

Rehabilitering ved MS – Hva er nytt?

Åpent møte Hjerneuken 21.11.2018

Stine Marit Moen

Overlege, PhD

Leder for forskning og utvikling



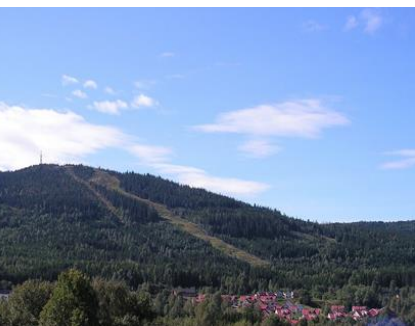
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MS-Senteret Hakadal (MSSH)

- **Spesialisert MS-rehabilitering**
 - landsdekkende rehabiliteringssenter for MS
 - del av spesialisthelsetjenesten
 - eid av MS-forbundet
 - åpnet i 1976
- **Fungerer også som et faglig ressurscenter innen MS-rehab**
 - del av ulike fagnettverk
 - deltar i ulike helsefaglige fora
 - internasjonalt samarbeid og forskning

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RIMS REHABILITATION IN
MULTIPLE SCLEROSIS

European network for best practice and research

MS Centers Europe



Visjon:

Alle personer med MS i Europa skal ha tilgang til kunnskapsbasert rehabilitering når de trenger det

Sertifisering: MS Nurse Pro-sykepleiere 2018 MSSH

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Ressursenteret for personer med MS



Sandra
Lundemo, OUS,
Norges første
sertifiserte MS
Nurse Pro

Responsiveness and meaningful improvement of mobility measures following MS rehabilitation

Ilse Baert, PT, PhD, Tori Smedal, PT, PhD, Alon Kalron, PT, PhD, Kamila Rasova, PT, PhD, Adnan Heric-Mansrud, PT, MSc, Rainer Ehling, MD, Iratxe Elorriaga Minguez, PT, Una Nedeljkovic, MD, Andrea Tacchino, PhD, Peter Hellinckx, PT, Greet Adriaenssens, PT, Gosia Stachowiak, PT, Klaus Gusowski, PT, Davide Cattaneo, PT, PhD, Sophie Borgers, PT, Jeffrey Hebert, PT, PhD, Ulrik Dalgas, MSc, PhD, and Peter Feys, PT, PhD

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Neurology® 2018;00:e1-e13. doi:10.1212/WNL.0000000000006532

Abstract

Objective

To determine responsiveness of functional mobility measures, and provide reference values for clinically meaningful improvements, according to disability level, in persons with multiple sclerosis (pwMS) in response to physical rehabilitation.

Methods

Thirteen mobility measures (clinician- and patient-reported) were assessed before and after rehabilitation in 191 pwMS from 17 international centers (European and United States).

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Multisenter datainnsamling

- **Totalt 191 personer med MS fra 17 internasjonale sentre**
(Europa og USA)
- **Norsk bidrag med data**
 - 23 personer med MS fra MSSH
 - Adnan Heric-Mansrud, leder for fysioterapiavd.
 - 10 personer med MS fra Haukeland
 - Tori Smedal, fysioterapeut



Bedring i bevegelse og gange (mobility)

- **Undersøkte om 13 ulike måleverktøy/tester fanger opp endring etter rehabilitering**
 - inkludert pasientrapporterte mål
- **Rehabilitering**
 - Minimum 10 seanser med fysio.tiltak
 - Poliklinisk eller som rehabiliteringsopphold
- **Fant stor variasjon på testene**
 - ulike evne til å fange opp bedring
 - funksjonsnivå hadde betydning
- **Definert verdier for klinisk meningsfull bedring**

Rehabilitering og arm-/håndfunksjon

Neurorehabil Neural Repair. 2016 Sep;30(8):773-93. doi: 10.1177/1545988315624785. Epub 2016 Jan 7.

Upper Limb Rehabilitation in People With Multiple Sclerosis: A Systematic Review.

