Conclusions: Lower knee confidence was associated with worse physical function in persons with or at risk for knee OA. This relationship was partially attenuated after adjusting for pain severity, but not after adjusting for other factors. These results introduce the possibility that confidence may play a pivotal role in the path to function decline; awareness of this and attention to it may help to prevent poor outcome.

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307 THE RELATIONSHIP OF WEIGHT CHANGE WITH CHANGES IN KNEE PAIN AND FUNCTION IN PERSONS WITH SYMPTOMATIC RADIOGRAPHIC KNEE OSTEOARTHRITIS: DATA FROM THE OSTEOARTHRITIS INITIATIVE

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Purpose: Overweight is a major risk factor for the development and progression of knee osteoarthritis (OA) and weight loss is recommended by OARSI as part of the non-pharmacologic management of patients with knee OA. This analysis examined the relationship between weight change and change in self-reported symptoms and function and physical performance in adults with symptomatic radiographic knee OA over one year.
Methods: Data for these analyses were obtained from the Osteoarthritis Initiative (OAI) database, which is available for public access at <http://www.oai.ucsf.edu/>. Specifically, we examined data from the baseline and 12-month follow-up visits for 711 subjects with symptomatic radiographic knee OA enrolled in the Progression subcohort. All subjects completed the Western Ontario McMaster Osteoarthritis Index (WOMAC) and Knee Osteoarthritis Outcome Scale (KOOS) at both visits. Weight was measured with a balance beam scale, height was measured with a stadiometer and physical performance was measured with a timed 20-meter walk. Names and dosage of medications and supplements were recorded at both clinic visits by trained personnel. Correlations between change in weight and outcomes were examined in unadjusted and multiple variable adjusted models using generalized estimating equations to control for the correlation between knees in subjects with more than one involved knee at baseline. In addition, subjects were categorized into tertiles based on weight change and the change in outcomes was examined across tertiles using analysis of variance.

Table 1: Correlation Coefficients of Weight Change with Selected Outcomes

Outcome	Unadjusted analysis	Multiple variable adjusted analysis
WOMAC Pain Scale	−0.031	−0.032
WOMAC Function Scale	0.033	0.029
WOMAC Total	0.021	0.019
KOOS Symptom Scale	0.004	0.003
KOOS Pain Scale	−0.001	0.002
KOOS Function Scale	−0.026	−0.029
KOOS Quality of Life	−0.025	−0.023
20-meter Walk Speed	−0.099*	−0.098*

*P < 0.01

Table 2: Change in Weight and Selected Outcomes (mean [SD]) by Tertile of Weight Change

Outcome Variable	Weight gain N = 242	Weight stable N = 223	Weight loss N = 246
Weight change, kg	3.36 (2.9)	0.14 (0.6)	−4.01 (3.9)
Change in WOMAC Pain	−0.87 (3.1)	−0.42 (3.0)	−0.48 (2.9)
Change in WOMAC Function	−1.87 (9.1)	−2.09 (9.3)	−1.74 (9.6)
Change in WOMAC Stiffness	−0.24 (1.6)	−0.42 (1.7)	−0.11 (1.5)
Change in WOMAC Total Score	−3.06 (12.3)	−2.92 (12.3)	−2.36 (12.6)
Change in KOOS Pain	4.65 (14.9)	3.52 (15.4)	3.29 (14.3)
Change in KOOS Function	5.19 (22.4)	1.66 (21.4)	3.57 (16.0)
Change in KOOS Symptoms	2.55 (12.6)	4.23 (14.1)	1.03 (13.4)
Change in KOOS VAS Symptoms	−0.55 (2.6)	−0.27 (2.5)	−0.27 (2.0)
Change in KOOS Quality of Life	4.00 (17.3)	2.86 (17.4)	4.27 (15.8)
Change in KOOS VAS Quality of Life	−0.40 (2.1)	0.23 (2.1)	−0.33 (2.0)
Change in Walking Speed, m/sec	−0.02 (0.16)	−0.01 (0.15)	0.01 (0.14)

Results: At entry, the 711 subjects had a mean (SD) age of 61.8 (9.4) years; 422 (59.4%) were women and 582 (81.9%) were white. The mean weight, height and body mass index (BMI) were 85.0 (16.7) kg, 1.68 (0.09) meters and 30.0 (4.9) kg/m^2, respectively. One-third had bilateral symptomatic radiographic knee OA. Over an average of 12 months, the mean (SD) weight change was −0.20 (4.07) kg: mean (SD) weight change was −4.01 (3.9), 0.14 (0.6) and 3.36 (2.9) kg for the tertile that lost weight, had stable weight and gained weight, respectively. In unadjusted analyses, the only significant correlation of weight change with symptomatic and functional outcomes was with the 20-meter walking speed: R = −0.099, P < 0.01. This correlation remained significant after adjustment for age, gender, race, baseline BMI and use of analgesic and/or antiinflammatory medications at both visits (see Table 1). Analyses comparing change in symptomatic and functional outcomes across tertiles, failed to demonstrate significant trends across groups based on weight change (see Table 2).
Conclusions: These data, from a subset of participants with symptomatic radiographic knee OA in the OAI, demonstrate a significant inverse correlation between weight change and change in walking speed, a measure of physical performance, but fail to demonstrate significant correlations between weight change and changes in self-reported symptoms and function. Further analyses will explore the relationship between weight change and change in structural outcomes assessed with fixed flexion knee radiographs and magnetic resonance imaging.

