

Supplementary material to article by A. Viktorisson et al. "Pre-stroke physical activity in relation to post-stroke outcomes linked to the international classification of functioning, disability and health: a scoping review"

Table SI. Assessments of pre-stroke physical activity (PA) and grouping for analyses in included studies

References	Method	Time-point for assessment	Period regarded	PA groups used for analyses	Frequency, duration, intensity and type of activity in PA groups
Aberg et al. (27)	SGPALS	On admission	12 months before stroke	Inactive (<i>n</i> = 76) Active (<i>n</i> = 239) Intensive (<i>n</i> = 57) Elite intensive (<i>n</i> = 8)	Almost completely inactive, reading, watching TV and movies, etc. ≥ 4 h/week walking, gardening, etc. ≥ 2 h/week heavy gardening, tennis, running, etc. Several times/week competitive sports, swimming, etc.
Baert et al. (17)	BPAQ	Unspecified after admission	No information	No grouping (<i>n</i> = 33)	Scores in BPAQ
Bell et al. (18)	-	The most recent assessment before stroke	No information	No PA (<i>n</i> = 1,386) Low PA (<i>n</i> = 574) Intermediate PA (<i>n</i> = 354) High PA (<i>n</i> = 675)	No PA of moderate/vigorous activity 1-74 min/week jogging, aerobics, tennis, etc. 75-149 min/week jogging, aerobics, tennis, etc. ≥ 150 min/week jogging, aerobics, tennis, etc.
Blauenfeldt et al. (23)	PASE	The day after admission	7 days before stroke	Quartiles (<i>n</i> = 80)	Quartiles from scores in PASE
Boden-Albala et al. (28)	-	24-48 h after stroke	No information	No PA (<i>n</i> = 200) PA (<i>n</i> = 455)	No participation in usual leisure PA No information
Bovim et al. (29)	HUNT 2	Within 14 days after stroke	12 months before stroke	No PA (<i>n</i> = 5) Very light PA (<i>n</i> = 60) Light PA (<i>n</i> = 59) Moderate PA (<i>n</i> = 58) High PA (<i>n</i> = 23)	No light or hard PA < 3 h/week light activity producing no sweating or becoming out of breath ≥ 3 h/week light activity and no hard activity or < 1 h/week hard activity and < 3 h/week light activity ≥ 3 h/week light activity and < 1 h/week hard activity or 1-2 h/week hard activity with any light activity ≥ 3 h/week hard activity producing sweating or becoming out of breath
Damsbo et al. (24)	PASE	Within 7 days after stroke	7 days before stroke	Quartiles (<i>n</i> = 625)	Quartiles from scores in PASE
Decourcelle et al. 2006 (30)	NHIS	Within 48 h after admission	2 weeks before stroke	No PA (<i>n</i> = 445) PA (<i>n</i> = 74)	No previous leisure-time PA No information
Deplanque et al. (31)/ Deplanque et al. (32)	NHIS	Within the week after admission	2 weeks before stroke	No PA (<i>n</i> = 230) PA (<i>n</i> = 132)	No PA < 2 h/week PA (<i>n</i> = 94) Walking, gardening, etc. (<i>n</i> = 73) 2-5 h/week PA (<i>n</i> = 29) Bicycling, tennis, etc. (<i>n</i> = 34) > 5 h/week PA (<i>n</i> = 9) Jogging, playing handball, etc. (<i>n</i> = 25)
García-Bouyssou et al. (33)	IPAQ	On admission	7 days before stroke	No grouping (<i>n</i> = 33)	Scores in IPAQ
