AA and 48% of Whites [p=0.12]). After adjustment, there was no significant difference in hand pain between AA and White participants (aOR 0.9, 95% CI 0.7, 1.1).

Conclusions: AA women and men were less likely to have DIP, PIP, or CMC1 OA than White women and men, but were equally likely to report hand pain. Further study is needed to elaborate potential explanations for the discordance between radiographic hand OA in these joint groups and hand pain, particularly in African Americans.

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RELATIONSHIP BETWEEN ACCELEROMETER-BASED MEASURES OF PHYSICAL ACTIVITY AND MEASURES OF FUNCTION AND SELF-REPORTED ACTIVITY IN ADULTS WITH KNEE OSTEOARTHRITIS: A PILOT STUDY FROM THE OSTEOARTHRITIS INITIATIVE

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Purpose: Public health physical activity guidelines, such as those recommended by the US Surgeon General, are tied to time spent in physical activity of moderate-to-vigorous (MV) intensity. Accelerometer monitoring provides an objective assessment of physical activity. The Physical Activity Scale for the Elderly (PASE) is a validated self-reported measure of physical activity that requires only a few minutes of participant time. While previous studies demonstrate a significant correlation of PASE scores with accelerometer counts in normal healthy volunteers (ranging from 0.43 to 0.64), that relationship has not been examined in the context of knee osteoarthritis (OA).

Objective: To evaluate whether PASE scores correlate with objectively measured time spent in moderate-to-vigorous activity (MV) and to assess the relationship between PASE scores with subjective and objective measures of function in individuals at risk for or with radiographic knee OA with frequent knee symptoms.

Methods: We conducted a pilot study of physical activity measurements in 54 persons (mean age 66, body mass index 28, 58% women) enrolled in the Osteoarthritis Initiative, a longitudinal cohort study of biomarkers for incident and progressive knee OA. Participants completed the PASE interview and wore a uni-axial accelerometer (ActiGraph, Pensacola, FLA) for seven consecutive days. Accelerometer counts were translated on a minute-by-minute basis into activity intensity levels based on Schwartz categories. The relationships between total activity counts, total minutes of MV activity and number of MV sessions of 8 minutes or more (MV8) with subjective [PASE and Short Form (SF) 12] and objective (20 meter walk and chair stand) measures were assessed.

Results: Participants spent an average of 25 minutes per day in MV activity occurring in sessions of 8 minute or more (MV8), as recommended by the US Surgeon General. PASE scores were modestly correlated with accelerometer counts (r = 0.24) and total minutes of MV intensity (r=0.29). However, PASE scores are poorly correlated with MV8 (r=0.18). PASE scores only correlated with function measured by the 20 meter walk (Table 1). In contrast, accelerometer measures (counts, MV, MV8) are significantly correlated with function measured subjectively by the SF 12 and objectively by the 20 meter walk (excluding MV8) and the chair stand test.

Conclusions: In subjects with knee OA, although PASE and accelerometer (counts, MV) significantly correlate with function measured by the 20 meter walk, only objective measurements of activity using an accelerometer significantly correlate with SF12

Table 1. Correlation of physical activity measures with function, n=54

Function Measures	PASE	Accelerometer Measurements		
		Counts	MV Intensity	MV sessions of 8 minutes+
Function Measures	Correlation	Correlation	Correlation	Correlation
SF12 physical function	0.13	0.29*	0.28 *	0.35 **
20 meter walk	0.30*	0.31*	0.28*	0.22
Chair stand (n=43)	0.13	0.43*	0.38*	0.45**

*p<0.05, **p<0.01.

and chair stand function measures. Future analyses that focus on investigating relationships between physical activity and knee OA should consider assessment of objective measures of MV activity.

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DIRECT COMPARISON OF EFFICACY OF THE FOUR MAJOR CATEGORIES OF DRUGS IN THE TREATMENT OF OSTEOARTHRITIS

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Purpose: Pharmacologic therapy using simple or combinations of analgesics helps relieve pain improving daily function in patients with osteoarthritis (OA). Although numerous studies and meta-analyses have compared the efficacy of individual or two classes of drugs, a comprehensive summary is absent. Using a standardized metric, we aimed at comparing the efficacy of all the major classes of drugs presently used in the treatment of OA.

Methods: A Medline search from 1966 to 2006 was performed to locate placebo or actively controlled trials of NSAIDs, Cox-II inhibitors (Coxibs), Opiates and morphinomimetics (Opioid) and Acetaminophen classes of drugs. We included trials which contain both baseline (before treatment) and post-treatment scores of *global* pain, assessed by Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Pain Intensity (PI), or Multidimensional Health Assessment Questionnaire. The outcome measure, the relative change (RC, or reduction) of pain was estimated through dividing the*change* by the baseline score. To make measures obtained from different instruments and scales comparable, all scores were standardized to a percentage scale and weighted by the number of subjects in each study for presentation.

Results: Out of the 279 titles being reviewed, twenty-two studies met our inclusion criteria (NSAIDS N=15, Coxibs N=6, Opioids N=4, Acetaminophen N=5). The mean RC (SD) of pain was calculated to be 39.0 (7.9) for Coxibs, 37.6 (10.3) for NSAIDS, 40.2 (6.1) for Opioids (morphine is not included) and 28.2 (5.0) for Acetaminophen, with baseline (SD) mean scores of 65.0 (7.39), 57.2 (11.9), 79.5 (7.2) and 64.4 (7.4) respectively.

Conclusions: Using standardized percentage change, we obtained a single efficacy score for each of the four major categories of analgesics measured by different instruments across various trials. Our results suggest that Coxibs and Opioids are among the most effective treatments, and the efficacy might be affected by the baseline level of pain.