



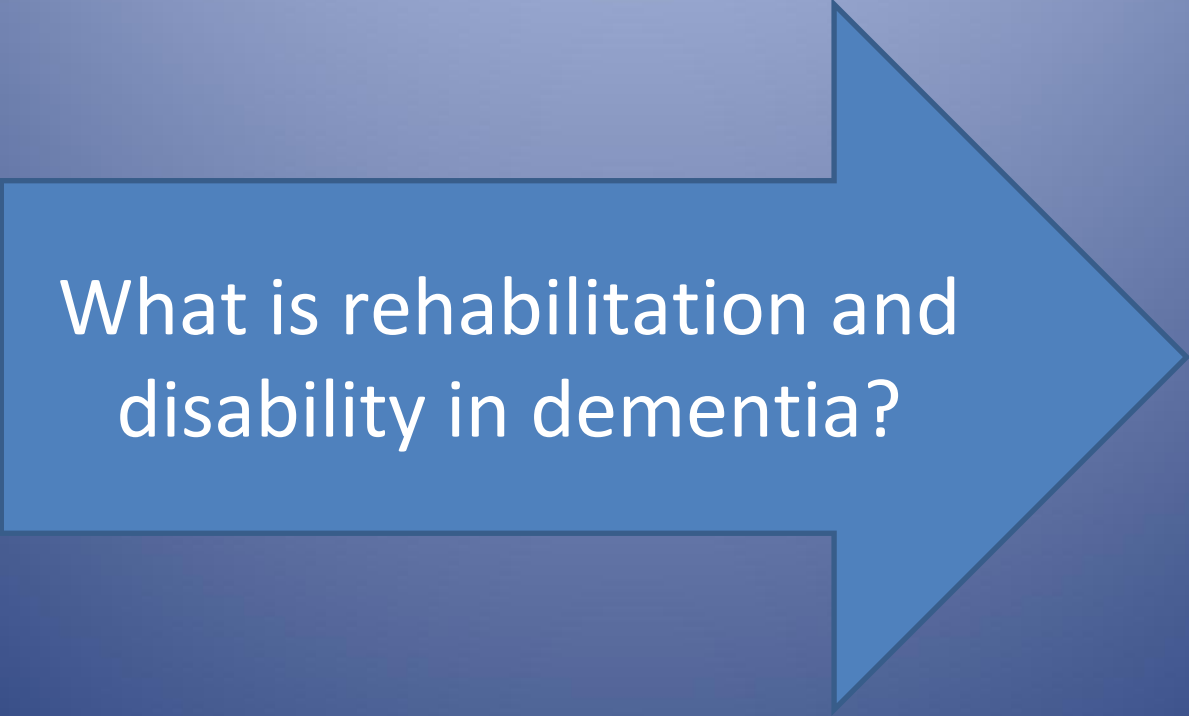
A rehabilitative approach to dementia care

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Topics covered

- Definitions of rehabilitation, functioning, disability
- Evaluating needs and targeting rehabilitation
- Is there evidence of effectiveness of rehabilitation in dementia?
- Problems and possibilities in dementia rehabilitation



What is rehabilitation and
disability in dementia?

Rehabilitation is...

- ... the process of assisting someone to improve, maintain functioning or to delay disabilities.
- Aim is to enhance autonomy, functioning, mastery and well-being.
- .. process of change in person and in environment: Involving both patient and caregiver is a fundamental question

