

ZWIFT CYKELPROJEKT TIL PERSONER MED PARKINSONS SYGDOM

Klar til næste pandemi – med velfærdsteknologi

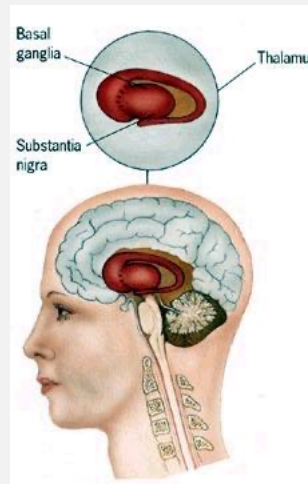
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PARKINSON SYGDOM ER EN **HJERNESYGDOM**

- En kronisk progressiv neurologisk sygdom
- Nedsat produktion af signalstoffet dopamin i hjernestammen -



SYMPTOMER

Motorsymptomer

- Rysten i hvile (2/3)
- Muskelstivhed
- Langsomme bevæg
- Balance problemer

Non-motorsymptomer

- Blære forstyrrelser
- Forstoppelse
- Apati/angst
- Depression
- Træthed
- Kognition/tænkeevne
- m.fl

DOPAMIN

PARKINSON'S DISEASE IS CAUSED BY THE
DEATH OF DOPAMINE CELLS.

60 TO 80%

OF THESE CELLS ARE ALREADY LOST BY
THE TIME MOTOR SYMPTOMS APPEAR.



www.michaeljfox.org

FUNKTION AF DOPAMIN I HJERNESTAMMEN

Automatisering af balance og gang.

Sætter bevægelser i gang.

Styrer vores holdningsbevægelser.

Styrer vores bevægelsesrækkefølge.

Betydning for tempo for tænkeevne.

Betydning for informations bearbejdning.

