



Technology Assisted Physical Activity Promotion:

Online Accelerometry Data for Research and Clinical Care

Authors: Neal Kaufman, M.D., M.P.H. & Adam Kaufman

Background

- Unhealthy physical activity choices promote obesity, type 2 diabetes and its complications
- Any increase in physical activity has been shown to be beneficial for health
- Physical activity of moderate or vigorous intensity is important for health
- Physical activity increases insulin sensitivity and improves glucose control
- Physical activity can modify the diabetes regimen especially for patients receiving insulin therapy

Overview of Accelerometers

- Record physical activity duration and intensity via measurement of acceleration
- Measure movement from low intensity to high intensity
- Store data for display and analysis
- More accurate than pedometers (step counters)
- Usually worn on the hip; some can be carried in purse, pocket
- Not accurate for certain activities (e.g., bike riding, rowing machine)

Kenz Lifecorder® Accelerometers

- Lifecorder technology uses a solid state medical-grade sensor and digital filtering to deliver extremely accurate results
- Unlike pendulum pedometers, Lifecorders filter bad data and only count real steps

	Lifecorder® PLUS	Lifecorder® e-STEP
Step Counts	●	●
Activity Minutes	●	
Distance	●	
Activity Calories	●	
Total Calories	●	●
Physical Activity Intensity Graph(METS)	●	
Memory	LCD View: 7 days & Total 7 days, Internal Memory: 60 days	7 days & Total 7 days
PC Downloadable	●	
Weight	48 g including battery	40 g including battery
Battery & Battery Life	1 x Button Type CR2032 3V 2 months	1 x Button Type CR2032 3V 9 months

Measuring Physical Activity for Research Studies

- Validated as an objective measure of physical activity
- Used to measure changes in a patient's physical activity secondary to specific intervention not including the accelerometer as part of the intervention
- Used in variety of studies (population based interventions, modifying environment, walkability determination)
- Able to give individual and group effect for physical activity at variety of intensities

Interventions Using Accelerometers

- Used to change patient behavior as part of study; also monitor outcomes of intervention.
- Patient accessible continuous monitoring complements planning, tracking and accountability feedback loop
- Real-time monitoring on device complements action feedback loop
- Detailed time-based physical activity data regarding duration and intensity provided to patient through software tools as part of the intervention
- Integrates physical activity information into individual accountability to meet specific goals

Accelerometers and Diabetes Management

- Ability to match detailed physical activity measurements with detailed glucose measurements to enhance glucose control
- Ability to analyze impact of recent and past physical activity on glucose control
- Ability to help sedentary patients measure low intensity physical activity to more accurately follow their changes in total physical activity

DPS Health

1511 Pontius Ave. #101 LA, CA 90025

www.dpshealth.com

DPS Health Physical Activity Promotion Platform

- Built on DPS Health proprietary web-based Behavior Change Suite™ (BCS)

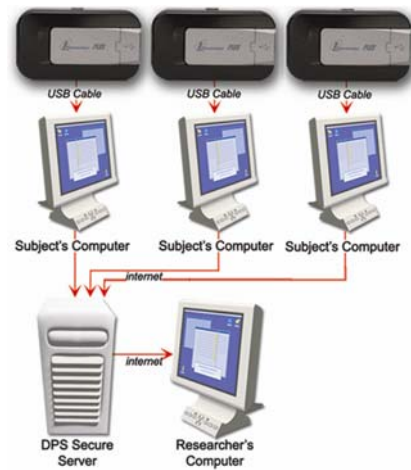
Rules refining how to:

- Provide education
 - Select behaviors to be tracked
 - Monitor physical activity duration and intensity
 - Display data to patients and clinicians
 - Engage patients in longitudinal improvement
- Predefined logic for patients, researchers and providers that ease physical activity monitoring and integration with interventions
 - Available for use in PADW; PARx, LifeCorder Online
 - Built integration platform to connect to devices and integrate with technology-based interventions
 - Used in customer applications: “Get Fit, Get Right”, Virtual Lifestyle Management™



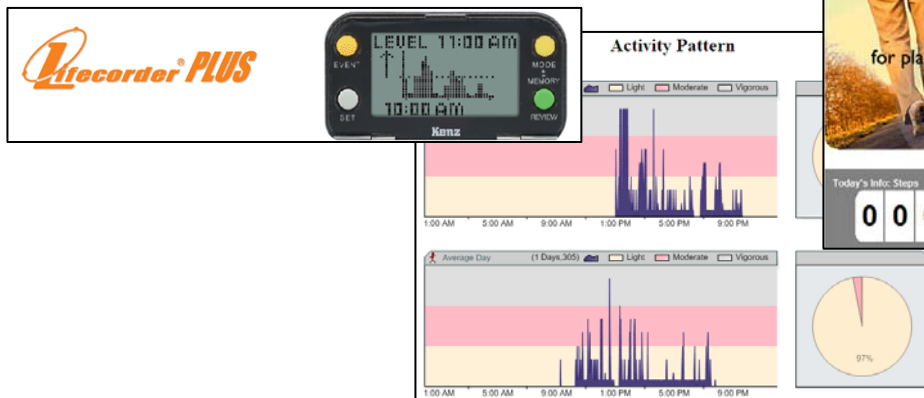
Physical Activity Data Warehouse™

The Data Warehouse (PADW) enables physical activity research subjects to upload accelerometer readings directly to a secure database from any computer. This allows detailed physical activity data to be provided to individuals as part of an intervention. Researchers are also able to download the accumulated files to immediately begin processing the physical activity measurements from all study subjects.



LifeCorder Online

A Web-based approach to provide detailed information about physical activity to the patient. Seamless integration with Kenz Lifecorder accelerometer. Able to present information in a variety of ways, such as total step and activity minutes per unit of time (e.g., 24 hours; 1 hour) time-based histogram, % distribution based on intensity, physical activity time trends against weight.



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