Gezer et al. (34)	-	2 weeks to 6 months after stroke	No information	No exercise (<i>n</i> = 36) Krarup et al. (25)	No exercise ≥ 90 min/week exercise
Krarup et al. 2008	PASE	Within 90 days after stroke	7 days before stroke	Quartiles (<i>n</i> = 265)	Quartiles from scores in PASE
Lacroix et al. (35)	TSAP	Within 6 months after stroke	No information	No grouping (<i>n</i> = 88)	Scores in TSAP
Levine et al. (36)	-	At baseline in 2003-07	No information	No PA (<i>n</i> = 241) Low PA (<i>n</i> = 257) High PA (<i>n</i> = 196)	No PA 1-3 days/week PA ≥ 4 days/week PA
Li et al. (37)	-	Unspecified after stroke	No information	No PA (<i>n</i> = ?) Occasional exercise (<i>n</i> = ?) Constant exercise (<i>n</i> = ?)	No information No information No information
Lopez-Cancio et al. (38)	IPAQ	Within 48 h of admission	7 days before stroke	Low-moderate PA (<i>n</i> = 56) High PA (<i>n</i> = 27)	- ≥ 3000 MET-min/week walking, moderate, or vigorous intensity activities
Ricciardi et al. (39)	IPAQ	Within 48 h of admission	7 days before stroke	Low PA (<i>n</i> = 68) Moderate PA (<i>n</i> = 44) High PA (<i>n</i> = 47)	- ≥ 600 MET-min/week walking, moderate, or vigorous intensity activities ≥ 3,000 MET-min/week walking, moderate, or vigorous intensity activities
Mahendran et al. (40)	PASE	At discharge	7 days before stroke	No grouping (<i>n</i> = 36)	Scores in PASE
Mediano et al. (21)	BPAQ	At baseline in 1990-1992, and again in 1996-1998	12 months before assessment	Tertiles (<i>n</i> = 881)	Tertiles from scores in BPAQ
Morovatdar et al. (19)	SHHS	Unspecified after stroke	No information	Inactive (<i>n</i> = 193) Active (<i>n</i> = 202)	24 h basal metabolic rate < 1.70 24 h basal metabolic rate ≥ 1.70
Olsson et al. (41)	SGPALS	Within 3 days after stroke	6 months before stroke	Low PA (<i>n</i> = 43) Moderate PA (<i>n</i> = 30) Inactive (<i>n</i> = 19) Light PA (<i>n</i> = 54)	Hardly no PA, mostly sitting or 2-4 h/week walking, fishing, etc. 1-2 h/week jogging, swimming, heavy gardening, etc. Hardly no PA or mostly sitting 2-4 h/week walking, fishing etc.
Persson et al. (42)	SGPALS	Within 7 days after stroke	No information	No PA (<i>n</i> = 101) PA (<i>n</i> = 114)	Almost completely inactive, reading, watching TV and movies, etc. ≥ 4 h/week walking, gardening, etc.
Redfors et al. (43)	-	Unspecified after admission	No information	Sedentary group (<i>n</i> = 108) Active group (<i>n</i> = 492)	Sedentary leisure-time ≥ 4 h/week moderate activity
Reinholdsson et al. (44)	SGPALS	Unspecified after admission	No information	No PA (<i>n</i> = 481) PA (<i>n</i> = 444)	Almost completely inactive, reading, watching TV and movies, etc. ≥ 4 h/week walking, gardening, etc.
Rist et al. 2017 (45)	-	At baseline in 1998	No information	Inactive (<i>n</i> = 1,134) Rist et al. 2011 (22)	- ≥ 3 times/week sports, heavy housework, etc.
Rist et al. 2011 (22)	-	At baseline in 1982	No information	Inactive (<i>n</i> = 429) PA (<i>n</i> = 949)	- ≥ 1 time/week exercise vigorously enough to work up a sweat

