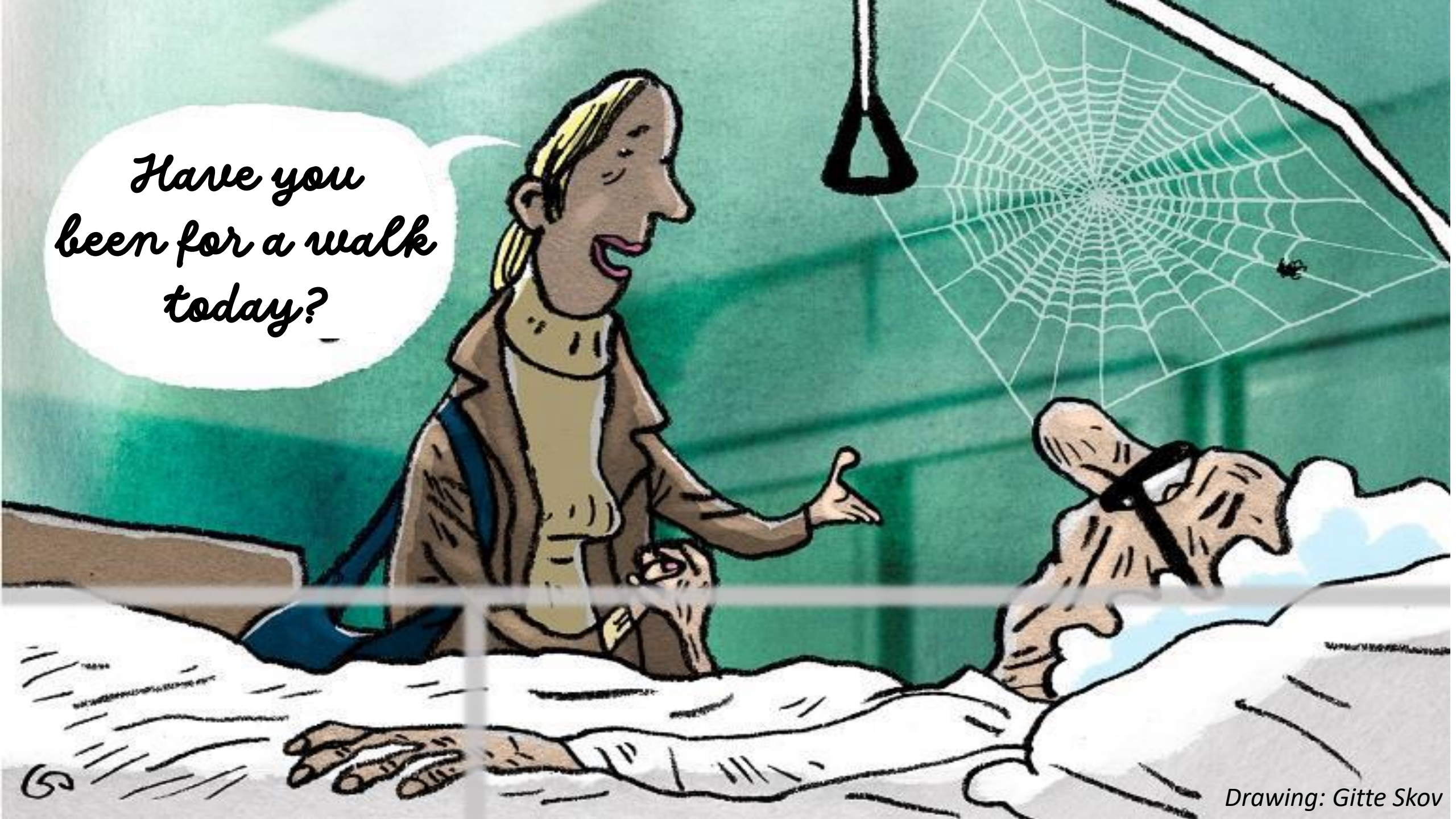
Physical activity and initiatives in the acute care setting

Mette Merete Pedersen
Senior Researcher, Department of Clinical Research, Amager and Hvidovre Hospital
Associate Professor, Department of Clinical Research, University of Copenhagen

