

KROPP VERSUS MASKIN

FOR BEHANDLING AV KRONISK UTBREDT SMERTE

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Body versus Machine

*Motivational Nondirective Resonance Breathing versus
Transcutaneous Vagus Nerve Stimulation for the Treatment
of
Chronic Widespread Pain*

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Faculty of Medicine, University of Oslo

Principal Supervisor: Henrik Børsting Jacobsen, Ph.D.

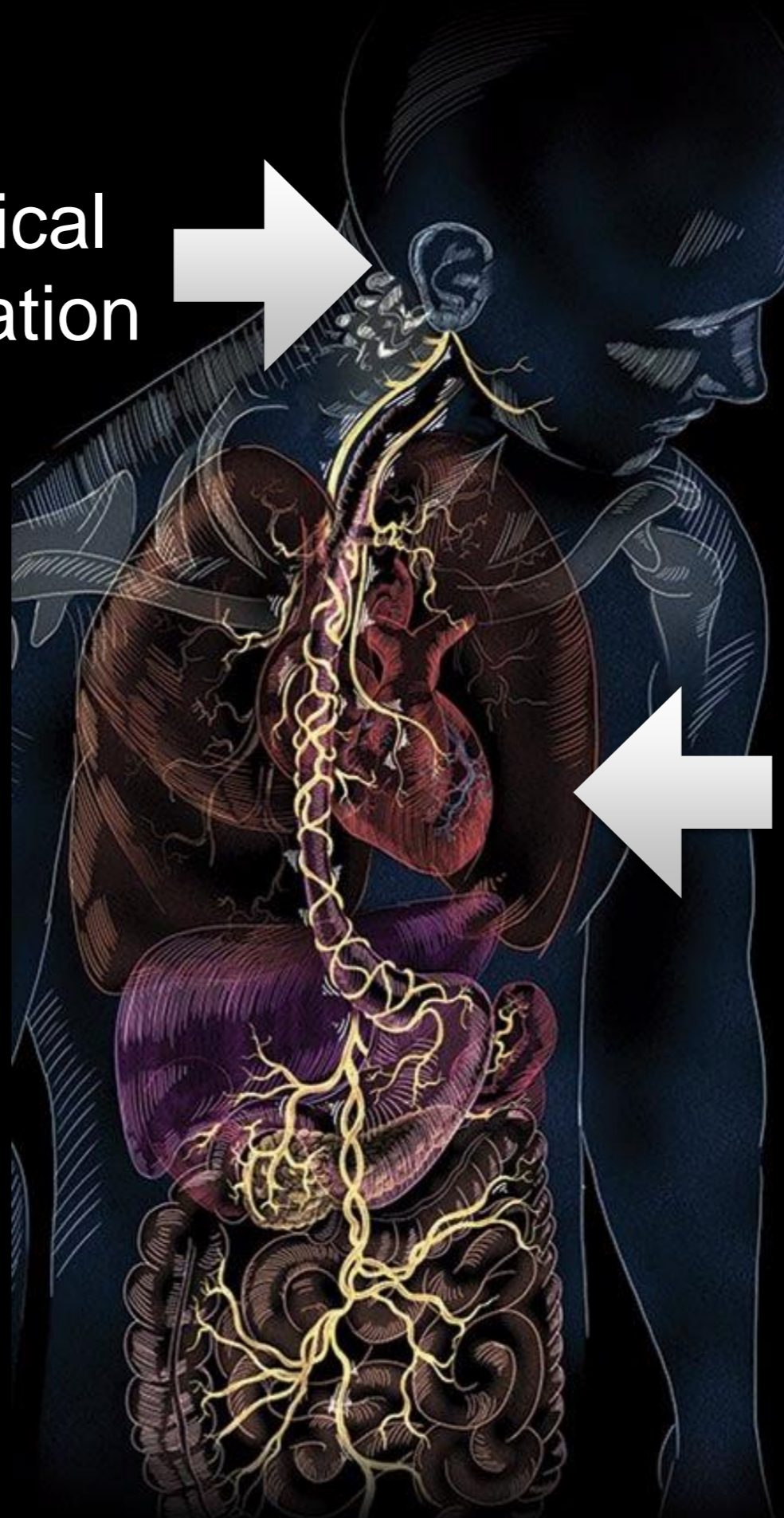
Co-Supervisor: Audun Stubhaug, M.D., Ph.D.

Co-Supervisor: Leiv Arne Rosseland, M.D., Ph.D.