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Table SI. Cont.

References	Method	Time-point for assessment	Period regarded	PA groups used for analyses	Frequency, duration, intensity and type of activity in PA groups
Shaughnessy et al. (46)	-	On mean 60.2 months after stroke	No information	No PA (<i>n</i> = 46)	No PA
				Low PA (<i>n</i> = 51)	<20 min/week activity that produce sweating or increases in respiratory/heart rate
				Intermediate PA (<i>n</i> = 68)	20–60 min/week activity that produce sweating or increases in respiratory/heart rate
Stroud et al. (47)	-	Unspecified after admission	12 months before stroke	High PA (<i>n</i> = 139)	>120 min/week activity that produce sweating or increases in respiratory/heart rate
				Light PA (<i>n</i> = 340)	<1 time/week activity that produced sweating or a noticeable increase in heart rate
				Moderate PA (<i>n</i> = 192)	1–3 times/week activity that produced sweating or a noticeable increase in heart rate
Urbanek et al. (48)	-	Unspecified after stroke	The months before stroke	Heavy PA (<i>n</i> = 141)	≥4 times/week activity that produced sweating or a noticeable increase in heart rate
				No PA (<i>n</i> = 1104)	-
				PA (<i>n</i> = 266)	≥1 time/week any activity performed to improve or maintain physical fitness
Ursin et al. (26)	WHQ	2–6 days after admission	7 days before admission	Short walks (<i>n</i> = 78)	<30 min/walk
				Intermediate walks (<i>n</i> = 57)	30–60 min/walk
				Long walks (<i>n</i> = 36)	>60 min/walk
				Non-frequent walks (<i>n</i> = 28)	≤2 days/week
				Frequent walks (<i>n</i> = 146)	≥3 days/week
Wang et al. (49)	-	On admission	No information	No exercise (<i>n</i> = 76)	-
				Exercise (<i>n</i> = 189)	>30 min 3 times/week activity with moderate to strenuous intensity
Wen et al. (20)	-	Unspecified after stroke	6 months before stroke	Inactive (<i>n</i> = 20201)	-
				PA (<i>n</i> = 19634)	≥30 min 3 times/week leisure-time PA
Wong et al. (50)	-	3–6 months after stroke	12 months before stroke	No PA (<i>n</i> = 758)	-
				PA (<i>n</i> = 154)	≥30 min 3 times/week running, hiking etc.
				No PA (<i>n</i> = 894)	-
				PA (<i>n</i> = 101)	≥30 min 3 times/week QiGong, Luk Tung Kuen, etc.
				No PA (<i>n</i> = 475)	-
Yamaguchi et al. (51)	-	At rehabilitation start after stroke	1 month before stroke	PA (<i>n</i> = 493)	≥30 min 3 times/week stretching and toning exercise, walking, etc.
				METS, on an integral scale from 1 to 8 (<i>n</i> = 130)	≥1 h/week daily activities, watching TV, walking, etc.

PA: physical activity; NI: no information; Rec: recommended amount of weekly PA; SGPALS: Saltin-Grimby Physical Activity Level Scale; BPAQ: Baecke Physical Activity Questionnaire; PASE: Physical activity Scale for the Elderly; HUNT 2: the physical activity questionnaire in Nord-Trøndelag Health Study; NHIS: National Health Interview Survey; IPAQ: International Physical Activity Questionnaire; TSAP: Test de Sedentarite et Activite Physique; SHHS: Scottish Heart Health Study/MONICA questionnaire; WHQ: Walking Habits Questionnaire.

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Table SII. Outcome measures linked to the International Classification of Functioning, Disability and Health (ICF) framework using linking-rules for meaningful concepts