REGION Amager og Hvidovre Hospital

PMR-C

UNIVERSITY OF COPENHAGEN
FACULTY OF HEALTH AND MEDICAL SCIENCES



Drawing: Gitte Skov

In-hospital activity at Amager-Hvidovre Hospital in 2012

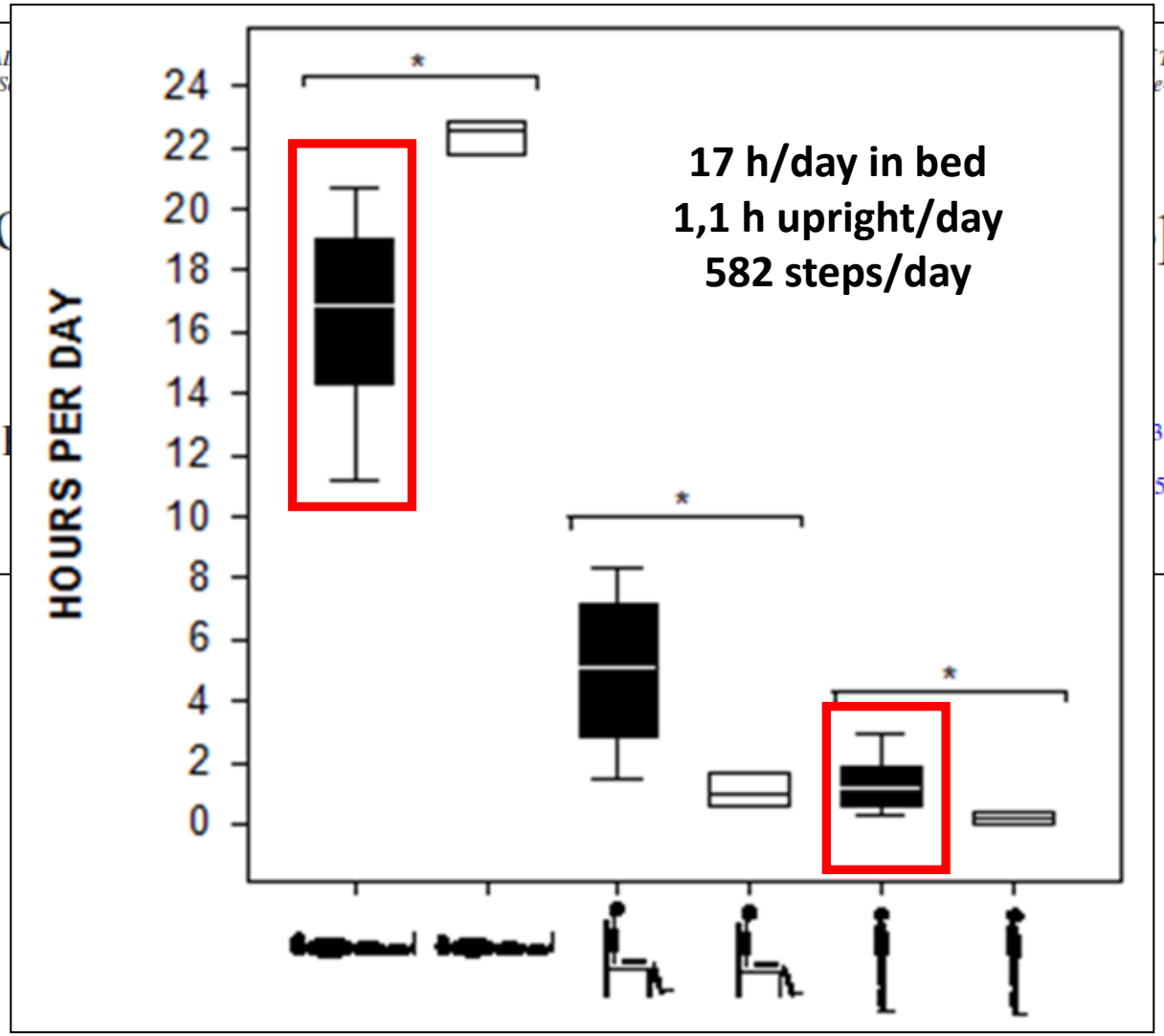
Journals of Gerontology: MEDICAL
Cite journal as: J Gerontol A Biol S
doi:10.1093/gerona/gls165

Twenty-Fo

pitalization

Mette Merete

Ove Andersen,[1]



Pedersen et al. J Gerontol A Biol Sci Med Sci 2013 March;68(3):331–337

Why bother about in-hospital inactivity with short lenghts of stay?

The Journal of the American Medical Association

Published Under the Auspices of

Vol. 125, No. 16 — Chicago, Illi

Copyright, 1944, by American Medi

ABUSE OF REST AS A THERAPEUTIC MEASURE FOR PATIENTS WITH CARDIOVASCULAR DISEASE

CHAIRMAN'S ADDRESS

TINSLEY R. HARRISON, M.D.

DALLAS, TEXAS

Rest of injured parts and of diseased bodies is probably the oldest and most valuable of all methods of treatment, with the possible exception of psychotherapy. Nevertheless we seem from time to time to forget that this therapeutic method—like all others—may lead to

of pai
cardia
death
effort
disease
aortic
repres
contin
and a
period
possibl
indicat
he wo
semi-i

THE EVIL SEQUELAE OF COMPLETE BED REST

IAM DOCK, M.D.

LOS ANGELES

le to ascribe to bed rest alone the
ome manifest in patients confined
atment of disease or injury. Inter-

Articles

THE LANCET

Bed rest: a potentially harmful treatment needing more careful evaluation

Chris Allen, Paul Glasziou, Chris Del Mar

Lancet 1999; **354:** 1229–33

Low Mobility During Hospitalization and Functional Decline in Older Adults

Anna Zisberg, RN, PhD, Efrat Shadmi, RN, PhD,* Gary Sinoff, MD, PhD,†‡ Nurit Gur-Yaish, PhD,§ Einav Srulovici, RN, MHA,* and Hanna Admi, RN, PhD‖*

OBJECTIVES: To examine the ass
bility levels of older hospitalized adu

Prevalence and Outcomes of Low Mobility in Hospitalized Older Patients

Cynthia J. Brown, MD,† Rebecca J. Friedkin, PhD,‡ and Sharon K. Inouye, MD, MPH,‡*

Aging impairs the recovery in mechanical muscle function following 4 days of disuse