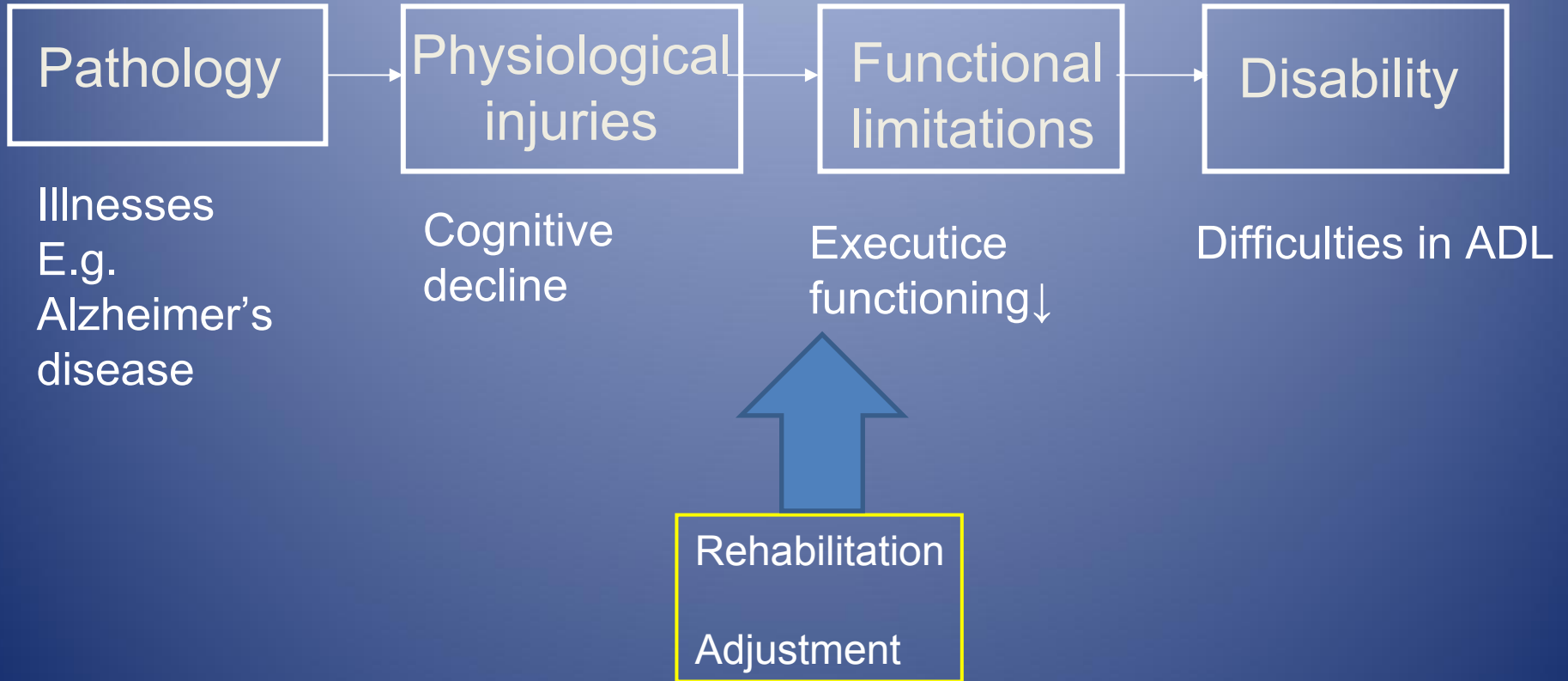
What is rehabilitation in practice?

- Traditionally physiotherapy for older patients. Often underused resource for patients with dementia
- The whole concept needs rethinking among patients with dementia →
Cognitive, psychological ja social dimensions
- Much more than medical care: comprehensive approach
- Caregiver has a central role in interpreting patient's wishes and needs.

What is functioning?

- Ability to manage daily activities
- Dependent on personal capabilities but also on environmental possibilities and social support
- Physical (ADL, IADL)
- Psychological (cognition, mood, mastery, well-being)
- Social (loneliness, social activity, isolation)