ICF category codes	Outcome measures	ICF category codes	Outcome measures
Body Structures		Activities and Participation	
s110 Brain	Infarct volume BDNF	d130 Copying	MMSE
s410 Cardiovascular system	VEGF Recanalization	d170 Writing	MMSE
s420 Immune system	G-CSF	d175 Solving Problems	FIM
s560 Liver	IGF-1	d210 Undertaking a task	MMSE
Body Functions		d230 Carrying out daily routine	mRS OHS GOS
b110 Consciousness	NIHSS SSS GOS	d310 Spoken messages	MMSE FIM
b114 Orientation	NIHSS SSS MMSE SIS	d315 Receiving nonverbal messages	FIM
b117 Intellectual functions	NIHSS MMSE SDMT	d325 Written messages	MMSE
b130 Energy and drive	SSEE SOEE FSS	d330 Speaking	FIM
b140 Attention	MMSE SDMT	d335 Producing nonverbal message	FIM
b144 Memory	MMSE SIS SDMT AFT WLD WLL FIM	d360 Using communication devices	IADL
b147 Psychomotor functions	HADS	d410 Changing basic body position	SSS FIM mRS Barthel index BBS IPAQ
b152 Emotional functions	HADS	d415 Maintaining a body position	SSS Barthel index BBS
b156 Perceptual functions	NIHSS	d420 Transferring oneself	FIM Barthel index BBS ADL
b167 Mental functions of language	NIHSS SSS	d450 Walking	SSS FIM mRS Barthel index IPAQ Walking volume MWS
b172 Calculation functions	MMSE	d455 Moving around	FIM Barthel index IPAQ ADL SGPALS Exercise PA time
b210 Seeing	NIHSS	d465 Moving using equipment	SSS FIM mRS Barthel index IPAQ
b215 Functions of the eye	NIHSS SSS	d470 Using transportation	IPAQ
b270 Functions related to stimuli	NIHSS	d475 Driving	IPAQ
b320 Articulation functions	NIHSS	d510 Washing oneself	FIM Barthel index ADL
b440 Respiration functions	VO2max VO2peak FVC FEV1 OUES	d520 Caring for body parts	FIM mRS Barthel index
b455 Exercise tolerance	ETT Vmax RPE	d530 Toileting	FIM Barthel index
b525 Defecation	FIM mRS Barthel index	d540 Dressing	FIM Barthel index ADL
b620 Urination	FIM mRS Barthel index	d550 Eating	FIM Barthel index ADL
b730 Muscle power	NIHSS SSS	d560 Drinking	FIM
b735 Muscle tone	NIHSS SSS	d570 Looking after one's health	IADL
b760 Voluntary movement	NIHSS	d620 Acquisition of services	IADL
Environmental Factors		d630 Preparing meals	IADL
e115 Technology for daily living	mRS OHS Foley catheter Nasogastric tube	d640 Doing housework	IPAQ
e120 Technology for mobility	mRS OHS	d660 Assisting others	IPAQ
e340 Personal assistants	mRS OHS GOS	d710 Basic interpersonal interaction	FIM
e580 Health services	ICU Rehabilitation	d870 Economic self-sufficiency	IADL
e590 Labor services	GOS	d920 Recreation and leisure	FIM MWS SGPALS

ICF: International Classification of Functioning, Disability and Health; BDNF: brain-derived neurotrophic factor; VEGF: vascular endothelial growth factor; G-CSF: granulocyte colony stimulating factor; IGF-I: insulin-like growth factor I; NIHSS: National Institutes of Health Stroke Scale; SSS: Scandinavian Stroke Scale; MMSE: Mini-Mental State Examination; SIS: Six-Item Screener; SDMT: Symbol Digit Modalities Test; SSEE: Short Self-Efficacy for Exercise scale; SOEE: Short Outcome Expectations for Exercise; FSS: Fatigue Severity Scale; MWS: maximal walking speed; AFT: Animal Fluency Test; WLD: Word List Delayed Global; WLL: Word List Learning; HADS: Hospital Anxiety and Depression Scale; FVC: Forced Vital Capacity; FEV1: forced expiratory volume in 1 s; OUES: Oxygen Uptake Efficiency Slope; ETT: Exercise Tolerance Test; RPE: Rating of Perceived Exertion; FIM: Functional Independence Measure; mRS: modified Rankin Scale; OHS: Oxford Handicap Scale; GOS: Glasgow Outcome Scale; IADL: Instrumental Activities of Daily Living; BI: Barthel Index; BBS: Berg Balance Scale; IPAQ: International Physical Activity Questionnaire; ADL: activities of daily living; SGPALS: Saltin-Grimby Physical Activity Level Scale; ICU: intensive care unit.

