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Increasing Physical Activity Amounts and Intensity in Older Adults Using Low Cost Wearable Devices - “Cadence Training”

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**Increasing Physical Activity
Amounts and Intensity in
Older Adults Using Low Cost
Wearable Devices -
“Cadence Training”**

**Catrine Tudor-Locke
PhD, FACSM, FNAK**



Disclosure

I have no actual or potential conflict of interest in relation to this presentation.

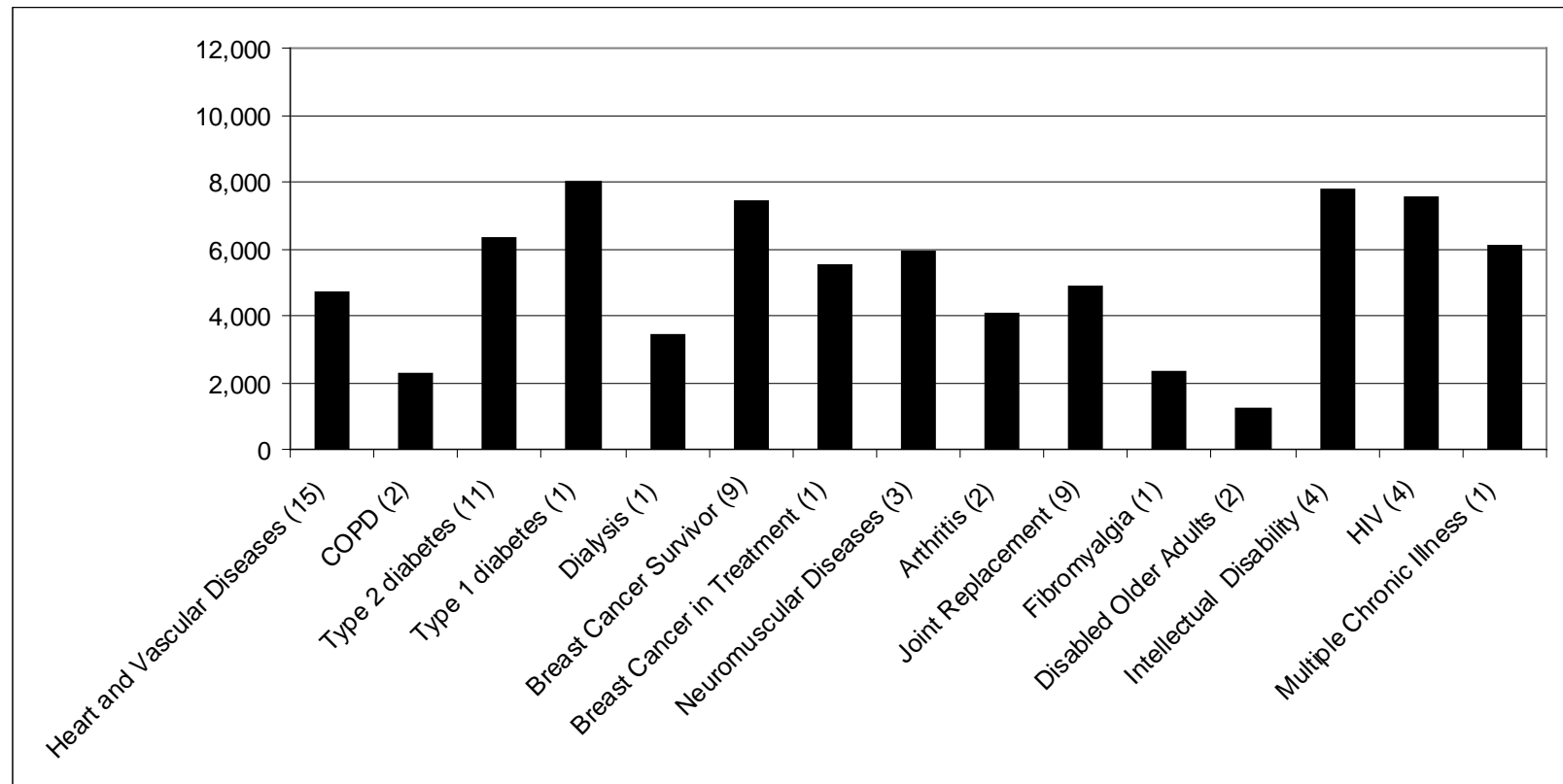
UMass Amherst Assessment



New generation consumer tracking devices



Expected values for special populations

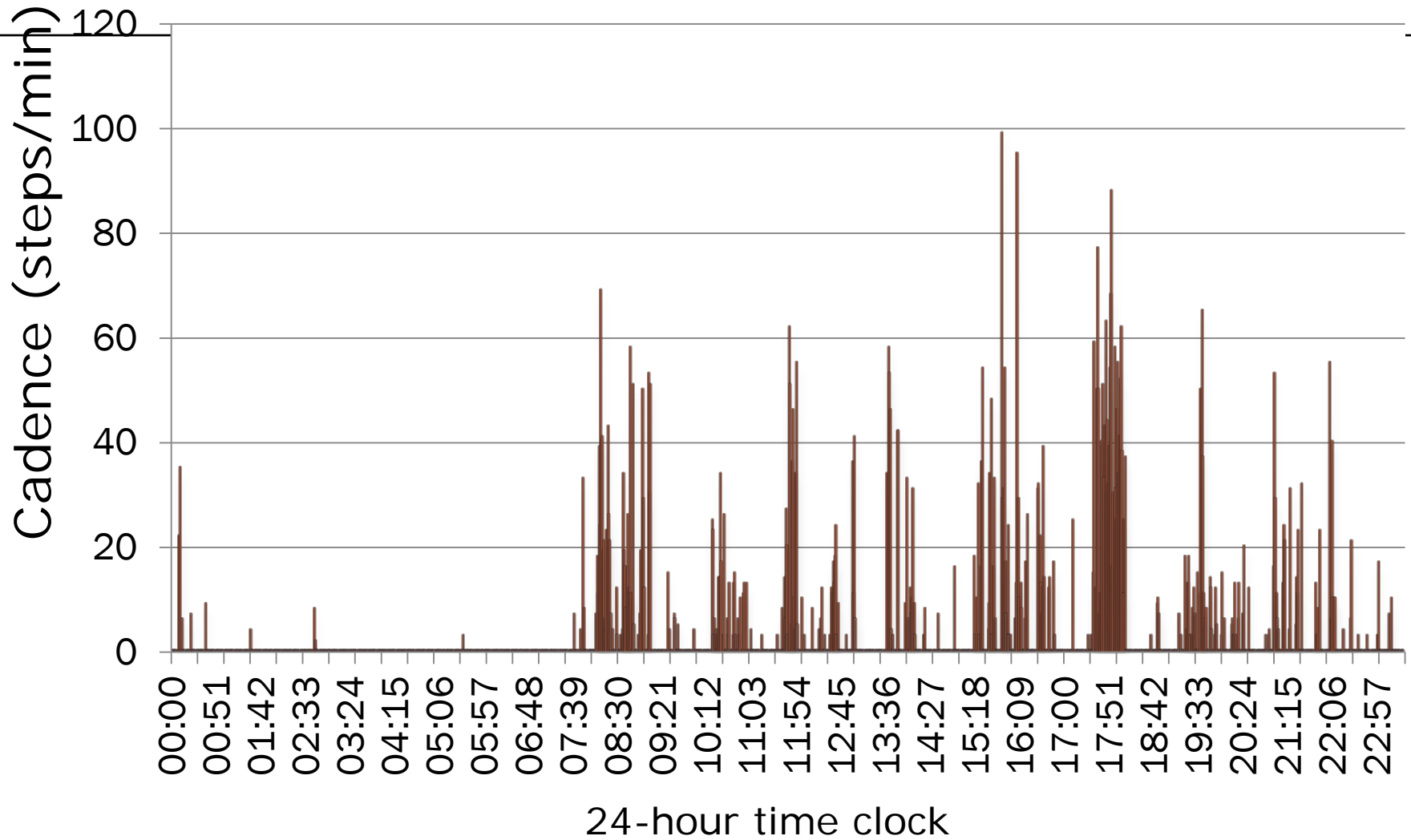


Alternative Terms for Cadence

- **Step frequency**
- **Step rate**
- **Stride frequency**
- **Stride rate**
- **Walking tempo**
- **Steps/min**
- **SPM**
- **Steps·min⁻¹**



6135 steps/day





Walk 2/28/2011 11:19:37 AM Test

Gender: M Age: 78 Left: 0 Leg: 0 Right: 0

Subject Name (first, middle, last) For Quick Test: [Redacted] Shoe/Foot Size: Shoe Length: 0 Width: 0

2. Heel Toe Gap 2 (toe in/out)

—Level of Assistance— FAP



Bilateral Parameters	Left	Right
Step Time (sec)	.59/2.6	.61/1.8
Cycle Time (sec)	1.19/1.2	1.19/1.1
Step Length (cm)	65.76/3.1	66.06/2.5
Stride Length (cm)	131.86/2.1	132.06/2.8
H-H Base Support (cm)	9.80	9.98
Single Support (%GC)	34.7/3.1	34.6/3.2
Double Support (%GC)	30.7/2.2	30.9/1.9
Swing (%GC)	34.3/3.2	34.9/3.1
Stance (%GC)	65.7/2.9	65.1/1.7
Step/Extremity Ratio	.00	.00
Toe In / Out (deg)	17	12