ANTAL PERSONER MED PARKINSONS SYGDOM

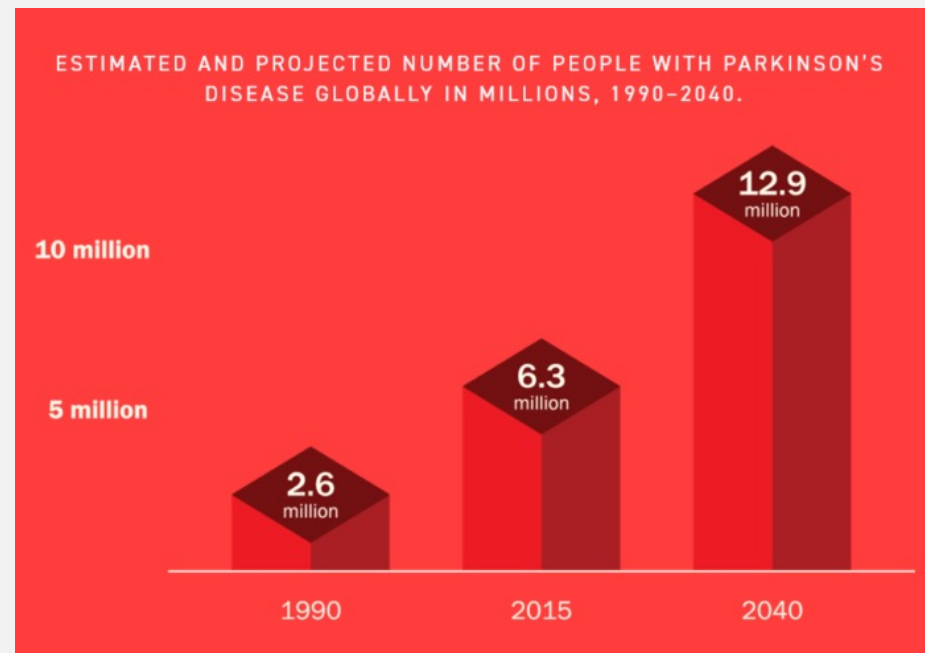
Parkinsonsforeningen tal

12.000 personer

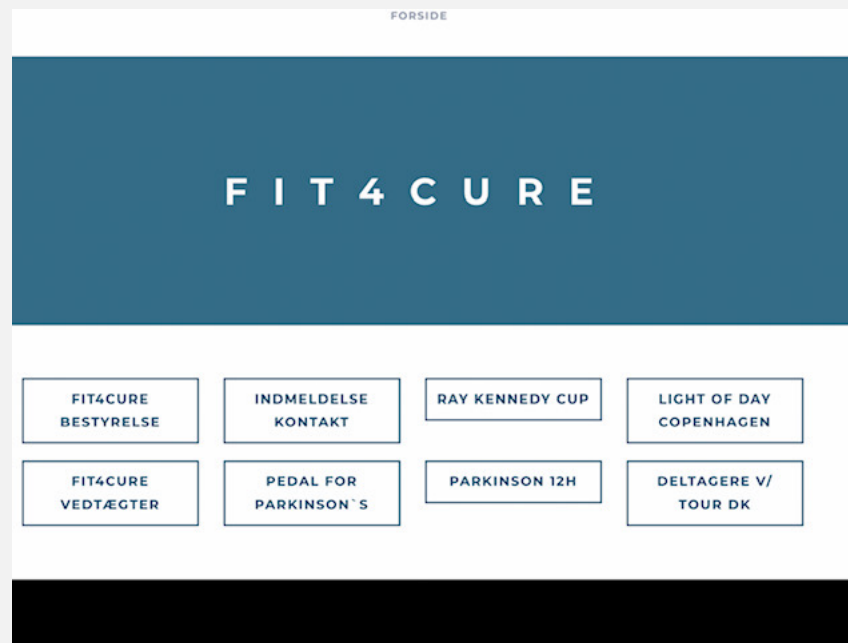
Hvert år får 1.500 personer sygdommen i Danmark –

Flere mænd end kvinder.

FREMTID – FLERE MED PD!



ZWIFT CYKELPROJEKT



ZWIFT CYKELPROJEKT I PRAKSIS

Projektstart juli 2020 – 2 personer

Fit4Cure udlåner hometrainer ud –

Firma sponsorater betaler projektet

Vi har d.d. 30 stk uden i hele landet –

Vi sætter ture om tirsdag, torsdag og søndag –

Normalture vare ca. 1 time – alle køre sammen.

Begyndende samarbejde med Norge -

FYSISK AKTIVITET OG PARKINSONS SYGDOM

Personer med Parkinsons er 29 % mindre fysisk aktive end tilsvarende aldersgruppe(1)

Effekter/assosiationer (2)

- Motorisk funktion
- “Sygdomsprogression”
- Kognitiv funktion
- Evnen til at klare sig selv (dagligdagssituationer)
- Livskvalitet (PDQ39)

En hver kropsbevægelse produceret af skeletmuskler, der resulterer i energiforbrug

- Sport
- Motion
- Træning
- Havearbejde
- Gåture
- Dagligdagsaktiviteter
- Småøvelser - aktivering ved familie/personale

1. van Nimwegen, M., A. D. Speelman, E. J. Hofman-van Rossum, S. Overeem, D. J. Deeg, G. F. Borm, M. H. van der Horst, B. R. Bloem, and M. Munneke. 2011. 'Physical inactivity in Parkinson's disease', *J Neurol*, 258: 2214-21.

2. Oguh O, Eisenstein A, Kwasny M et al. Back to the basics: regular exercise matters in parkinson's disease: results from the National Parkinson Foundation QII registry study. *Parkinsonism Relat Disord* 2014;20(11):1221-5.

TRÆNING TIL PERSONER MED PARKINSONS

- Formål
“at reducerer funktionstab, forbedre livskvaliteten og forebygge livsstilssygdomme.”

