



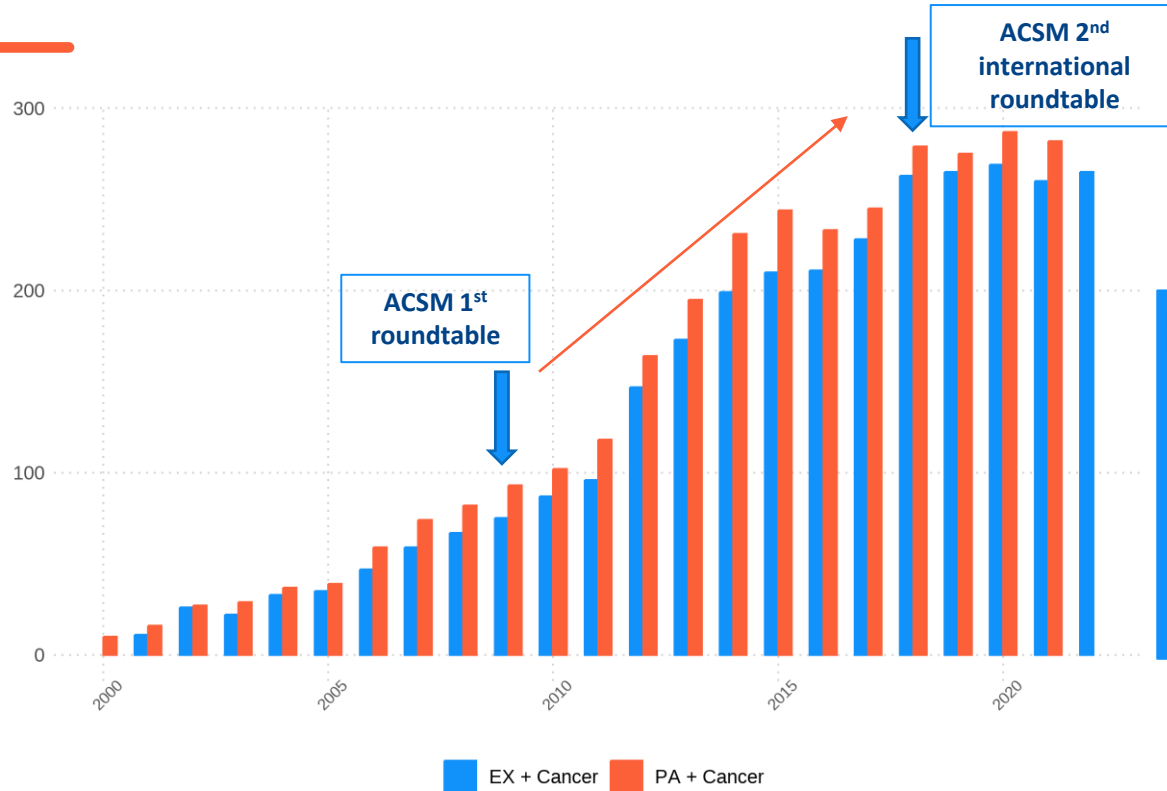
# Het belang van bewegen tijdens en na een borstkankerdiagnose

Prof. Anne May  
UMC Utrecht & NKI-AvL



UMC Utrecht

# Het onderzoeksveld bewegen & kanker in beweging!



2019 Update Cancer exercise recommendations (ACSM int. roundtable 2018)

American College of Sports Medicine Roundtable Report on Physical Activity, Sedentary Behavior, and Cancer Prevention and Control

MEDICINE & SCIENCE IN SPORTS & EXERCISE 2019

ASCO Guidelines

2022 Exercise, Diet, and Weight Management During Cancer Treatment

Exercise, Diet, and Weight Management During Cancer Treatment: ASCO Guideline

JOURNAL CLINICAL ONCOLOGY 2022

# Effecten van bewegen

- Bewegen is veilig en haalbaar tijdens en na de behandeling
- Grotere effecten:
  - Trainen onder begeleiding (goed om hiermee te beginnen)
  - >30 min trainingen
  - Beweegprogramma langer dan 12 weken
  - Matige tot hoge intensiteit

## Duurtraining

3x per week

30 min per sessie

Minstens matige intensiteit

## Krachttraining

2x per week

30 min per sessie

2-3 sets, grote spiergroepen

American College of Sports Medicine  
Roundtable Report on Physical Activity,  
Sedentary Behavior, and Cancer  
Prevention and Control

ADAM L. HANDEL, CHRISTOPHER M. HERRINGHAM, CHRISTOPHER J. HANCOCK, CHRISTOPHER J. HANCOCK, DAVID R. MALLER,  
KAREN L. CAMPBELL, KAREN MATHIASSEN, TANYA J. JARNEY, ANTHONY M. COLANGELO, JAMES L. WILSON,  
JOHN E. HALL, JACQUELYNNE M. HANCOCK, G. CHRISTOPHER HANCOCK, THOMAS W. ALBERTSON, S. M. HANCOCK,  
MICHAEL D. MATHIASSEN

MEDICINE & SCIENCE  
IN SPORTS &  
EXERCISE 2019

# Waar kunnen we sporten, wat helpt me, waar moet ik op letten?

- [www.verwijsgidskanker.nl/zoek/fysiotherapeuten](http://www.verwijsgidskanker.nl/zoek/fysiotherapeuten)
- [www.oncofitness.nl](http://www.oncofitness.nl) ([Vind hulp | Trainen Na Kanker](#))
- Zoek iemand met wie je gaat sporten.
- Bespreek bewegen met je behandelaar.

# Informatie over bewegen bij kanker

← ↻ 🏠 🔒 <https://www.wkof.nl/leven-met-kanker/bewegenenkankerinfo/> A ☆ 📄 ☆



Onderzoek | Gezond leven | Leven met kanker | Over ons | Help mee



Home - Leven met kanker - Bewegenenkankerinfo.nl

## **bewegen & kanker info** Van experts, voor patiënten

Na de diagnose kanker is het goed om te bewegen en trainen. Dit is belangrijk om zo fit mogelijk te blijven. Maar wat is allemaal mogelijk en waar moet je op letten? Hier vind je adviezen van experts.

> [Maak kennis met de redactie](#)



# BEWIJS voor positieve effecten van bewegen

## Uitkomsten

### Sterk bewijs

- Angst
- Depressieve symptomen
- Vermoeidheid
- Kwaliteit van leven
- Fysiek functioneren
- Lymfeedeem

### Matig bewijs

- Slaap
- Botdichtheid

### Onvoldoende bewijs

- Cardiotoxiciteit
- Neuropathie
- Cognitief functioneren
- Val risico
- Misselijkheid
- Pijn
- Seksueel functioneren
- Volhouden v/d behandeling

## Kanker types

M.n.:

- Borstkanker
- Prostaatcancer

- Andere kanker types
- Gemetastaseerde ziekte

American College of Sports Medicine  
Roundtable Report on Physical Activity,  
Sedentary Behavior, and Cancer  
Prevention and Control

JEFF R. PACE, DIRECTOR OF PERFORMANCE, UNIVERSITY OF ARIZONA; DANIEL J. AVIGNI, JEFF R. PACE, KENNETH L. CAMPBELL, KAREN KAWHARAWAN, TERRY L. JARNEY, STEPHANIE W. LEWIS, J. BRUCE L. SMITH, JOHN E. SPOFFORD, "ACTION RESEARCH" LLC, CHARLES W. SPURD, JR., "ACTIVITY & HEALTH" MICROBIOLOGIST, MATTHEW?

