

# PAPSIGOT Pre-Stroke Physical Activity In Gothenburg

## PRE-STROKE PHYSICAL ACTIVITY COULD INFLUENCE COGNITION AT THE STROKE UNIT

Malin Reinholdsson, Annie Palstam, Katharina S Sunnerhagen  
 Institute of Neuroscience and Physiology  
 University of Gothenburg, Sweden

Contact information:  
 Malin Reinholdsson  
 malin.reinholdsson@vgregion.se



Take home message

Physical activity should be recommended in health care

### Background

Physical activity pre-stroke has been proven to be effective as prevention. No previous study has described if pre-stroke physical activity influence cognitive function after stroke.

### Purpose

The aim was to investigate the influence of pre-stroke physical activity in patients with stroke.

### Method

- Pre-stroke age, sex, smoking, diabetes, physical activity measured with Saltin-Grimby Physical Activity Level Scale (SGPALS) and protective treatments (statin and hypertension treatment) were independent variables.
- Montreal Cognitive Assessment (MoCA) was dependent variable.
- Analyses with logistic regression
- Data was retrieved from Swedish stroke registers, Riksstroke and Väststroke.
- The study is still ongoing and will include data from Swedish stroke registers collected during 30 months, due to a large number of missing values on MoCA.

### Preliminary results

- A preliminary study with 2233 patients and data from 18 months was made. Out of 1519 patients with first stroke, 575 patients had complete data on MoCA and SGPALS. The most common cause not to assess with MoCA was aphasia and severe cognitive deficit or dementia.
- Mean age was 72 years, women 43%, ischemic stroke 93%, mild stroke 90%, physically inactive 44%. Normal cognition, MoCA  $\geq 26$  points was assessed in 44% of the patients.
- The model can explain 8.1% of the outcome.

Table. Logistic regression analyses for potential predictors for cognitive normal function as measured with Montreal Cognitive Assessment (MoCA). SGPALS=Saltin Grimby Physical Activity Level Scale.

Independent variables	Nagel-kerke R <sup>2</sup>	Un-standardized coefficients B (Std Error)	OR (CI)	p-value
Univariate analyses (* p<0.25 in multivariate analysis)				
Physical activity (SGPALS)	0.03	0.59 (0.17)	1.80 (1.29-2.53)	0.001*
Age	0.06	-0.03 (0.01)	0.97 (0.95-0.98)	<0.001*
Smoking	0.00	-0.23 (0.24)	0.80 (0.50-1.27)	0.335
Diabetes	0.01	-0.48 (0.23)	0.62 (0.39-0.98)	0.040*
Male	0.00	0.14 (0.17)	1.15 (0.82-1.60)	0.414
Statin treatment	0.00	-0.18 (0.22)	0.84 (0.55-1.28)	0.412
Hypertension treatment	0.00	-0.23 (0.17)	0.80 (0.57-1.11)	0.333
Multivariate analysis - Final model				
	Nagel-kerke R <sup>2</sup>	Un-standardized coefficients B (Std Error)	OR (CI)	p-value
Physical activity (SGPALS)		0.48 (0.18)	1.62 (1.15-2.29)	0.006
Age	0.081	-0.03 (0.01)	0.97 (0.96-0.98)	<0.001

### Conclusions

Pre-stroke physical activity and younger age could result in better cognitive function after stroke.