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## The racial and cultural differences in interpretation of kneeling after TKA

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**Background:** Kneeling is an important function for many activities of daily life including employment, social and religious practices. Different activities require different patterns of kneeling (upright and high flex kneeling patterns). This study investigates patients' perception of kneeling ability.

**Methods:** Three hundred consecutive patients undergoing Total Knee Arthroplasty (TKA) in Royal Infirmary of Edinburgh received patient specific kneeling ability questionnaires along with the Oxford Knee Score (OKS) pre-operatively and one year after surgery. The 'kneeling ability questionnaire was constructed to determine: (1) The ability to adopt one or more of 4 kneeling positions demonstrated in 4 simple illustrations rated on a 5-point Likert scale (1 = easily to 5 = impossible) pre-operatively and one-year postoperative. The kneeling positions represent different degrees of knee flexion and knee contact with the ground. (2) If unable to kneel, the reason for the inability to kneel. (3) Specific instructions about kneeling given by health care professionals before and after surgery.

**Results:** 251 patients (147 women and 104 men) responded and completed the questionnaires (response rate 84%). The main reasons for kneeling difficulties were pain (111/251), medical problems (77/251), and numbness around the knee (41/251). Most of the patients (147/251 i.e. 63.6%), received advice regarding kneeling before or after TKA; 132 patients (59%) were advised not to kneel after TKAs from the arthroplasty nurse practitioner, 45 patients (20%) received the advice not to kneel after TKAs from their consultants, 29 patients (13%) received the advice not to kneel from their GPs and 9 patients (4%) received the advice not to kneel from their physiotherapists. Two hundred and forty six patients responded to OKS kneeling question preoperatively, and one year after surgery, 20 patients could kneel easily before TKA, this number decreased to 9 patients after TKA; on the other hand 74 patients answered impossible to kneel before TKA and this number increased to 98 patients after TKA. The positive correlation noticed between the OKS kneeling question and the kneeling questionnaire responses showed the strong correlation with the upright kneeling patterns ( $r=0.9$ ). The data suggest that a high percentage of TKA patients experience postoperative kneeling difficulties. 96% of patients responded that were advised by a health care professionals not to kneel.

**Conclusions:** 1. Kneeling is a problem to many patients after TKA. This may have important consequences for work/religious and social life after TKA. 2. Patients are frequently advised not to kneel after TKA. The higher percentage could be because of miss-understanding of the advice. 3. Kneeling questionnaire correlates well with OKS kneeling question. 4. Kneeling is not a single position of the knee and can be interpreted in different ways by different patients.

**Implications:** The implications made after the study were: 1. Standardize the advice about kneeling after TKA. 2. Include postoperative kneeling difficulty in the consent form. 3. Implement the study in a Muslim country because of the importance of the high flex kneeling in daily prayers.

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