Development of disabilities





Evaluating needs and
targeting rehabilitation

Risks, needs

5. Terminal care

4. Nursing home

3. Frail, at risk for institutional care; recurrent hospitalizations, home services

2. Often comorbidities, functional limitations

1. Adequate ADL skills, Often comorbidities

Severe AD

Moderate AD

Mild AD

MCI

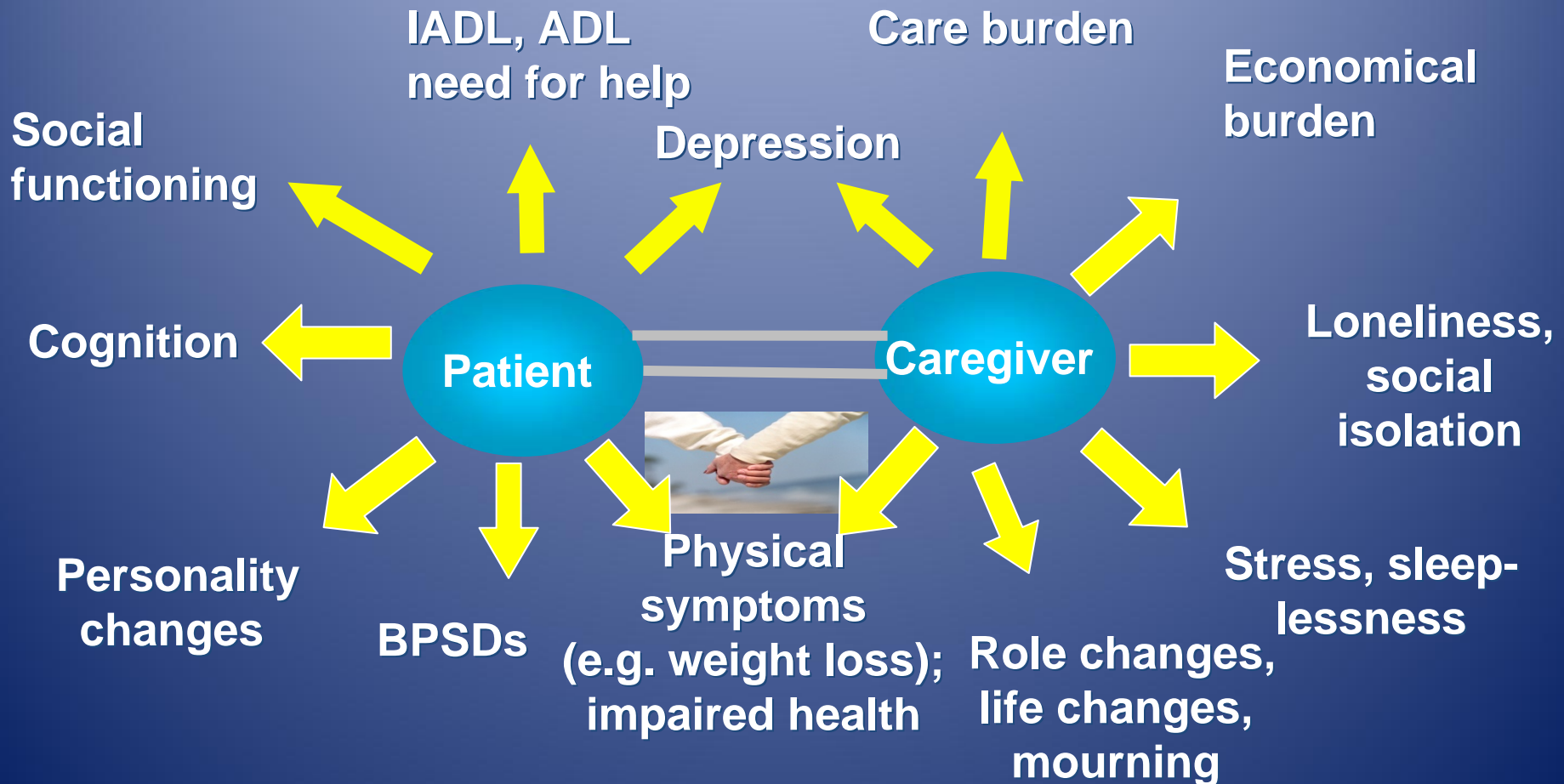
Rigidity, mobility limitation getting bed-ridden

Functional decline, neuropsychiatric symptoms, institutionalization

Frailty process, social isolation, cognitive and functional decline

Social isolation
Depression
Cognitive decline

Alzheimer's disease affects the whole family...



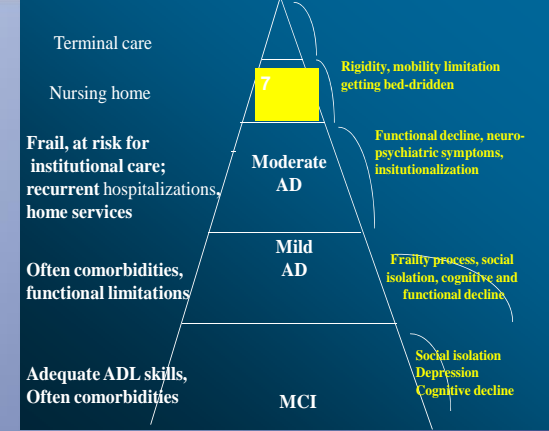


Evidence-based
rehabilitation in dementia

Studied outcomes in rehabilitation trials

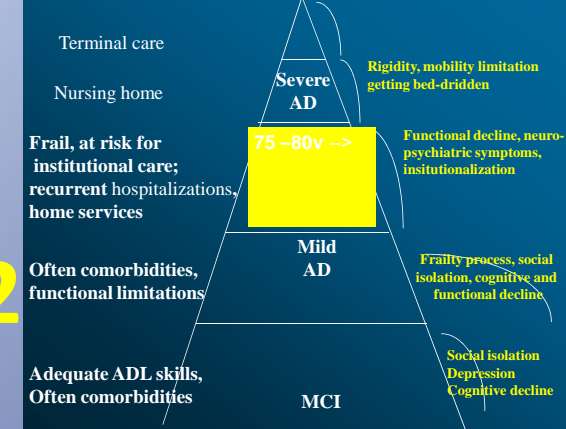
- Mobility, ADL-functioning
- Cognition
- Neuropsychiatric symptoms
- Patient's and caregiver's QOL