CrossMark

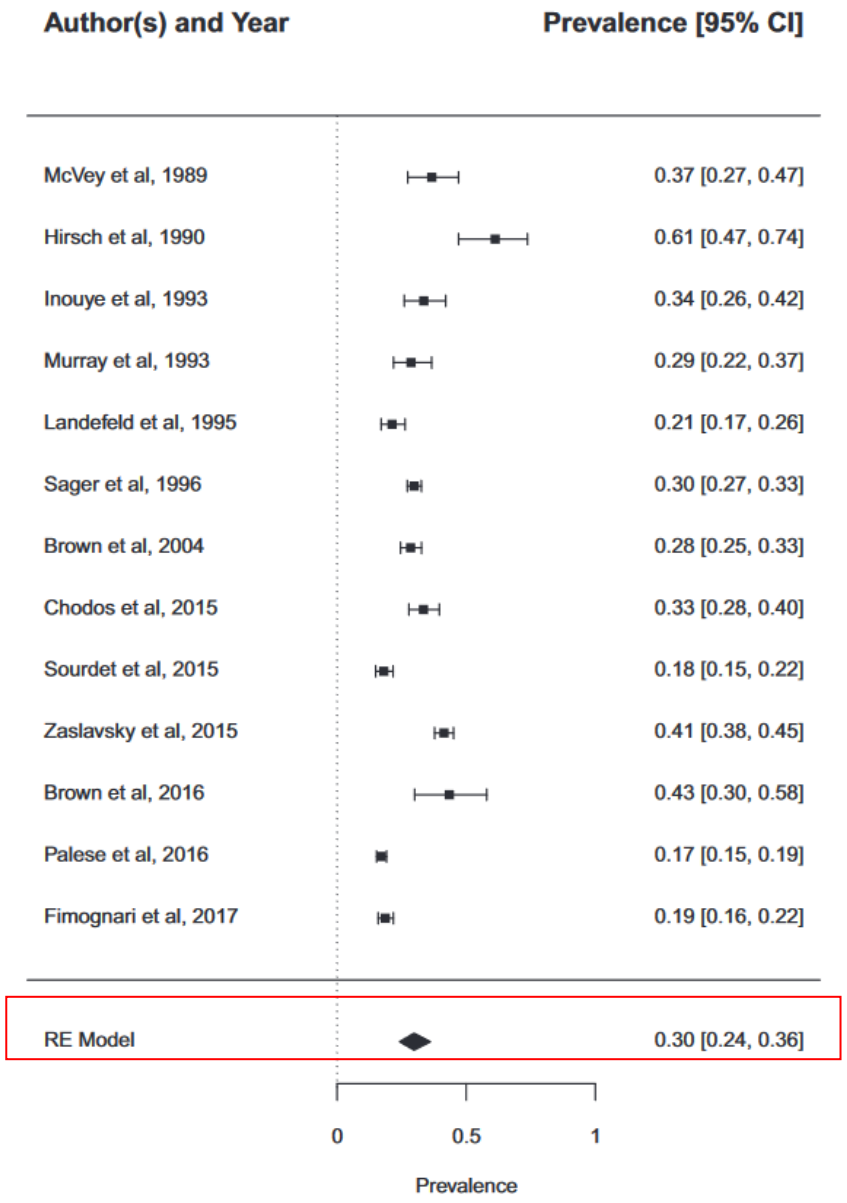
L.G. Hvid [a,*], C. Suetta [b,c], J.H. Nielsen [a], M.M. Jensen [a], U. Frandsen [a], N. Ørtenblad [a], M. Kjaer [b], P. Aagaard [a]

[a] *Institute of Sports Science and Clinical Biomechanics, SDU Muscle Research Cluster (SMRC), University of Southern Denmark, Odense, Denmark*
[b] *Institute of Sports Medicine, Bispebjerg Hospital and Center of Healthy Aging, Faculty of Health Science, University of Copenhagen, Copenhagen, Denmark*
[c] *Department of Diagnostics, Glostrup Hospital, University of Copenhagen, Denmark*

Harrison TR. JAMA. 1944;125(16):1075-1077
Allen C et al. LANCET 1999;354:1229-33
Zisberg et al.. JAGS 2011;9:266–27

Dock W. J Am Med Assoc 1944;125:1083–5.
Brown et al. JAGS 2004;52:1263–1270
Hvid LG et al. xperimental Gerontology 52 (2014) 1–8
Magne H et al. Nutrition Research Reviews (2013), 26, 149–165

We aim to avoid Hospital Associated Disability (HAD)



JAMDA 21 (2020) 455–461

ELSEVIER

JAMDA

journal homepage: www.jamda.com

Review Article

Prevalence of Hospital-Associated Disability in Older Adults: A Meta-analysis

Check for updates

Christine Loyd PhD [a,b], Alayne D. Markland DO, MSc [a,b,*], Yue Zhang PhD [a], Mackenzie Fowler MPH [c], Sara Harper PhD [a], Nicole C. Wright PhD, MPH [c], Christy S. Carter PhD [a], Thomas W. Buford PhD [a], Catherine H. Smith MLS, MPH [d], Richard Kennedy MD, PhD [a,b], Cynthia J. Brown MD, MSPH [a,b]

[a] Department of Medicine, Division of Gerontology, Geriatrics, and Palliative Care, UAB School of Medicine, University of Alabama at Birmingham, Birmingham, AL
[b] Birmingham/Atlanta Veterans Affairs Geriatric Research, Education, and Clinical Center, Birmingham Veterans Affairs Medical Center, Birmingham, AL
[c] Department of Epidemiology, University of Alabama at Birmingham, Birmingham, AL
[d] Lister Hill Library of the Health Sciences, University of Alabama at Birmingham, Birmingham, AL

