

Herzlich willkommen

bei den **Kliniken Schmieder**

Internationales Kompetenzzentrum für Neurologie



What to learn from stroke ?

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## Concepts inspired from stroke

- Time is brain!
- Hit hard and early!
- The brain is plastic.
- Early reorganization/compensation even after CIS
- Rehabilitation needs guidelines
- S2e guidelines in the German Neurorehabilitation Society concerning upper extremity rehabilitation after stroke, 2009
- S2 (?) guidelines of the German Neurological Society (DGN) for sensorimotor rehabilitation in MS patients (works in progress).
- Medical treatment of spasticity
- Regular sports to improve on balance and fitness

## Differences in stroke and MS rehabilitation

- MS patients wish to recuperate, recover from stress and there is a strong desire to relax.
- Deficits in MS patients differ individually. As a result, it is difficult to establish groups for homogenous exercises.
- Simultaneously, it is not easy to perform outcome analyses in MS cohorts. New statistical methods may be needed.
- Forced training is rarely requested by patients and/or might not be really helpful or effective: CIMT

# What did the stroke community learn from MS?

Fatigue in stroke!

Increasing publications over the past years!

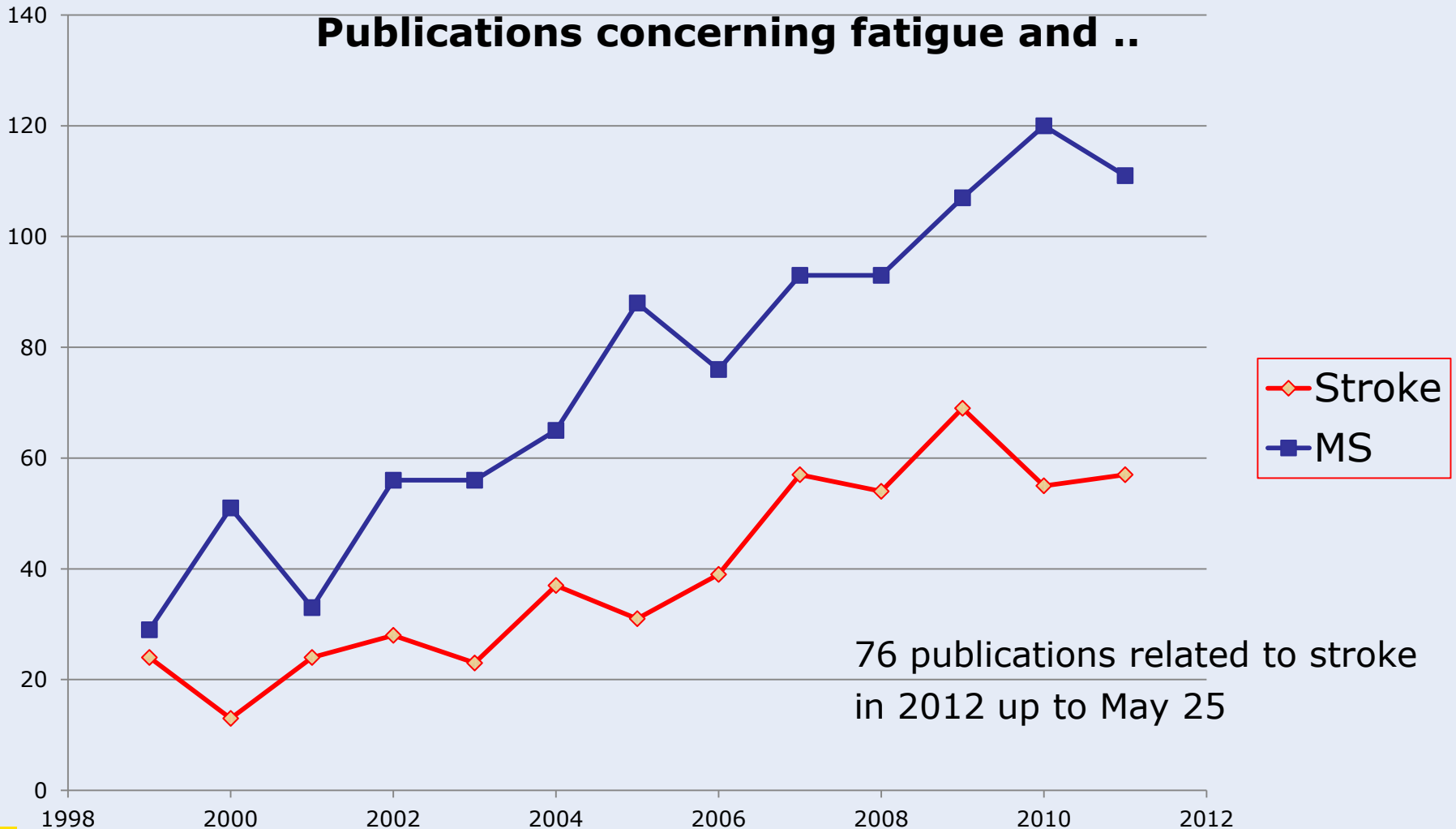
Prevalence 16 – 70% (Lewis, Arch Phys Med Rehabil 2011),  
30 – 60 % (Barritt, Intern. Scholarly Res Network, 2011)