Lamers I¹, Maris A², Severijns D², Dielkens W², Geurts S², Van Wijmeersch B³, Feys P².

- 30 studier, 15 spesielt rettet mot arm- og håndfunksjon
- Stor bredde og variasjon i innhold og dose (1-25 uker, 240-2880 min)
- Multidisiplinær rehabilitering og robotbasert trening: økt funksjon

Inger Grethe Løyning, ergoterapeut,

Ny studie i RIMS-nettverket:
Mastergrad i rehabilitering basert på data fra multisenterstudie som beskriver arm- og håndfunksjon-rehab.praksis i 11 europeiske rehab. institusjoner

Artikkel under bearbeidelse

The poster is titled "Content and extent of upper limb rehabilitation in multiple sclerosis across Europe - A European Multi Center Study". It features logos for "ms senteret HAKADAL AS" and "RIMS REHABILITATION IN MULTIPLE SCLEROSIS". The poster includes a list of authors, a background section, an aim, methods, results, and conclusions. Two bar charts are present: Figure 1 shows the most frequently trained activities, and Figure 2 shows the most frequently used interventions. The poster is displayed at a conference, with a woman in a pink patterned shirt standing next to it.

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RIMS REHABILITATION IN MULTIPLE SCLEROSIS

Content and extent of upper limb rehabilitation in multiple sclerosis across Europe - A European Multi Center Study -

Løyning Inger Grethe, Feys Peter¹, Jansz Joke², Santamaría Elisabet³, Raaijmakers Karolien, Kalmayer Lena⁴, Tassinari Andrea, Côté Marc-André⁵, Knaflitz Anja⁶, Nijboer Eefje, Tirosh Yael⁷, Raaijmakers Karolien, Kalmayer Lena⁴, Tassinari Andrea, Côté Marc-André⁵, Knaflitz Anja⁶, Nijboer Eefje, Tirosh Yael⁷, Raaijmakers Karolien, Kalmayer Lena⁴, Tassinari Andrea, Côté Marc-André⁵, Knaflitz Anja⁶, Nijboer Eefje, Tirosh Yael⁷

Background:
Little is known on current clinical practice of upper limb rehabilitation (ULR) in multiple sclerosis. Rehabilitation treatment taxonomy has been developed to study the active ingredients of rehabilitation treatment.

Aim:
To describe activities and interventions used in ULR for persons with MS (pMS) across Europe.

Methods:
Data were collected from 11 European centers (2008-2014). General therapy characteristics (total therapy time, average duration and frequency of sessions, setting, goals) were recorded at the end of the rehabilitation program by the team attending (rehabilitation or physical therapist). To describe and record the therapeutic activities and interventions in ULR, the standardized classification form developed by On-Drug and colleagues was used.

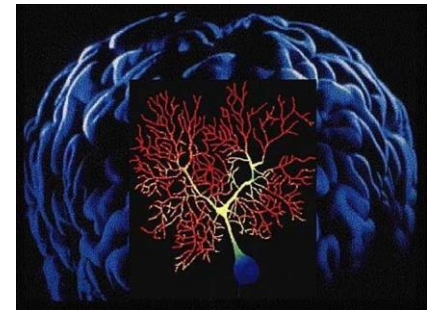
Results:
One hundred and twenty-eight pMS were included in this survey that were diagnosed between 10 to 20 (52.5%) years of age and had median EDSS score of 3.0 (IQR 2). Main goals were manual activities (20%), strength in UL (21%) and mobility in UL (20%). On average, the amount of therapy sessions (SD 10) of 40 min duration (SD 14), 5 minutes a week (SD 1.7), for 6.5 weeks (SD 3.6). The majority of therapy use involved (86.6%) manual goal therapy (22.8%). Most frequently trained activities and interventions are described in Figure 1 and 2. Interventions provided most frequently during "upper extremity control" activities were: "rehabilitation" (22.6%), "task training" (22.26%) and "transfer" (22.47%), "handwriting" (18.21%) and "task training" (18.1%), and using "home management" (using communication) (21.8%), "adaptive equipment" (18.8%) and "environmental adaptation" (17%).