The Vagus Nerve



Electrical
Stimulation



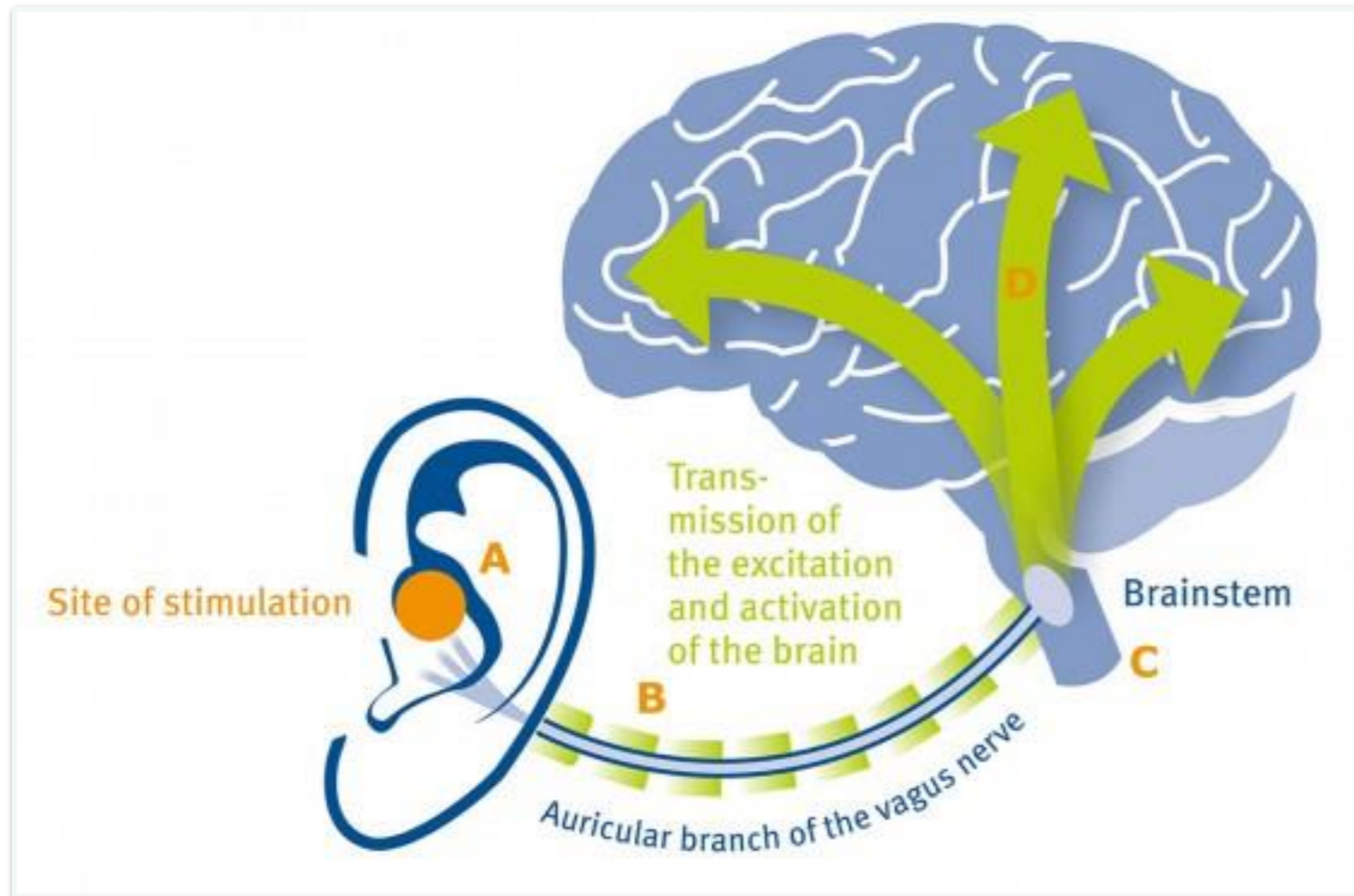
Respiratory
Stimulation

Transcutaneous Vagus Nerve Stimulation

- tVNS
- An effective **non-invasive** alternative to iVNS
- Sends electrical impulses **through the skin** (transcutaneous) of the outer ear straight into the auricular branch of the vagus nerve
- Intensity, pulse duration, and frequency of the tVNS can be **adjusted** accordingly



tVNS Design



Motivational Nondirective Resonance Breathing

- MNRB
- A **portable, integrative and innovative** solution to CWP management
- Designed in Norway by Charles Paccione
- Engineered in Poland by Marcin Czub
- Publication:
<https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01207/full#B9>