Hospital associated disability (HAD) – a phenotype of frailty

Hospital-Associated Deconditioning

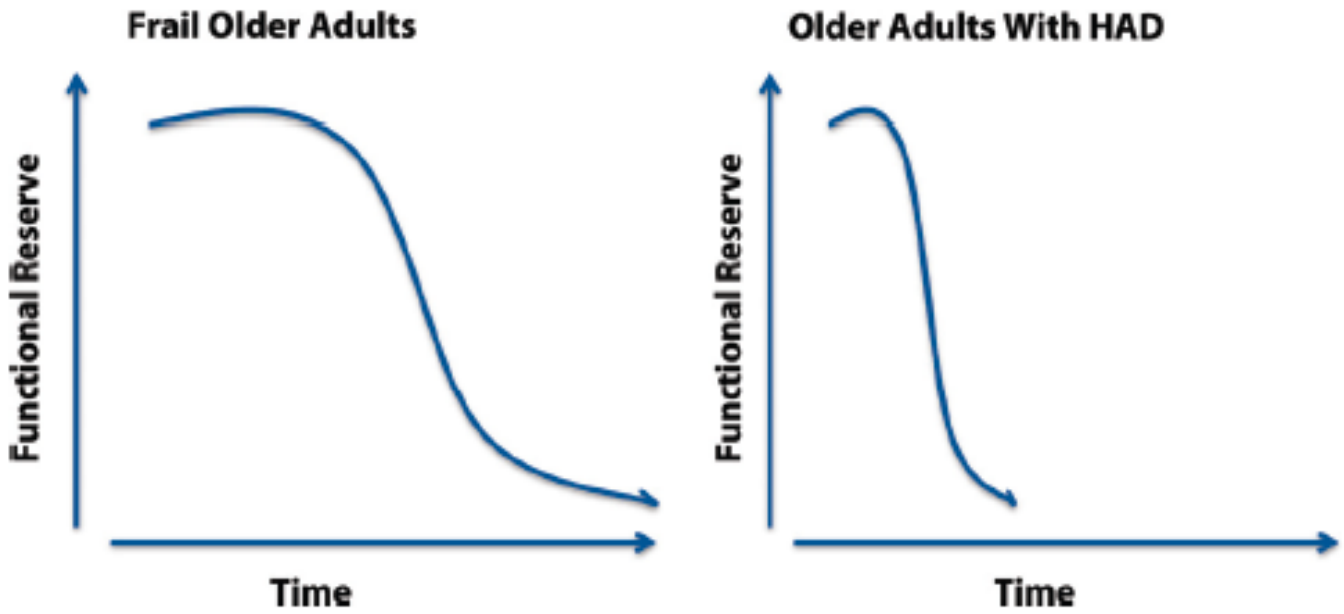


Figure 1.
Differing trajectories leading to a loss of functional reserve in older adults. HAD=hospital-associated deconditioning.

Falvey JR, Mangione KK, StevensLapsley JE. Phys Ther. 2015;95:1307–1315.]

Is in-hospital activity relevant regarding HADs?

Accelerometer-Measured Hospital Physical Activity and Hospital-Acquired Disability in Older Adults

Juliessa M. Pavon, MD, MHS,†‡ Richard J. Sloane, MPH,*†‡ Carl F. Pieper, DrPH,*†‡ Cathleen S. Colón-Emeric, MD, MHS,*†‡ Harvey J. Cohen, MD,*†‡ David Gallagher, MD,* Katherine S. Hall, PhD,*†‡ Miriam C. Morey, PhD,*†‡ Midori McCarty, MA,* and Susan N. Hastings, MD, MHS*†‡§*

JAGS 68:261-265, 2020

Community-dwelling older adults admitted to hospital (N=65)
Accelerometer for an average of 4 days
41 % experienced HAD from pre-admission to discarge

Table 1. Description of Accelerometer-Based Hospital Physical Activity and Association With Hospital-Acquired Disability

Activity Variables	Overall Sample (N = 46)	New Hospital-Acquired Disability (N = 19)[a]	No Hospital-Acquired Disability (N = 27)	Wilcoxon *P* Value
Total time in activity, h/d	1.1 (0.7-1.7)	0.80 (0.5-1.3)	1.4 (0.8-2.8)	.04
Total time sedentary, h/d	14.6 (12.8-17.1)	14.9 (13.6-18.7)	14.3 (12.4-16.4)	.16
Total steps, steps/day	1455.7 (908.5-2643.0)	1186.0 (714.3-1692.1)	1808.8 (1002.0-3849.5)	.04


Are older adults less active during hospitalization than at home?

