Conclusions: In sum, risk factors for prevalent varus thrust included C race, male gender, and greater age, BMI, disease severity, and varus malalignment. Risk factors for prevalent valgus thrust included AA race, disease severity, and greater valgus malalignment. Varus thrust was more common than valgus thrust. AA were at greater risk for having a valgus thrust, in keeping with prior findings suggesting lateral tibiofemoral OA may be more common in AA (Jordan et al, Arthritis Rheum 2006;54:S307).

PHYSICIAN VISITS FOR OSTEOARTHRITIS IN A PUBLICLY FUNDED HEALTH CARE SYSTEM: IMPLICATIONS FOR CARE DELIVERY

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Purpose: Osteoarthritis (OA) is the most frequent type of arthritis, and yet the requirements for patients with OA are rarely considered from a health care system perspective. As part of the development of models to care for OA, the purpose of this study is to document the amount and type of care delivered for OA, including use of surgery.

Methods: The setting was a jurisdiction (population approx 12 million). Analysis of all physician billings from health service administrative data bases for all settings (primary care, emergency room, day surgery and inpatient) by diagnostic code, physician type, and geographic area, for years 2006-07. In addition all patients with OA seeing an orthopedic surgeon in 2005, and who had not already had surgery in the previous 6 months, were followed for 18 months to monitor surgical events. Results: 4.3% (approx 0.5 million people) of the population had at least 1 ambulatory visit with a diagnostic code of OA (1.1% for age 15-44; 6.8% for age 45-64; 15.6% for age 65+). The mean number of visits was 1.9, and the female:male ratio 1.6:1. Ambulatory visits for OA represented 21% of all physician visits for musculoskeletal disorders and 5% of visits to all physicians for all conditions. OA accounted for 38% of inpatient hospitalizations and 8.6% of day surgeries, but <1% of emergency room visits. 79% of ambulatory visits were to primary care physicians, and 30% to specialists (10% saw both). Of specialist visits, 16% were to medical specialists (5% to rheumatologists and 6% to general internists) and 21% to surgical specialists (almost all to orthopedics). Of those seeing a surgeon (and with no surgery in previous 6 months) only 29% got surgery within 18 months of the index visit: i.e. only an estimated 6% of people with OA ambulatory visits to physicians received a surgical intervention. Analysis by geographic area for those specialist visits showed, a trade off between seeing medical and surgical specialists: in areas where a higher proportion saw medical specialists there was a lesser proportion who saw surgical specialists. This is likely influenced by availability of the different types of practitioners.

Conclusions: Assuming an estimated prevalence of OA of >10%, less than half have a physician visit each year, mostly to primary care, and a very small minority have surgery. In view of the documented deficiencies in the primary care management of arthritis, models of care for OA are needed to ensure timely referral for the minority potentially needing joint replacement or pain management, and to provide ongoing conservative management including appropriate use of exercise and self management for the majority.

ESTIMATING PREVALENCE OF PHYSICIAN-DIAGNOSED OSTEOARTHRITIS IN CANADA USING MICROSIMULATION

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Purpose: Our objective was to estimate the prevalence of physician-diagnosed osteoarthritis (OA) in Canada. Reliable estimates of OA prevalence in the general population are needed for surveillance and assessment of resource utilization.

Methods: We used the Population Health Model (POHEM), a microsimulation model of health, disease and mortality developed by Statistics Canada, to generate prevalence of OA consistent with OA incidence data. OA incidence was projected sufficiently far into the future to obtain stable estimates of age-standardized prevalence rates in the general population. The incidence rates used were estimated from administrative data on all visits to health professionals and hospital admissions covered by the Medical Services Plan (MSP) of British Columbia, Canada (BC) for the fiscal years 1991/2 through 2000/1. They were estimated by age and sex for a one-year period between April 1, 2000 and March 31, 2001 and excluded prevalent cases from the previous 9 years. OA diagnosis was defined as either 2 visits to a health professional, the first visit with a diagnostic code of OA (1.1% for age 15–44; 6.8% for age 45–64; 16% of men and one-third of women reported OA). The overall prevalence rates of OA generated from the simulation for the 2001 population aged 20 and older were 10.5% and 17.3% in males and females, respectively. The overall prevalence rates directly estimated from administrative data were 4.8% in males and 6.9% in females. Self-reported prevalence of OA from survey data for persons aged 20 and older was 5.8% in males and 12.3% in females for all age groups combined. The rates were higher for females than males in all age groups, except under age 45 in administrative data. After age 50, rates increased approximately linearly with age, except in the survey data where rates leveled off at age 75. By age 70–74, about one-third of men and half of women had OA in the POHEM generated data. This was considerably lower in administrative data (about 20% of men and 25% of women had been diagnosed with OA) and self-reported survey data (16% of men and one-third of women reported OA).