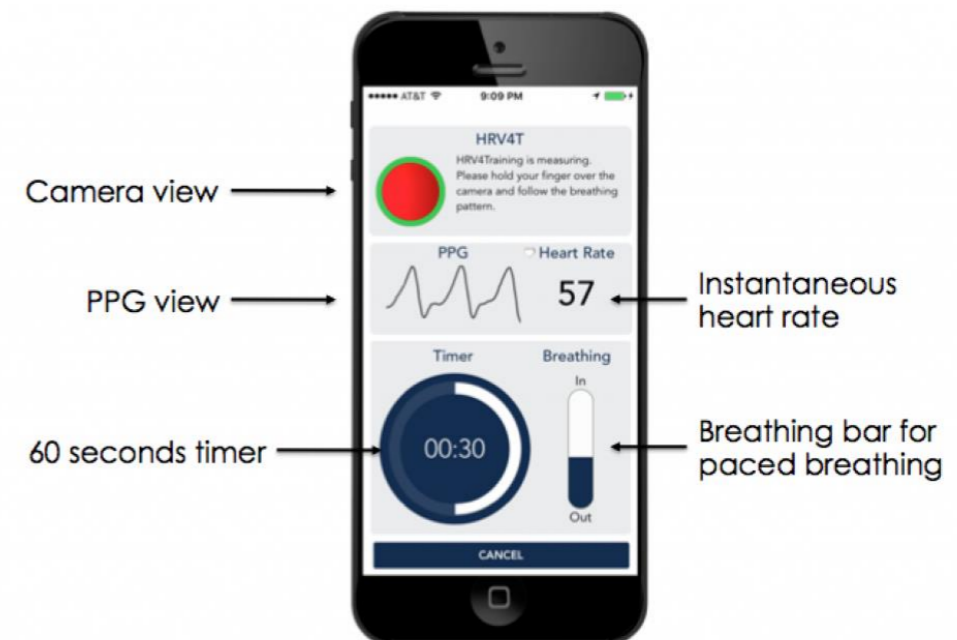
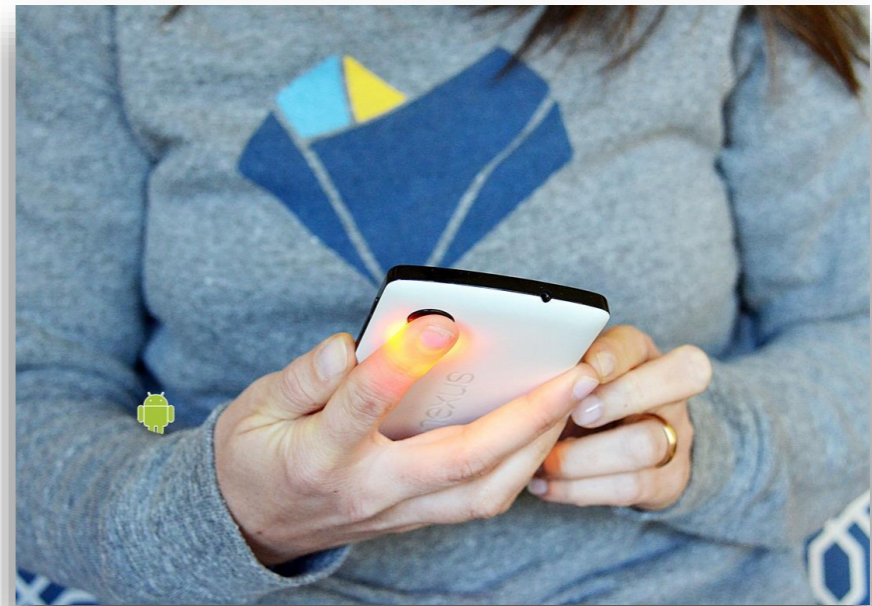


