counter-stimuli after histamine application



Riccio, D., Andersen, H. and Arendt-Nielsen, L. (2019), Antipruritic effects of transient heat stimulation on histaminergic and nonhistaminergic itch. Br $J$ Dermatol,

Reduction of itch after hyperthermic treatment of mosquito bites and wasp stings



Müller C, Großjohann B, Fischer L. The use of concentrated heat after insect bites/stings as an alternative to reduce swelling, pain, and pruritus: an open cohort-study at German beaches and bathing-lakes. Clin Cosmet Investig Dermatol. 2011;4:191-6. doi: 10.2147/CCID.S27825.

## heat if Survey Data

- Post market surveillance data has been collected since 2021
- More than 2000 participants in survey
- Clear reduction of itch within minutes after treatment