Enhancing mobility and physical functioning: strength/endurance training 1



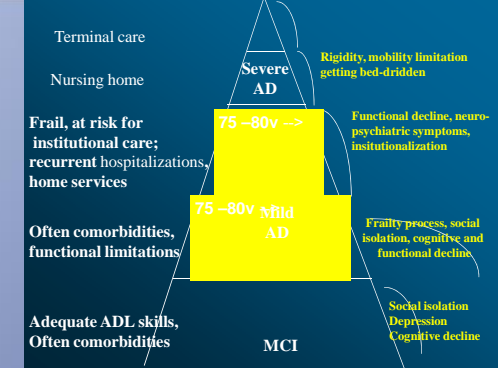
- **13 strength/endurance training** rct's performed among institutionalized patients (14-<100% suffers from dementia) (N>1300 (range 20-468))
 - 7 studies show efficacy on walking speed, ability to walk stairs, endurance
 - 3 studies show also efficacy on physical functioning
 - 4 studies no efficacy
- **3 strength/endurance training** rct's performed among institutionalized dementia patients (N=435 (range 49-134))
 - 2 studies: efficacy on mobility limitations
 - One study: efficacy on physical functioning (Rolland et al. JAGS 2007)

Enhancing mobility and physical functioning: strength/endurance training 2

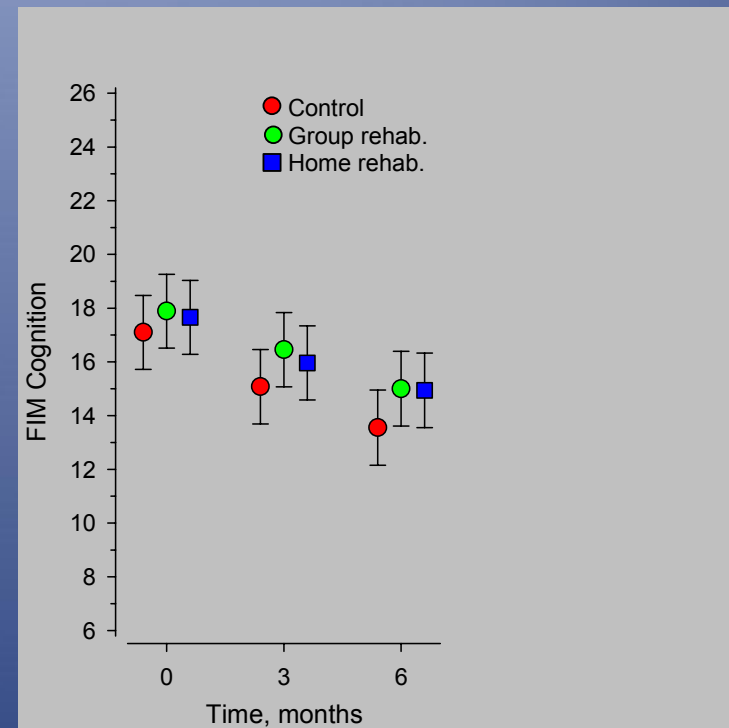
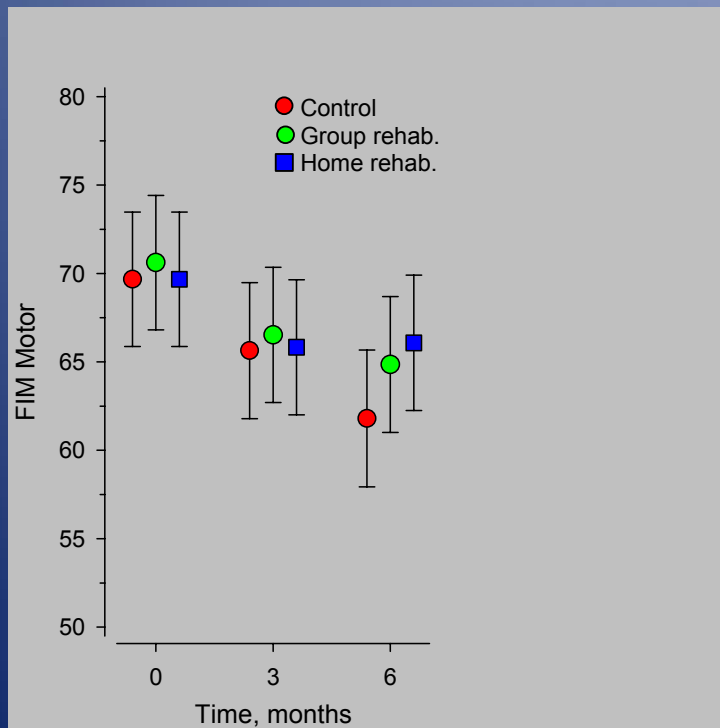


