

Table e-2: Summary Of Common Monitors Used In Studies Monitoring Physical Activity For ≥ 24 Hours.

Name	Manufacturer	Acceleration directions detected	Device Dimensions (cm)	Placement	Average Cost*	Main Outcomes measured	Comments
ActiGraph Model 7164 (a) λ	ActiGraph LLC Pensacola, FL	1 (uniaxial) **	5.1 x 4.1 x 1.5 (45.5g)	Hip, wrist or ankle	\$225-299 Software \$1495	Activity count, step count, EE, activity intensity level	> Placement on R or non-dom./unaffected hip
ActiGraph Model GT3X (a) λ	ActiGraph LLC Pensacola, FL	3 (triaxial) **	4.6 x 3.3 x 1.5 (19g)	Hip, wrist or ankle	\$225-299 Software \$1495	Activity count, step count, EE, activity intensity level	> Placement on R or non-dom./unaffected hip
StepWatch Activity Monitor (SAM)	Modus Health Inc, Washington DC	Microprocessor- controlled activity monitor	6.5 x 5.0 x 1.5 (65g)	Ankle	\$525 Software	Step count, active vs inactive minutes, step gait characteristics	Greater accuracy for slow walking speeds.

(b)λ					\$1470		
StepWatch 3	Orthocare	Microprocessor-	6.5 x 5.0 x 1.5	Ankle	\$525	Step count, active vs	Greater accuracy for
Activity Monitor	Innovations, Oklahoma City, Oklahoma	controlled activity monitor	(65g)		Software	inactive minutes, step gait characteristics	slow walking speeds.
					\$1470		
Yamax SW-200	Yamax-	Pedometer – spring	5.0 x 3.8 x 1.4	Clip to	\$13 -19.50	Step count	
digiwalker Step	Digiwalker,	loaded lever arm	(21g)	multiple			—
Pedometer	Warminster, PA			locations			
(c)							
TriTrac RT3	StayHealthy Inc., Monrovia, CA, USA	3 (triaxial) **	10.8 x 6.8 x 3.3 (170.4g)	Waist	~\$500	Net vector magnitude counts, EE, step count	> Placement on posterior waist
(d)							
DynaPort Hybrid	McRoberts, The Hague,	3 (triaxial) Accel – 3 (triaxial) gyroscope.	87 x 45 x 14 (74g)	Lower back (level	Hardware EUR 695	Physical activity (steps, intensity & postures), EE,	—
(e)							

	Netherlands			of L4-5)	Module – EUR 200^	sleep
Shimmer3 IMU (f)	Shimmer Boston MA, USA	Accelerometer, gyroscope & magnetometer	51 x 34 x 14 (23.6g)	Multiple locations	~\$558	> worn on the wrist
Intelligent Device for Energy Expenditure and Activity (g)	MiniSun Company, 935 E. MillCreek Dr., Fresno, California, 93720, USA	1 recorder and 5 sets of sensors	1cm ² (5 sensors) (58g)	Multiple locations		Activity counts (walking, stairs, transitions), Time spent: on feet vs not on feet.
Abbreviations: EE = energy expenditure, > = mostly, R = right, L = left, non-dom = non-dominant, Accel = Accelerometer.						
λ Approved by the Food and Drug Administration (FDA) (StepWatch = marketing clearance as a class II device)						
* Cost data was obtained from the manufacturer website as well as major retail sites (www.amazon.com when relevant), date accessed 06.14.2015.						
** Using a piezoelectric bender element or solid-state accelerometer that produces an electric signal proportionate to the force acting on it during movement.						
^ 1 module = EUR 200, 2 modules = EUR 300, 3 modules = EUR 375 and 4 modules = EUR 400						

Websites: a) <http://www.actigraphcorp.com>, b) <https://modushealth.com>, (c) <http://www.yamax-digiwalker.com>, (d) <https://www.stayhealthy.com>, (e) <https://www.mcroberts.nl/>, (f) <http://www.shimmersensing.com/shop/consensus-base6-imu-development-kits>

NB: Common = used in ≥ 2 studies