## Thigh-worn Accelerometry for measuring Movement and Posture across the 24 hour cycle: A Scoping Review and Expert Statement

**Appendix 2. Study Details** 

Table S2-1: Details of studies that use thigh-worn accelerometry to measure 24-hour Physical Behaviour

Study Details  1. Design  2. Years  3. Sampling method  4. Multi-centre?  5. N  6. Age*  7. Gender  8. Setting (community, occupational, clinical, other  9. Study Type (descriptive; health outcomes; correlates)  10. Mother study name	Accelerometry Protocol 1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
[26]  1. Cross sectional 2. 2011-2012 3. Purposive sampling 4. Multi centre 5. N = 678 6. Ages: 57.8 7. Gender: F, M 8. Community 9. Health outcomes 10. The Australian Diabetes, Obesity, and Lifestyle study (AusDiab)	ActivPAL3     Right anterior thigh Water proofed, hypoallergenic patch     7 consecutive days, 24/7 no removal     Minimum 4 days wear     ActivPAL Software 6.4.1; custom SAS v9.3 program     -	<ul> <li>Total sitting time</li> <li>Prolonged sitting time</li> <li>Sit-stand transitions</li> <li>Usual bout duration</li> </ul>	Insulin     Cholesterol     Fasting plasma glucose     2-hour post-load glucose     Triglycerides     Diabetes     BMI     Waist circumference     Lower back pain     High-density lipoprotein     Low-density lipoprotein     HbA1c     Systolic and diastolic blood pressure	Age     Gender     Menopausal status     Contraceptive pill use     Blood pressure tablets     Cholesterol tablets     Diabetes medication     Ethnicity     Employment status     Annual household income     Fiber intake     Fat     Saturated fat     Alcohol intake     Sodium intake     Potassium intake     Pruit and vegetable serve		Record sleep and any non-wear periods	
<ol> <li>Cross sectional</li> <li>May 2012 and         December 2013     </li> <li>Purposive sampling</li> <li>-</li> </ol>	MOX activity     monitor     Thigh-mounted on     anterior thigh 10 cm     above the knee	Total sedentary time     Prolonged sedentary time		Sex     Age     Education level     Smoking status     Presence of stoma	Stage I to III colorectal cancer survivors diagnosed and treated between 2002 and 2010	Short Questionnaire to Assess Health- enhancing physical activity	

Study Details  1. Design 2. Years 3. Sampling method 4. Multi-centre? 5. N 6. Age* 7. Gender 8. Setting (community, occupational, clinical, other 9. Study Type (descriptive; health outcomes; correlates) 10. Mother study name	Accelerometry Protocol 1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
5. N: 145 6. Age: 70 7. Gender: F, M 8. Community 9. Descriptive 10. ColoRectal cancer (EnCoRe) study	waterproofed in a finger cot  3 4. 24 h/d during 7 consecutive day  5. ≥4 valid days  6. Customized Matlab program (Version R2012a  7	Total physical activity time     Usual sedentary bout duration		<ul> <li>Diet</li> <li>Cancer stage age at diagnosis</li> <li>Treatment</li> </ul>		Record sleep and any non-wear periods	
[28]							
1. Cross sectional Seniors Understanding Sedentary Patterns (USP) study 2 3. Purposive sampling 4. Multi-centre 5. N: 700 6. Age: 65, 79, 83 7. Gender: F, M 8. Community 9. Correlates 11. The Lothian Birth Cohort, 1936 (LBC1936), and two cohorts of the West of Scotland Twenty- 07 study (Twenty- 07)	1. activPAL3c 2. the front of the thigh of their dominant leg using a waterproofing dressing 3 4. 7-days continuous recording 5 6. activPAL software 7  8.	Average percentage of waking time spent sedentary     The number of sit to stand transitions		Age at time of cognitive testing     Maximum educational attainment     Employment     Long-standing illness		Record sleep periods	
<ol> <li>Cross sectional</li> <li>September 2010 -         October 2013</li> <li>Convenience         sampling</li> <li>Southern part of the         Netherlands</li> <li>N:2,449</li> <li>Age: 60</li> </ol>	ActivPAL     The front of the right thigh Waterproofed using a nitrile sleeve.     Protocol: eight consecutive day	Total time spent sedentary (sitting/lying), standing and stepping Stepping intensity Sedentary breaks	Waist circumference     Triglycerides     High-density lipoprotein (HDL) cholesterol     Diastolic and systolic blood     Pressure	Age     Sex     Educational level     BMI     Smoking     Alcohol use     T2DM     CVD	Metabolic syndrome     Type 2 diabetes     History of CVD	Mobility limitation was obtained from the EuroQol-5D questionnaire	

1. Do 2. Yo 3. Sa 4. M 5. N 6. Ag 7. Go 8. Se oc cli 9. St (d. ou co 10. M	ge* iender etting (community, ccupational, inical, other tudy Type lescriptive; health utcomes; orrelates) Iother study name	Accelerometry Protocol 1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
8. Co 9. He	ender: F, M ommunity ealth outcomes he Maastricht	<ul> <li>5. At least 1 valid day         (≥10 h of waking         data)</li> <li>6. MATLAB®</li> </ul>		Fasting plasma glucose     Medication use				
St	tudy	R2013b 9						
[30]								
2 3. Pu 4 5. N: 6. Ag 7. Ge 8. Cc 9. Cc 13. Lc Cc [31] 1. Cr 2	ross sectional urposive sampling 2: 271 ge: 79.1 lender: F, M ommunity orrelates othian Birth ohort 1936 ross sectional	activPAL3c     the anterior thigh of the dominant leg with a waterproof dressing     -     Continuously for 7 days     7 days     -     activPAL3c     activPAL3c     the anterior thigh of	The percentage of time spent sedentary Number of sit-to-stand transitions Number of steps  The percentage of time spent sedentary	DNA methylation: epigenetic age	Sex     Depressive symptoms     Chronic physical disease     BMI     Difficulties with activities of daily living     Education  Age,     Sex	•	Record sleep periods	
4 5. N: 6. Aş 7. Gc 8. Cc 9. He 14. Lc	i: 248 ge: 79 ender: F, M ommunity fealth outcomes othian Birth ohort 1936	the dominant leg with a waterproof dressing  3 4. Continuously for 7seven days 5. 7 days 6. activPAL software (v7.2.32)  11	Number of sit-to- stand transitions     Number of steps	acceleration	Depressive symptoms     Chronic physical disease     BMI			
2 3. Co sai 4. M 5. N: 6. Ag 7. Ge	ross sectional convenience ampling fulti-centre :201 ge: 44.7 ender: F, M eccupational	Actigraph GT3X+     the medial front of the right thigh, midway between the hip and knee joints processus spinosus at the level of T1-T2 Water resistant     -	Total sitting time     Occupational sitting time     Leisure sitting time	Low Back Pain intensity	Age     Job seniority     BMI     Influence at work     Time spent carrying/lifting at work     Gender     Smoking	A short     questionnaire     containing a single     item regarding Low     Back Pain intensity	A diary for noting working hours, leisure time, sleep, non-wear time, and time of reference measurement	Available upon request

