of quality of life with VCF patients after balloon kyphoplasty (BKP) was confirm- in a randomised controlled trial (Fracture RedUction Evaluation (FREE) trial). Object- ive of this study was to examine a cost-effectiveness of BKP in comparison with con- servative medical management (CMM) for VCF in patients with osteoporosis in Japan. METHODS: A Markov event simulation model was used to estimate a lifetime cost effectiveness of BKP compared to CMM for female VCF patients (70-year-old) with osteoporosis in Japan. Payer’s perspective was employed and only medical costs were estimated. BKP material price was set at JPY 350,000 ($3630, €1 = JPY 137). Utilities were obtained from the FREE trial. Costs and quality-adjusted life years (QALYs) occurring beyond 1 year were discounted at 3% per year. Cost-effectiveness was evaluated by ICER (Incremental Cost Effectiveness Ratio). RESULTS: BKP was associated increased QALYs (0.308 QALYs) compared to CMM. The incremental cost per QALY gained for BKP compared to CMM was JPY 1,339,947 (€10,219) per QALY gained. Probabilistic sensitivity analysis indicated a 76% likelihood that BKP would be considered cost-effective in Japan with a willingness to pay of up to JPY 6 million ($43,796) per QALY gained. CONCLUSIONS: Compared to CMM, BKP for Japanese VCF patients was projected to improve QALYs and regarded as cost-effective.

**PMS560**

**COST-UTILITY OF EXERCISE THERAPY IN ADOLESCENTS AND YOUNG ADULTS SUFFERING FROM THE PATELLOFEMORAL PAIN SYNDROME**

van Linschoten R, Weijers M, van de Waterbeemd H, Roos EAM, van Hilten P, Van Dijk BWJ, Rimal E, Arendt N, Verhagen A

OBJECTIVES: Because little is known about the cost effectiveness of exercise therapy, general practitioners lack the knowledge to apply the most cost effective treatment to patients with the patellofemoral pain syndrome (PFPS). Therefore, we aimed to deter- mine the cost effectiveness of exercise therapy (intervention group) compared to ‘usual care’ (control group) in adolescents and young adults dealing with PFPS in primary care. METHODS: This multicenter prospective cost-utility analysis was conducted at 38 general practices and 3 sport medical advice centers in The Netherlands for 2007. METHODS: Sample of 211 patients between 12-18 years of age were randomized to either usual care or intervention (22% intervention rate). A QALY gained is used as a willingness-to-pay threshold. RESULTS: The annual direct medical costs per patient were significantly higher for the interven- tion group compared to the control group (€1579 per patient vs. €1108 per patient) with a societal average cost effectiveness ratio of €14,738 per QALY, exercise therapy appears to be cost effective as compared to ‘usual care’. The intervention was domi- nant in 52% of the cases (positive health effects and cost savings) and inferior in 14% of the cases when compared to the control group. No significant differences were found in the remaining 34% of the cases. CONCLUSIONS: Exercise therapy is effective and less costly. A QALY gained with rituximab dominates adalimumab and etaner-cept after the failure of FATT as it is more effective and less costly. A QALY gained with rituximab or infliximab costs $32,083 or $38,490 compared to BSC, respectively. The ICERs are $53,606/$54,722 and $37,169 per QALY gained for adding adali- umab, etanercept and infliximab to the rituximab strategy, respectively. According to the cost-effectiveness acceptability frontier only the treatments with rituximab or infliximab follow the same cost-effective path as the BSC group. Further studies are needed to confirm these findings.

