



Validation study: Real Life Condition Chest Algorithm

Introducing CORE

CORE is the first temperature sensor that combines **accuracy** with **wearability**. CORE remains accurate under **extreme conditions**.



Unique Features:



Unmatched Accuracy



Patch or Belt Application



Comfortable



Easy to Use



Long Battery Life: > 6 days



Apps supported: Android, IOS, Garmin ConnectIQ, Apple Watch



Bluetooth BLE and ANT+ connectivity



AI Algorithm

Wearable & Accurate

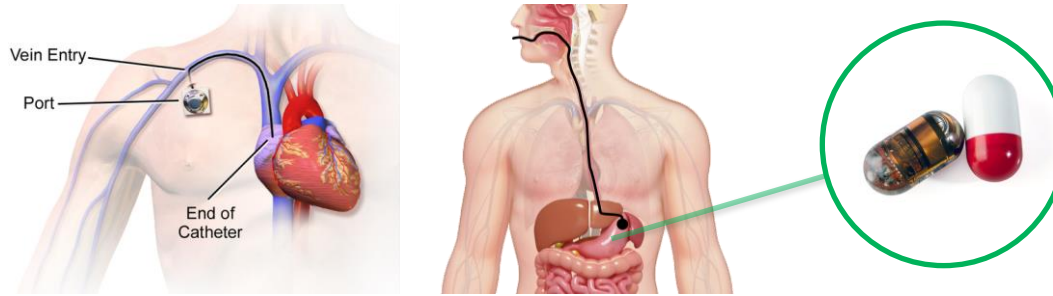
Accurate but not Wearable

Inaccurate & Wearable

Non-invasive



Invasive: Catheter, rectal, esophageal, ingestible radio pill



Intermittent: Ear, rectal measurements



Stationary/connected: Medical temporal thermometers



Skin Temperature Sensors:

Accuracy is affected by:

- Ambient Temperature
- Ambient Humidity
- Activity
- Sweat/Water
- Sun exposure
- Wind
- Clothing
- Skin type

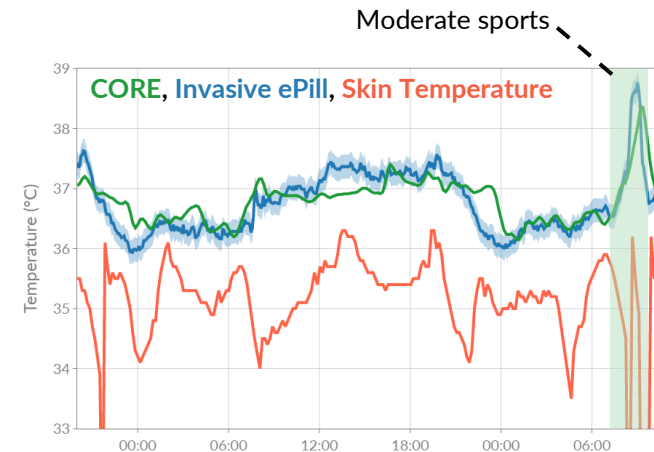
vs.

vs.

Continuous



Wearable



Validation Methodology

Goals of the validation study:

- Core body temperature monitoring on the chest using CORE
- Demonstrate that CORE can be used for monitoring core temperature under real life conditions

Activity: All real life conditions

Position: Chest (apical)

Reference: Ingestible radio pill

Data collected: >6 million data points

Calibration: No calibration required

First reading: After 4 minutes



Sleeping



Working



Eating



Commuting

Gender	Gender	AGE	BMI	Time
75%	25%	23 – 63 avg: 34.3	20 – 34 avg: 24.7	24 – 72h

Validation Results

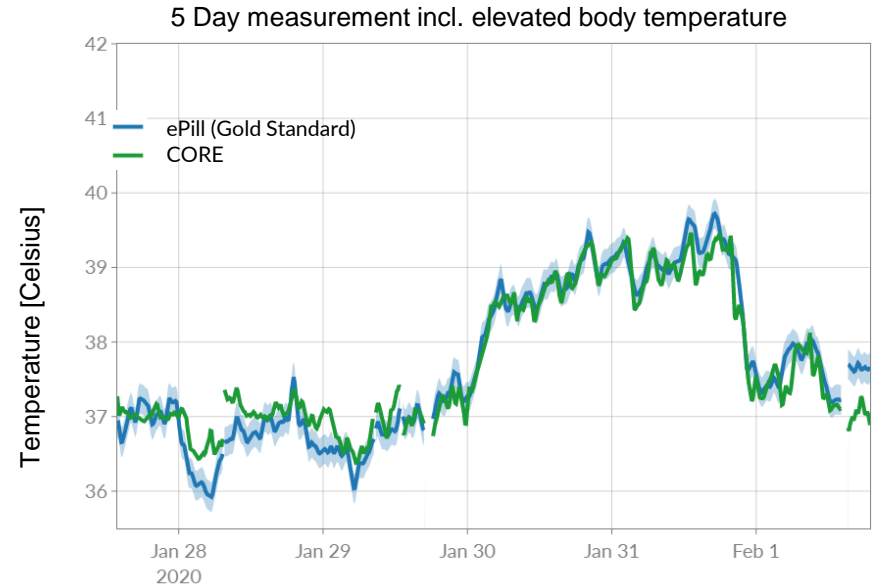
Conclusions:

- High accuracy of core body temperature monitoring on the chest
- Good compensation of any thermal influences in the environment

Statistics (over all measurements):

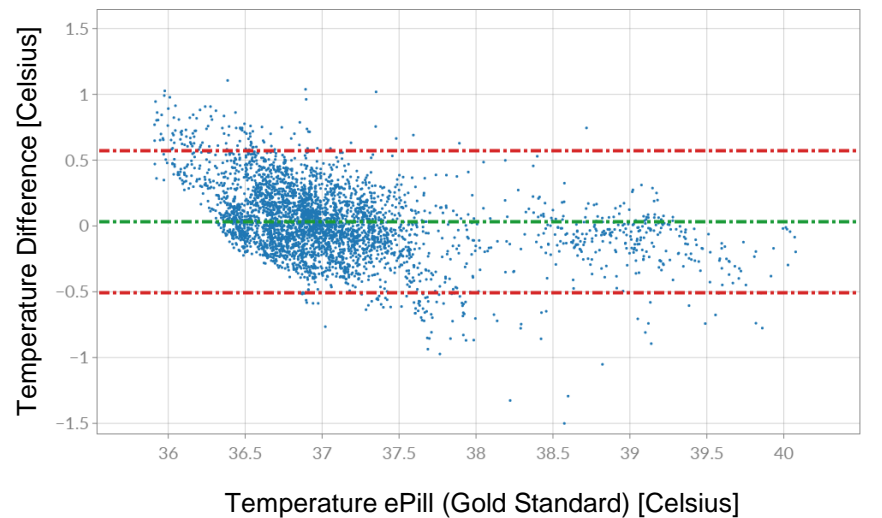
- Mean absolute error: 0.21°C (0.37°F)
- Standard deviation: 0.28°C (0.50°F)
- Limit of agreement: 0.56°C (1.00°F)
- Correlation factor: 0.92

Example Graph



Overall Statistics



Bland-Altman Plot



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Briefly

Founded: 2009, ETH Zurich Spin off
Location: Rümlang, Zürich Airport (5min)
Plot size: 1200 m² (800 m² production space)
Manufacturing capacity: 2.8m → 20m pcs/year

www.greenteg.com

www.corebodytemp.com

Awards