MEDICINE & SCIENCE  
IN SPORTS &  
EXERCISE 2019



The PREFERABLE-EFFECT project:  
exercise may boost quality of life in  
patients with metastatic breast cancer



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825677.



# Doel PREFERABLE-EFFECT studie

Het onderzoeken van de effecten van een **gesuperviseerd** en geïndividualiseerd **bewegprogramma** in patiënten met **uitgezaaide borstkanker** op **vermoeidheid** en **kwaliteit van leven**.



# Doel PREFERABLE- EFFECT studie

Het onderzoeken van de effecten van een **gesuperviseerd bewegprogramma** voor patiënten met uitgezaaide borstkanker op **vermoeidheid** en **kwaliteit van leven**.



# Methode



**8 centra  
in 5 EU landen en Australië**

- **91 inclusies in Nederland.**



## ***Inclusie criteria:***

- *Leeftijd  $\geq 18$  jaar*
- *Vrouwen en mannen*
- *Diagnose uitgezaaide borstkanker*
- *Levensverwachting van  $\geq 6$  maanden*

## ***Exclusie criteria:***

- *Contra-indicatie voor bewegen*
- *Instabiele botmetastasen*
- *Te fysiek actief*

# Methode

## Primaire uitkomst:

- Kanker-gerelateerde **fysieke vermoeidheid**
- **Kwaliteit van leven**



- EORTC-FA-12
- EORTC-QLQ-30  
summary score

## Secundaire uitkomsten:

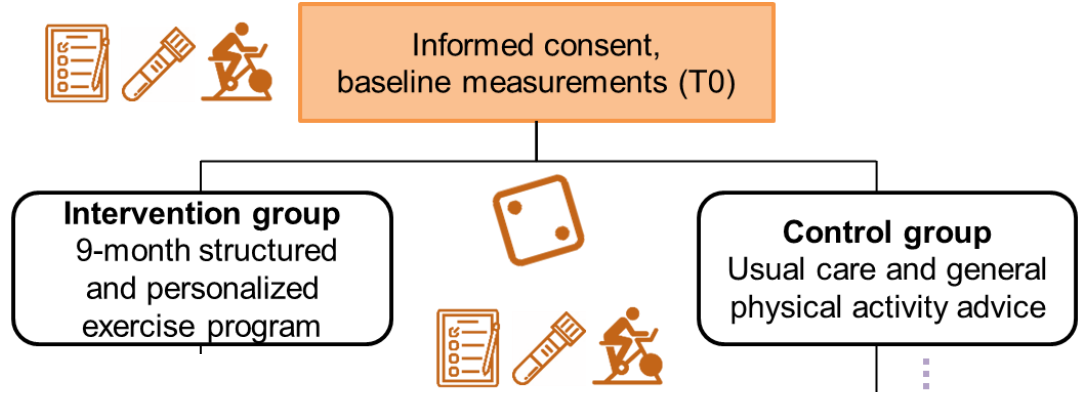
- Pijn, angst en depressie, borstkanker-specifieke symptomen
- Zenuwpijn, slaap
- Behandeling-gerelateerde toxiciteit
- **Fysieke fitheid**, lichaamssamenstelling
- Biomarkers
- Fysieke activiteit
- Kosteneffectiviteit



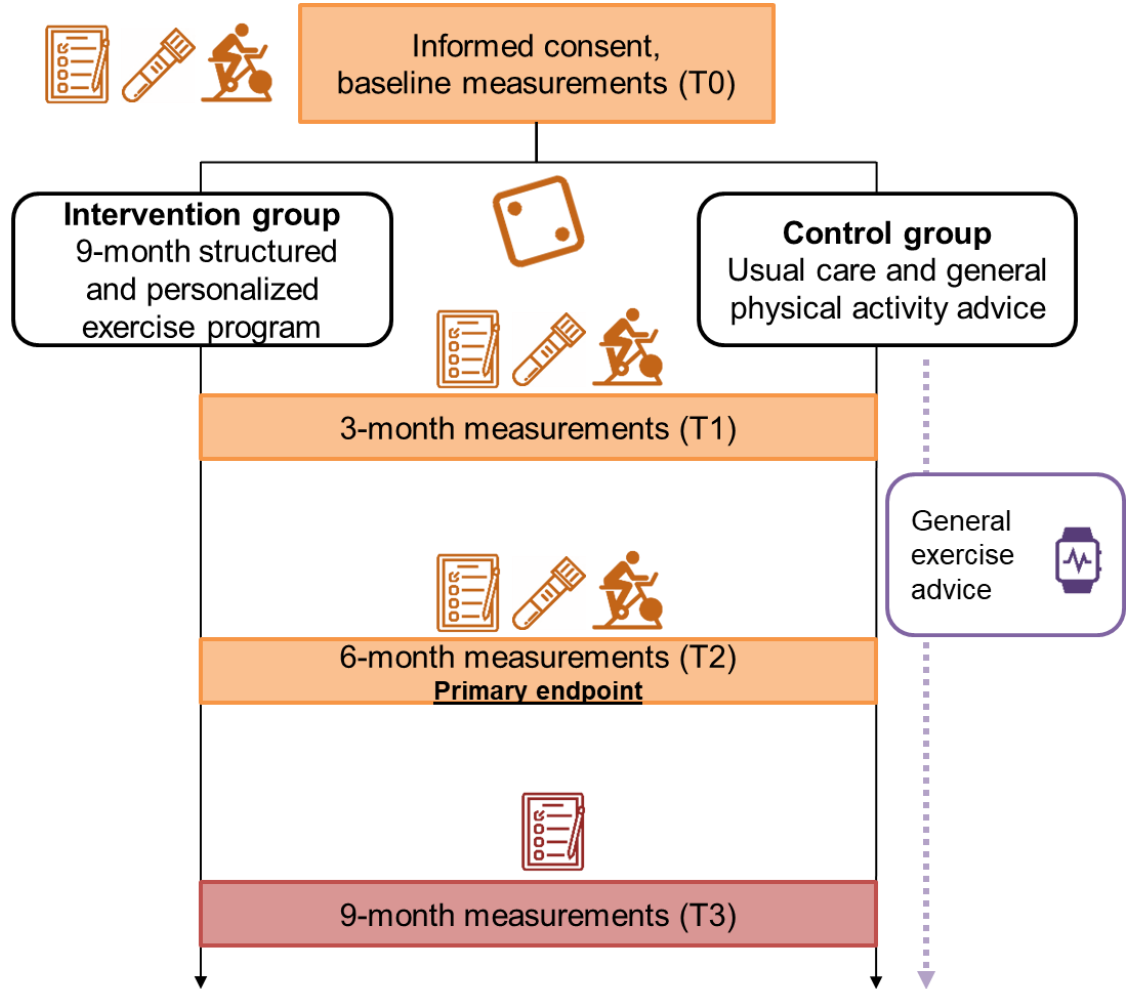
- Steep ramp test  
(maximal short  
exercise capacity  
(MSEC))