308 THE PREVALENCE OF KNEE AND HIP OSTEOARTHRITIS IN SWEDEN: RESULTS FROM A POPULATION-BASED HEALTH CARE REGISTRY

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Purpose: In the study of osteoarthritis (OA) and its impact on society it is important to have up-to-date prevalence estimates. Due to the Swedish health care system, where all residents are insured and the computerized registration of all clinic visits including diagnosis as given by the physician, we can obtain information on disease occurance in a intrigue fashion. Thus, our objective was to determine the prevalence knee and hip OA in southern Sweden.
Methods: In Sweden all residents are insured and entitled to health care. By law all in- and outpatient health care provided to residents is prospectively registered by the individual's unique identification number, which also provides information on date of birth and sex. Other types of data that are registered include date of visit, the health care provider, and diagnosis code according to the International Classification of Diseases and Related Health Problems (ICD-10) system. We identified all residents having received an ICD-10 diagnosis code of knee OA (M17) or hip OA (M16) at a clinic visit to a physician between January 1, 2000 and December 31, 2006 in the southernmost region of Sweden. Estimates of point prevalence were obtained by cross-referencing personal identification numbers with those from the National Population Registry (total population in the region = 1,184,500). Individuals that have had a clinic visit in the period with a hip or knee OA diagnosis code that were deceased or had relocated out of the region by December 31, 2006 (no longer in the National Population Registry) were excluded from the nominator. We defined the individuals' age by their age 2006.
Results: The point prevalence of diagnosed knee and hip OA among residents of southern Sweden across all ages was 2.02% (95% CI 2.00, 2.05) and 1.08% (95% CI 1.07, 1.10), respectively. The peak prevalence of diagnosed knee and hip OA in women and men, respectively, was found in individuals aged 74 to 85 years (table 1, figure 1).
Conclusions: These OA prevalence figures derived from actual health care seeking individuals demonstrate the potential burden of the disease on society. The age- and sex-specific characteristics of the estimates are typical of those patterns previously reported supporting external validity of these registry data. Importantly, these figures should be considered conservative estimates of the "true" OA prevalence. Remembering, they only reflect individuals symptomatic enough to seek health care and get an OA diagnosis. The estimates do not include individuals that do not seek health care, e.g., they self-medicate or individuals that do seek health care but only received an unspecific ICD-10 code for their clinic visit(s).

Table 1: Prevalence of knee and hip osteoarthritis (OA) in men and women aged 75 to 84 years

Location	Prevalence (95% CI)	
	Men	Women
Knee OA	6.5% (6.2, 6.8)	9.1% (8.8, 9.4)
Hip OA	5.2% (4.9, 5.4)	5.6% (5.4, 5.8)

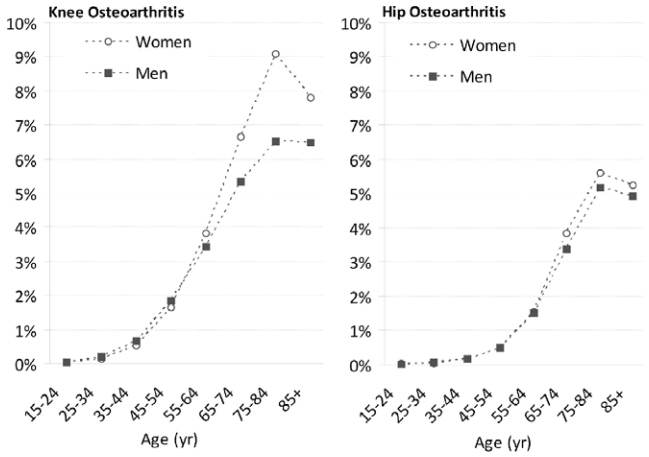

Figure 1: Age and sex-stratified prevalence estimates of diagnosed knee and hip osteoarthritis in southern Sweden by Dec 31 2006

