

# Translation and Cross-Cultural Adaptation of the Danish Version of Oxford Knee Score (OKS)

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**Introduction:** The Oxford 12-item Knee Score (OKS)<sup>a</sup> is a joint specific questionnaire, developed for the assessment of pain and function in patients with osteoarthritis of the knee. The OKS has proven to be reliable, valid and responsive to clinical change<sup>b</sup>. It has been translated into different languages and used in several clinical studies<sup>c d e f g h</sup>. Each question is answered by ticking a box on a five-point Likert scale. Due to new recommendations, responses are then totalled to obtain a score between 0 and 48, with 48 being the best<sup>i</sup>.

**Objective:** To translate and cross-culturally adapt OKS from the original English version into Danish, according to existing guidelines<sup>j</sup>

**Design and Methods:** The translation and cross-cultural adaptation process involved these steps: **1)** Forward uninformed translation from English to Danish (T1, University Lecturer in English Language, mother tongue Danish). **2)** Uninformed back translation from Danish to English (T2, University Lecturer in English Language, mother tongue English, fluent in Danish). **3)** A consensus meeting in which the two versions were harmonized, and compared to the original English version, resolving any clinical/ medical issues or other discrepancies. **4)** Then a new individually uninformed back translation from Danish to English, by five new translators (multidisciplinary group); Two with mother tongue English, three with mother tongue Danish, all bilingual (English and Danish). **5)** A new consensus meeting with translators and coordinators, in which the versions were harmonized, and the back translation compared with the original English version, resolving any remaining problems, and consensus on the Danish version of OKS were made. **6)** These versions were tested on 22 patients (49-84 years) with knee dysfunction, knee osteoarthritis or total knee replacement for understanding, by experienced health professionals. **7)** Based on the testing, layout was adjusted to optimize readability also for elderly patients, and for optical character readability, written instructions for the questionnaire were added, and these final adjustments were incorporated.

**Results:** The translation process revealed minor discrepancies concerning wording and understanding in quite a few of the items. The items: 1, 5, 6, 7, 8, 9, 10, 11, and 12 had to be rephrased due to cultural and linguistic differences between England and Denmark. Some patients had problems with item 3, due to the inherit complex question, this was resolved by adding written instructions for the questionnaire. In item 4, option 4, the translation focused on walking distance, instead of “around the house only”. Some patients had problems remembering the time period in question, this was resolved by emphasizing “during the past 4 weeks...” in the written instruction.

**Conclusion:** We have translated OKS from the original English version into Danish, according to existing guidelines. Further testing of validity, reliability and responsiveness of this patient reported outcome (PRO) instrument in a Danish population is advisable.

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