Conclusions: The POHEM microsimulation yielded estimates for prevalence of OA which were higher than those from physician visit administrative and self report data, and point to the large impact of this disease in the population. This method has the advantage of overcoming some of the limitations of relying solely on administrative data (insufficient years of data) or self-report (such as recall bias, lack of saliency, and fluctuating disease symptoms). This method also offers the possibility to study the impact of factors affecting incidence (e.g. increasing obesity) for population surveillance and assessment of potential future resource utilization.

COMPARISON OF LIFETIME ENERGY EXPENDITURE AND KNEE AND HIP JOINT FORCE: DIFFERENT WAYS TO QUANTIFY PHYSICAL ACTIVITY

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Purpose: To construct and describe energy expenditure and hip/knee joint force measures, and the ratio between them, in different strata of body mass index (BMI) and gender, mostly.

Methods: Design: Retrospective cohort. Setting: Canada-wide population study.

Participants and Data Collection: Data source: baseline data from the Physical Activity and Joint Health cohort, a population 3-cycle Internet
study. Source population: Canadian Association of Retired Persons. Lifetime Physical Activity Questionnaire: Lifetime activity in three domains – sport, occupation and domestic – was self-reported retrospectively via a validated online computer-adaptive survey. For each specific activity type (e.g., each individual sport, each occupation held) detailed questions were asked regarding frequency, duration and intensity. Activities were further deconstructed by time spent in major body movement type (e.g., walk, run, squat).

Exposures: Energy Expenditure: estimated by multiplying number of hours spent in an activity by the average intensity of that activity, as assigned using standardized metabolic equivalents and reported in MET-hours/week. Hip and knee (tibia-femoral) joint force was estimated as the product of lifetime bodyweight, typical hip and knee force for specific activities and time spent in specific activities, and reported in kg-hours/week. A lifetime bodyweight trajectory was derived using current weight, weight at age 20, maximum weight, and interpolated using a lowess (non parametric smooth) curve. The typical hip and knee joint force assigned to each of the body movements was based on a comprehensive review of the biomechanical literature and a survey of expert opinion.

Relative Joint Loading Index: the ratio of cumulative joint force to total metabolic equivalent (done separately for hip and knee). For each physical activity exposure, mean values for 5-year intervals over a person’s lifetime, averaged over all subjects, were calculated. Results: Complete baseline data was collected on 4,289 subjects. The sample comprised 37% female with a mean age of 61.5 years and BMI of 27.5. Overall, women had higher lifetime energy expenditure than men (126 vs 107 MET-hours/wk), and slightly higher hip (47.9 vs 43.3 kg-hrs/wk, ×100) and knee force (54.2 vs 44.1 kg-hrs/wk, ×100). On balance of the activity across domains, mean energy and joint force for ‘female household’ and ‘male occupation’ were similar. The higher overall scores among women were attributable to significantly higher energy expenditure and joint forces from occupational activities compared to household activities among men. Males expended approximately 2 times the mean energy and 3 times the mean hip and knee force in sport as women; however for both genders, sport had a much smaller contribution to joint force and energy expenditure than the occupation and domestic domains. For both hip and knee forces, the highest joint loading index score (most joint force relative to energy expenditure) was for the male sport, while the lowest score was for female occupation.

Conclusions: Joint force trajectories for the hip and knee were constructed from survey data, and followed expected trends by gender and physical activity domain. These measures may help provide information on the tolerance of the hip and knee joint to long term load. Comparing energy expenditure trajectories to joint force trajectories revealed variation in different population strata, indicating these measures may be useful for separately analyzing the effects of energy expenditure and joint load on health outcomes.

353 DISSEMINATION OF THE EULAR RECOMMENDATIONS FOR THE MANAGEMENT OF KNEE OSTEOARTHRITIS (OA) IN FRANCE. WHAT SAY AND WHAT DO RHEUMATOLOGISTS? THE DRAGON STUDY

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Purpose: EULAR recommendations for the management of knee OA (KOA) have been published in 2000, then 2003 and widely disseminated in France. However, no study focused on the level of adhesion of rheumatologists (RH) to these recommendations and their application in daily clinical practice.