309 KNEE OSTEOARTHRITIS IN PRIMARY CARE: AN IMPORTANT CAUSE OF SANITARY COST

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Purpose: Knee osteoarthritis is the most common cause of painful knee from age 50. It is very frequent in the Spanish population. According to the EPISER study, performed by the Spanish Society of Rheumatology, 29% of the Spanish population over age 60 showed symptomatic knee osteoarthritis. The aim of this study was to assess the consumption of health care and Social Security resources by a group of patients diagnosed with knee osteoarthritis in an urban Primary Care Clinic in La Coruña (Spain).
Methods: A transversal descriptive study was performed, which included patients over age 25 and diagnosed with knee osteoarthritis. The total number of patients was 200. Direct medical costs were studied: total number of Primary Care consults, lab, x-rays and sick leave costs. Direct medical costs were calculated according to the economic value assigned to health care in D.O.G. (Diario Oficial de Galicia, Law 159/2005, June 2) and lab tests fees of the Spanish Society of Clinical Biopathology. The labor cost per worker were estimated from published sources (National Statistical Institute).
Results: According to SERGAS reference fees, the Primary Care cost per consult is 26.50€. Considering that the total number of consults was 1,003, the total annual cost is 26,579€ (133€ per patient per year). The cost of a basic lab test is 13.44€. The number of lab tests performed in one year was 285, so the total cost generated is 3,830€ (19€ per patient per year). 188 patients were referred for radiology, and three x-rays were performed per patient: one AP on knees and lateral x-rays on each knee. The total nu mber of x-rays was 564. The reference cost per x-ray is 27.58€. The total annual cost is 15,555€ (78€ per patient per year). The number of sick leave days was 2,675, which generated a total cost of 119,037€. The annual sick leave cost per patient generated by the 57 working-age patients (28.5% over 200 between ages 25 and 65) would be 2,088€.
Conclusions: Knee osteoarthritis is a major cause of utilisation of health care resources and sick leave in our clinic. The sick leave cost is more than twice the direct medical costs in Primary Care. The cost per patient per year is 825€, this amount leaving aside pharmaceutical costs.

310 PREDICTORS OF THE DEVELOPMENT OF SYMPTOMATIC KNEE OSTEOARTHRITIS IN THOSE WITH ASYMPTOMATIC RADIOGRAPHIC TIBIO-FEMORAL OSTEOARTHRITIS AT BASELINE: ONE-YEAR DATA FROM THE OSTEOARTHRITIS INITIATIVE (OAI)

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Purpose: The same degree of radiographic knee osteoarthritis can be asymptomatic in one individual or be associated with clinically significant pain and disability in another. A better understanding of the predictors of frequent knee symptoms associated with radiographic tibio-femoral osteoarthritis (TF-ROA) is needed to develop better prevention and treatment strategies.
Objective: To evaluate the one-year predictors of symptomatic TF-ROA in knees without frequent symptoms (FKSx) at baseline.
Methods: We studied 695 men and women between the ages of 45−79 enrolled in the Osteoarthritis Initiative out of 2686 who had 12 months of follow-up and had TF-ROA in at least one knee and were without FKSx in the affected knee at baseline. Data are from the OAI public use datasets 0.2.1 and 1.1.2. Bilateral PA fixed flexion knee x-rays were obtained in all subjects at entry. Trained readers determined the presence of TF-ROA and its severity using a modified Kellgren-Lawrence scoring system. FKSx were defined as pain, aching or stiffness on most days of any month during the past year for each knee individually. Adjusted Odds ratios (aOR) for development of FKSx at one year among those free of FKSx at entry were calculated using generalized estimating equations (GEE) to control for clustering of knees within subjects after adjusting for potential confounders using backward selection with $P < 0.10$. The multivariate analysis adjusted for the following confounders determined at the baseline interview and examination: age, right or left knee, progression or incident cohort, and clinical center plus the predictor variable listed in the table below.
Results: Of the 896 knees with TF-ROA at baseline (mean K-L score = 2.6, SD = 0.61) and without FKSx, 511 developed FKSx at year one and 385 remained without FKSx. The multivariate aOR's for the development of FKSx at one year with baseline TF-ROA are summarized in the table below:

Exposure	aOR	95% CI
WOMAC – Total	1.08	1.05−1.11
Ever Smoked	0.72	0.52−0.99
Right Handedness	2.13	1.09−4.16
Valgus (>0 degrees)	1.41	0.99−2.00
Knee injury	1.67	1.11−2.52
Knee surgery from injury	2.69	1.40−5.16

Race, gender, baseline severity of TF-ROA, BMI, knee flexor and extensor strength, 200 meter walk, medication use, degree of physical activity, depression were not associated with development of FKSx at one year. WOMAC stiffness, pain and disability sub-scales each independently predicted FKSx at one year but were collinear preventing multivariate analysis.
Conclusions: Right hand dominance, history of significant knee injury and knee surgery as the result of knee injury as well as baseline pain and disability (WOMAC-total) were associated with development of frequent knee symptoms at one year in those with radiographic tibio-femoral knee osteoarthritis and without frequent knee symptoms at baseline in a large cohort. Future research into the mechanism by which these predictors are associated with increased symptoms is warranted.