Roessingh Research and Development

Research Institute for Rehabilitation Technology and Telemedicine

TIMING OF PROVISION OF ANKLE-FOOT ORTHOSES AFTER STROKE:
first results of a randomized longitudinal study

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BACKGROUND
- Ankle-foot orthoses (AFOs) are frequently used to improve gait and safety of walking after stroke.
- Scientific literature studying the effects of providing AFOs at different moments in time after stroke is lacking.

AIM
- To study the longitudinal effects of providing AFOs at different moments in time in the rehabilitation after stroke on walking impairments, mobility, activities of daily living and falls.

METHODS

Intervention
- Randomized controlled trial
- AFO provision at inclusion (early) or 8 weeks later (late).

Patients
- (Sub)acute stroke patients with AFO indication admitted to the Roessingh rehabilitation centre.

Outcome measures
- Clinical scales, 3D gait analysis (incl. electromyography), quality-of-life questionnaires, fall-registration using diaries

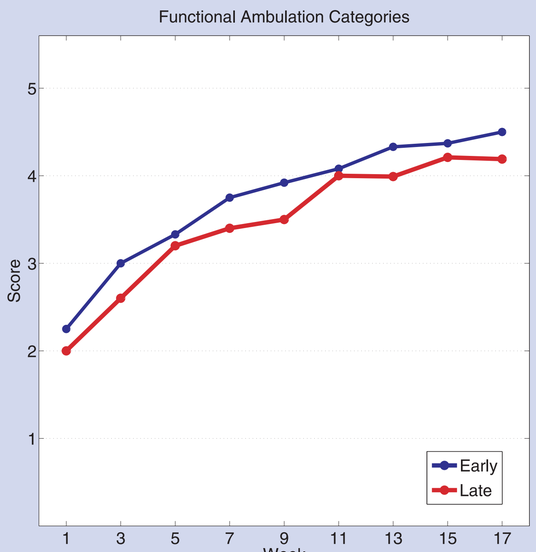
Measurements
- (bi)weekly for 18 weeks, follow-up in week 26 and 52

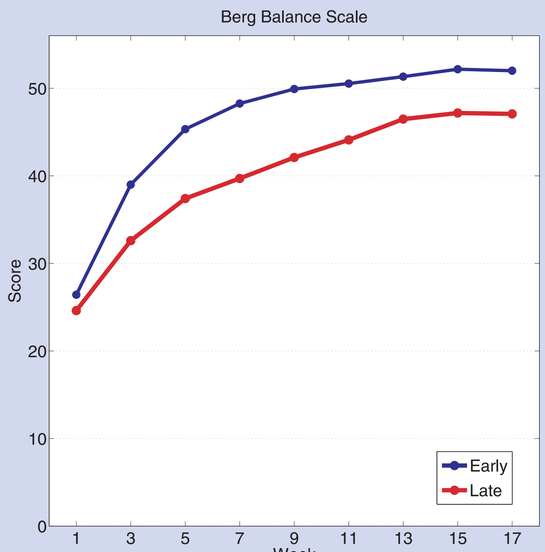
THIS POSTER
- First results of effects of timing of AFO provision after stroke on subset of clinical scales: Functional Ambulation Categories, Berg Balance Scale, 10-m walking test and 6-min walking test

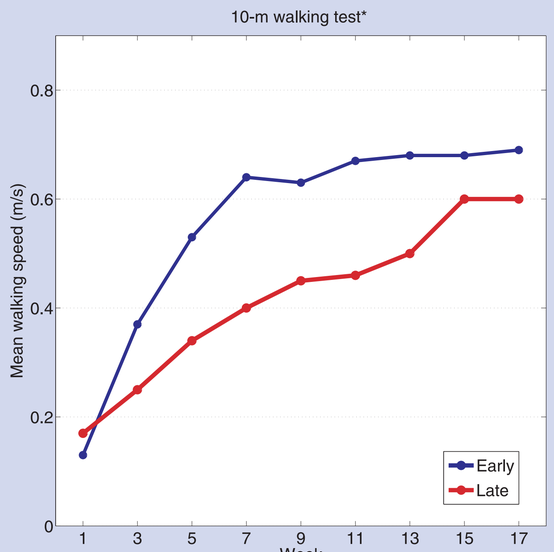
RESULTS
- Twenty-two subjects (12 early, 10 late) completed the first 17 weeks of measurements so far.

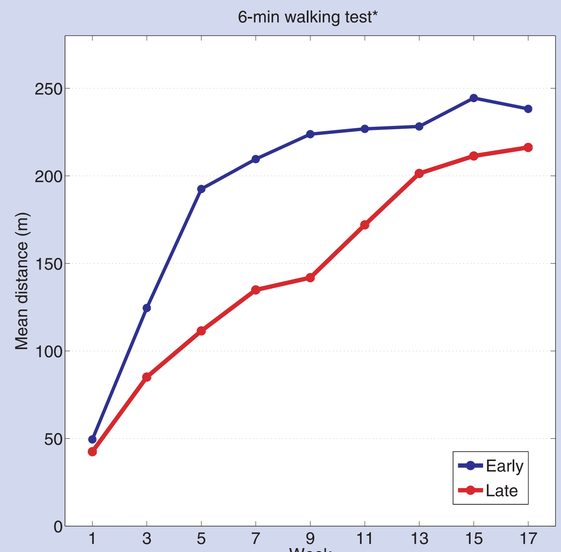
	Early (N=12)	Late (N=10)
Mean age (years, min-max)	57,9 (40-70)	57,1 (45-70)
Male / Female	9 / 3	6 / 4
Mean time since stroke (weeks)	4,7	4,8
Ischemic / haemorragic	11 / 1	7 / 3
Affected body side L / R	5 / 7	6 / 4

- See graphs below. Both groups showed progress over time, with higher scores in the early AFO-group. The BBS and 6MWT showed statistically significant differences between the early and late group over time ($p < 0,05$)









* Note: minmum level of FAC 3 required in order to perform walking tests

DISCUSSION AND CONCLUSION
- Early AFO provision shows a positive trend, with significant differences for BBS and 6MWT
- However, first analyses performed with a limited number of subjects in both groups
- Future: include more subjects and outcomes on 3D gait analysis, fall registration and quality of life questionnaires

CLINICAL MESSAGE
- These preliminary results indicate that early AFO provision might be beneficial. However, the results so far are based on a small number of subjects. The legitimacy of the presented results have to be confirmed in future analyses including more subjects.

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