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## **Differences in Patient Characteristics Prior to TKA and THA Between Switzerland and the US**

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**Introduction:** Total knee (TKA) and hip (THA) arthroplasty results, including patient-reported outcome measures (PROMs), complication and implant survival rates, are often generalized across countries, although patient- and environment-dependent factors may differ considerably. We described and compared preoperative characteristics from two large TKA and THA cohort studies, one in Switzerland and the other in the US.

**Materials & methods:** Patient characteristics were collected prospectively on all elective primary TKAs and THAs performed (1) at a large tertiary center in Switzerland between 1/2010 and 12/2011 and (2) in FORCE-TJR, a US diverse, large national sample between 6/2011 and 8/2012. Information was obtained on age, sex, BMI, diagnosis, medical co-morbidities, and PROMs (WOMAC pain and function, SF-12/36 physical and mental component scores). We calculated risk ratios, and mean differences, and effect sizes, to compare preoperative scores.

**Results:** Overall, 2508 TKAs and 1,912 THAs (US) and 855 TKAs and 673 THAs (Swiss) were evaluated. U.S. patients, compared to Swiss, were younger (mean age TKA: 67 vs. 72 yrs; THA: 64 vs. 68 yrs), more obese (BMI  $\geq 35$  TKA: 27% vs. 17%; THA: 39% vs. 23%). US TKA patients had more cardiac disease, higher preoperative WOMAC pain scores (52 vs. 41 points) indicating less knee-specific pain at time of TKA. US THA patients had more diabetes (13% vs. 10%), higher WOMAC pain scores (47 vs. 40 points) indicating less hip-specific pain at the time of THA. While significant physical disability (SF) was reported in both countries, US TKA and THA patients reported lower physical function scores.

**Conclusion:** We found substantial differences in baseline characteristics with younger age, greater obesity, in the US TKA and THA patients, and more cardiac disease (TKA), diabetes and preoperative hip pain (THA). Significant levels of disability were reported across countries. These findings call for adequate risk adjustment in cross-cultural comparisons.