**De studie is succesvol als een of beide uitkomsten positief zijn.**

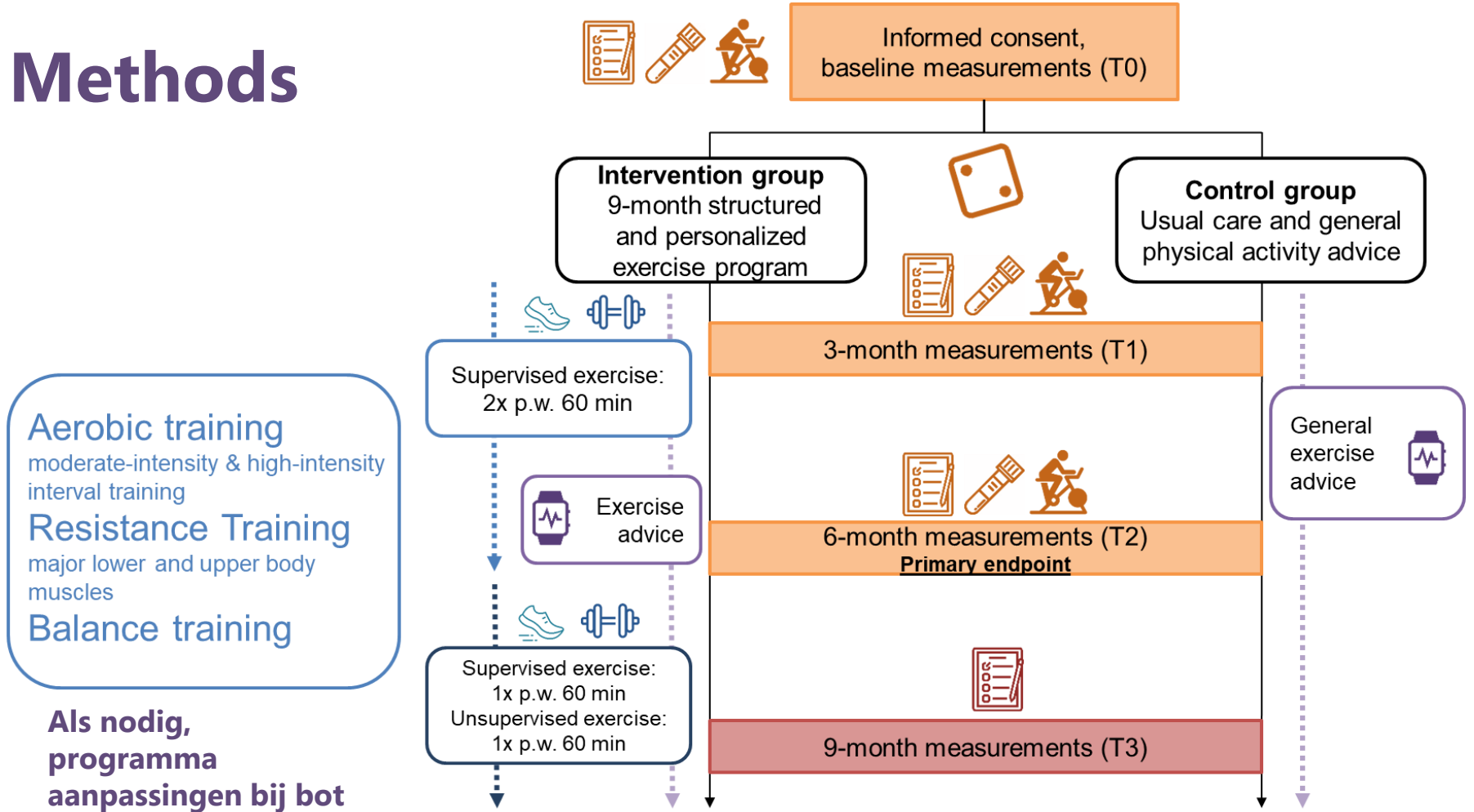
# Methods



# Methods



# Methods



# Bot metastasen en exercise hub



**Being physically active when you have bone metastases**

If you have bone metastases and want to learn how to be physically active in a safe way, this handbook is for you. Bone metastases is cancer that starts in one part of the body and spreads to the bone. If you're not sure whether you have bone metastases, talk to your healthcare provider, such as your family doctor, cancer doctor (oncologist) or nurse practitioner.

**What is physical activity?**

Physical activity means moving your body in a way that uses your heart and breathing (can also mean sleep). You can be physically active in many different ways. A brisk walk, yard work or household chores, playing a game or going swimming that build muscle or balance are all examples of physical activity.

**3 things you need to know about physical activity:**

1. Physical activity can help people who have cancer. Being active can improve or improve how you feel, help with fatigue and pain, improve your quality of life.
2. Physical activity is safe for most people with bone metastases. Doing an activity safely can decrease your risk of pain, loss of balance or breathing trouble.
3. Research shows that the safest way to engage in physical activity is to have a qualified exercise professional guide you.

## About BME Hub

**BME Hub** Bone Metastases and Exercise Hub

The Bone Metastases and Exercise Hub provides access to resources on exercise recommendations for people with bone metastases. These resources created by the Bone Metastases and Exercise Knowledge Mobilization Team are intended to work together to inform and support patients, exercise professionals and health care professionals.

Find out more about the Bone Metastases and Exercise Knowledge Mobilization Team and the International Bone Metastases Exercise Working Group here.

About BME Hub

## Patient Handout

This handout is for people living with cancer, their friends, family members, and healthcare providers.

It provides an overview of the importance of being physically active, finding a qualified exercise professional, how to get started, and key safety considerations when being physically active with bone metastases.

Patient Handout

## Webinar

This webinar is for people with bone metastases, their friends and family members, exercise professionals and healthcare providers.

View the English or French webinar via the buttons below.

Webinar – English    Webinaire – Français

## Health Information Form

This health information form is designed to guide communication between people living with bone metastases, healthcare providers, and exercise professionals as they make decisions about being physically active safely.

Health Information Form

## Find an Exercise Professional

Looking for a qualified exercise professional? Please visit our directory to find someone in your area.

Find an Exercise Professional

## Professional Development

Currently under development.

## Additional Resources

Access our recent publications and explore supplementary materials for people living with bone metastases.

Additional Resources



<https://bit.ly/BMEHub>



Physical activity for people with bone metastases

Canadian Cancer Society **EXPERT ANGLE**

CANCER.CA

Watch on YouTube



**Being physically active when you have bone metastases**

An information form to help you for active safely.

The information summarized on this form can help you, your qualified exercise professional, and your healthcare team make decisions that are right for you about how to be physically active safely.

Physical activity for people with bone metastases can be:

- Safe when appropriately monitored by a qualified exercise professional.
- Beneficial and can improve fatigue, emotional distress, and quality of life.

To be completed by patient: I consent to the release of my medical information outlined below.

Name (please print) \_\_\_\_\_ Date (month/year) \_\_\_\_\_

Signature \_\_\_\_\_

To be completed by healthcare team: This form will complement the health history and exercise screening questions added by a qualified exercise professional.