1. 2. 3. 4. 5. 6. 7. 8.	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational,	Accelerometry Protocol 1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
9.	clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	inclusion 6. Software 7. Processing Method						
9. 15.	Health outcomes New method for Objective Measurements of physical Activity in Daily living (NOMAD) Denmark	4. 4 continuous days (4 x 24 hours)  5. A at least two full working days  6. Actilife Software version 5.5; a specially developed MATLAB based program (Acti4)  12						
[33	1	120		ı				
1. 2. 3. 4. 5. 6. 7. 8. 9. New Mea Actir (NO.	Cross sectional August 2011 and April 2012 Convenience sampling Multi-centre N:205 Age: 44.8 Gender: F, M Occupational Health outcomes method for Objective surements of physical vity in Daily living MAD) Denmark	Actigraph GT3X+     thigh and trunk     Water     resistant     -     1-4 working days     At least one valid working day     Custom-made     MATLAB program     Acti4 software -	Sitting time     Moderate vigorous physical activity     Bouts     Exposure Variation Analysis of sedentary time (EVA)	Weight and fat percentage     Waist circumference BMI	Age     Gender     Influence at work     Smoking behaviour     Poor dietary habits Alcohol intake		A diary for noting start and end of work, bedtime in the evening, and wake- up in the morning	Available upon request
1. 2. 3. 4. 5. 6. 7. 8. 9. 16.	Cross sectional Convenience sampling Multi-centre N:214 Age: 44.5 Gender: F, M Occupational Descriptive New method for Objective Measurements of physical Activity in Daily living	Actigraph GT3X+     -     -     -     -     At least one valid working day     Custom-made Acti4 software     -	Sedentary time (periods of sitting and lying)     Physical activity (collapsed periods with any type of PA)		Age     Gender     BMI     Job type     Occupational     sedentary time     Occupational     physical activity	•	A diary for noting working hours	Available upon request

	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name (NOMAD)	Acc 1. 2. 3. 4. 5. 6. 7.	Device Placement/attachme nt Other sensors Protocol n Days / hour/day Valid n of days for inclusion Software Processing Method	Accel	erometry Variables		Health Outcome Variables	M	Covariates (confounders) / lediators / Moderators	Sample Health Status (Descriptors variables)	]	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
	Denmark												
[35]													
1. 2. 3. 4. 5. 6. 7. 8. 9. 17.	Cross sectional October 2011 to April 2012 Convenience sampling Multi-centre N:147 Age: 44.4 Gender: F, M Occupational Health outcomes New method for Objective Measurements of physical Activity in Daily living (NOMAD) Denmark	1. 2. 3. 4. 5. 6. 7. 14.	Actigraph GT3X+ the right thigh; water resistant - 4 consecutive days At least one valid day MATLAB software Acti4 -	•	Light physical activity: the average time spent standing still, moving and slow walking The average time spent fast walking, running, stair climbing and cycling		Low back pain	•	Age BMI LBP intensity	•	•	A diary for noting working hours, non-work time, sleep periods, and time of reference measurement  A retrospective questionnaire regarding the average time spent lying, sitting, standing, slow and fast walking, running, and cycling per day during the measurement period	Available upon request
[36]													
	Cross sectional Spring 2012- Spring 2014 Convenience sampling Multi-centre N:692 Age: 45.1 Gender: F, M Occupational Health outcomes Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	1. 2. 3. 4. 5. 6.	Actigraph GT3X+ Right thigh - 4 consecutive days including at least 2 working days At least one valid day Custom-made MATLAB program (Acti4 software)		Total sedentary time (total time spent sitting or lying) Total time spent standing still, moving Total time spent stair-climbing, running, cycling MVPA time Total walk time Exposure Variation Analysis of sedentary time	•	Weight Body fat percentage Waist circumference	•	Sex Age Smoking behaviour Alcohol intake Poor dietary habits Influence at work		•	A diary for noting working hours, non-work time, time in bed, non-wear time, and time of reference measurement	Danish Data     Protection Agency     accepted the     handling and storage     of data
[37]													
1.	Prospective	1.	Actigraph GT3X+		The total time spent walking, climbing	•	Neck shoulder pain	•	Age Sex		•	A diary for noting working hours,	Danish Data     Protection Agency

	C( 1 D ( 1							
1	Study Details							
1.	Design Years	A analousmentury Dungtored						
2.		Accelerometry Protocol						
3.	Sampling method	1. Device						
4.	Multi-centre?	2. Placement/attachme						
5.	N	nt						
6.	Age*	3. Other sensors		Health Outcome	Covariates		PA/SB/Sleep Variables	
7.	Gender	4. Protocol n Days /	Accelerometry Variables	Variables	(confounders) /	Sample Health Status	collected via	Data sharing
8.	Setting (community,	hour/day	receierometry variables	v ar indies	Mediators / Moderators	(Descriptors variables)	Questionnaires	Data sharing
	occupational,	<ol><li>Valid n of days for</li></ol>			Wicdintors / Woder ators		Questionnaires	
	clinical, other	inclusion						
9.	Study Type	<ol><li>Software</li></ol>						
	(descriptive; health	<ol><li>Processing Method</li></ol>						
	outcomes;							
	correlates)							
10.	Mother study name							
2.	Spring 2012- Spring	2. Thigh, dominant	stairs, running and		Seniority in the		leisure time, sleep	accepted the
	2013	upper arm, hip, and	cycling		current job		periods, and time of	handling and storage
3.	Convenience	trunk	, ,		Lifting and carrying		reference	of data
1	sampling	3			time at work		measurement	
4.	Multi-centre	4. Four to five days,			Influence and social			
5.	N:625	including at least			support at work			
6.	Age: 44.8	two working days			The number of days			
7.	Gender: F, M	5. At least 1 day						
8.	Occupational	Actilife software			with NSP during the			
9.	Health outcomes	version 5.5			previous 12 months			
10.	Danish PHysical	a custom-			• BMI			
10.	ACTivity cohort	made						
	with Objective	MATLAB-						
	measurements	based						
	(DPhacto) Denmark	software,						
	(DI flacto) Defiffialk	Acti4						
		7						
F2.0	1	/	I		I	l	l	
[38						1		
1.	Cross sectional	<ol> <li>Actigraph GT3X+</li> </ol>	Total time spent	<ul> <li>Resting systolic and</li> </ul>	• Age		Written diary to note	Danish Data
2.	April 2012- May	2. Thigh, dominant	walking, climbing	diastolic blood	Gender		working hours,	Protection Agency
	2014	upper arm, hip, and	stairs, running,	pressure	Smoking		leisure	accepted the
3.	Convenience	trunk	cycling	<ul> <li>Heart rate variability</li> </ul>	Social support at		<ul> <li>time and sleep, as</li> </ul>	handling and storage
	sampling	Water			work		well as the time of	of data
4.	Multi-centre	resistant			Seniority in the		the reference	
5.	N:514	<ol><li>The Actiheart</li></ol>			current job		measurements	
6.	Age: 45.3	monitor – water			Current use of			
7.	Gender: F, M	resistant			cardiovascular drugs			
8.	Occupational	<ol><li>Four to five days,</li></ol>			BMI			
9.	Health outcomes	including at least						
10.	Danish PHysical	two working days			Resting systolic and diagtalia blood			
1	ACTivity cohort	5. At least 1 day			diastolic blood			
	with Objective	<ol><li>Actilife software</li></ol>			pressure			
	measurements	version 5.5						
	(DPhacto) Denmark	7						
[39								
1.	Cross sectional	Actigraph GT3X+	• Total time most		• Age	I	A diary for noting	Avoilable upon
	October 2011 to	Actigraph G13A+     Thigh and trunk	Total time spent		50		i i didi j ioi noting	Available upon
2.			sitting, standing,		Gender		working hours, non-	request
1 2	April 2012	water-resistant	walking				wear time, and sleep	
3.	Convenience	3	Exposure Variation				periods	
1.	sampling	4. Four consecutive	Analysis of physical					
4.	Multi-centre	days for at least two	activity					
5.	N:191	working days						