Parameters	
Distance (cm)	527.3
Ambulation Time (sec)	4.77
Velocity (cm/sec)	110.5
Mean Normalized Velocity	.00
Number of Steps	8
Cadence (Steps/Min)	100.6
Step Time Differential (sec)	.02
Step Length Differential (cm)	.30
Cycle Time Differential (sec)	.01

L Length R L Width R

28.80 29.00 12.00 11.70

Primary Dr.

Sample Normal Values

Problem

money

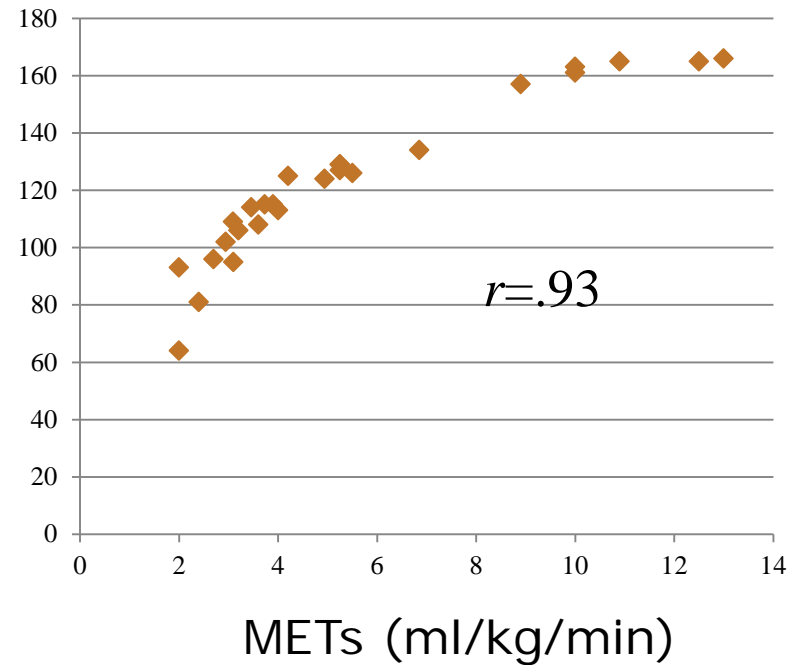
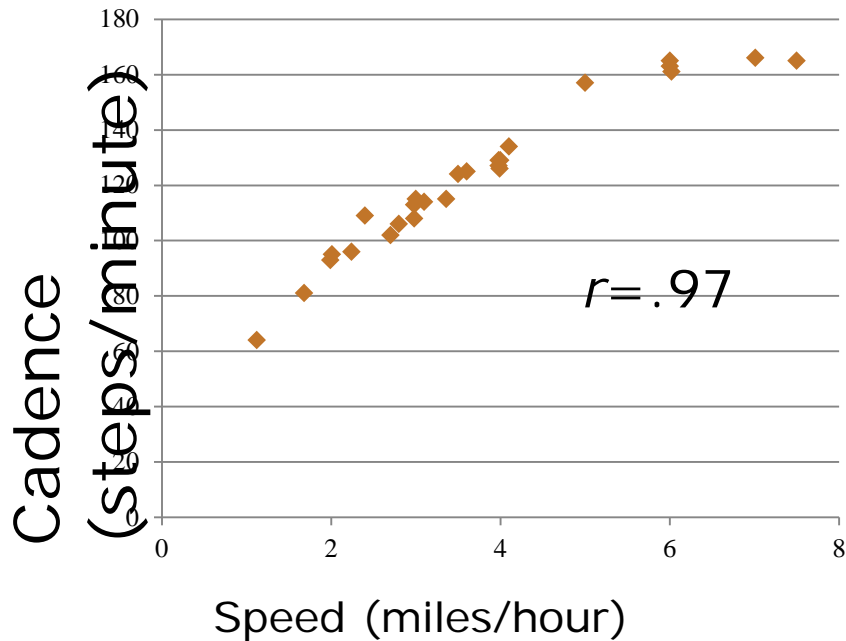
Detail **Exit**

Replay **Temporal**

Save **Import Walk**

Memo

Synthesis of 7 treadmill/track/corridor studies



Metabolic Equivalent (MET); 1 MET=3.5 ml oxygen consumption per kg per minute

THANK YOU!