Clear all most recent answers (including saved answers) \_\_\_\_\_

Case of imaging attached:  No  Yes

Does metastases localize:	Area of chest concern:	Current or planned treatment:
<input type="checkbox"/> Lung	<input type="checkbox"/> None	<input type="checkbox"/> No cancer treatment
<input type="checkbox"/> Breast	<input type="checkbox"/> None	<input type="checkbox"/> Radiation
<input type="checkbox"/> Colon	<input type="checkbox"/> None	<input type="checkbox"/> Bone metastasis agents
<input type="checkbox"/> Prostate GPC or DC	<input type="checkbox"/> None	<input type="checkbox"/> Hormonal treatments
<input type="checkbox"/> Ovarian GPC or DC	<input type="checkbox"/> None	<input type="checkbox"/> None
<input type="checkbox"/> Other GPC or DC	<input type="checkbox"/> None	<input type="checkbox"/> Radiation treatments
<input type="checkbox"/> Other GPC or DC	<input type="checkbox"/> None	<input type="checkbox"/> None
<input type="checkbox"/> Other GPC or DC	<input type="checkbox"/> None	<input type="checkbox"/> None

Practice breast pathologic features:  Yes  No

Current or planned medication:  Yes  No

Form completed by: \_\_\_\_\_ Date (month/year) \_\_\_\_\_

Healthcare provider name: \_\_\_\_\_ Date (month/year) \_\_\_\_\_

If you experience any change in symptoms, such as pain, talk to your healthcare provider or qualified exercise professional.

This information is not intended as medical advice for people with bone metastases and our website. © 2018 BME Hub

