Draagtijd meten van orthopedische schoenen

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1

Disclosure

Disclosure of speaker's interests	
No (potential) conflict of interests	No conflict of interest
Relations that could be relevant for the meeting	None
• Sponsorship or research funds • Payment or other (financial) remuneration • Shareholder • Other relation, viz. ...	• ofom • • •

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2

Today

- Background
- Validity of the Orthotimer
- SOFA trial (patient study)
- Data: footwear use in first three months

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3

Background

- Effects of orthopedic footwear:
  - Prevention of (re-)ulceration
  - Pain reduction
  - Decrease plantar pressure
  - Enhance stability
- Only effective when orthopedic footwear is used
- Insight in the use and nonuse of orthopedic footwear is therefore very important

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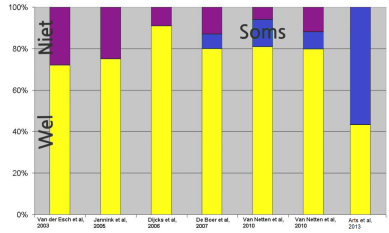
4

Background



All based on self-report: subjective, poor accuracy

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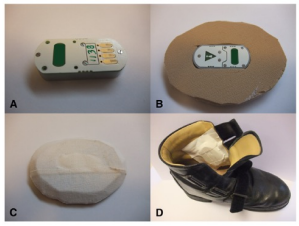
5

Background



@monitor (Bus et al, 2012)

Orthotimer

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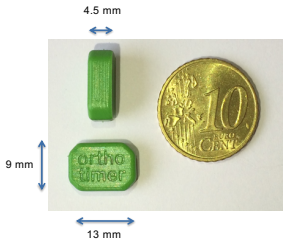
6

Background

- Orthotimer temperature sensor
  - Small
  - Samples temperature every 15-min
  - >100 days data storage >18 months battery
  - Commercially available



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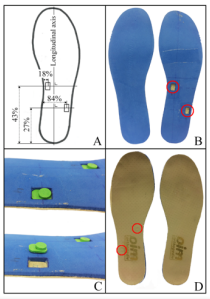
Validity

- 10 able-bodied participants
  - 5 male / 5 female
  - Mean age 33 (SD 14) years
- Insole with 2 sensors
  - Medial Arch
  - Lateral of Calcaneus
- Duration: 48 hours
- Preferred footwear of participant
- Shoe laces and removable insoles



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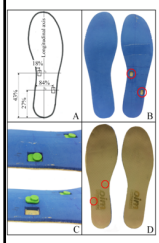
Validity



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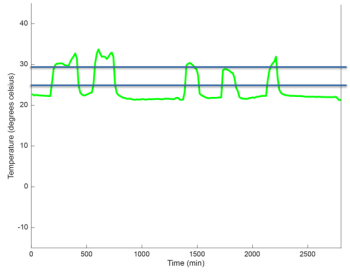
Validity



Orthotimer software:
Alg-29 graden

Literatuur:
Alg-25 graden

Groningen Algoritme:
Alg-GR

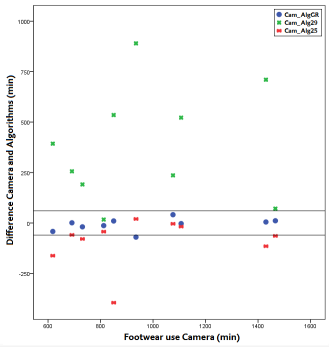
10

Validity

AlgGR:
9/10 within 1 hour

Alg25:
5/10 within 1 hour

Alg29:
1/10 within 1 hour



11

Validity - Conclusion

- The sensor is valid and feasible
- The sensor can be used for measuring long-term footwear use

12

SOFA TRIAL

- **S**tudy **O**rthopeadic **F**ootwear **A**dherence monitoring
- No record of studies with > 1 week adherence
- Collaboration with 11 companies in The Netherlands

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13

13

Method

- New pair (semi) orthopeadic footwear
- Sensor build-in insole
- Sensor read-out after:
  - 3mnd 6mnd 9mnd 12mnd
- Second pair? → sensor build-in, data combined!
- Questionnaires MOS (Monitor Orthopeadic Footwear)
  - before start
  - around every sensor read moment

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14

14

Intervention

- Test the effect of a simple intervention on use of orthopedic footwear
- Participants allocated to 2 groups
- Group 1: control group
- Group 2: additional information
- All participants knew about the sensor in their footwear