MNRB Design

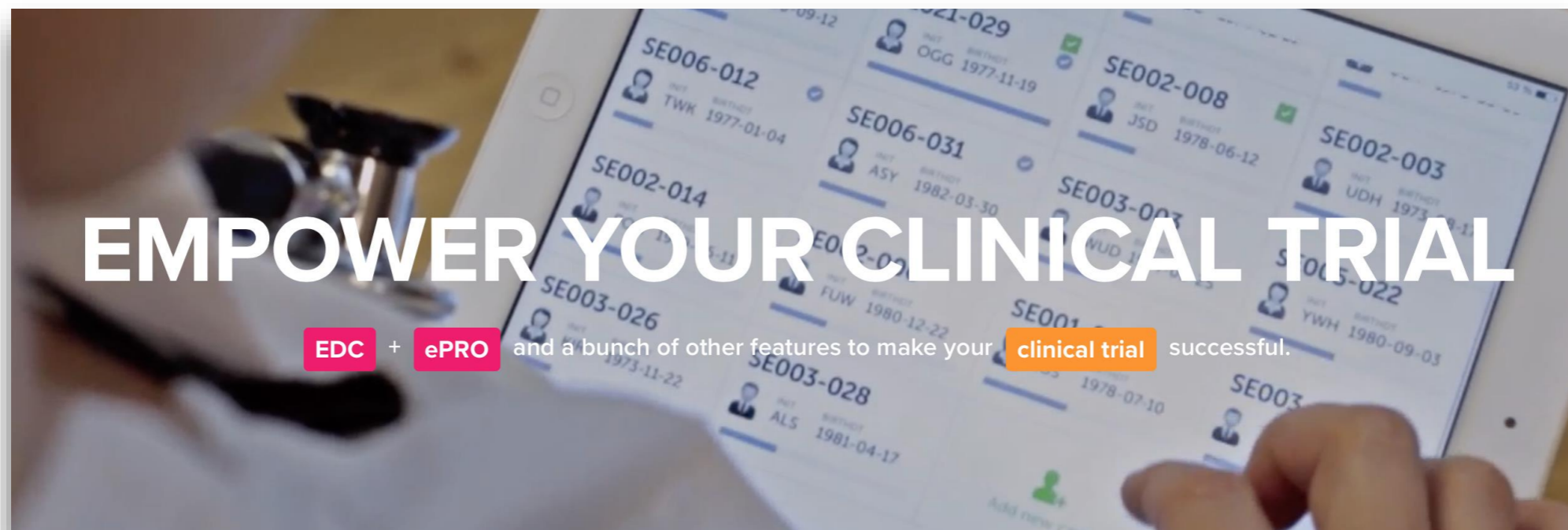


HRV

- Photoplethysmography (PPG) measured HRV using smartphone
- 1 min recording window
- RMSSD primary parameter of interest

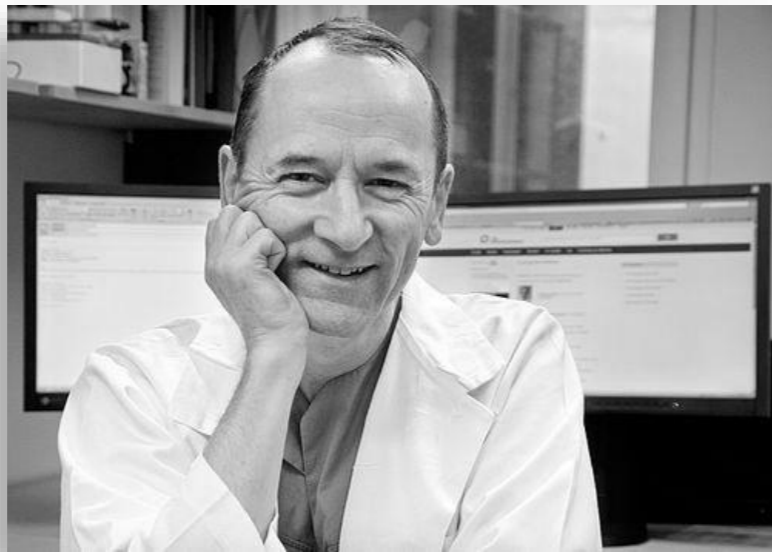


Viedoc



- An electronic data capture web-based solution used for clinical trial data collection and management
- Testing administrators actively use Viedoc for all participant data entry throughout the study.

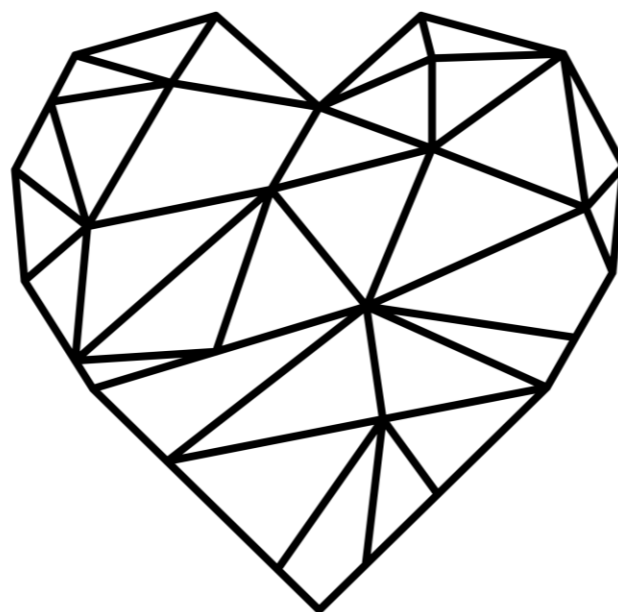
The Team



Recruitment

- Chronic widespread pain, including Fibromyalgia
- Study information and eligibility form:

<https://oslo-universitetssykehus.no/kliniske-studier/meditativ-pusting-eller-vagusnervestimulering-ved-kronisk-smerte>



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