# Baseline karakteristieken

## Interventie groep (n=178)



Leeftijd  
54.9 ± 11.6



1st/2nd line  
75.3%



Vrouw  
99.4%



HR+/HER2-: 60.7%  
HER2+: 23.6%  
Triple negative: 7.3%



Getrouwd/samen  
wonend 68.0%



Botmetastasen  
65.2%

## Controle groep (n=179)



Leeftijd  
55.9 ± 10.7



1st/2nd line  
74.3%



Vrouw  
99.4%



HR+/HER2-:  
59.2%  
HER2+: 22.9%  
Triple negative:  
12.3%



Getrouwd/samen  
wonend 65.4%



Botmetastasen  
69.8%

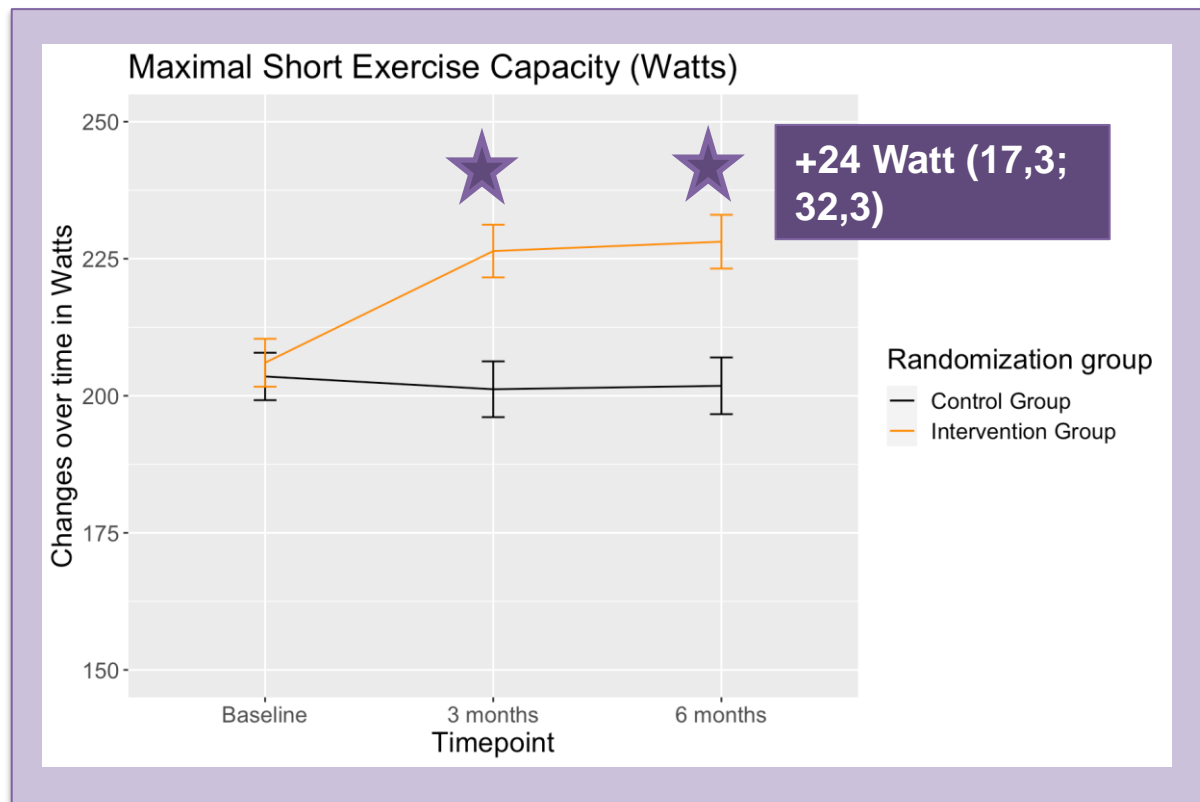


# Resultaten – Aanwezigheid, Bijwerkingen en Fysieke fitheid



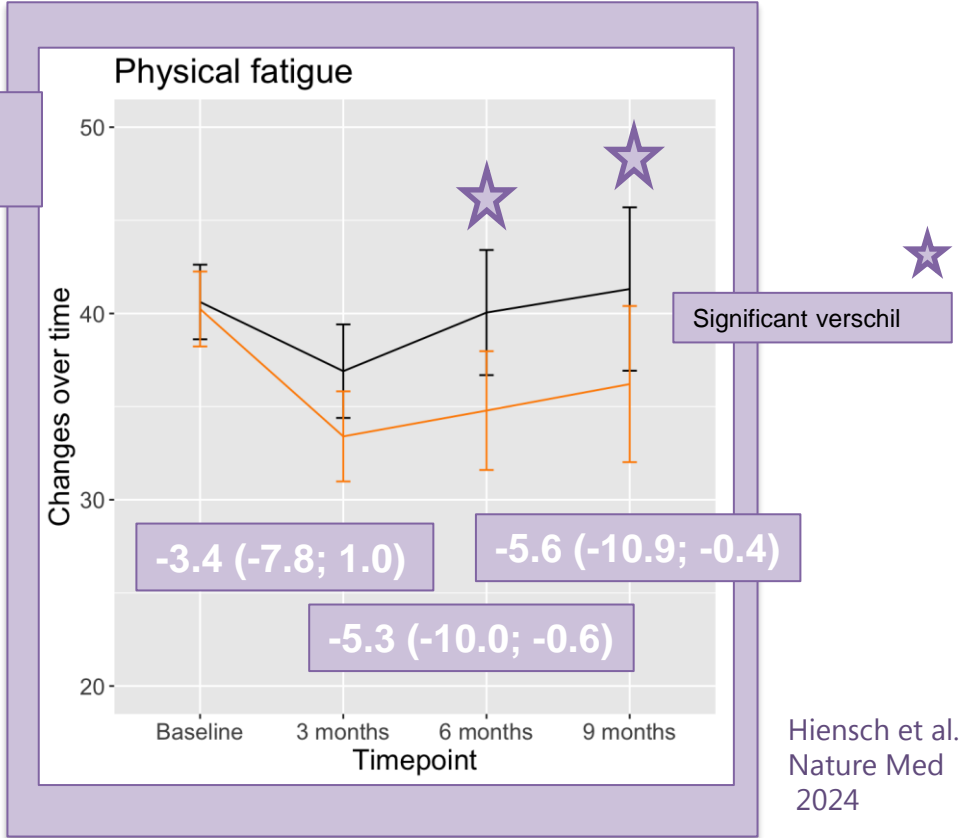
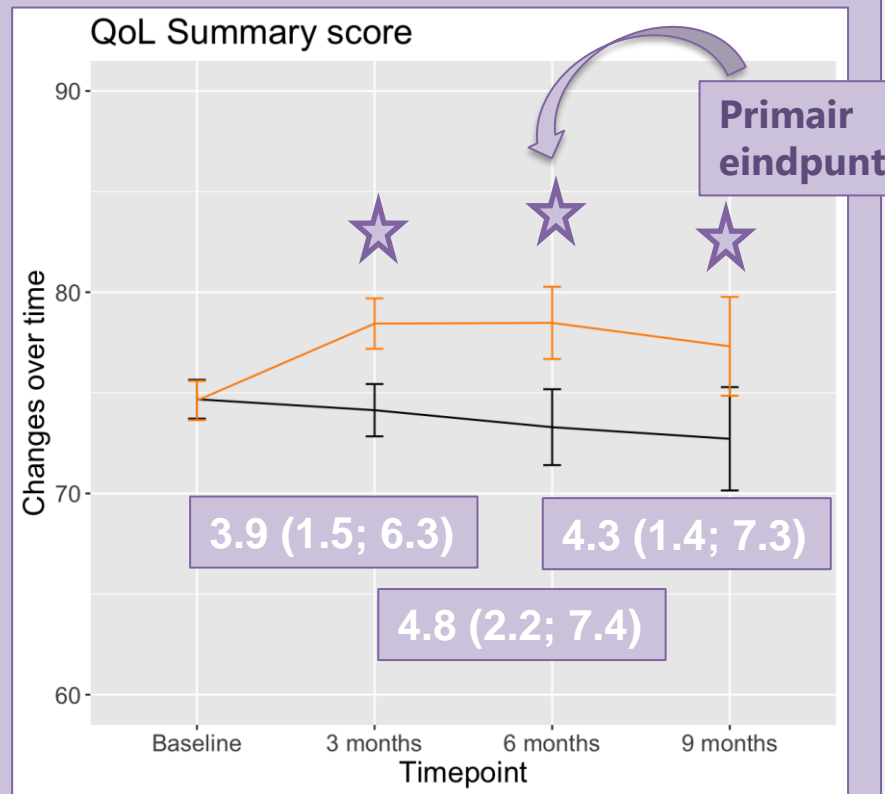
77% [48-92] van alle sessies bijgewoond (gedurende 9 maanden)