Conclusions:
• Upper extremity control, functional mobility and home management cover 87% of all activities used in ULR.
• The high percentage of upper extremity control can be due to the fact that this activity includes a broad range of exercises, such as handwriting as a very specific activity.
• In "task training", "rehabilitation" and "home management" the majority of interventions are "adaptive/complementary interventions" aimed for upper extremity control and functional mobility. "rehabilitation" and "adaptive/complementary" interventions are more often used.

Disclosure: Partly funded by an educational grant from Sandoz Pharma AS in Norway.

Trening og MS - «the new era»

- **Mange gunstige effekter av å trene ved MS**
 - Generelt akseptert nå etter økende mengde data
 - vedlikeholde, fremme funksjon
 - påvirker sykdomsmekanismen?
 - Fremmer takling av symptomer
 - Motvirker inaktivitet og konsekvenser av det
 - Betydning for komorbiditet



Exercise & Task-specific Rehabilitation in MS

Exercise Therapy



Improve aerobic capacity
& muscle strength

Task-specific repeated practice



Facilitate
activity-dependent neuroplasticity
involving spinal pattern generators or
motor pathways in the brain

Baird, Sandroff & Motl (2018) Expert Review of Neurotherapeutics

universiteit
hasselt
KNOWLEDGE IN ACTION

ECTRIMS

10 - 12 OCTOBER

2018

BERLIN, GERMANY



Rehabilitering og hjerneplastisitet

OPINION ARTICLE

2017; 30(4): 257-263

Clinical implications of neuroplasticity – the role of rehabilitation in multiple sclerosis

Peter Flachenecker*

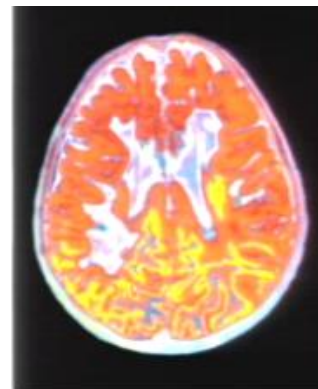
Neurologische Universitätsklinik

A functional magnetic resonance proof of concept pilot trial of cognitive rehabilitation in multiple sclerosis

Sastre-Garriga

Relating Brain Damage to Brain Plasticity in Patients With Multiple Sclerosis

Valentina Tomassini, MD, PhD^{1,2,3,4}, Heidi Johansen-Berg, PhD^{1,2}, Saad Jbabdi, PhD¹, Richard G. Wise, PhD⁵, Carlo Pozzilli, MD, PhD³, Jacqueline Palace, MD², and Paul M. Matthews, MD, PhD^{1,6,7}



Neurological
reserve



Cortical excitability changes over time in progressive multiple sclerosis

Ayache et al Functional Neurology 2015; 30(4): 257-263

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AutoActive

PROSJEKTET SKAL BRUKE KROPPSBÅRNE SENSORER OG UTVIKLE ANALYSEVERKTØY FOR AKTIVITET I TOPPIDRETT OG HOS PERSONER MED MS.

HOVEDDELEN BLIR FOKUSERT PÅ TOPPIDRETT, MENS MS-DELEN AV PROSJEKTET VIL PRØVE UT TEKNOLOGIEN OG MULIGHETENE UNDER OPPFØLGING OG REHABILITERING FOR MS.

AutoActive

- **Prosjektet ledes av Sintef Digital Smarte Sensor Systemer**
- **Involverer i tillegg fem andre forskningspartnere:**
 - NTNU ved Senter for Toppidrett
 - Olympiatoppen
 - UiO ved gruppe for Digital signalbehandling og bildeanalyse
 - OUS ved MS-klinikken
 - MS-Senteret Hakadal
- **<https://www.sintef.no/prosjekter/autoactive/>**

Takk for oppmerksomheten!