**PMS561**

**SHORT-TERM DISABILITY ASSOCIATED WITH HIP, NON-VERTEBRAL, AND VERTEBRAL FRACTIONS IN THE UNITED STATES**

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OBJECTIVES: Herniated discs (HDs) and depression place a significant burden on employees, although less prevalent, fractures may also have associated costs. The objective of this study was to evaluate the burden of fractures compared to HD and depression in terms of short-term disability (STD). METHODS: A descriptive retrospective analysis was conducted to assess STD associated with fractures (hip, non-vertebral, and vertebral), and depression. Data analyzed in this study was obtained from a large national medical- and productivity-related database using data from 2003-2007. RESULTS: Hip fractures contributed the highest cost for STDs and productivity losses ($20,428; $10,473 for depression). Hip fractures also had the highest STDs in terms of number of employees affected, with an average of 387,603 employees affected per year compared to 45,550 for depression. In the intervention group experienced a slightly, but not significantly, higher quality of life (0.8722 vs. 0.8617). CONCLUSIONS: When only direct medical costs were included, average costs per quality adjusted life year (QALY) were $12,754. However, with a societal average cost effectiveness ratio of €14,738 per QALY, exercise therapy appears to be cost effective as compared to ‘usual care’. The intervention was dominates in 52% of the cases (positive health effects and cost savings) and inferior in 14% of the cases when compared to the control group. No significant differences were found in the remaining 34% of the cases. CONCLUSIONS: Exercise therapy is effective and less costly. A QALY gained with rituximab dominates adalimumab and etanercept after the failure of FATT as it is more effective and less costly. A QALY gained with rituximab or infliximab costs $32,083 or $38,490 compared to BSC, respectively. The ICERs are $53,606/$54,722 and $37,169 per QALY gained for adding adalimumab, etanercept and infliximab to the rituximab strategy, respectively. According to the cost-effectiveness acceptability frontier only the treatments with rituximab or infliximab follow the same cost-effective path as the BSC group. Further studies are needed to confirm these findings.

**PMS59**

**THE CLINICAL AND ECONOMIC BURDEN OF NONADHERENCE WITH OSTEOPOROSIS MEDICATIONS**

Hullemann D, Rabenda V, Bruyère O, Reginster JY

OBJECTIVES: Poor compliance and failure to persist with osteoporosis medications are common, but the clinical and economic consequences have not been well described. This study aims to estimate the clinical and economic burden of nonadher- ence with oral bisphosphonates in osteoporotic patients and to examine the scope for adherence-enhancing interventions. METHODS: A validated Markov microsimulation model estimated costs and outcomes (i.e. the number of fractures and the quality-adjusted life-year (QALY) for three adherence scenarios: no treatment, real- world adherence and full adherence over three years. Simulated patients matched the populations where osteoporosis medications are reimbursed. The real-world adher- ence scenario employed adherence data from a published Belgian observational study and adherence was divided into persistence and compliance. The incremental cost per QALY gained was estimated comparing the three adherence scenarios. We also examined the clinical and economic implications of adherence-enhancing interven- tions assuming that adherence failure would be reduced by 10%, 20% or 30%. RESULTS: The estimated number of fractures prevented and the lifetime QALY gained in the real-world adherence scenarios represents only 42.0% and 41.9% of the number of fractures prevented and the costs per QALY gained compared to real-world adherence were respectively €29,350 and €46,275 if the intervention costs €100 and €150 per year. CONCLUSIONS: This study suggests that more than half of the potential benefits from oral bisphosphonates in patients with osteoporosis are lost due to poor compliance and failure to persist. Depending on its cost, interven- tions that improve adherence to therapy have the potential to be an attractive use of resources.

**PMS60**

**INDIRECT COSTS OF RHEUMATOID ARTHRITIS AND THEIR DETERMINANTS**

Baltensperger F, Camara C, Schadler Law U, Le Pen C

OBJECTIVES: To determine indirect costs of RA and investigate factors potentially associated with higher indirect costs. METHODS: A mail survey was carried out among working age Rheumatoid Arthritis (RA) patients members of one RA patients’ association in France. Information on demographics, disease parameters, past and on-going treatments and employment status was collected. In addition, two validated instruments, Health Assessment Questionnaire (HAQ) and the EuroQol-5 Dimension were considered. Annual indirect costs including sick leaves and RA-early retirement were valued from the French Health Insurance perspective. Two multiple logistic regression models were run to explain respectively the probability of having positive