	Study Details														
1.	Design Design														
2.	Years	Accele	rometry Protocol												
3.	Sampling method		evice												
4.	Multi-centre?		acement/attachme												
5.	N	nt													
6.	Age*		ther sensors												
7.	Gender		rotocol n Days /			]	Health Outcome		Covariates	9	ample Health Status	PA	/SB/Sleep Variables		
8.	Setting (community,		our/day	Acce	elerometry Variables		Variables		(confounders) /		escriptors variables)		collected via		Data sharing
0.	occupational,		alid n of days for					Me	diators / Moderators	(1)	escriptors variables)		Questionnaires		
	clinical, other		clusion												
9.			oftware												
9.	Study Type (descriptive; health		rocessing Method												
	outcomes:	/. F1	ocessing ividuod												
	,														
10	correlates)														
10.	Mother study name	6 D	arm ambreimabreis 4												
6.	Age: 45		ays only included												
7.	Gender: F, M		they contained												
8.	Occupational		ojective												
9.	Descriptive		easurements for at												
10.	New method for		ast 4 h of work												
	Objective		ctilife software												
	Measurements of		ersion 5.5; a												
	physical Activity in		istom-made												
	Daily living		ATLAB-based												
	(NOMAD)		ftware, Acti4												
	Denmark	7													
[40															
1.	Cross sectional		ctigraph GT3X+	•	Sitting periods	•	Neck shoulder pain	•	Age	•	Self-reported neck-	•	A diary for noting	•	Danish Data
2.	Spring 2012- Spring		nigh, dominant	•	EVA			•	Smoking	•	shoulder pain		working hours,		Protection Agency
	2013		pper arm, hip, and	•	The total time spent			•	BMI				leisure time, sleep	•	accepted the
3.	Convenience		ınk		walking, climbing			•	Seniority in the				periods, and time of		handling and storage
	sampling	3			stairs, running and				current				reference		of data
4.	Multi-centre		our consecutive		cycling			•	Job				measurement		
5.	N:659		ys, including at					•	Lifting and carrying						
6.	Age: 45		ast two working						at work						
7.	Gender: F, M		ıys						Influence at work						
8.	Occupational		t least 1 day						Social support						
9.	Health outcomes		ctilife software					"	Boeiai support						
10.	Danish PHysical		ersion 5.5; a												
	ACTivity cohort		istom-made												
	with Objective		ATLAB-based												
	measurements		ftware, Acti4												
	(DPhacto) Denmark	7													
[41															
1.	Cross sectional	1. Ac	ctigraph GT3X+	•	Sitting time	•	Heart Rate	•	Age	•	Self-reported data	•	A diary for noting	•	Available upon
2.	October 2011 to		nigh and trunk	•	Total time spent		Variability during	•	Gender		on medical		working hours, non-		request
	April 2012		ater-resistant		walking fast-pace,		night-time sleep		Smoking		diagnoses		wear time, sleep		
3.	Convenience		ctiheart monitor		running, cycling,		Jr		BMI		The life-time		periods		
	sampling		our consecutive		and walking stairs			:	Seniority in the		occurrence of		1		
4.	Multi-centre		ıys		and wanting states			•	current job		diagnosed				
5.	N:138		t least 1 day						3		diabetes,				
6.	Age: 45.5		ctilife software					•	Influence at work	•	cardiovascular				
7.	Gender: F, M		ersion 5.5; a					•	Lifting and carrying		disease,				
8.	Occupational		stom-made						time at work						
9.	Health outcomes		ATLAB-based					•	Working night shifts		hypertension, and				
10.	New method for		oftware, Acti4					•	Regular use of		depression				
10.	Objective	7	, 110117						prescribed heart						
	Objective							7							

1. 2. 3. 4. 5. 6. 7. 8.	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational.	Ac 1. 2. 3. 4.	celerometry Protocol Device Placement/attachme nt Other sensors Protocol n Days / hour/day Valid n of days for	Acc	celerometry Variables		Health Outcome Variables	M	Covariates (confounders) / ediators / Moderators	Sample Health Status (Descriptors variables)	PA	A/SB/Sleep Variables collected via Questionnaires	Data sharing
9.	clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	6. 7.	inclusion Software Processing Method										
	Measurements of physical Activity in Daily living (NOMAD) Denmark								and/or lung medicine				
[42]	-												
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional 2011 to 2013 Convenience sampling Multi-centre N:812 Age: 45 Gender: F, M Occupational Descriptive New method for Objective Measurements of physical Activity in Daily living (NOMAD) Denmark and the Danish Physical ACTivity cohort with Objective measurements (DPhacto)	3. 4. 5. 6. 7.	Actigraph GT3X+ Halfway between crista iliac and patella at the medial front of the right thigh - Four successive days - Actilife software version 5.5 a custom- made MATLAB- based software, Acti4	•	Sedentary behaviour (lying/sitting) Light (stand/slow walking) Moderate-to- vigorous (fast walking/running/cyc ling).			•	Occupational sector Job seniority Smoking Frequency of fruit and vegetable intake BMI		•	A diary for noting working hours, non- wear time, sleep periods, and time of reference measurement	
[43]										1			
1.	Cross sectional	1.	ActiGraph GT3x+	•	Number of sit-to-	•	Waist circumference	•	Age		•	A log for noting	
2. 3. 4.	Convenience sampling Multi centre	2. 3. 4.	Right thigh Waterproofed - 5 continuous	•	stand transitions Total sitting time Number of prolonged sitting	•	Weight BMI	•	Sex Smoking Self-rated health			sleep periods and any irregularities such as problems with the ActiGraph,	
5. 6. 7. 8. 9.	N:317 Age: 45 Gender: F, M Occupational Health outcomes Take a Stand!	5. 6. 7.	working days Only working hours MatLab software (Acti4)	•	Total time accumulated in prolonged sitting periods							days off work or working at home	
[44]	]												