- Only three studies conducted among home-dwelling patients with dementia (N=140; (range 29-81)):
 - 2 studies – no efficacy
 - one study – improved physical functioning
- Study limitations:
 - low power,
 - interventions not very well described; intensity and duration varies,
 - target groups heterogeneous
- In general, benefits comparable to studies conducted among cognitively intact older people

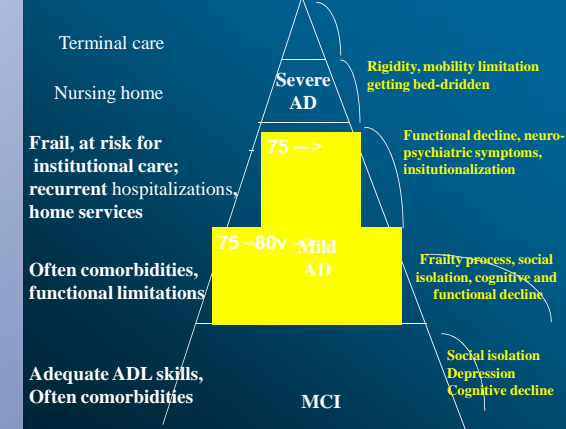
Efficacy of exercise training on AD patients 2008-2011



- 210 AD patients randomized into 3 groups: tailored home-based exercise, group exercise or control 2x/wk for one year
- Promising findings at 6 months:



Physical functioning: Occupational therapy

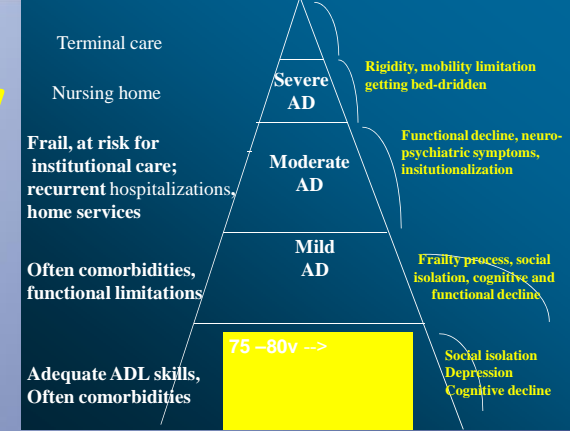


- Graff et al. BMJ 2006;333:1196:
 - rct, N=135, mild-moderate dementia, home-dwelling with caregiver
 - 10 home visits by occupational therapist during 5 weeks: tailored cognitive-behavioral intervention = guiding patient and caregiver to compensate lost skills and to adjustment
 - Physical functioning (IPPP measure) improved significantly

Cognition: physical exercise

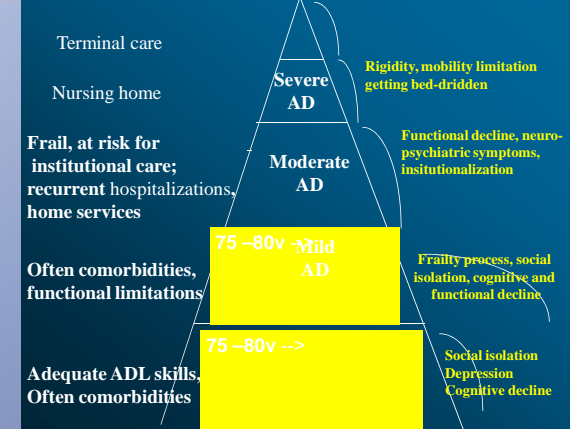
- Meta-analyses:
 - Angevaren et al. Cochrane 2008: 11 RCTs (>55y healthy elderly): exercise improves executive functioning, cognitive speed, delayed memory function
 - Heyn et al. 2008: 21 controlled trials ; (N>1400): exercise improves cognition among cognitively impaired older people. Effect sizes are similar to those seen among cognitively intact elderly.