**Twee SAEs:** 1 pols breuk en 1 stress fractuur, niet gerelateerd aan botmetastasen.



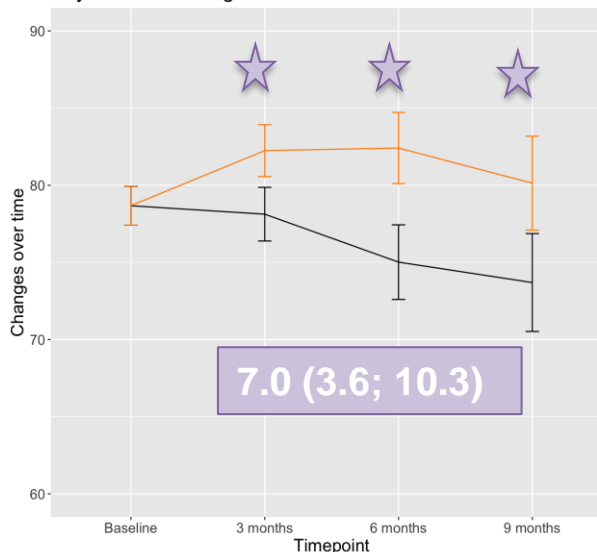
# Primaire bevindingen

Randomization group  
— Control Group  
— Intervention Group

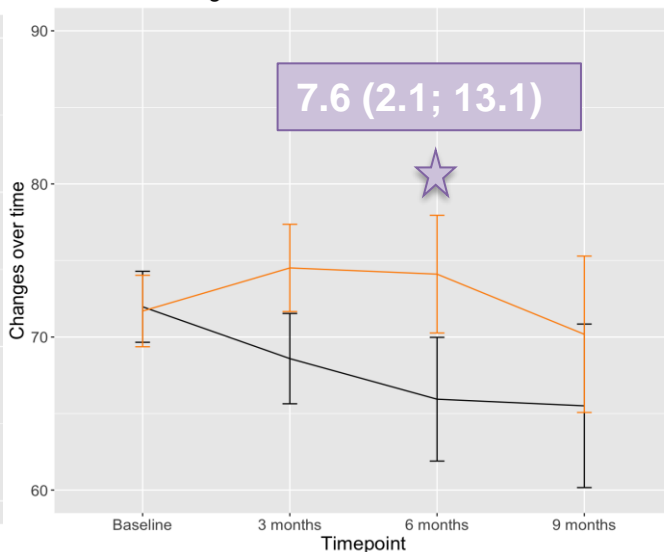


# Resultaten – kwaliteit van leven - functionele schalen

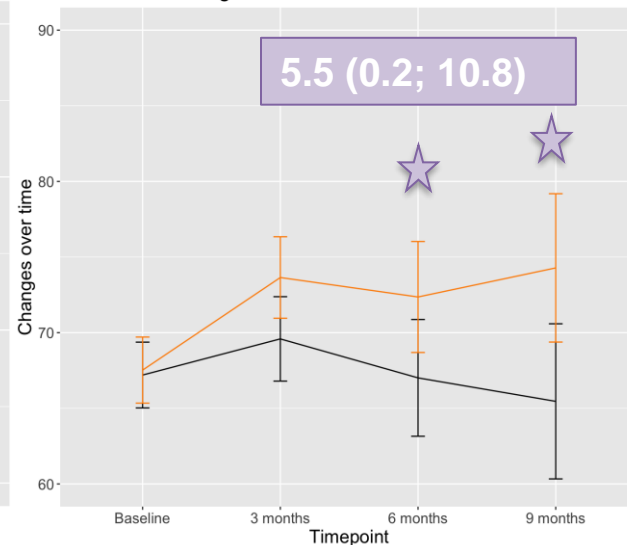
Physical functioning



Role functioning



Social functioning



Randomization group

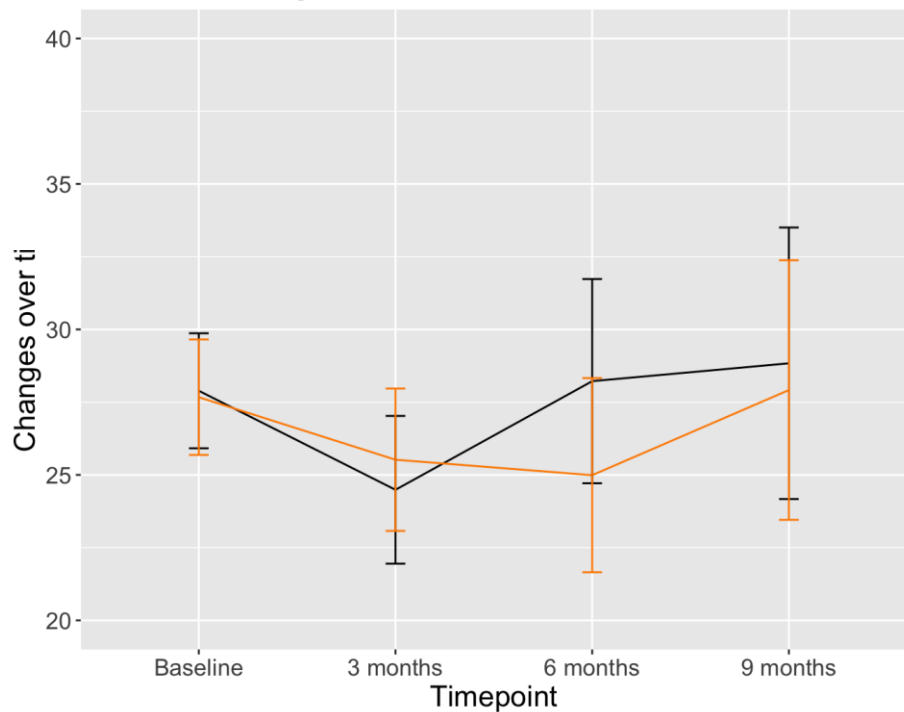
- Control Group
- Intervention Group



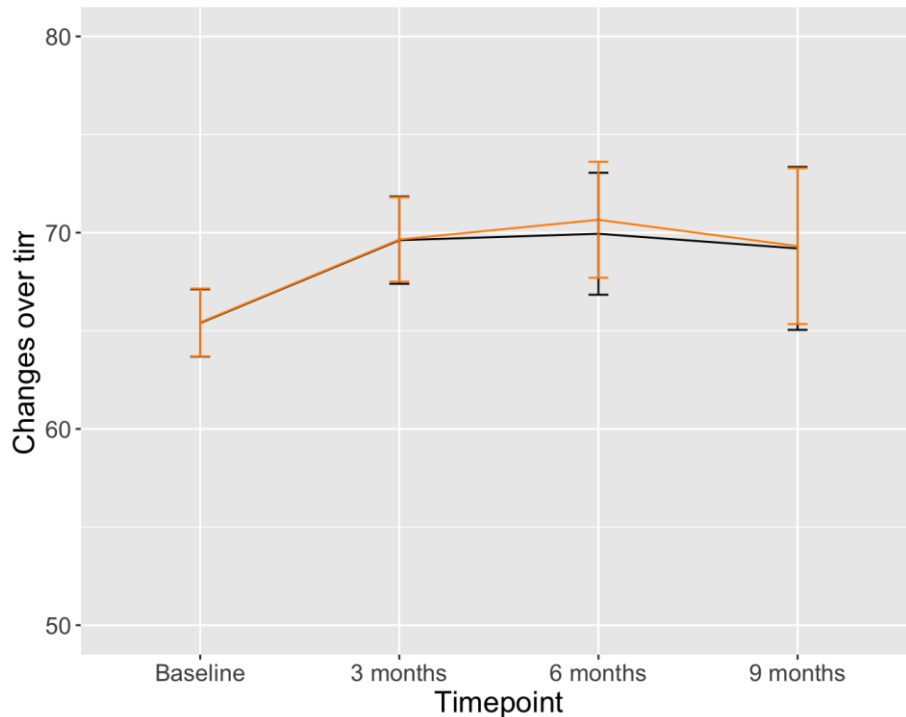
Significante verschillen

# Emotionele vermoeidheid en functioneren

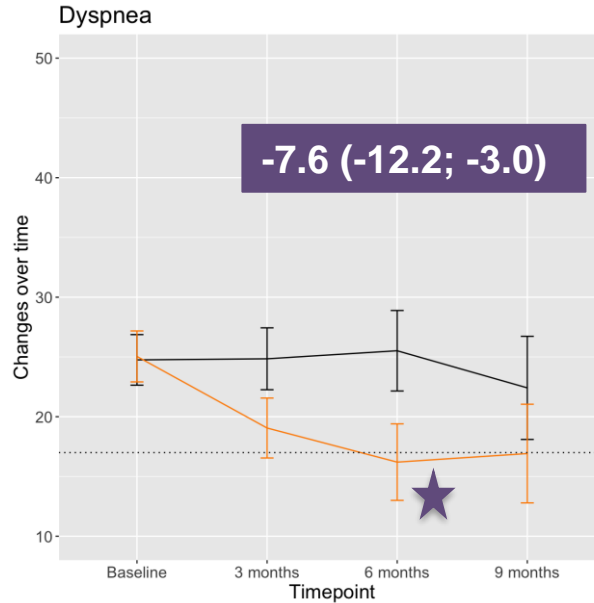
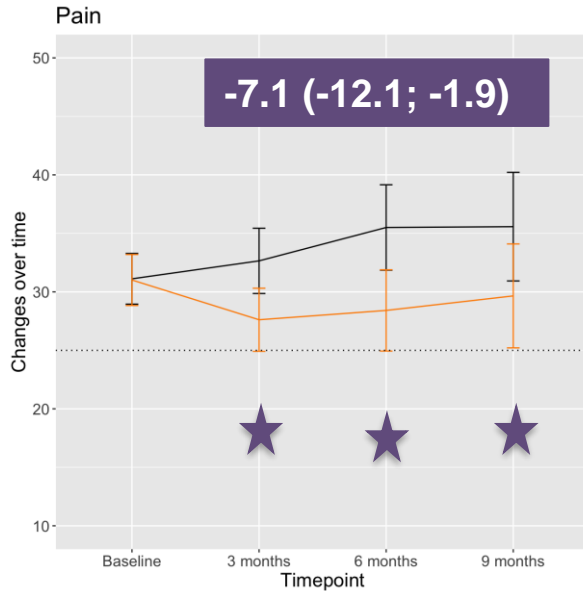
## Emotional fatigue



## Emotional functioning



# Pijn en kortademigheid



PREFERABLE-PERSPECTIVE  
(vragenlijst n=420):

Men is bang dat de **pijn** en **vermoeidheid** zal verergeren door het bewegen.