Objective: To compare self-declared level of adhesion of French rheumatologists to the EULAR recommendations for the management of KOA and the way they effectively manage patients in 2007.

Methods: This was a prospective observational cross-sectional study. RH randomly selected within a representative panel of French RH were asked to answer a questionnaire assessing their level of knowledge of the EULAR recommendations for knee OA and to rate their adhesion to each. They had then to describe 2 successive patients visiting for symptomatic knee OA, and their treatments they prescribed. Data collected: Demographics of RH, professional interests, knee OA history and level of symptoms at visit, non pharmacologic and pharmacologic treatments prescribed on day of visit. Statistics: descriptive: mean, median, standard deviation (sd).

Results: 214 RH from all French areas answered: mean age 50, 69% men, 56% private office-based, 41% both hospital- and private office-based. Mean number of knee OA patients seen monthly was 42. 374 patients were included: mean age 69±10 years, 66% women, BMI 29±6, 97% painful at visit, mean pain level on a VAS = 49±22 mm under treatment (39% received a pharmacological treatment). Mean level of handicap on a VAS = 49±21 mm, morning stiffness in 48% of patients, pain night in 24%, presence of knee effusion in 125 patients (33%), 38% were at a Kellgren-Lawrence (KL) radiological grade 2, 44% at a KL 3, 9% at a KL 4. Knee OA symptoms were present for 6±5 years. Thirteen had already undergone a total joint replacement (3%). Adhesion rates to EULAR recommendations and prescriptions made in the “real life” appear in the table.

Adhesion VAS mm: m (sd) N (%) of patients who are prescribed each modality on visit day

| Treatment combines pharmaco- and non pharmacologic | 78.9 (14.2) | 296 (5%) |
| Treatment must be individualized | 78.8 (14.4) | 100% |
| Treatment associates education, exercises, aids and weight loss | 74.1 (18.9) | 303 (81%) |

Topics are effective

| NSAIDs if no response/intolerance to paracetamol | 64.1 (20.7) | 69 (16%) |
| Topics are useful alternative | 66.7 (19.3) | 266 (71%) |
| Sy-SADO are effective on symptoms (oral/intra-articular) | 143 (38%) oral | 123 (32%) oral |

Conclusion: In general, EULAR recommendations for knee OA seem to be both agreed and followed by French RH. However, the percentage of patients receiving paracetamol is low and the number of patients having IA steroids under the number of patients presenting with knee effusion and/or night pain. Pain level rated by these treated patients remains over the “patient acceptable symptom state”.

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354 PATIENT’S LEVELS OF SATISFACTION AND EXPECTATIONS REGARDING THE MANAGEMENT OF THEIR KNEE OA IN FRANCE: THE DRAGON STUDY

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Purpose: EULAR recommendations for the management of knee OA have been published in 2000, then 2003 and widely disseminated in France. However, no study focused on the way patients were treated since this dissemination, nor on patient’s perception of their treatment and on their level of satisfaction or expectations.

Objective: To evaluate the level of satisfaction and expectations of knee OA patients treated by French rheumatologists (RH) in 2007.

Methods: This was a prospective observational cross-sectional study. RH randomly selected within a representative panel of French RH and asked to answer a questionnaire assessing their level of knowledge of the EULAR recommendations for knee OA and to rate their adhesion to each. They had then to describe 2 successive patients visiting for symptomatic knee OA, and their treatments. Patients were given by their RH a questionnaire they had to answer at home on their level of satisfaction and expectations with respect to the management of their knee OA. Data collected: Demographics, knee OA history and level of symptoms, overall satisfaction level regarding the management of their knee OA, specific levels with respect to attention paid to pain, dysfunction, information provided, advice for daily activities, physiotherapy and exercise. RH randomly selected a representative panel of French RH were asked to answer a questionnaire assessing their level of knowledge of the EULAR recommendations for knee OA and to rate their adhesion to each. They had then to describe 2 successive patients visiting for symptomatic knee OA, and the treatments they prescribed. Data collected: Demographics of RH, professional interests, knee OA history and level of symptoms at visit, non pharmacologic and pharmacologic treatments prescribed on day of visit. Statistics: descriptive: mean, median, standard deviation (sd).