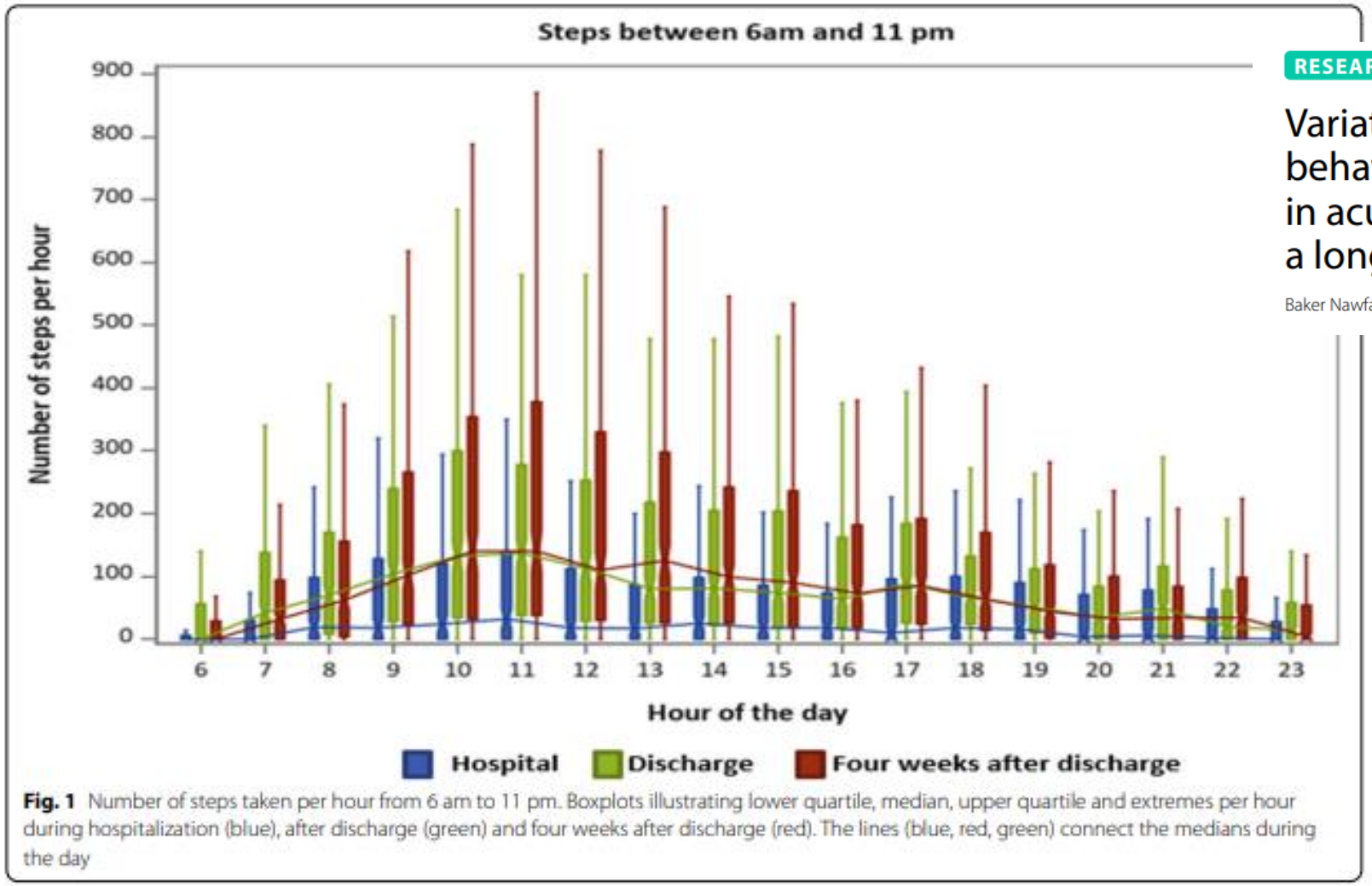


Fig. 1 Number of steps taken per hour from 6 am to 11 pm. Boxplots illustrating lower quartile, median, upper quartile and extremes per hour during hospitalization (blue), after discharge (green) and four weeks after discharge (red). The lines (blue, red, green) connect the medians during the day

RESEARCH Open Access

Variations in physical activity and sedentary behavior during and after hospitalization in acutely admitted older medical patients: a longitudinal study

Baker Nawfal Jawad[1,2,3*], Janne Petersen[1,4,5], Ove Andersen[1,2,3] and Mette Merete Pedersen[1,3]

Test time:	Patients (N)	Steps (number per day)	Uptime (hours per day)	Sedentary behavior (hours per day)
Hospitalization	48	728 (IQR: 176;2089)	1.7 h (IQR: 1.0;2.8)	21.4 h (IQR: 20.7;22.4)
Discharge	49	2207 (IQR: 1433;3148)	4.0 h (IQR: 2.7;5.4)	19.5 h (IQR: 18.1;21.0)
Four weeks after discharge	43	2622(IQR: 1714;3865)	4.0 h (IQR: 2.8;5.8)	19.6 h (IQR: 18.0;20.8)

Who is responsible for assuring in-hospital activity?

RESEARCH ARTICLE

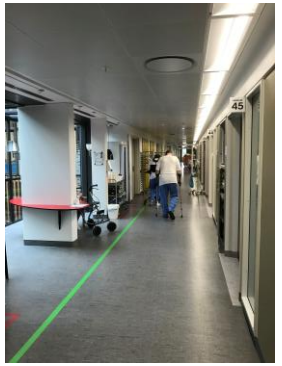
Disentangling the complexity of mobility of older medical patients in routine practice: An ethnographic study in Denmark

Jeanette Wassar Kirk[1]*, Ann Christine Bodilsen[2], Ditte Marie Sivertsen[1], Rasmus Skov Husted[1,3], Per Nilsen[4], Tine Tjørnhøj-Thomsen[5]

No profession owns the responsibility for mobilization

- Nurses, nursing assistants and physicians considered mobilization important, but not a part of the treatment and their core tasks
- Physiotherapists' emphasized exercise as their core task
- Nurses and nursing assistants considered moblization important, but only mobilized from patients from bed to chair
- Nurses and nursing assistants serviced self-reliant patients; e.g. out of convenience/habit

The WALK-Copenhagen Trial (WALK-Cph)



ENHANCING PHYSICAL ACTIVITY DURING AND AFTER HOSPITALIZATION IN OLDER ADULTS ADMITTED FOR MEDICAL ILLNESS
- through an intervention developed in co-operation with key stakeholders

Funded by:

Is WALK-Cph feasible and are the components implemented?

Pedersen *et al. Pilot and Feasibility Studies* (2022) 8:80
https://doi.org/10.1186/s40814-022-01033-z

Pilot and Feasibility Studies

RESEARCH Open Access

Feasibility and implementation fidelity of a co-designed intervention to promote in-hospital mobility among older medical patients—the WALK-Copenhagen project (WALK-Cph)

Britt Stævnsbo Pedersen[1], Jeanette Wassar Kirk[1], Maren Kathrine Olesen[2], Birk Mygind Grønfeldt[1], Nina Thórný Stefánsdóttir[1], Rasmus Brødsgaard[1], Tine Tjørnhøj-Thomsen[3], Per Nilsen[4], Ove Andersen[1,5], Thomas Bandholm[1,6,7,8] and Mette Merete Pedersen[1,6*]