Planlagt og struktureret fysisk aktivitet, som gennemføres jævnligt for at vedligeholde eller forbedre fysisk form og velbefindende.

- Aktiv deltagelse i sygdomsforløb
- Holdtræning (sammenhold/erfaringsudveksling)

Parkinson's Exercise Recommendations

Parkinson's is a progressive disease of the nervous system marked by tremor, stiffness, slow movement and balance problems.

Exercise and physical activity can improve many motor and non-motor Parkinson's symptoms:



Aerobic Activity

3 days/week for at least 30 mins per session of continuous or intermittent at moderate to vigorous intensity

TYPE: Continuous, rhythmic activities such as brisk walking, running, cycling, swimming, aerobics class

CONSIDERATIONS: Safety concerns due to risks of freezing of gait, low blood pressure, blunted heart rate response. Supervision may be required.



Strength Training

2-3 non-consecutive days/week for at least 30 mins per session of 10-15 reps for major muscle groups; resistance, speed or power focus

TYPE: Major muscle groups of upper/lower extremities such as using weight machines, resistance bands, light/moderate handheld weights or body weight

CONSIDERATIONS: Muscle stiffness or postural instability may hinder full range of motion.

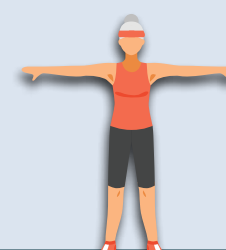


Balance, Agility & Multitasking

2-3 days/week with daily integration if possible

TYPE: Multi-directional stepping, weight shifting, dynamic balance activities, large movements, multitasking such as yoga, tai chi, dance, boxing

CONSIDERATIONS: Safety concerns with cognitive and balance problems. Hold on to something stable as needed. Supervision may be required.



Stretching

>2-3 days/week with daily being most effective

TYPE: Sustained stretching with deep breathing or dynamic stretching before exercise

CONSIDERATIONS: May require adaptations for flexed posture, osteoporosis and pain.



See a physical therapist specializing in Parkinson's for full functional evaluation and recommendations.



Safety first: Exercise during on periods, when taking medication. If not safe to exercise on your own, have someone with you.



It's important to **modify and progress** your exercise routine over time.



Participate in **150 minutes** of moderate-to-vigorous exercise per week.