Supplemental material

Study Details  1. Design  2. Years  3. Sampling methe  4. Multi-centre?  5. N  6. Age*  7. Gender  8. Setting (commu occupational, clinical, other  9. Study Type (descriptive; her outcomes; correlates)  10. Mother study ns	2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
1. Cross sectional 2. December 2012 March 2013 3. Convenience sampling 4. Multi-centre 5. N:704 6. Age: 45 7. Gender: F, M 8. Occupational 9. Health outcome 10. Danish PHysica ACTivity cohor with Objective measurements (DPhacto) Denr	1. ActiGraph GT3x+  2. The skin at the front of the right thigh (medial between the iliac crest and the upper border of the patella) and at the trunk (at processus spinosus at the level of T1-T2)  3  4. For 4–6 days, 24 hours a day  5. Working hours were included if they	Sitting periods     Sitting during the whole day     Sitting during work     Plus EVA variables	Low back pain	Age     Sex     Smoking     BMI     Level of occupational lifting     Occupational     Sector     Previously diagnosed with a hemiated     Disc     Leisure-time physical activity     Intensity of physical activity during working hours     Social support Influence at work     Age     Sex     BMI     Occupational     Sector     Level of physical activity during leisure     time     Intensity of physical activity during leisure     time     Intensity of physical activity during leisure     time		A diary for noting working hours, time off work, non-wear time and sleep periods	Danish Data     Protection Agency     accepted the     handling and storage     of data
[45]							
1. Cross sectional 2 3. Convenience sampling 4. Multi-centre 5. N:479 6. Age: (median: 4 for no LBP, 46: LBP)		Time spent sedentary, standing, walking, running, stairclimbing, and cycling during leisure time and at work		Age     Gender     Marital status     Educational level     Smoking     Chronotype     Occupation		A diary for noting working hours, non- wear time, and sleep periods	

	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name Gender: F, M	Accelerometry Protocol  Device Placement/attachme nt Other sensors Protocol n Days / hour/day  Valid n of days for inclusion Software Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
8. 9.	Gender: F, M Occupational Descriptive Klokwerk+	wear-time including ≥4 working hours and ≥10 hours of leisure time were included 6. Actilife software version 5.5; a custom-made MatLab-based software Acti4 7						
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional November 2010 - September 2013 Convenience sampling Southern part of the Netherlands N:2,258 Age: 60.1 Gender: F, M Community Health outcomes The Maastricht Study	1. ActivPAL3 2. The front of the right thigh Waterproofed 3 4. 8 consecutive days 5. At least 1 valid day (≥10 h of waking data) 6 7	Stepping time     Waking time     The total amount of sedentary time     Number of sedentary breaks     Number of prolonged sedentary bouts     Average sedentary bout duration	Kidney function     Waist circumference     Total cholesterol, HDL-cholesterol     Triglycerides     Blood pressure,     24h average     ambulatory blood     pressure     Glucose metabolism     status	Sex     Age     Smoking behavior Alcohol consumption Daily energy intake, Mobility limitation Noncardiovascular comorbidity History of CVD Level of education Use of antihypertensive and lipid-modifying medication			
[47] 1. 2. 3. 4. 5. 6. 7. 8. 9.	Cross sectional	1. MOX Activity Monitor 2. The right thigh 3 4. At least 7 days 5. At least 5 days of assessment (three weekdays, Saturday, Sunday), each with at least 10 h of measurement. 6	Time in sedentary behavior Time in light activities Time in moderate to vigorous physical activity	Clinical data Body composition Postbronchodilator lung function Functional mobility Generic and COPD-specific health status	Age     Sex     Relationship     between patient and     loved one     Working situation     Smoking status     Time living together     Receiving informal     care from     relatives     Rollator use	Global Initiative for     Chronic Obstructive     Lung Disease     (GOLD) COPD     diagnosis with a     moderate to very     severe degree of     airflow limitation     (GOLD grades 2-4)	Exercise motivation     (Behavioral     Regulation and     Exercise     Questionnaire 2     (BREQ-2)	

	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name Home Sweet Home	1. 2. 3. 4. 5. 6. 7.	Device Placement/attachme nt Other sensors Protocol n Days / hour/day Valid n of days for inclusion Software Processing Method	Acco	elerometry Variables		Health Outcome Variables		Covariates (confounders) / ediators / Moderators	Sample Health Status (Descriptors variables)	P.A	A/SB/Sleep Variables collected via Questionnaires	Data sharing
	study	/.	-					•	Cane use Long-term oxygen therapy Exacerbations past 12 mo Medications in use BMI				
[48	]												
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional October 2011 – April 2012 Convenience sampling Multi-centre N:187 Age: 45 Gender: F, M Occupational Health outcomes New method for Objective Measurements of physical Activity in Daily living (NOMAD) Denmark	1. 2. 3. 4. 5. 6.	Actigraph GT3X+ Thigh and hip Water resistant - 4 consecutive days for at least two working days Days with at least 4 h of work Actilife software version 5.5; a custom-made MATLAB-based software, Acti4	•	Duration of standing still and walking at work Forward bending	•	Low back pain intensity	•	Gender Age, Seniority BMI Smoking Time on feet during leisure hours Forward bending Carrying/lifting Influence at work	Self-reported     LBP intensity	•	A diary for noting working hours, leisure time, non- wear time, sleep periods and time of reference measurement	Available upon request
[49	]												
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional November 2010 - September 2013 Convenience sampling Southern part of the Netherlands N:2,045 Age: 60.2 Gender: F, M Community Descriptive The Maastricht Study	1. 2. 3. 4. 5.	ActivPAL3 The front of the right thigh Waterproofed - 8 consecutive days At least 1 valid weekday and 1 valid weekday and 2 valid weekend day (≥10 h of waking data) activPAL software MATLAB R2013b -	•	The total sedentary time The total amount of stepping The total standing time			•	Employment status Age Sex Diabetes Status Mobility limitations Level of education Smoking Alcohol consumption BMI Frequency of shift work				