Table 4 A 24-h mobility assessed over 48 h in feasibility cohorts

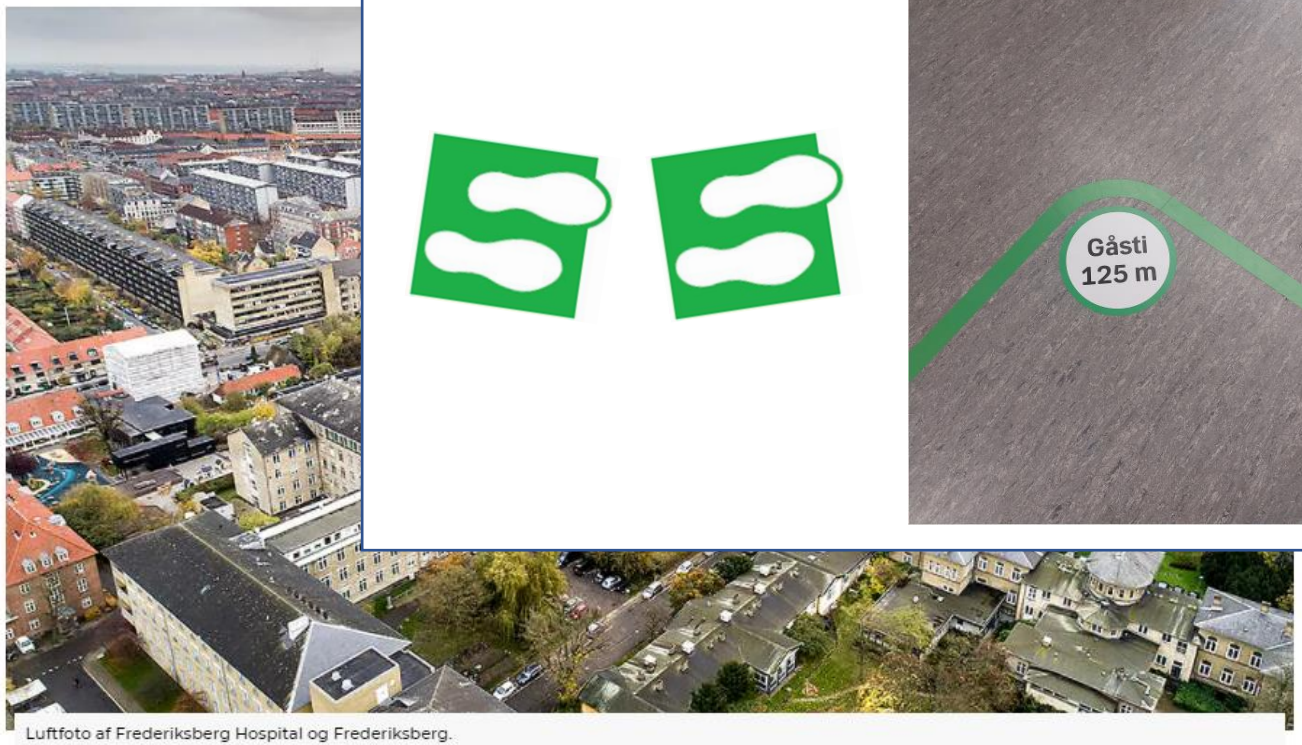
Hospital A		
24 h	Baseline cohort *N*=20, median (IQR)	Feasibility cohort I *N*=16, median (IQR)
Uptime, h/day	1.26 (0.69, 2.12)	2.11 (1.48, 3.04)
Number of steps, no./day	518 (115, 1333)	1055 (308, 1953)
Time spent lying, h/day	22.7 (21.89, 23.29)	21.3 (20.67, 22.44)
Hospital B		
24 h	Baseline cohort *N*=20, median (IQR)	Feasibility cohort III *N*=16, median (IQR)
Uptime, h/day	1.98 (1.02, 3.28)	2.05 (1.12, 3.57)
Number of steps, no./day	1150 (486, 2236)	1893 (1339, 3324)
Time spent lying, h/day	21.4 (20.65, 22.47)	21.7 (20.44, 22.38)

How does it feel to be hit by real life in clinical research?

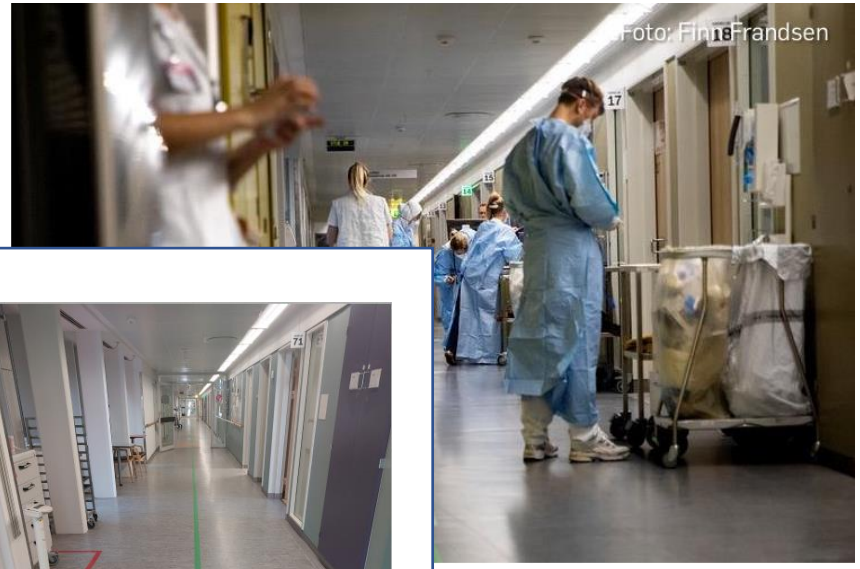
Historisk hospital lukker: Nu efterlyses idéer fra borgerne

Alle er velkomne til åben ideworkshop om, hvordan byens nye kvarter skal være, når Frederiksberg Hospital lukker.

Lyt til artiklen



Luftfoto af Frederiksberg Hospital og Frederiksberg.
Foto: Niels Ahlman Olesen / Ritzau Scanpix



What are the patients' and physicians' perspectives?

Geriatric Nursing 42 (2021) 46–56

Contents lists available at ScienceDirect

Geriatric Nursing

journal homepage: www.gnjournal.com

Older medical patients' experiences with mobility during hospitalization and the WALK-Copenhagen (WALK-Cph) intervention: A qualitative study in Denmark

Nina Þórný Stefánsdóttir, MSc (Anthropology)[a,*], Mette Merete Pedersen, PT, MHSc, PhD[a,b], Tine Tjørnhøj-Thomsen, PhD, Professor[c], Jeanette Wassar Kirk, MScN (nursing), PhD[a,d]

geriatrics

Article

Is Promotion of Mobility in Older Patients Hospitalized for Medical Illness a Physician's Job?—An Interview Study with Physicians in Denmark

Mette Merete Pedersen [1,2,*], Rasmus Brødsgaard [1], Per Nilsen [3] and Jeanette Wassar Kirk [1,4]

The intervention was regarded as meaningful and relevant

Patient mobility is influenced by encouragement and support from staff and relatives, the physical environment and their illness perception

Facilitators for mobility

Physician encouragement

Enhanced collaboration between professions

Barriers for mobility

Environment not fit for mobility

Bedrest is part of the culture

Lack of time and ressources

What are the recommendations for physical activity during hospitalization?