(Sweegers et al. Sup. Care Can. 2023)

58%

% Scoort boven klinisch relevante treshold\*

Pijn

\* Giesinger et al. J Clin Epidemiol. 2020

57%

Dyspneu

Randomization group

— Control Group  
— Intervention Group

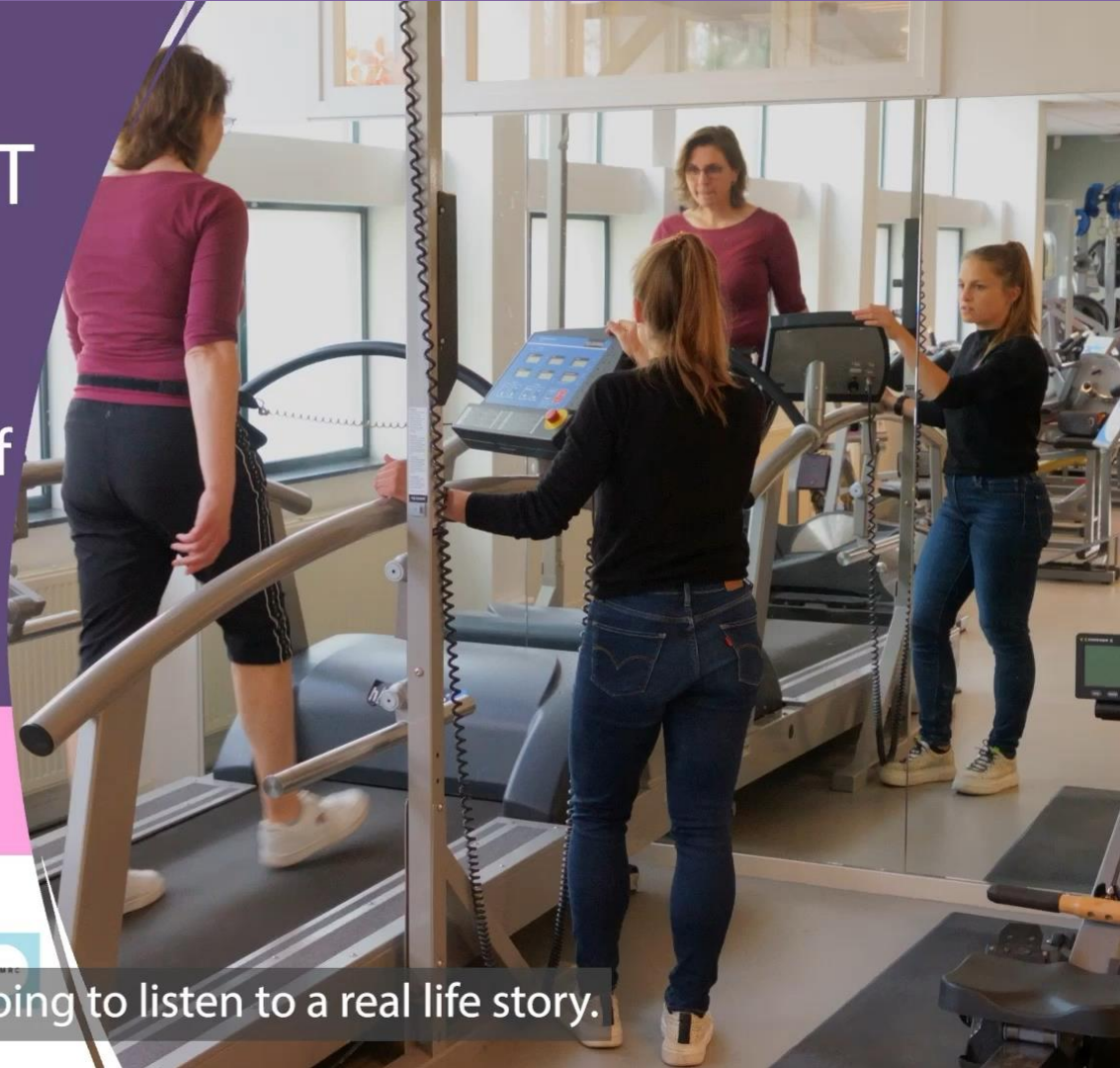
# PREFERABLE-EFFECT

The perspective of one of  
our participants



# PREFERABLE-EFFECT study

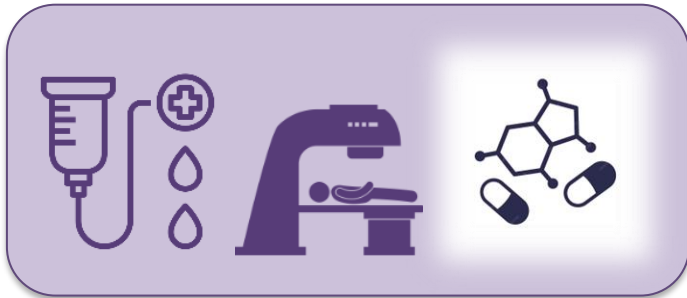
The perspective of one of  
our participants



Now we're going to listen to a real life story.

# Conclusie

- Een **gesuperviseerd bewegprogramma** heeft positieve effecten op **vermoeidheid, kwaliteit van leven**, en **andere klinisch relevante uitkomsten** voor patiënten met uitgezaaide borstkanker.
- Wij raden gesuperviseerd bewegen aan als onderdeel van de behandeling voor deze patientengroep.

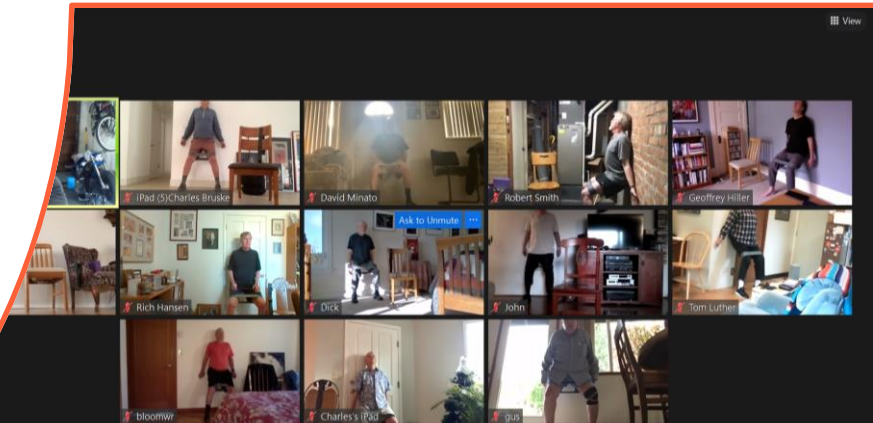
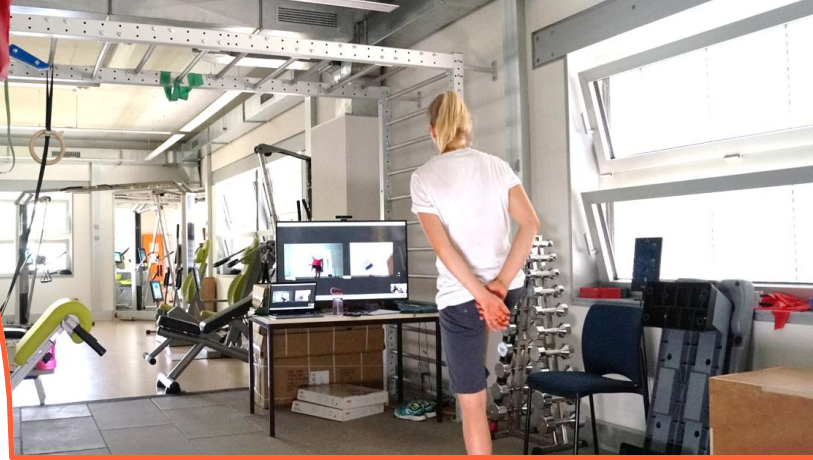




