Letter to the Editor

Letter to the Editor: Do Activity Levels Increase After Total Hip and Knee Arthroplasty?

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To the editor,

We read the article by Harding and colleagues [2] with great interest. Harding and colleagues examined the level of physical activity before and after total knee or hip arthroplasty in patients with osteoarthritis. We recognize the considerable efforts made by the authors of this study, including recruiting a large number of patients, and measuring physical activity before and 6 months after surgery using accelerometry. We are completely in line with the authors' view that

physical activity after arthroplasty is crucial for reducing further risks of inactivity-related morbidity, and that surgery alone does not result in pronounced physical activity. There is growing evidence [3, 5, 6] that further efforts are needed as different research groups did not find a satisfactory increase of physical activity after arthroplasty.

However, we have some concerns with the interpretation of our data [1], which might to some degree affect the conclusions or further research in this field of interest. The authors stated that the increase of physical activity in our study might be due to the short measurement duration of less than 4 days. It is true that we included an acceleration-based system with a measurement duration of 24 hours, but this was complemented by

applying a research-grade electronic pedometer with excellent validity for a duration of 7 days and a mean wear time of 13 hours per day. Both devices revealed an improvement of physical activity 6 months after arthroplasty. We agree that accelerometry is generally preferred when whole-body physical activity is the focus of interest, but in knee and hip arthroplasty, walking activity expressed in the number of gait cycles is an important issue. In this case, research-grade pedometers are considered an appropriate tool, and they provide valuable information [4, 7].

Therefore, we are not convinced that the differences in the activity-related outcomes of our study and the findings of Harding et al. can be explained by the measurement protocols, which are both based on a 7-day assessment period. Instead, we would generally highlight three points, which could explain the differences between (any) studies measuring physical activity before and after knee surgery: (1) The study sample, (2) the active life-style before surgery, and (3) the rehabilitation after surgery. A patient's expectation may vary depending on his or her age and activity level. We realize in clinical practice that older patients are often

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satisfied if pain is reduced, and there is only limited motivation to become more active. We agree with Harding and colleagues that the amount of physical activity after knee surgery is mainly influenced by the activity behavior before surgery. The age of the patients in the study was comparable, and both studies noticed the impact of presurgery activity. Therefore, we assume that the rehabilitation process could explain the increase of physical activity in our data. In Germany, health insurance pays for at least 3 weeks of inpatient rehabilitation. Therefore, patients in Germany usually receive a structured rehabilitation program and are encouraged to readopt physical activity. Consequently, information about the rehabilitation process should be included in each study.

In summary, we would like to compliment the authors for a thorough investigation of this clinically relevant topic.

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