Baldwin *et al. International Journal of Behavioral Nutrition and Physical Activity* (2020) 17:69
https://doi.org/10.1186/s12966-020-00970-3

International Journal of Behavioral Nutrition and Physical Activity

RESEARCH Open Access

Recommendations for older adults' physical activity and sedentary behaviour during hospitalisation for an acute medical illness: an international Delphi study

Claire E. Baldwin[1*], Anna C. Phillips[2], Sarah M. Edney[2] and Lucy K. Lewis[1,3]

Recommendations for physical activity - a snapshot

Clear professional roles and responsibilities (e.g. through directives for mobility) are needed to enable older adults to be physically active - it should be a **shared responsibility**

Physical activity should be **incorporated into the daily care** of older adults with a focus on **function, independence and activities of daily living**

Older adults should aim to be **as active as possible** during hospitalisation for an acute medical illness

Older adults who can walk independently should be **encouraged to** do so

Older adults should **break up sedentary time** by standing up and or/walking as often as possible, with assistance as needed, and **minimise long periods** of uninterrupted **sedentary behaviour**

…

Ongoing initiatives to get patients out of bed

Can we enhance mobility by videos with Bodil Jørgensen?

- Collaboration between PMR-C and Communications
- Short video ”Get out of bed” (https://www.hvidovrehospital.dk/komudafsengen)
- Exercise recommendations


Gå ture på gangen
- Nej, det er godt det her!
- Og så stopper vi lige op en
rundt.


Gentag 5-10 gange
3 gange dagligt
ned hænderne. Godt.
Neeeej!


Gå op og ned
ad trapper -
få gerne
pulsen lidt op
- Uha!
stiller den lige her? Sådan der, ikke?


Skolestuen
Gå gerne min. 30
minutter om dagen -
men husk at alle skridt
tæller
- Og så kan man gå hen i kiosken og det hele.


Tag fat i stolen
rejs dig langsomt
- Sådan der. Lige præcis.
- Sådan der. Så godt.

HIP-ME-UP

Understanding and explaining clinical practice regarding basic mobility, physical activity and exercise in patients following a HIP fracture

Project group

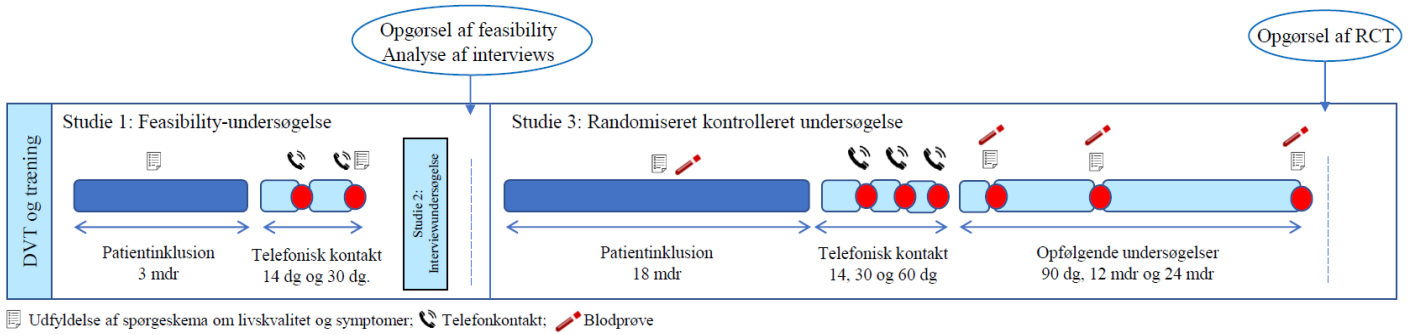
In collaboration with

HIP-ME-UP RESEARCH PROGRAM

HIP-ME-UP PHASE 1 | HIP-ME-UP PHASE 2

STUDY 1	STUDY 2	STUDY 3	STUDY 4	STUDY 5
Basic mobility & Baseline physical activity and exercise	Observation of clinical practice	Document analysis	Interview study	Intervention study
2023	End of 2023	2024	2024-2025	2025→

Can physiotherapist guidance on physcial activity for patients (18+) acutely admitted with Deep Venous Trombosis enhance quality of life?



INTRODUKTION – TO UGERS RAMP-UP PROCEDURE

TIDPERIODE: Baseline til to uger

INTERVENTION:

- **Vejledning af fysioterapeut om initiering af fysisk aktivitet efter DVT-tilfælde**
- **Gangtræning op til 30 min/dag ved moderat intensitet (BORG skala 12-13)**

PROGRESSION

TIDSPERIODE: To til fire uger

INTERVENTION:

- **Vejledning af fysioterapeut i progrediering af fysisk aktivitet efter DVT-tilfælde**
- **Gangtræning 30 min/dag ved moderat intensitet (BORG skala 12-13)**
- **Fysisk aktivitet/styrketræning 2 x 20 min/uge ved høj intensitet (BORG skala 14-16)**

PROGRESSION/FASTHOLDELSE

TIDSPERIODE: Fire uger til tre måneder

INTERVENTION:

- **Vejledning af fysioterapeut i progrediering/fastholdelse af fysisk aktivitet efter DVT-tilfælde**
- **Gangtræning/mulig opstart af løb op til 30 min/dag ved moderat intensitet (BORG skala 13-14)**
- **Fysisk aktivitet/styrketræning 2 x 20 min/uge ved høj intensitet (BORG skala 14-16)**
- **Motiverende samtale med fysioterpeut om fastholdelse af træning**

Note: Programmet illustrerer forløbet for deltagere i det randomiserede kontrollede studie (Studie 3). Feasibilitystudiet udføres til om med uge 4 (Introduktion og Progression).