Appendix S1. Search strategy

Medline

- 22 20 not 21
- 21 (child or children or pediatric* or paediatric* or infant* or neonatal or teenager or adolescen*).ti,ab,kf.
- 20 16 not 19
- 19 17 or 18
- 18 (animals or animal or rats or rat or mouse or mice or monkey* or primate* or fish or fishes or sheep or cats or cat or guinea pig or guinea pigs or guineapig or guineapigs or dog or dogs or lamb or lambs or cow or cows).ti,ab,kf.
- 17 exp animals/ not humans.sh.
- 16 11 or 15
- 15 12 and 14
- 14 1 or 2 or 7 or 13
- 13 (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*).ti,ab,kf.
- 12 ((precondition* or pre-condition* or premorbid or pre-morbid or previous or prior or before) adj3 (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*)).ti,ab,kf.
- 11 8 and 10
- 10 3 or 4 or 5 or 9
- 9 (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*).ti,ab,kf.
- 8 6 or 7
- 7 (prestroke or pre-stroke or before-stroke).ti,ab,kf.
- 6 ((precondition* or pre-condition* or premorbid or pre-morbid or prior or before) adj3 (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*)).ti,ab,kf.
- 5 Sedentary Behavior/
- 4 exp Locomotion/
- 3 exp Exercise/
- 2 exp Stroke/
- 1 exp Cerebral Hemorrhage/

Cinahl

- 15 S13 NOT S14
- 14 child or children or pediatric* or paediatric* or infant* or neonatal or teenager or adolescen*
- 13 S8 OR S12
- 12 S9 AND S11
- 11 S1 OR S10
- 10 TI (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*) OR AB (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*)
- 9 TI ((precondition* or pre-condition* or premorbid or pre-morbid or previous or prior or before) N3 (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*)) OR AB ((precondition* or pre-condition* or premorbid or pre-morbid or previous or prior or before) N3 (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*))
- 8 S5 AND S7
- 7 S6 OR S2
- 6 TI (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*) OR AB (physical activity or exercis* or training or inactive* or sedentary or active or walk* or sport* or running or swim* or locomotion or gym* or bicycl* or physical therapy or physiotherapy or activity monitor* or acceleromet* or step counter* or fitness or unfit* or movement or pedometer*)
- 5 S3 OR S4
- 4 TI (prestroke or pre-stroke or before-stroke) OR AB (prestroke or pre-stroke or before-stroke)
- 3 TI ((precondition* or pre-condition* or premorbid or pre-morbid or prior or before) N3 (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*)) OR AB ((precondition* or pre-condition* or premorbid or pre-morbid or prior or before) N3 (stroke or cerebrovascular accident* or subarachnoid hemorrhage* or subarachnoid haemorrhage* or intracerebral hemorrhage* or intracerebral haemorrhage* or cerebral haemorrhage* or cerebral hemorrhage* or cerebral bleeding or brain bleeding or brain ischemia or cerebral infarction or apoplexy or CVA or cerebrovascular accident* or cerebrovascular event*))
- 2 (MH "Physical Activity") OR (MH "Exercise+")
- 1 (MH "Cerebral Hemorrhage+") OR (MH "Stroke+")

Appendix S1. Cont.