Cognition: physical activity among MCI patients



- Lautenschlager et al. JAMA 2008;300:1027-37:
 - 170 randomized: 1. 6 months physical activity 2,5hours/wk 2. control
 - Cognition deteriorated slower in intervention > in control group (ADAS-Cog, CDR sum of boxes, word list delayed recall)

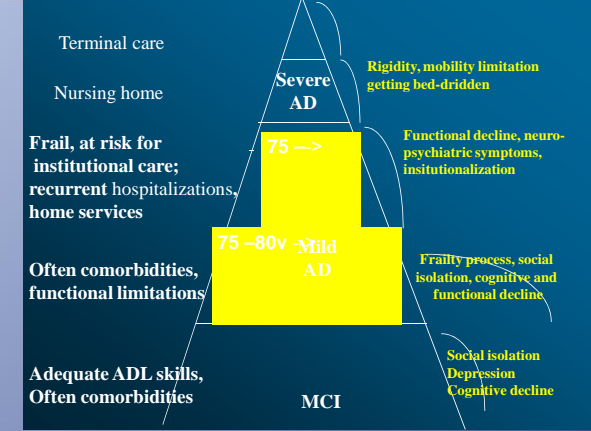
Cognition: Socializing group rehabilitation



- Pitkälä et al. J Gerontol 2009:
 - 235 older people suffering from loneliness (>74y) rct
 - socially activating group intervention (art, exercise, therapeutic writing) x 12 for 3 months
 - Cognition improved [intervention group ADAS-Cog - 2.5 (-3.2 , -1.8) vs controls -1.3 (-1.9 , -0.7) (p=0.003)]¹
 - Participants: cognitively intact - MCI – mild dementia, mean MMSE 26 (range 19-30)

¹ Pitkala et al. Am J Geriatr Psychiatry 2010, in press

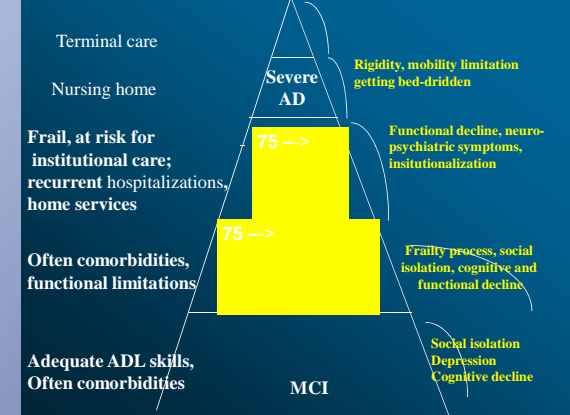
Neuropsychiatric symptoms: exercise



- Teri et al. JAMA 2003;290:2015-22:
 - rct, N=153 patients with Alzheimer's disease and their caregivers
 - Exercise for AD patients + caregiver guidance
 - depression (Cornell scale) ja physical role function (RAND-36) improved.

QOL: tailored, coordinated care by care coordinator

- 9 RCTs¹
- N=40 - 642
- Interventions include:
 - education – respite care – therapy – cognitive stimulation – emotional support – caregivers' groups – geriatric medical care
 - Coordinated and tailored treatment by care coordinator
- Findings:
 - Caregivers' burden, stress, depression decreases
 - Postpones institutional care (Brodaty, Mittelman, Eloniemi-Sulkava 2001; 2006)

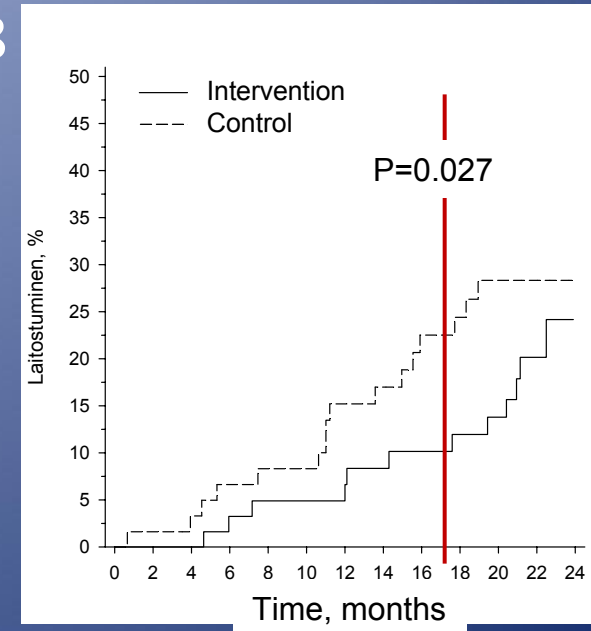


¹ Brodaty et al 1989, Lawton et al 1989, Mohide et al 1990, Mittelman et al 1994, Weinberger et al 1993, Hinchliffe et al 1995, Eloniemi et al. 2001, 2009, Callahan et al. 2006

Care coordinator supporting AD families



- Eloniemi-Sulkava et al. JAGS 2009; 57:2200-8
- rct, N=125, mild-severe dementia
- Care coordinator, geriatrician + caregiver groups; exercise rehab, tailored services
- Enhancing problem-solving skills and autonomy, family-centredness, optimism
- Postpones admissions to institutional care, saves costs and resources