# **Twee lopende studies**

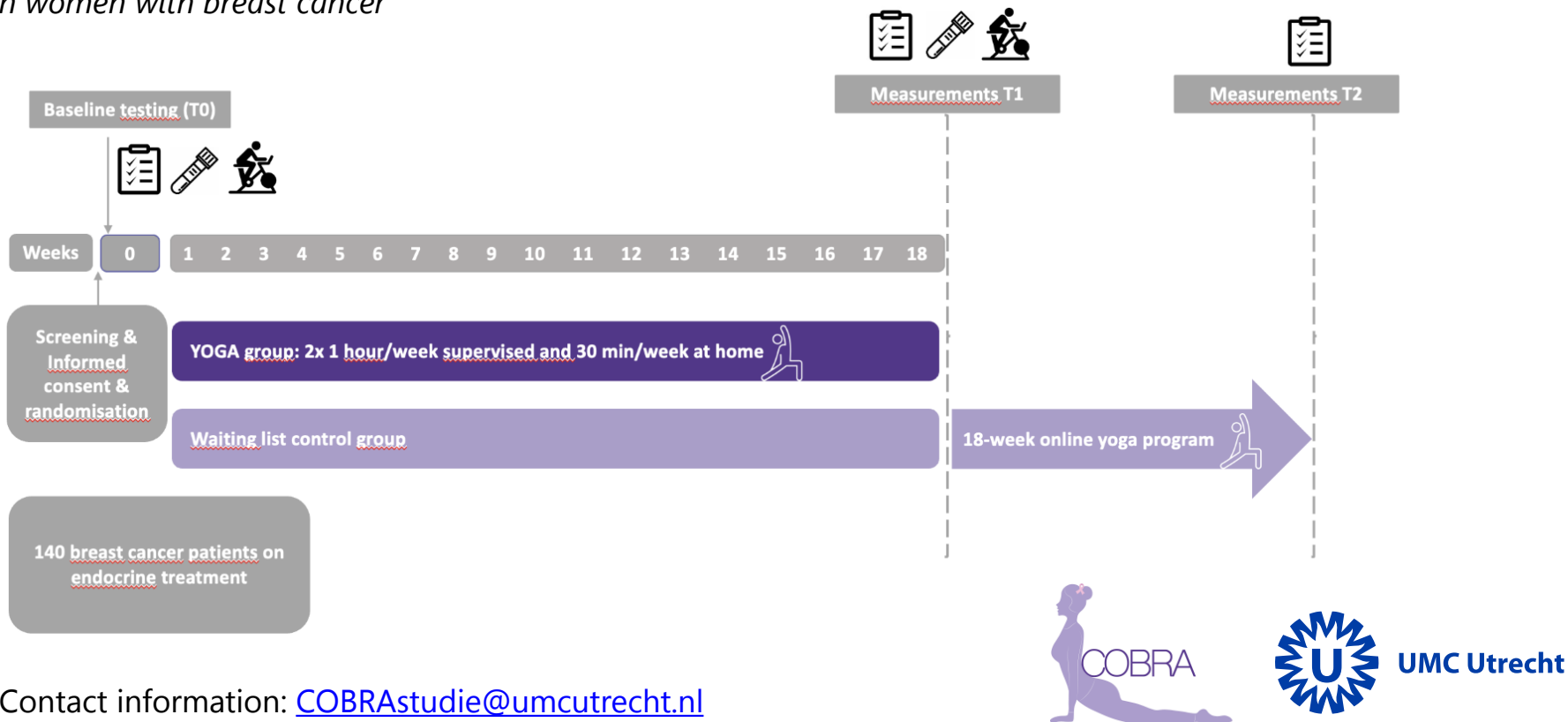
# LION-RCT

- Het onderzoeken van de effecten van
  - een **live-online** beweegprogramma
  - in patiënten met **klachten** na behandeling
    - Vermoeidheid
    - Emotionele stress
    - Verminderd fysiek functioneren
    - Perifere neuropathie
- UMC Utrecht & NKI-AVL



# COBRA studie

*The effect of yoga on endocrine therapy induced musculoskeletal symptoms in women with breast cancer*

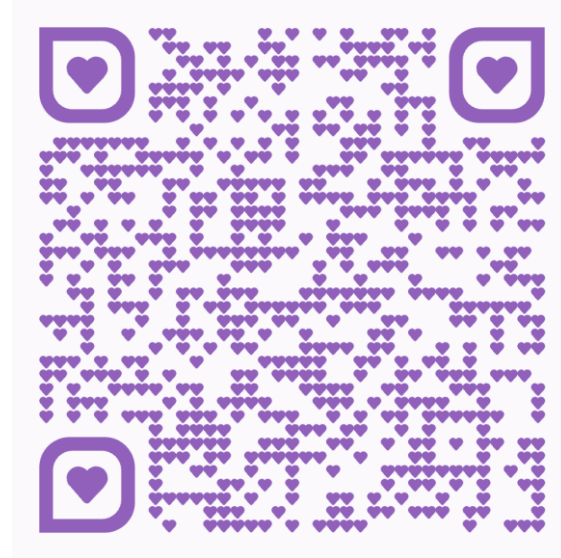


Contact information: [COBRAstudie@umcutrecht.nl](mailto:COBRAstudie@umcutrecht.nl)

# Two lopende studies



LION

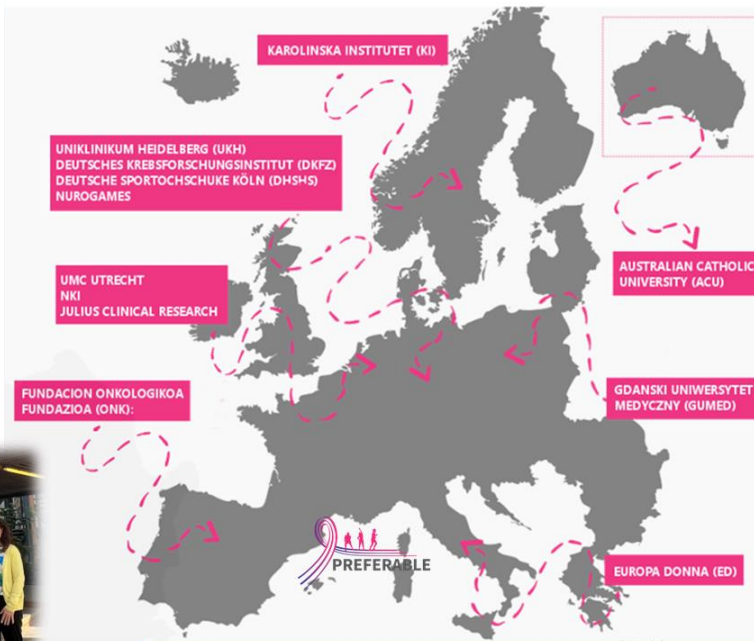


COBRA



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Thanks to all **participating patients**;  
all **treating physicians and nurses** in participating hospitals;  
**physiotherapists and exercise trainers**.



<https://www.h2020preferable.eu/>

@PREFERABLE\_MBC

## Participating centers



## In collaboration with



## Funded by



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825677; and the Australian Government (2018/GNT1170698).