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RACE INTERACTIONS AND FOOT FUNCTION IN OLDER ADULTS: THE JOHNSTON COUNTY OSTEOARTHRITIS PROJECT

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Purpose: Center of pressure excursion index (CPEI), a measure that characterizes pronation and supination, may be a useful indicator of foot function. Data from the predominantly Caucasian Framingham Foot Study have shown that CPEI differed significantly by age and sex. The purpose of this study was to examine whether demographic and clinical traits were associated with CPEI in a large bi-racial cohort of men and women ≥ 50 years of age.
Methods: Of the 1695 Johnston County Osteoarthritis Project participants clinically evaluated in 2006-2010, 1466 were enrolled in a comprehensive foot study. As part of the exam, participants were instructed to walk at a self-selected pace over a Tekscan Matscan system (Tekscan, Inc., Boston) using the two-step method. Two plantar pressure scans were recorded for each foot. Custom software was used to calculate CPEI and was averaged for each foot; the foot with the averaged CPEI value farthest from the median was used in analyses. A higher CPEI value indicates a more supinated foot, while lower CPEI indicates a more pronated foot. Characteristics included sex, age (< 65 or ≥ 65 years), body mass index (BMI, <30 or ≥ 30 kg/m^2), and race (Caucasian or African-American). Student's t-test was used to identify those factors associated with differences in mean CPEI for the sample and stratified by sex. Linear regression was used to evaluate interactions of continuous factors (age and BMI) by race.
Results: Participants (67% women, 29% African-American) had mean age of 68 years and mean BMI of 31 kg/m^2. The mean CPEI was smaller among women than men (p<0.0001, Table). In the total sample, CPEI differed by age group with participants 65+ yrs having lower CPEI (p<0.0001), indicating a tendency toward more pronation with age. When this difference was stratified by sex (Table), women 65+ yrs continued to have lower CPEI (p=0.0002); men had a similar result albeit with borderline statistical significance (p=0.07). CPEI did not differ by BMI or by race. However, significant interactions were noted between race and continuous age (p=0.022), as well as between race and continuous BMI (p=0.026), with CPEI in women only. While older women of either race had lower CPEI (as did those with higher BMI), the difference was twice as large in African-American (~3.2 CPEI units, p=0.002) than Caucasian women (~1.5 units, p=0.02).
Conclusions: Similar to results reported in the Caucasian Framingham Foot Study, we found significant differences in mean CPEI that indicate over-pronation for those aged 65+ yrs and for women, but found no link between CPEI and BMI. While there was no main effect by race for the categorical data, the interactions in women by race imply that there may be a greater age effect towards pronation in older African-American women. This might indicate more foot pathology, an underlying genetic component of foot function or perhaps even more need for treatment of the pronated foot in this group.

Table
T-tests for associations between demographic and clinical variables and CPEI in men and women

Males	N	Mean CPEI	Standard Deviation	p	Females	N	Mean CPEI	Standard Deviation	p
Sex	481	16.3	8.4		Sex	985	14.4	8.8	<.0001
Age < 65	214	17.1	8.8	0.07	Age < 65	384	15.7	8.5	0.0002
Age ≥ 65	267	15.7	7.9		Age ≥ 65	601	13.6	8.9	
BMI < 30	241	16.4	8.6	0.78	BMI < 30	477	14.0	9.1	0.13
BMI ≥ 30	240	16.2	8.1		BMI ≥ 30	508	14.8	8.4	
Caucasian	363	16.6	8.2	0.13	Caucasian	671	14.4	8.7	0.72
African-Am	118	15.3	8.8		African-Am	314	14.6	9.1	

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THE ACTIVATED PATIENT INFLUENCES PRIMARY CARE PHYSICIANS' PRESCRIPTIONS OF CELEBREX FOR OSTEOARTHRITIS

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Purpose: Direct to consumer marketing of medications is intended to "activate" patients to request the advertised medication from their physicians. There is limited data on the extent to which physicians alter prescribing patterns in response to specific requests from activated patients.
Methods: We performed a factorial experiment in which primary care physicians viewed clinically authentic videotapes of "patients" presenting with symptomatic knee osteoarthritis (OA). The "patients" were played by professional actors who differed by sex, race (white, Black, Hispanic) and SES (higher, lower). 192 primary care physicians working primarily in Illinois were recruited to participate. Each physician viewed one vignette of a patient with typical symptoms of knee OA lasting for several months. In one half of vignettes the patient was 'activated' and asked: *"I've seen ads for Celebrex and it looks just like what I need···A woman I work with takes it and she said it really works for her···so, I really want to try that."* The non activated patients requested help with their pain but did not ask for any specific medications*: "I just want something to make it better."* Activated and nonactivated vignettes were balanced on sex, race and SES. Physicians were balanced by sex and years of experience. After viewing the videotape, the physicians completed a questionnaire in which they indicated the treatment(s) they would likely order. We examined the association between patient characteristics, particularly activated vs. non-activated, and the medications the physicians said they would prescribe (celecoxib, non-selective NSAIDs, other) using a multivariate ANOVA model.
Results: 53% of the PCPs presented with a vignette including an active request for celecoxib reported that they would prescribe celecoxib, as compared with 24% of physicians seeing the identical vignette without an active medication request (p<0.0001; Table). Physicians receiving an active request for celecoxib were less likely to report that they would prescribe a non-selective NSAID (29%) than physicians whose simulated patients did not request celecoxib (42%; p=0.06). Further, physicians who received an active request for celecoxib prescribed either a COX-2 OR a traditional NSAID for 82% of vignettes, compared to 66% of physicians who did not receive an active request (p=0.004). The associations between active request and physician prescribing patterns were not influenced by patient characteristics (gender, race, SES) or physician characteristics (gender, experience).
Conclusions: Physicians presented with an activated request for celecoxib by a patient with typical knee OA were more than twice as likely to prescribe celecoxib compared to physicians encountering a non-activated patient who provided the same clinical history and they were also considerably more likely to prescribe *any* NSAID (selective or non-selective) . Given the higher price, increased risk of cardiovascular toxicity and similar efficacy of celecoxib compared to non-selective NSAIDs, these findings suggest that patient activation may increase health care costs and compromise appropriateness of prescribing.

Table
Prescription of celecoxib and other NSAIDs for OA: Stratified by active patient request

Active Request	Celecoxib	NSAID, not Cox-2	Celecoxib *OR* non-selective	Neither
Yes	51 (53%)	28 (29%)	79 (82%)	17 (18%)
No	23 (24%)	40 (42%)	63 (66%)	33 (34%)

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VITAMIN K STATUS AND MRI-BASED KNEE OSTEOARTHRITIS CHARACTERISTICS IN COMMUNITY-DWELLING OLDER ADULTS: THE HEALTH ABC STUDY

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