Helpline: 800.473.4636/Parkinson.org

Fysioterapeutisk Træning

- Klinik
- Fokus motoriske udfordringer

Selvtræning

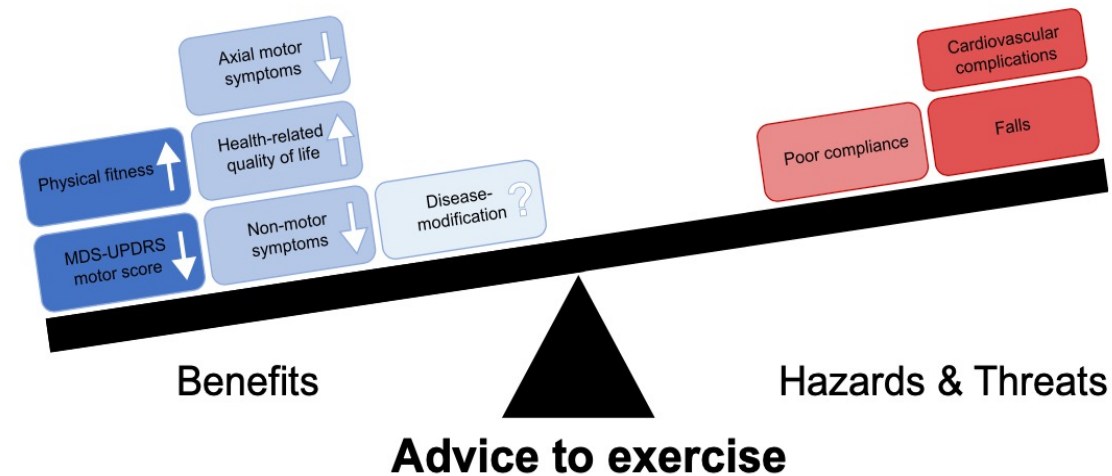
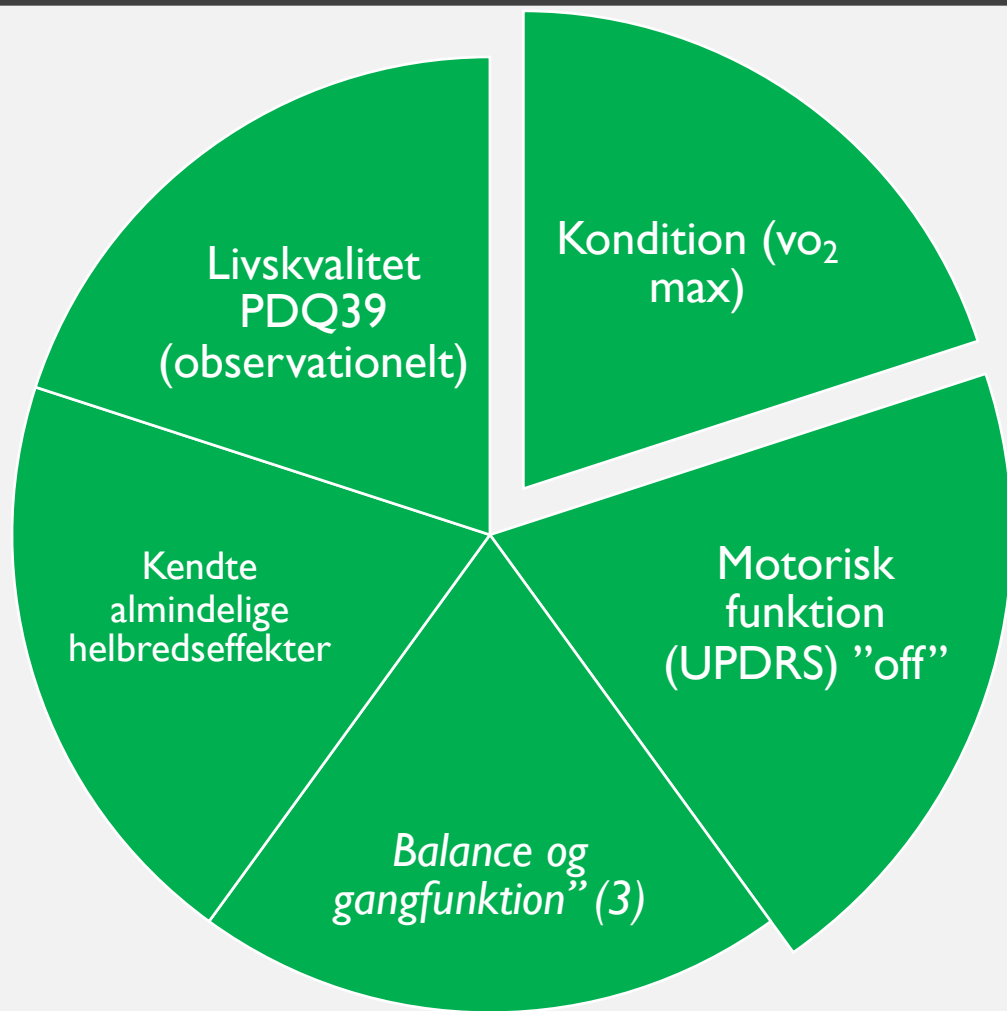
- Sport og motion (Pt erfaring)
- Fælleskaber (Zwift)
- Fokus motivation, mængde og afstigmatisering

Foreningstilbud

- Boksning
- Dans
- Bordtennis



KONDITIONSTRÆNING EFFEKT (I)