Simple general composition   Convenience of Conve									
2. Yours Sample method 1. Device of 1. Devic									
1. Device Multi-center C Particles and Companies and Companies Com									
4. Multi-centre 2 N g of contair 4 Note of the contained									
5. N of Age 4 Potocolin Days Accelerometry Variables (Covariates) (Cov									
6. Age* 8. Softing (community) 9. Study Type (descriptive) health concomes: correlation on comes: correlation		Multi-centre?	<ol><li>Placement/attachme</li></ol>						
7. Gender Secting (Community, exceptional, 19 Community, exceptional, 19 Complete and the section of the sectio	5.	N	nt						
Conformer community   Conformer   Confor	6.	Age*	<ol><li>Other sensors</li></ol>		Health Outcome	Covaviates		DA/CD/Clean Variables	
Some content of the c	7.	Gender	4. Protocol n Days /	A analamamatur, Variablas			Sample Health Status		Data sharing
cocupational, other of clinical, other of clinical c	8.	Setting (community,	hour/day	Accelerometry variables	variables		(Descriptors variables)		Data snaring
9. Study Type (descriptive; health outcomes; currelates) 150 1. Convenience sampling 4. Multi-centre 5. New Set 6. Occupational 9. Health outcomes (in Diply fiving (NOMAD) Demunk and the Dumish Physical A-Cit/rity cohort with (Objective Manch 2014) Demunk and the Dumish Physical A-Cit/rity cohort with (Objective Manch 2013 to Marke 2014  1. ActivPAL3 1. Convenience sampling 3 MATILAB diply fiving (NOMAD) Demunk and the Dumish Physical A-Cit/rity cohort with (Objective Manch 2014 to Marke 2016  Marke 2016  Marke 2016  Marke 2016  Marke 2016  Software Processing Method outcomes; A-Citypethod state of the pear walking, the pear walkin		occupational,	<ol><li>Valid n of days for</li></ol>			Mediators / Moderators	, ,	Questionnaires	
Content   Cont		clinical, other	inclusion						
descriptive, health outcomes: correlates)   10. Mother study name   1. Actignath GTXF-   10. Convenience   10. Mother study name   1. Actignath GTXF-   10. Convenience   10. Mother study name   1. Actignath GTXF-   10. Convenience   10. Conveni	9.								
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2. 2011 to 2013 3. Convenience sampling 4. Multi-centre 4. Four consecutive days 5. Register Mingh (Fig. 1) 6. Age 46.6 men, 46.5 worker Measurements of physical Activity in Daily living (NOMAD) Demmark and the Damish Physical Activity in Bassurements (DPhacto) Demmark and the Damish Physical Activity and Surveysion 5.2 waterspeech (DPhacto) 1. Cross sectional (DPhacto) 2. Multi-centre (DPhacto) 3. Crowneinees sampling 3 Sitting time (Spitch) (DPhacto) 2. Sitting time (Spitch) (DPhacto) 3. Crowneinees sampling 3 Sitting time (Spitch) (DPhacto) 4. Sitting time (Spitch)			1 Antique 1 CT2V	Tr:	. n.t. t. 1 1 1		1	A 11: C	
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7. Gender F. M 8. Occupational 9. Helath outcomes 9. Helath outcomes 10. New method for Objective Measurements of physical Activity in Daily living (NOMAD) Demnark and the Danish Physical ACTivity cohort with Objective measurements (DPhacto)  [51]  1. Cross sectional 1. ActivPAL3 2. Mark 2014 3. Convenience sampling 3. Convenience sampling 3. Convenience sampling 4. Multi-centre 4. Multi-centre 5. Na33 6. Age: 39.6 6. Age: 39.6 7. Gender F. M 8. Occupational 9. Correlates 10. Active Buildings Study  Measurements (oriting and lying). Time in bed  (sitting and lying). Time in bed  (sitting and lying).  Information on whether the worker was skilled   Plantiformation on whether the worker was skilled  Addilf-control whether the worker was skilled   Sitting time  Ser Sex  Sex  Sex  Sex  Occupation and organization Occupation and organization Occupation Occupatio	6.					knees and			
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Demmark and the Danish Physical ACTivity cohort with Objective measurements (DPhacto)  [51]  1. Cross sectional 2. Middle front of the right thigh waterproof sampling 3 Waterproof sampling 4. Multi-centre 5. Ni-433 6. Age: 39.6 7. Gender: F, M 5. Days when the 8. Occupational 9. Correlates study  8. Occupational 9. Correlates 10. Active Buildings study  8. Removed 6. Active ALTM3 software Microsoft Excel 2010									
Danish Physical ACTivity cohort with Objective measurements (DPhacto)  [51]  1. Cross sectional 2. March 2013 to March 2014 3. Convenience sampling 4. Multi-centre 5. N.433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates study 8. Cross Barbon of Word Continuously were study 8. Active Buildings study 8. Removed 6. Active Buildings study 8. Cross Barbon of Excel 2010 8. Cross Barbon of Excel 2010 8. Active Buildings software Microsoft Excel 2010 8. Active Buildings and Cross Barbon of Excel 2010 8. Act									
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with Objective measurements (DPhacto)  [51]  1. Cross sectional 2. March 2013 to March 2014 oright thigh waterproof sampling 4. Multi-centre 5. N:433		Danish Physical							
The process of the proof of the right thigh waterproof sampling		ACTivity cohort							
[51] 1. Cross sectional 2. March 2013 to March 2014 3. Convenience sampling 4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates study  Study  Sitting time  Standing time  Sex  Occupation and organization  BMI  Participants' environmental perceptions  Participants' environmental perceptions		with Objective							
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1. Cross sectional 2. March 2013 to March 2014 3. Convenience sampling 4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Activ PALTM3 software Microsoft Excel 2010  Sitting time  Sitting time  Sitting time  Standing time  Stexex  Middle front of the right thigh working hours and non-wear time  Step counts  Step counts  Step counts  Step counts  A diary for noting working hours and non-wear time  Occupation and organization  BMI  Participants' environmental perceptions  environmental perceptions		(DPhacto)							
1. Cross sectional 2. March 2013 to March 2014 3. Convenience sampling 4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Activ PALTM3 software Microsoft Excel 2010  Sitting time  Sitting time  Sitting time  Standing time  Stexex  Middle front of the right thigh working hours and non-wear time  Step counts  Step counts  Step counts  Step counts  A diary for noting working hours and non-wear time  Occupation and organization  BMI  Participants' environmental perceptions  environmental perceptions	T51	1							
2. March 2013 to March 2014 3. Convenience sampling 4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  Active Buildings Study  A middle front of the right thigh waterproof  a more proof waterproof waterproof  a more proof waterproof waterproof  a more proof waterproof waterp			1. ActivPAL3	Sitting time		Age		A diary for noting	
March 2014 3. Convenience sampling 4. Multi-centre 5. N:433 days (encompassing 2. Sound organization 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  March 2014  Sit-to-stand transitions  Sit-to-stand transitions  Step counts  Sit-to-stand transitions  Step counts  Sit-to-stand transitions  Step counts  Smoking  Occupation and organization  BMI  Participants' environmental perceptions  continuously were Removed 6. ActivPALTM3 was software Microsoft Excel 2010									
3. Convenience sampling 3 Step counts  4. Multi-centre 5. N:433 4. Gencompassing 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  4. Active Buildings study  3 Step counts  5. Step counts  5. Days when the ActivPALTM3 was not worn continuously were Removed 6. ActivPALTM3 software Microsoft Excel 2010	1								
sampling 4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  Sampling 3 4. Five consecutive days (encompassing ≥3 workdays) 5 Days when the ActivPALTM3 was not worn continuously were Removed 6. ActivPALTM3 software Microsoft Excel 2010  Active Buildings software Microsoft Excel 2010  Step counts  • Step counts  • Step counts  • BMI • Participants' environmental perceptions	3							non-wear time	
4. Multi-centre 5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  6. ActivPALTM3 software Microsoft Excel 2010  4. Five consecutive days (encompassing ≥3 workdays)	] .								
5. N:433 6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  ActivPALTM3 software Microsoft Excel 2010  days (encompassing ≥3 workdays)  Participants' environmental perceptions  Participants' environmental perceptions	4			Step counts					
6. Age: 39.6 7. Gender: F, M 8. Occupational 9. Correlates 10. Active Buildings study  8. Active Buildings study  10. Active Buildings study  10. Active Buildings software Microsoft Excel 2010									
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8. Occupational ActivPALTM3 was 9. Correlates not worn 10. Active Buildings study Removed 6. ActivPALTM3 software Microsoft Excel 2010									
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12			7	<u> </u>	<u> </u>	2			