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15

15

Research Aim

- Year-long adherence monitoring
- Seasonal influence on adherence
- Factors influencing adherence
- Insight in second pair of footwear

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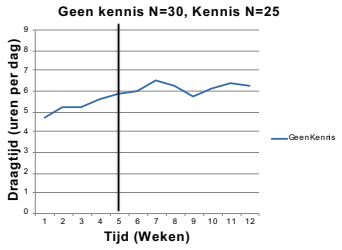
16

16

Data – first 3 months use



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17

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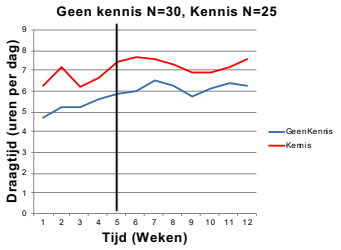
Data – first 3 months use



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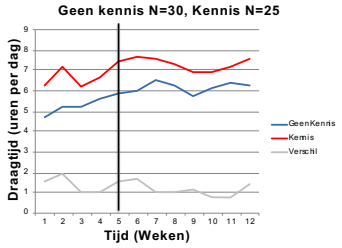
Data – first 3 months use



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Data – first 3 months use

- Diabetes Mellitus
- Vulnerable group

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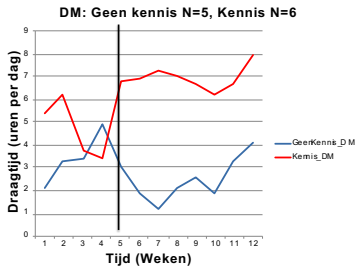
20

Data – first 3 months use



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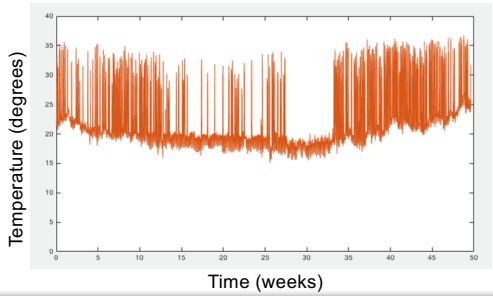
Data - one year N=1



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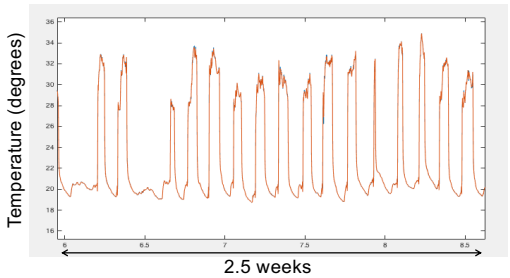

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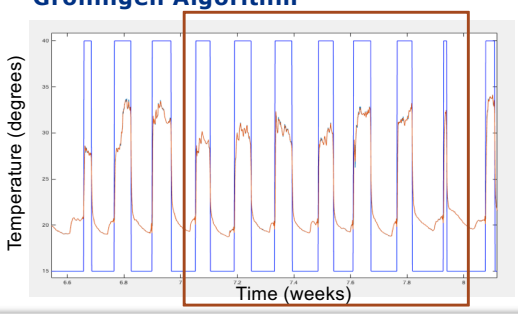
23

Groningen Algorithm

Avg. footwear use 9.1 hours/day



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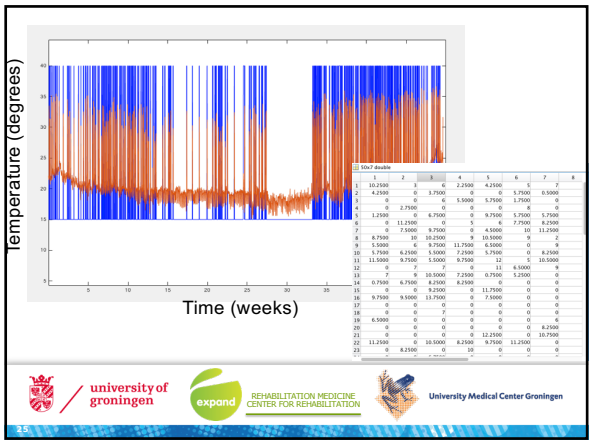
Temperature (degrees)
Time (weeks)
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Take-Home Message
Blijven innoveren:
- Sample frequentie aanpassen
- Data uitlezen door drager
- App ontwikkelen met inzicht
"Meekijken" mogelijk invloed op het gebruik
"Meten = Weten"
ofom
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26