(MDS-)UPDRS-III off

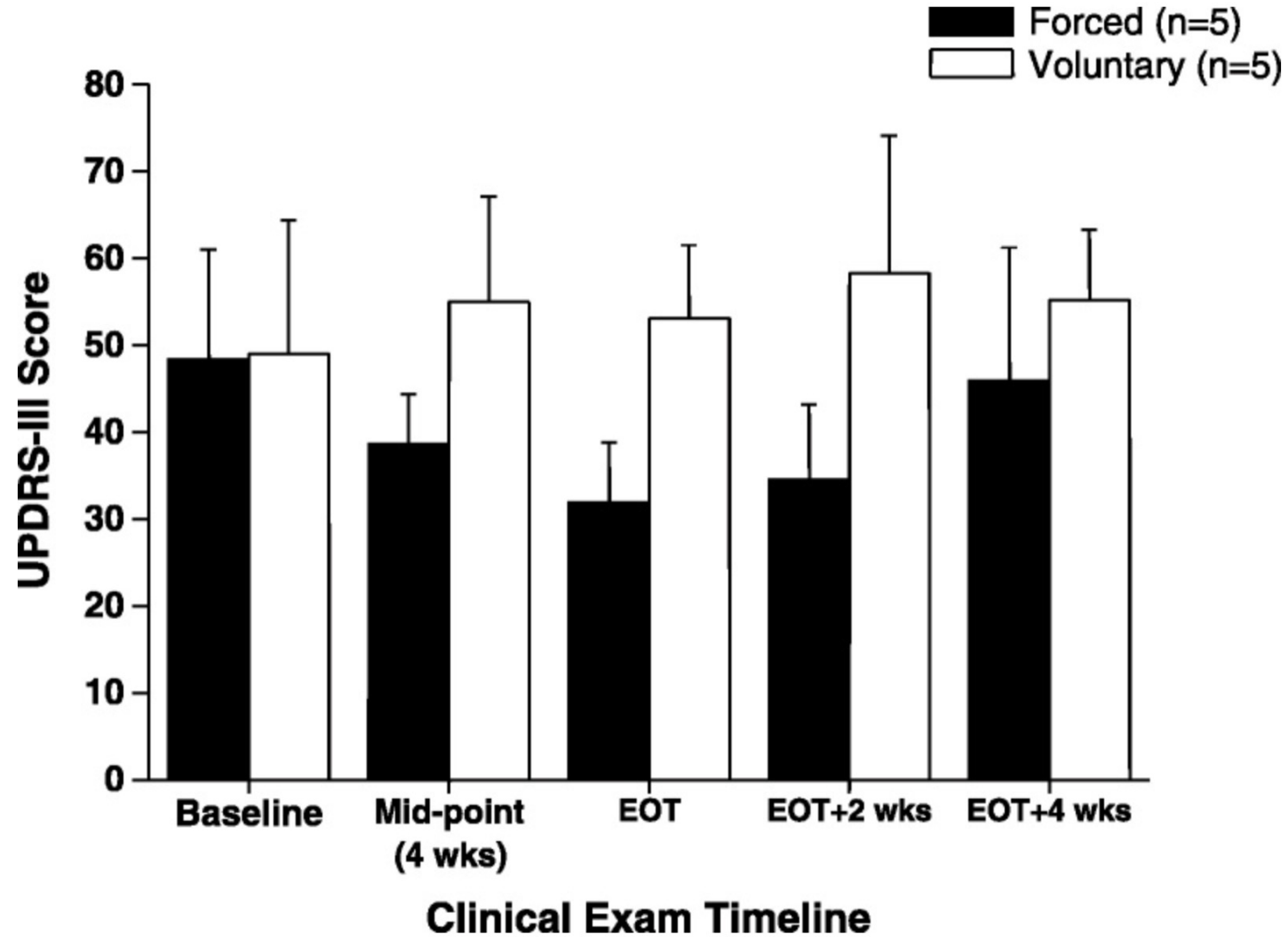
Study or Subgroup	Aerobic Exercise			Control			Weight	Std. Mean Difference	Std. Mean Difference
	Mean	SD	Total	Mean	SD	Total		IV, Random, 95% CI	IV, Random, 95% CI
Sacheli 2019	23.65	11.49	20	25.08	14.31	15	15.1%	-0.11 [-0.78, 0.56]	
Schenkman HIT 2018	22.4	10.5	39	25.7	11.5	38	22.0%	-0.30 [-0.75, 0.15]	
Schenkman LIT 2018	22.7	9.4	42	25.7	11.5	38	22.3%	-0.28 [-0.73, 0.16]	
van der Kolk 2018	24.62	8.89	21	26.93	11.67	15	15.2%	-0.22 [-0.89, 0.44]	
Van der Kolk 2019	29	2.5	65	31.4	2.5	65	25.3%	-0.95 [-1.32, -0.59]	
Total (95% CI)			187			171	100.0%	-0.42 [-0.77, -0.08]	
Heterogeneity: Tau ² = 0.09; Chi ² = 9.67, df = 4 (P = 0.05); I ² = 59%									
Test for overall effect: Z = 2.39 (P = 0.02)									
									