Assessment:

- general fatigue scales
- disease specific fatigue scales: Profile of Mood States-F (POMS-F; English, not available in German) (Fink et al. 2010; Elbers et al. 2011)

# Publications regarding Fatigue in MS and stroke patients

## Publications concerning fatigue and ..



## Journal of the Neurological Sciences

### Fatigue-related diurnal variations of cognitive performance in multiple sclerosis and stroke patients

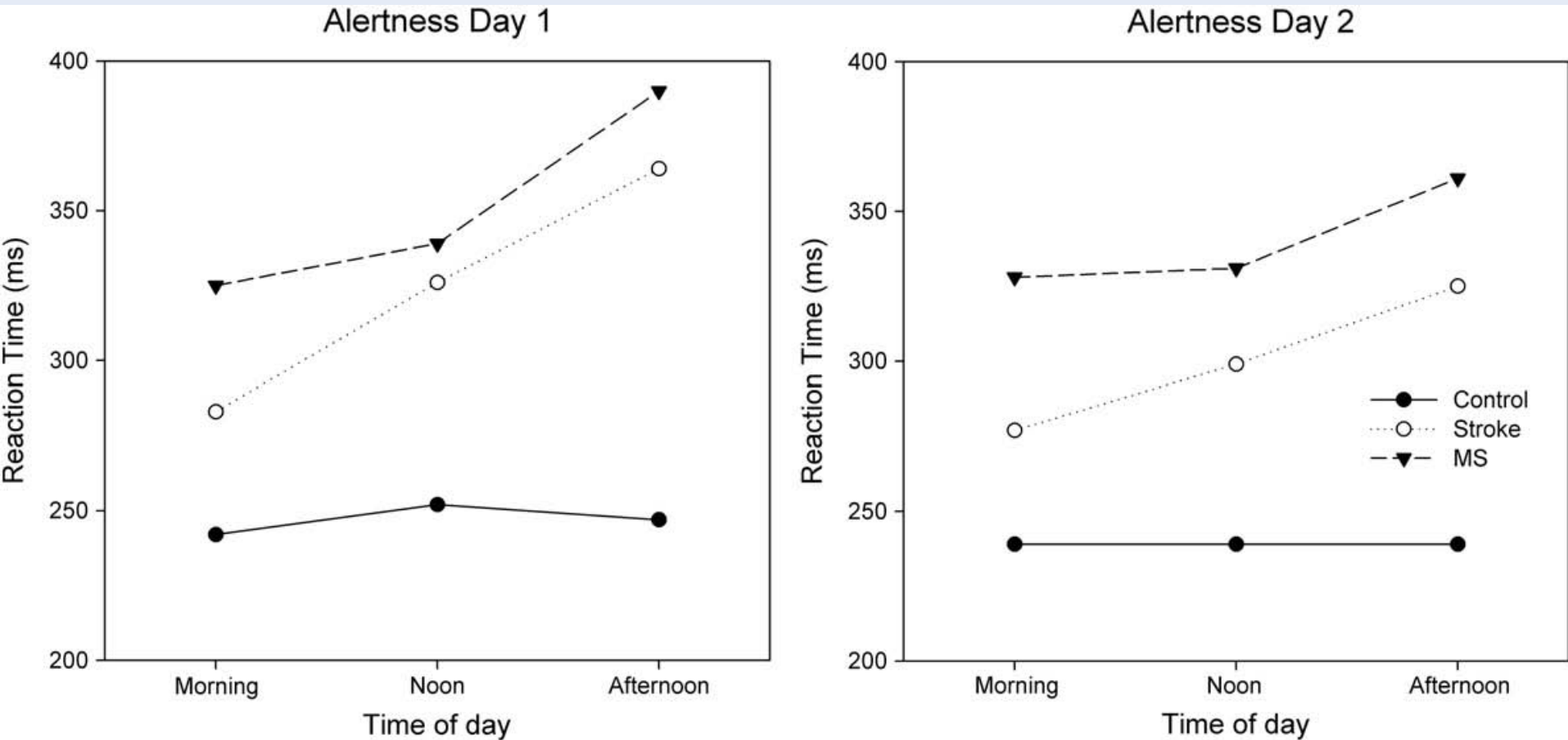
Dolores Claros-Salinas <sup>a</sup>, Daniel Bratzke <sup>b,\*</sup>, Georg Greitemann <sup>a</sup>, Nancy Nickisch <sup>b</sup>,  
Lisa Ochs <sup>a</sup>, Hannes Schröter <sup>b</sup>

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Measurements of cognitive performance in three reaction time tasks.  
An analysis alertness, Go/NoGo, divided attention was conducted  
on two consecutive days at three different times (morning, midday  
and afternoon)  
for MS patients (n=20), stroke patients (n=22),  
and healthy control participants (n=76).