Study Details  1. Design 2. Years 3. Sampling met 4. Multi-centre? 5. N 6. Age* 7. Gender 8. Setting (comn occupational, clinical, other 9. Study Type (descriptive; h outcomes; correlates) 10. Mother study	Accelerometry Protocol  1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
1. Cross sectiona 2. November 20: April 2016 3. Purposive sam 4. Multi-centre 5. N: 700 6. Age: 64, 79, 8 7. Gender: F, M 8. Community 9. Correlates 10. The Lothian B Cohort, 1936 (LBC1936), an West of Scotla Twenty-07	4- 2. the front of the thigh of their dominant leg using a waterproofing dressing 3. Other sensors 4. 7-days continuous recording 5 7 d the nd	Percentage of waking time Sedentary behaviour		Objective     neighbourhood     Subjective     neighbourhood     Social support     Social participation,     Home environment     measures		Record sleep periods	
[53]  1. Cross sections 2. November 20: April 2016 3. Purposive sam 4. Multi-centre 5. N: 700 6. Age: 64, 79, 8 7. Gender: F, M 8. Community 9. Correlates 10. The Lothian E Cohort, 1936 (LBC1936), at West of Scotle Twenty-07 stu (Twenty-07)	4- 2. the front of the thigh of their dominant leg using a waterproofing dressing 3. Other sensors 4. 7-days continuous recording 5 6 7 d the	Sedentary behaviour     Time spent walking		Education     Occupation     Income     Car ownership     Subjective social     position     Parental social     class     Lifetime social class		Record sleep periods	
1. Cross sections 2. Spring 2012- 2014 3. Convenience sampling 4. Multi-centre		Total time spent walking, running, cycling and walking stairs	Insomnia symptoms	Age     BMI     Smoking     Alcohol     consumption     Medication		A diary for noting working days, working hours, days off work and non- wear time	Danish Data     Protection Agency     accepted the     handling and storage     of data

1. 2. 3. 4. 5. 6. 7. 8.	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health	Accelerometry Protocol  Device Placement/attachme nt Other sensors Protocol n Days / hour/day  Valid n of days for inclusion Software Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
10.	outcomes; correlates) Mother study name							
5. 6. 7. 8. 9. 10.	N:650 Age: 49 Gender: F, M Occupational Health outcomes Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	4. Protocol n Days / hour/day: six consecutive days, including at least two working and two leisure days  5. Valid n of days for inclusion: non-wear periods excluded  6. Actilife software version 5.5; Acti4  7.			for depression participant's workplace Intensity and extent of musculoskeletal Pain Shift work Number of working hours per week			
[55	5]	, , ,			ı	ı		
1. 2. 3. 4. 5. 6. 7. 8. 9.	Cross sectional 2013 to 2014 Convenience sampling Multi-centre N:164 Age: 39 Gender: F, M Occupational Descriptive Active Buildings study	ActivPAL3     middle front of the right thigh; waterproof     -     24 hours a day for five consecutive days (encompassing ≥3 workdays)     Days when three or more weekdays and at least one weekend day     ActivPALTM3 software Microsoft Excel 2010     -	Time spent sitting, standing, stepping Step counts Frequency of sit/stand transitions		<ul> <li>Age</li> <li>Sex</li> <li>Ethnicity</li> <li>Job role</li> </ul>		A diary for noting sleep periods and any irregularities such as problems with the ActiGraph, days off work or working at home	
[56					1	1		
1. 2. 3. 4. 5. 6. 7. 8. 9.	Cross sectional March 2013 to March 2014 Convenience sampling Multi-centre N:116 Age: 40 Gender: F, M Occupational Descriptive	ActivPAL3     middle front of the right thigh; waterproof      4. 24 hours a day for five consecutive days (encompassing ≥3 workdays)     Minimum of 3 workdays	Occupational step counts, stepping time, sitting time, standing time and sit-to-stand transitions		Age     Sex     Ethnicity     Job role     Habit strength     Organisation     BMI     Scio-cultural workplace environment		The Movement at Work survey  A diary for noting working days, time of arrival and departure from the office and non-wear time	