Targetting evidence-based rehabilitation in dementia

5. Terminal care

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1. Adequate ADL skills

Severe AD

Moderate AD

Mild AD

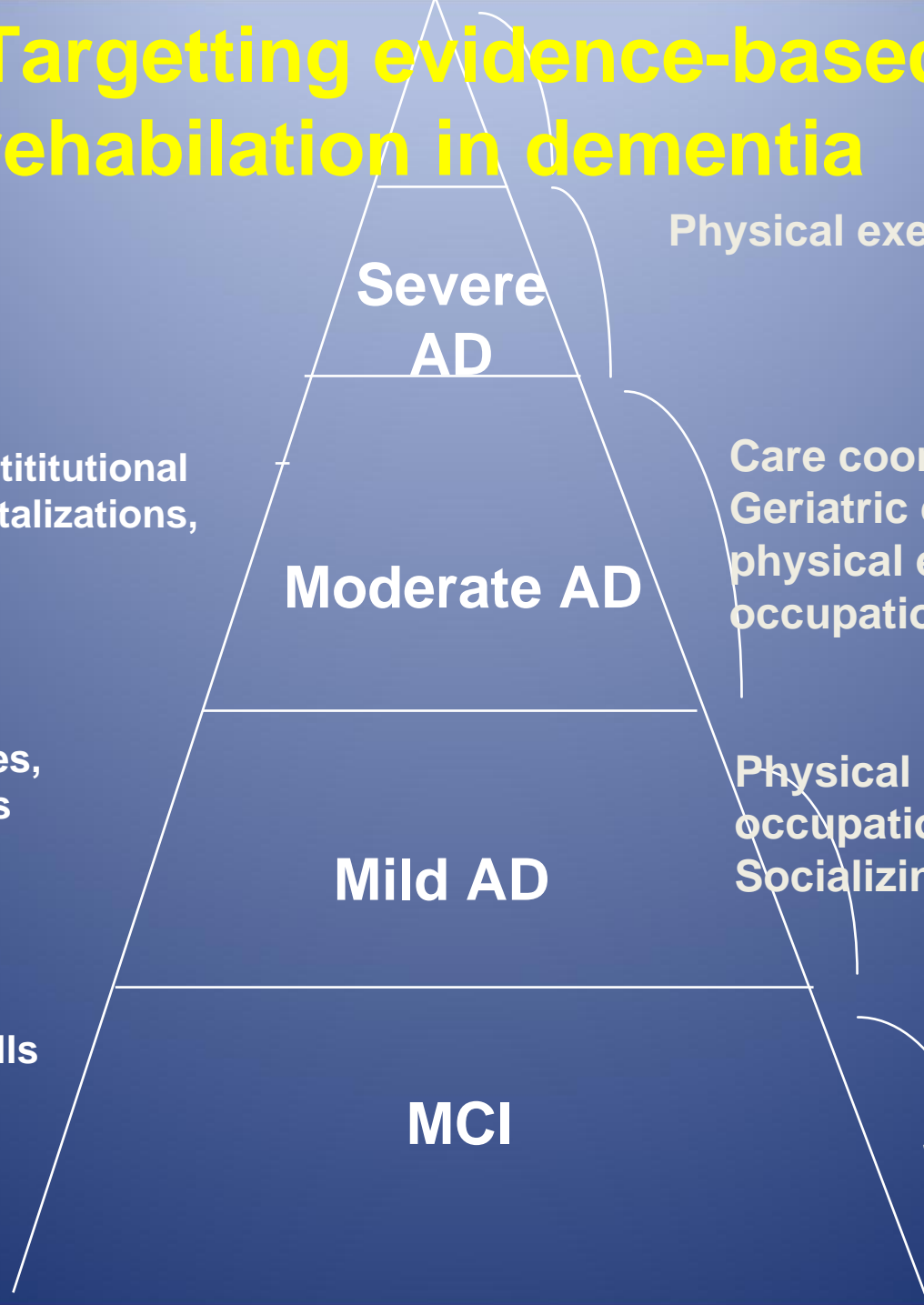
MCI

Physical exercise

Care coordinator,
Geriatric expertise,
physical exercise,
occupational therapy

Physical exercise,
occupational therapy
Socializing groups

Physical exercise
Socializing groups





Problems and possibilities

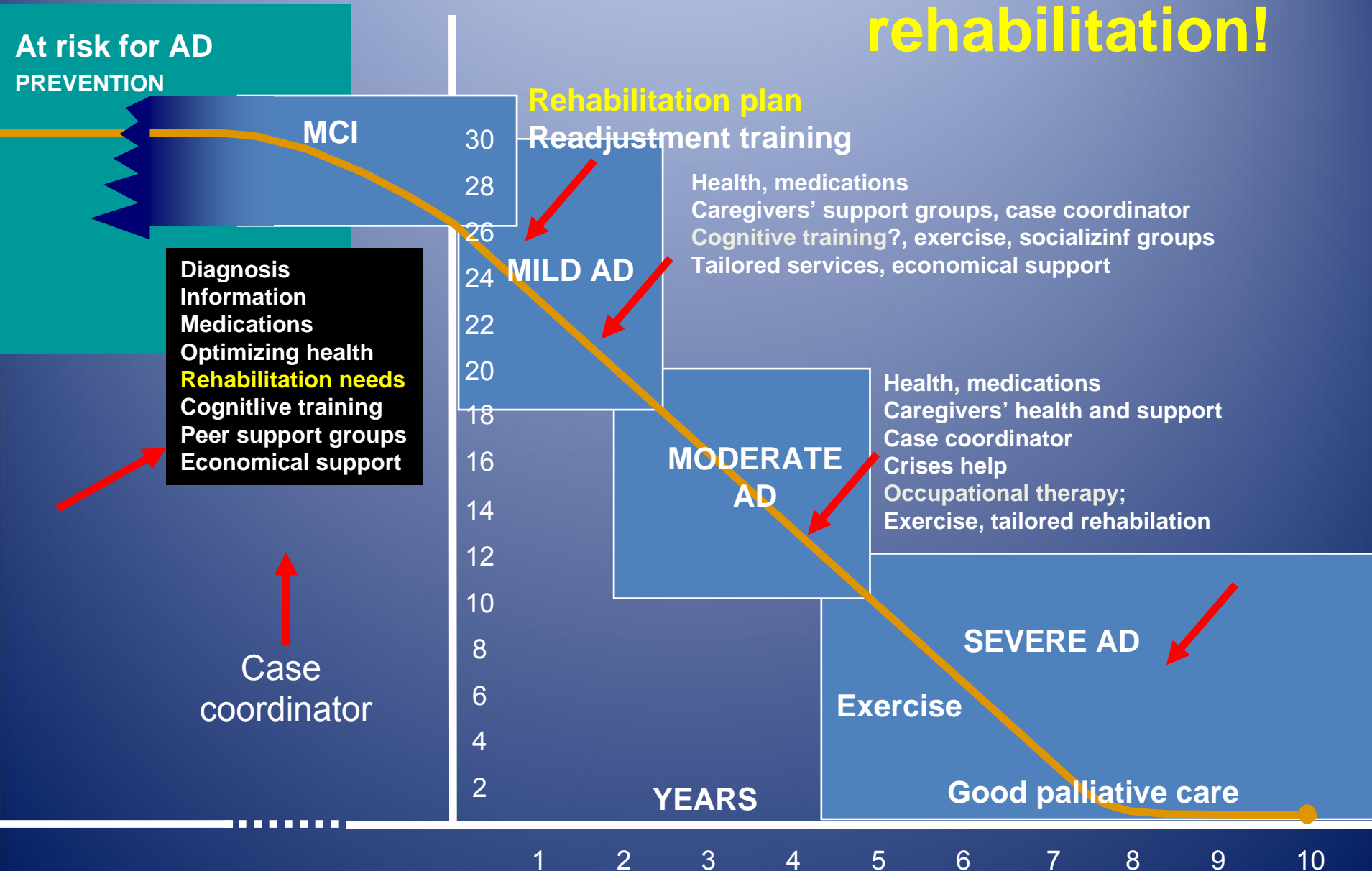
Problems in dementia rehabilitation...

- Implementation of evidence-based practice takes 5-10 years
- Nihilistic attitudes in dementia care
- Lack of geriatric expertise and team work, care routines often lack aims and measuring outcomes
- Lack of family-centered care: what do patients and their families value and aim?
- Lack of rehabilitation in respite/hospital care increases the risk of institutional care (disability risk 60 X (Gill et al. JAMA 2004;292:2115-24))

Which elements are needed in effective rehabilitation?

- Patient/family-centeredness
 - Patient/ family state the aims since they do the work
 - Understanding needs and wishes
- Enhancing problem-solving skills, empowerment
- Supporting autonomy
- Resource-oriented, optimistic work attitude
- Supporting whole family, taking into account environment

Comprehensive care is rehabilitation!





Thank you!







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