# Inreased reaction time during the course of the day in MS and stroke patients



# C. Lukoschek: Prevalence of fatigue in MS and stroke patients - retrospective analysis using the SF-36 Vitality scale

SF-36 is part of Kliniken Schmieder's assessment

SF-36 vitality scale has been recommended as a general fatigue scale  
(A.M.Fink et al. 2010)

Retrospective selection of 100 patients with chronic stroke (> 12 months) and 100 patients with MS from our electronic data bank from 2011

Vitality scale is a Likert type scale

Two positively scored items:

Did you feel full of life?

Did you have a lot of energy?

Two negatively scored items:

Did you feel worn out?

Did you feel tired?



Sehle *et al.* *Journal of NeuroEngineering and Rehabilitation* 2011, **8**:59  
<http://www.jneuroengrehab.com/content/8/1/59>



**RESEARCH**

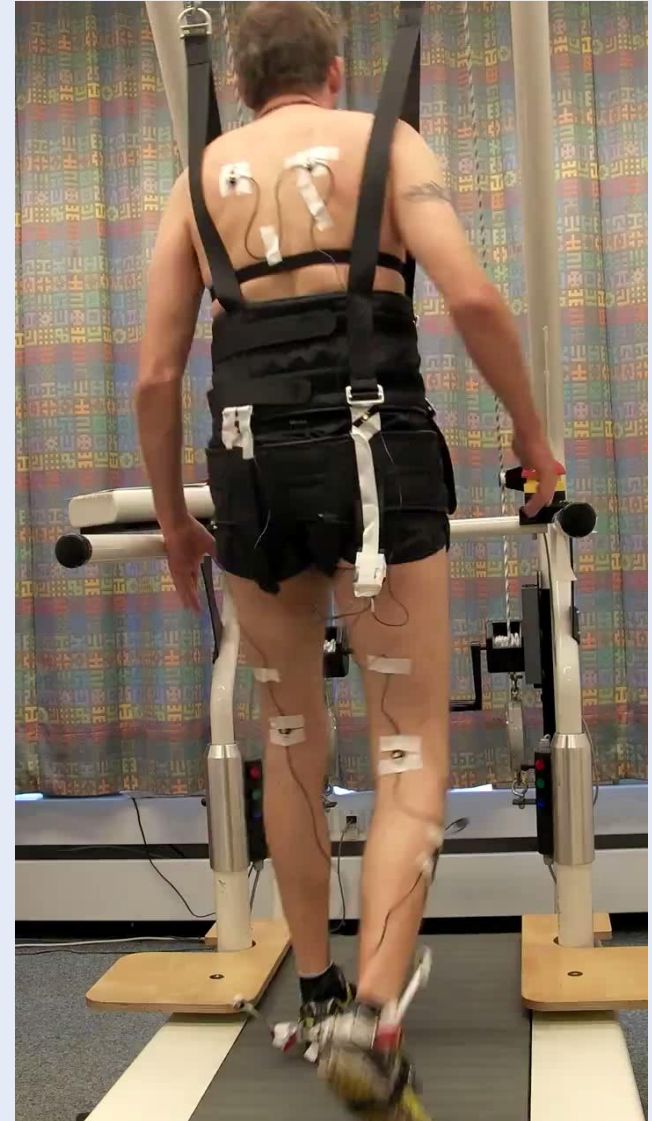
**Open Access**

## Objective assessment of motor fatigue in multiple sclerosis using kinematic gait analysis: a pilot study

Aída Sehle<sup>1</sup>, Annegret Mündermann<sup>1,2</sup>, Klaus Starrost<sup>3</sup>, Simon Sailer<sup>3</sup>, Inna Becher<sup>4</sup>, Christian Dettmers<sup>5\*</sup> and Manfred Vieten<sup>1</sup>

Motor fatigue in MS patients can be quite obvious and striking and is different to that in stroke patients

**Aida Sehle, in preparation**



## Conclusion

- Prevalence rates of fatigue in MS and stroke may be in a similar range.  
(Diurnal variation of alertness, in Claros-Salinas, 2010)  
(Vitality scale, Lukoschek et al., in preparation)
- This may be partially due to the fact that the same term is used for different phenomena.  
  
Scales are unspecific!
- Work in our clinic is in progress to analyse and compare motor fatigue in both cohorts (Aida Sehle)!

Thank you for your time and your attention!

**KLINIEN**  
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