Course in ”Physical activity during hospitalization”

Program - Dag 1

8.30-9.00: **Velkomst, introduktion og præsentation**
v. Line Rokkedal, Kira Skibdal, Thomas Bandholm & Mette Pedersen

9.00-9.45: **”Den aldrende krop”**
v. Thomas Bandholm

9.45-10.00: **Pause**

10.00-10.45: **Fysisk aktivitet**
v. Mette Pedersen

10.45-11.00: **Pause**

11.00-11.45: **Konsekvenser af indlæggelser og i**
v. Mette Pedersen

11.45-12.30: **Frokostpause**

12.30-13.15: **Eksisterende tiltag der har til formå**
v. Line Rokkedal & Kira Skibdal

13.15-13.30: **Præsentation af hjemmeopgave**
v. Line Rokkedal & Kira Skibdal

13.30-13.45: **Pause**

13.45-14.30: **Gruppearbejde med forberedelse af**
v. Line Rokkedal, Kira Skibdal & tutore

14.30-15.00: **Opsamling på dagen**
v. Line Rokkedal, Kira Skibdal, Thoma

Program - Dag 2

8.30-8.45: **Intro til dagen**
v. Line Rokkedal & Kira Skibdal

8.45 -9.30: **Ernærings- og træningsindsatser hos ældre med geriatriske problemstillinger**
v. Aino/Oliva (diætister)

9.30-10.15: **Sarkopenisk dysfagi**
v. Tina Hansen

10.15-10.30: **Pause**

10.30-11.30: **Første del af fremlæggelser af gruppeopgaver**
v. Tutorer

11.30-12.15: **Frokostpause**

12.15-12.45: **Andel del af fremlæggelser af gruppeopgaver**
v. Tutorer

12.45-13.00: **Plenumopsamling og refleksioner over gruppeopgaver**
v. Line Rokkedal, Kira Skibdal, Thomas Bandholm & Mette Pedersen

13.00-13.15: **Pause**

13.15-13.30: **Småskalaafprøvninger af kliniske indsatser**
v. Line Rokkedal & Kira Skibdal

13.30-14.30: **Simple tests af fysisk funktionsevne (inkl. praktisk afprøvning)**
v. Line Rokkedal, Kira Skibdal, Thomas Bandholm & Mette Pedersen

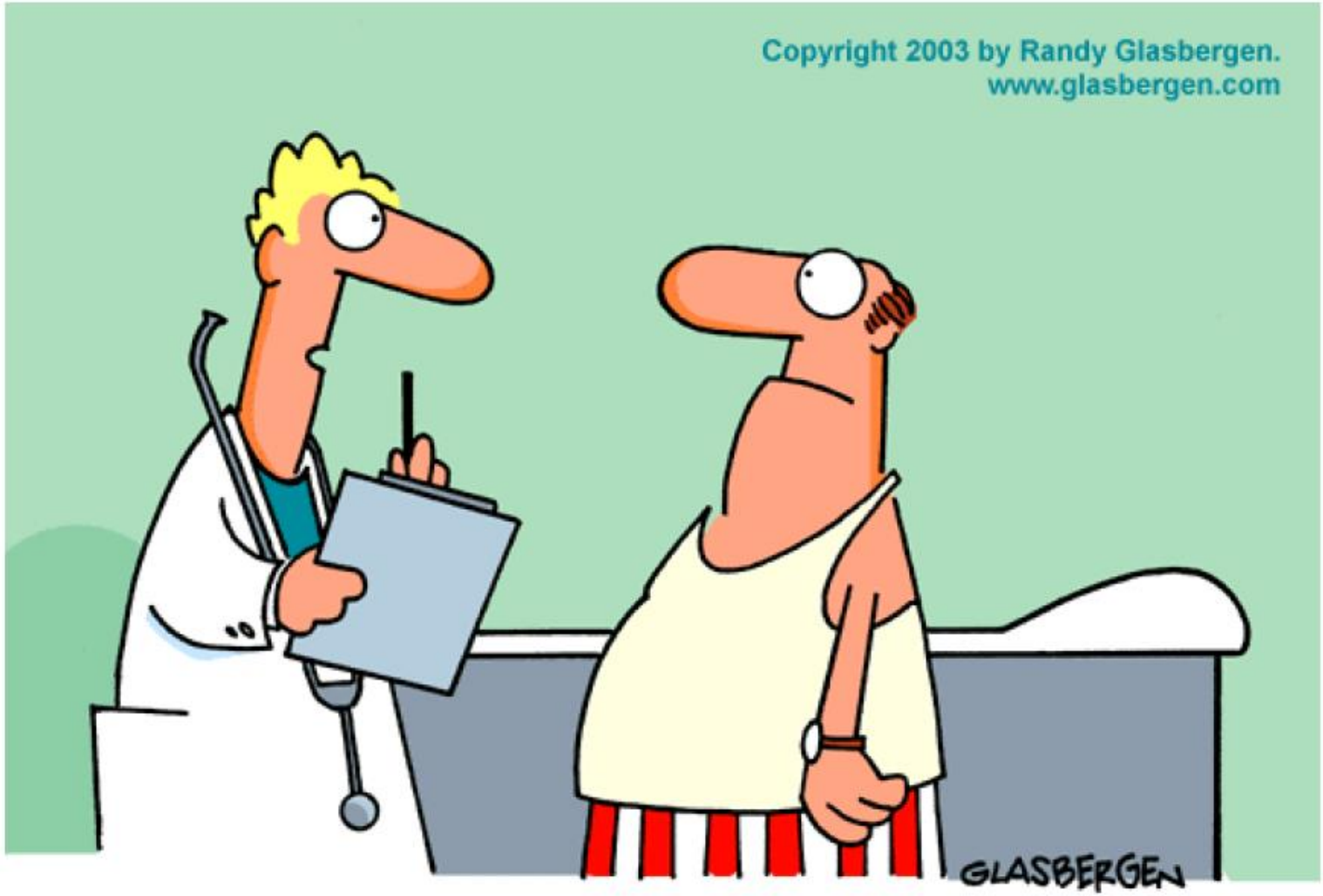
14.30-14.45: **Fokus på fysisk aktivitet i sektorovergange**
v. Line Rokkedal & Kira Skibdal

14.45-15.00: **Afrunding og evaluering**
v. Line Rokkedal, Kira Skibdal, Thomas Bandholm & Mette Pedersen

Attendees will gain knowledge on the importance of physical activity during hospitalization and skills to facilitate activity in older adults with co-morbidities

PMR-C

Teachers
Thomas Bandholm, Mette Merete Pedersen, Line Rokkedal, Kira Skibdal, Tina Hansen, Olivia Bornæs



"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"