Study Details  1. Design  2. Years  3. Sampling method  4. Multi-centre?  5. N  6. Age*  7. Gender  8. Setting (community, occupational, clinical, other  9. Study Type (descriptive; health outcomes; correlates)  10. Mother study name	Accelerometry Protocol 1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
10. Active Buildings study	6 7						
[57]							
<ol> <li>Cross sectional</li> <li>November 2010 -         September 2013</li> <li>Convenience         sampling</li> <li>Southern part of the         Netherlands</li> <li>N:2,497</li> <li>Age: 60</li> <li>Gender: F, M</li> <li>Community</li> <li>Health outcomes</li> <li>The Maastricht         Study</li> </ol>	1. ActivPAL3 2. The front of the right thigh; waterproofed 3. Other sensors 4. 24 h/day for 8 consecutive days 5. At least 1 valid day (>14 h of waking data). 6. activPAL software MATLAB R2013b 7	Sedentary time     Number of sedentary breaks     Prolonged sedentary bouts     Average duration of the sedentary bouts	Oral glucose tolerance test     Metabolic syndrome     Waist circumference, Triacylglycerol levels     HDL-cholesterol levels     Fasting glucose levels     Blood pressure     Medication use	Sex     Age     Level of education     Smoking status     Alcohol     consumption     Mobility limitation     Health status     Diabetes duration     Medication use     BMI     HbA1c     Higher intensity     physical activity		Record sleep periods	
[58]							
Cross sectional     November 2010 -     September 2013     Convenience     sampling     Southern part of the     Netherlands     N:2,213     Age: 60     Gender: F, M     Community     Health outcomes     The Maastricht     Study	1. ActivPAL3 2. The front of the right thigh Waterproofed 3 4. 8 consecutive days 5. At least 1 valid day (≥10 h of waking data) 6 7	Sedentary time (sitting or lying)     The total amount of standing time     The total amount of stepping time	Waist circumference BMI Blood pressure HDL cholesterol Total-to-HDL cholesterol ratio Triacylglycerol Fasting glucose 2 h postload glucose, HbA1c Fasting insulin Metabolic syndrome Type 2 diabetes	Sex Age Level of education Smoking status Alcohol consumption Energy intake Mobility limitation Prevalent cardiovascular disease Use of lipid- modifying, antihypertensive Glucose-lowering medication Depression Glucose metabolism			

4. Multi-c 5. N 6. Age* 7. Gender 8. Setting occupa clinical 9. Study (descrip outcom correlat 10. Mother	method entre?  g method 1. Device 2. Placement/attachment 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion other three, the processing Method is selected by the proc	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
Septem 3. Conver sampli 4. Souther Nether 5. N:2,02- 6. Age: 59 7. Gender 8. Comm 9. Health 10. The Ma Study	er 2010 - er 2013 ence gr 2013 ence gr 3 ence gr 3 ence gr 4. 8 consecutive days 5. At least 1 valid day (≥10 h of waking data) F, M entry	Sedentary time (sitting or lying) The number of sedentary breaks Prolonged sedentary bouts Average bout duration The total amount of standing The total amount of stepping Stepping time	Submaximal cycle ergometer test: CRF	BMI Age Education level Alcohol use Smoking status CVD Energy intake Mobility limitations Beta-blocker use T2DM			
2014 3. Conver samplii 4. One ce: 5. N:159 6. Age: 50 7. Gender 8. Occupa	August   2. The front of the right thigh; waterproofed   3 tre   4. 24 h/day over 7 days   5. At least four full days   M   6. activPAL software;	Sitting, standing and stepping time     Average number of transitions from sitting to standing     Number of steps     Average cadence of steps	Blood pressure Heart rate Waist circumference Hip circumference Body composition Fasted capillary blood glucose Triglycerides High density lipoprotein cholesterol, Low-density lipoprotein cholesterol Total cholesterol	Age     Ethnicity     Average weekly working hours     Medical problems Medication     Intake of fruit and vegetables,     Alcohol intake     Smoking status     Anxiety and depression     BMI		A diary for noting sleep periods and non-wear time	
[61] 1. Cross s 2. Decem     March 3. Conver     sampli 4. Multi- 5. N:457 6. Age: 40	er 2011 - 2. processus spinosus 013 at the level of T1-T2 ence and at the halfway mark on the vertical	The duration of forward bending	Trunk and low back pain intensity	Age     Gender     Smoking habits     BMI     Social     Seniority     Lift burden at work		A diary for noting working hours, leisure hours, sleep, non-wear time and specific time for the reference     measurements	The Danish Data Protection Agency has accepted the handling and storage of data

	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	Accelerometry Protocol  Device Placement/attachme nt  Other sensors Protocol n Days / hour/day  Valid n of days for inclusion Software Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
7. 8. 9. 10.	Gender: F, M Occupational Health outcomes Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	superior and the patella  3  4. For several consecutive days during work  5. ≥4 hours of recordings of working time or ≥75% of average self-reported working time, and ≥4 hours measured during leisure time or ≥75% of average self-reported leisure time per day if the worker had ≥2 days of recordings.  6. MATLAB based Acti4  7			Forward bending of the trunk during work     Social support at work			
[62 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional December 2011 - March 2013 Convenience sampling Multi-centre N:657 Age: 45 Gender: F, M Occupational Descriptive Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	1. ActiGraph GT3x+ 2. At processus spinosus at the level of T1-T2 and at the halfway mark on the vertical line between spina illiaca anterior superior and the patella 3 4 5. ≥4 hours of recordings of working time or ≥75% of average self-reported working time, and ≥4 hours measured during leisure time	The duration of forward bending of the trunk  EVA		Age     Gender     BMI     Smoking habits     Low back pain intensity		A diary for noting information     about specific time episodes during the measurement     period	Danish Data     Protection Agency     accepted the     handling and storage     of data

Study Details  1. Design 2. Years 3. Sampling method 4. Multi-centre? 5. N 6. Age* 7. Gender 8. Setting (community, occupational, clinical, other 9. Study Type (descriptive; health outcomes; correlates) 10. Mother study name	Accelerometry Protocol  1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method  or ≥75% of average	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
	selfreported leisure time per day if the worker had ≥2 days of recordings.  6. Acti4 7						
Cross sectional     Cross sectional     October 2011 to     April 2012     Convenience     sampling     Multi-centre     N:198     Age: 44.7     Gender: F, M     Occupational     Health outcomes     New method for     Objective     Measurements of     physical Activity in     Daily living     (NOMAD)     Denmark	Actigraph GT3X+     At processus spinosus at the level of T1-T2 and at the halfway mark on the vertical line between spina illiaca anterior superior and the patella     -     ≥4 working hours and ≥10 of total recordings per day     Actilife software version 5.5; a custom-made MATLAB-based software (Acti4)     -	The duration of forward bending of the trunk	LBP intensity	Age     Gender     Smoking habits     BMI     Work-related psychosocial risk factors     the duration categories of forward     bending of the trunk during work		A diary for noting working hours, leisure hours, sleep, non-wear time and specific time for the reference     measurements	Available upon request
11. 12.	8. 9.	•	•	•		•	•
13.	10.	•	•	•		•	•
14.	11.	•	•	•		•	•
15.	12.	•	•	•		•	•
16.	13.	•	•	•		•	•
17.	14.	•	•	•		•	•
18.	15.	•	•	•		•	•
19.	16.	•	•	•		•	•
20.	17.	•	•	•		•	•
21.	18.	•	•	•		•	•