Scopus

- 14 #12 AND NOT #13
13 TITLE-ABS-KEY (child OR children OR pediatric* OR paediatric* OR infant* OR neonatal OR teenager OR adolescen*)
12 #10 AND NOT #11
11 TITLE-ABS-KEY (animals OR animal OR rats OR rat OR mouse OR mice OR monkey* OR primate* OR fish OR fishes OR sheep OR cats OR cat OR guinea AND pig OR guinea AND pigs OR guineapig OR guineapigs OR dog OR dogs OR lamb OR lambs OR cow OR cows)
10 #5 OR #9
9 #8 AND #6
8 #7 OR #2
7 TITLE-ABS-KEY (stroke OR "cerebrovascular accident*" OR "subarachnoid hemorrhage*" OR "subarachnoid haemorrhage*" OR "intracerebral haemorrhage*" OR "intracerebral hemorrhage*" OR "cerebral haemorrhage*" OR "cerebral hemorrhage*" OR "cerebral bleeding" OR "brain bleeding" OR "brain ischemia" OR "cerebral infarction" OR apoplexy OR cva OR "cerebrovascular accident*" OR "cerebrovascular event*")
6 TITLE-ABS-KEY ((precondition* OR "pre-condition*" OR premorbid OR "pre-morbid" OR previous OR prior OR before) W/3 ("physical activity" OR exercis* OR training OR inactive* OR sedentary OR active OR walk* OR sport* OR running OR swim* OR locomotion OR gym* OR bicycl* OR "physical therapy" OR physiotherapy OR "activity monitor*" OR acceleromet* OR "step counter*" OR fitness OR unfit* OR movement OR pedometer*))
5 #3 AND #4
4 TITLE-ABS-KEY ("physical activity" OR exercis* OR training OR inactive* OR sedentary OR active OR walk* OR sport* OR running OR swim* OR locomotion OR gym* OR bicycl* OR "physical therapy" OR physiotherapy OR "activity monitor*" OR acceleromet* OR "step counter*" OR fitness OR unfit* OR movement OR pedometer*)
3 #1 OR #2
2 TITLE-ABS-KEY (prestroke OR "pre-stroke" OR "before-stroke")
1 TITLE-ABS-KEY ((precondition* OR pre-condition* OR premorbid OR pre-morbid OR prior OR before) W/3 (stroke OR "cerebrovascular accident*" OR "subarachnoid hemorrhage*" OR "subarachnoid haemorrhage*" OR "intracerebral haemorrhage*" OR "intracerebral hemorrhage*" OR "cerebral haemorrhage*" OR "cerebral hemorrhage*" OR "cerebral bleeding" OR "brain bleeding" OR "brain ischemia" OR "cerebral infarction" OR apoplexy OR cva OR "cerebrovascular accident*" OR "cerebrovascular event*"))

Grey Literature Report (GreyLit.org)

Stroke; subarachnoid hemorrhage; subarachnoid haemorrhage; intracerebral haemorrhage; intracerebral hemorrhage; cerebral haemorrhage; cerebral hemorrhage; cerebral bleeding; brain bleeding; brain ischemia; cerebral infarction; apoplexy; cva; cerebrovascular accident; cerebrovascular event.

Google Advance

allintitle: (precondition* OR "pre-condition*" OR premorbid OR "pre-morbid" OR previous OR prior OR before) OR AND OR (stroke OR "subarachnoid hemorrhage*" OR "subarachnoid haemorrhage*" OR "intracerebral haemorrhage*" OR "intracerebral hemorrhage*" OR "cerebral haemorrhage*" OR "cerebral hemorrhage*" OR "cerebral bleeding" OR "brain bleeding" OR "brain ischemia" OR "cerebral infarction" OR apoplexy OR cva OR "cerebrovascular accident*" OR "cerebrovascular event*") OR AND OR ("physical activity" OR exercis* OR training OR inactive* OR sedentary OR active OR walk* OR sport* OR running OR swim* OR locomotion OR gym* OR bicycl* OR "physical therapy" OR physiotherapy OR "activity monitor*" OR acceleromet* OR "step counter*" OR fitness OR unfit* OR movement OR pedometer*) site:.gov%3B.edu%3B.org filetype:pdf