**Dosis respons effekt
(intensitet) (2)**

**Kognition?
3/6**

1. Schootemeijer, Sabine, et al. "Current Perspectives on Aerobic Exercise in People with Parkinson's Disease." *Neurotherapeutics*(2020): 1-16.
2. Schenkman M, Moore CG, Kohrt WM, et al. Effect of High- Intensity Treadmill Exercise on Motor Symptoms in Patients With De Novo Parkinson Disease:A Phase 2 Randomized Clinical Trial. *JAMA Neurol* 2018;75(2):219-226.
3. Radder, Danique LM, et al. "Physiotherapy in Parkinson's Disease:A Meta-Analysis of Present Treatment Modalities." *Neurorehabilitation and neural repair* 34.10 (2020): 871-880.

Forceret kadance (cykel)



Blinded clinical ratings Unified Parkinson's Disease Rating Scale, Part III Motor Section (UPDRS-III) scores for patients in the voluntary exercise (VE; *open bars*) and forced exercise (FE; *filled bars*) groups at baseline, midpoint (4 wk of exercise), end of treatment (EOT). EOT + 2 wk exercise cessation and EOT + 4 wk exercise cessation.

269W

79RPM167BPM

12kph

9.7KM

393M

32:57ET

16

Alpe du Zwift 21:35

762,383

30 DAY PR ---

Road to Sky

8.1km

Sector Stats

14

159

223

1:39

13

161AVG

249AVG

2:53

12	453.01m	---
11	477.89m	---
10	0.60km	---
9	0.53km	---
8	0.62km	---
7	0.51km	---
6	1.17km	---
5	0.53km	---
4	454.95m	---
3	0.86km	---
2	441.31m	---

Alpe du Zwift



8/224.27/12.44km

Zwifters Nearby

I.Bos	1.7 w/kg	9.7KM
C.Gröbe	3.2 w/kg	9.6KM
J.Frederiksen	3.4 w/kg	9.7KM
J.Toerker [WATT]	2.7 w/kg	9.7KM
D.Schmid	2.2 w/kg	38.4KM

+7054 more

Germany

J.Toerker [WATT]

UDSTYR

- Hometrainer (fx Wahoo kick core)
- Zwift abonnement
- Racercykel
- Skærm med tilslutning
 - TV
 - Computer
 - Tablet/telefon
- Måtte og forhjulsstøtte



PANDEMI?



Morten Hillemann er glad for sin indendørs cykel, som har en herligt lys placering i hjemmet.

1. Hometrainer!
2. Teknologi som er udviklet og bruges af mange mennesker
3. Mulighed for fælleskab
4. Billigt?
5. Gør det muligt at monitorere vigtige elementer for træningen (intensitet/kadence)
6. Muligt til andre diagnosegrupper/internationalt