10.	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	Accelerometry Protocol  1. Device 2. Placement/attachme nt 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
22.		19.	•	•	•		•	•
23.		20.	•	•	•		•	•
24.		21.	•	•	•		•	•
25.		22.	•	•	•		•	•
26. 27.		23.	•	•	•		•	•
		24.	•	•	•		•	•
28. 29.		25.	•	•	•		•	•
30.		26.	•	•	•		•	•
31.		27. 28.	•	•	•		•	•
32.		29.	•	•	•		•	•
33.		30.						
34.		31.	•	•	•		•	•
35.		32.	•	•	•		•	•
36.		33.	•	•	•		•	•
37.		34.	•	•	•		•	•
38.		35.	•	•	•		•	•
39.		36.	•	•	•		•	•
40.		37.	•	•	•		•	•
41.		38.	•	•	•		•	•
42.		39.	•	•	•		•	•
43.		40.	•	•	•		•	•
44.		41.	•	•	•		•	•
45.		42.	•	•	•		•	•
46.		43.	•	•	•		•	•
47.		44.	•	•	•		•	•
48.		45.	•	•	•		•	•
49.		46.	•	•	•		•	•
50.		47.	•	•	•		•	•
51.		48.	•	•	•		•	•
52.		49.	•	•	•		•	•
53.		50.	•	•	•		•	•
54.		51.	•	•	•		•	•
55.		52.	•	•	•		•	•
56.		53.	•	•	•		•	•
57.		54.	•	•	•		•	•
58.		55.	•	•	•		•	•
59.		56.	•	•	•		•	•

	C( 1 D ( 2							
1.	Study Details Design							
2. 3. 4. 5. 6. 7. 8.	Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	Accelerometry Protocol  Device Placement/attachme nt Other sensors Protocol n Days / hour/day  Valid n of days for inclusion Software Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
[64	.]							
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Prospective Spring 2012- Spring 2013 Convenience sampling Multi-centre N:625 Age: 44.8 Gender: F, M Occupational Health outcomes Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	Actigraph GT3X+     Thigh, dominant upper arm, hip, and trunk     Four to five days, including at least two working days     At least I day     Actilife software version 5.5; a custom-made MATLAB-based software (Acti4)     -	Total time spent walking, climbing stairs, running, cycling, sitting	Neck shoulder pain	Age     BMI     Seniority in the current job     Lifting and carrying time at work     Change in physical work tasks over the     12-month period     Influence and social support at work     The number of days     with NSP during the previous 12 months     The number of days with pain     Intake of pain medication		A diary for noting working hours, leisure time, sleep periods, and time of reference measurement	Danish Data     Protection Agency     accepted the     handling and storage     of data
[65	:1			I	medication			
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	Cross sectional October 2011 to April 2012 Convenience sampling Multi-centre N:202 Age: 44.8 Gender: F, M Occupational Health outcomes	Actigraph GT3X+     the medial front of the right thigh, midway between the hip and knee joints the trunk (spinous process at the level of T1-T2) water-resistant     -     Four consecutive days for at least two working days     At days were only included if they contained objective measurements for at least 4 h of work     Actilife software version 5.5; a custom-made	Total sitting time	Neck shoulder pain	Age     Smoking behaviour     BMI     Seniority in the job     Perceived influence at work     Time spent carrying/     lifting at work     Working with arms raised     Working with     repetitive arm movements     Influence at work			Available upon request

Study Details  1. Design  2. Years  3. Sampling method  4. Multi-centre?  5. N  6. Age*  7. Gender  8. Setting (community, occupational, clinical, other  9. Study Type (descriptive; health outcomes; correlates)  10. Mother study name	Accelerometry Protocol  1. Device 2. Placement/attachment 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method  MATLAB-based	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
	software (Acti4)						
[66]	7						
1. Prospective 2. April 2012- May 2014 3. Convenience sampling 4. Multi-centre 5. N:644 6. Age: (median: 47 for no LBP, 46 for LBP) 7. Gender: F, M 8. Occupational 9. Health outcomes 10. Danish PHysical ACTivity cohort with Objective measurements (DPhacto) Denmark	1. ActiGraph GT3x+ 2. the right thigh (medially between the iliac crest and the upper border of the patella), the hip (near the upper point of the iliac crest), the upper back (at processus spinosus below T1) waterproof 3 4. For 4-6 days, 24 hours a day 5. Working hours were included if they were ≥4 hours/day (continuous periods) or a duration of ≥75% of average wear time during work across days 6. Actilife software version 5.5; a custom-made MatLab-based software (Acti4) 7	Forward bending     Domain-specific forward bending (work or leisure)	Low back pain	Age     Gender     Working conditions (eg, seniority and lift     factor at work)     BMI	1-year monthly follow-up on LBP intensity: every four weeks over a 1-year period	A diary for noting working hours, non- wear time, and sleep periods	Danish Data     Protection Agency     accepted the     handling and storage     of data
[67]	1					1	
Prospective     Convenience     sampling     Multi centre     N:1,165     Age: 39.9 for     construction, 44.5	ActiGraph GT3x+     right thigh (medially between the iliac crest and the upper crest of the patella) and right side of the hip (just below iliac crest)	Minutes spent in sitting and standing positions     Forward bending during work	Low back pain	Age     Gender     Seniority in     Profession     BMI     Smoking status	Self-reported     LBP intensity for the     preceding four weeks		

1. 2. 3. 4. 5. 6. 7. 8.	Study Details Design Years Sampling method Multi-centre? N Age* Gender Setting (community, occupational, clinical, other Study Type (descriptive; health outcomes; correlates) Mother study name	Accelerometry Protocol 1. Device 2. Placement/attachment 3. Other sensors 4. Protocol n Days / hour/day 5. Valid n of days for inclusion 6. Software 7. Processing Method	Accelerometry Variables	Health Outcome Variables	Covariates (confounders) / Mediators / Moderators	Sample Health Status (Descriptors variables)	PA/SB/Sleep Variables collected via Questionnaires	Data sharing
7. 8. 9. 10.	for healthcare workers Gender: F, M Occupational Health outcomes a part of a larger prospective cohort study among construction and healthcare workers	3 4. 3-4 consecutive days 5 6. a custom-made     MatLab-based     software Acti4 7			Self-reported mechanical exposures Time spent sitting and standing during work     Heavy lifting,     Decision control     Fair and empowering leadership     Social climate in the organization			

N: sample size; PA: physical activity; SB: sedentary behaviour; LBP: low back pain; COPD: Chronic Obstructive Pulmonary Disease; BMI: Body Mass Index; MVPA: moderate to vigorous physical activity; EVA: Exposure Variation Analysis; T2DM: Type 2 Diabetes Mellitus; CVD: cardiovascular diseases; NSP: neck shoulder pain

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Note: Reference numbers match those used in the primary manuscript

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<sup>\*</sup>Age is given as mean unless otherwise stated.

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