

The painful knee after total knee arthroplasty

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This issue will provide a comprehensive overview about pain after total knee arthroplasty (TKA). It is one of the most difficult issues after TKA. How can we best treat patients who experience persistent pain? Unfortunately, we might see an increasing number of patients with unexplained pain after TKA in the near future, due to the constantly increased number of patients undergoing primary TKA. Two major reasons appear to be responsible for the increased number of TKA. First of all the population is getting older and it has been estimated that approximately 25% of the entire population will be older than 65 years in 2050. Second, the patients are nowadays more demanding in terms of activities of daily life. The world has to face a huge economic burden in the near future in order to treat patients suffering from osteoarthritis [10]. Primary and revision TKA increased approximately 300 and 220%, respectively, between 1991 and 2004 causing an explosion of costs from 5 to 15 billion USD with regard to primary TKA in the United States. It has been estimated that the number of primary TKA will rise up to 3–4 million and revision TKA up to 270,000 annually [6].

Patient's expectation in TKA is very high. Eighty-five per cent of the patients expect to be completely pain free after TKA, but according to a recent study, unfortunately only 43% of them are fully pain free after surgery showing a remarkable discrepancy [7]. We are aware of a huge

variety of surgeon- and patient-related factors, which may have significant influence patient's outcome. Many factors may cause persistent pain after TKA. In a recent and comprehensive overview by Seil et al. on factors related to chronic pain after TKA, they distinguished between biological and mechanical intra-articular factors and extra-articular factors. Sometimes, there is also a combination of factors. There is need for a clear diagnostic algorithm due to the complexity and the variety of factors, which are responsible for persistent pain after TKA. This algorithm should be routinely performed in every patient complaining of chronic pain and low function. However, in several patients, it may be extremely difficult to identify the cause of patient's non-satisfaction. Surgical exploration after TKA revealed that only 45% of the patients had problems related to their implants [8]. This is an interesting fact, which strongly indicates that even further development in prosthetic design, for instance to improve kinematics and function will not entirely solve the problem. The number of co-morbidities prior to surgery can to some extent predict pain after TKA surgery. But, what about pain referred from the spine or hip? Further factors, such as female gender, younger age at the time of surgery and depression, appear to be associated with increased risk of pain after TKA [3]. Reduced mental well-being has also shown a worse short-term outcome [11].

Besides the focus on the knee and adjacent joints, we need to pay even more attention to patient's mental health, in order to better identify patients, who may show an increased risk for non-satisfaction after surgery.

However, and despite the fact that some of the patients are not completely satisfied and not completely pain free after TKA, this procedure is well accepted as an effective and successful end-stage procedure in patients with knee osteoarthritis for relieving chronic pain and functional

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disability. Considering the return to normal activity after TKA, which are the most important activities the patients expect? A recent study has shown that stretching exercise, kneeling and gardening are the most appreciated activities [12].

However, not only activities during daily living are important. Patients also enquire frequently about the option to return to sports after joint replacement. Approximately 10% of patients at the age of 75 years still participate in sport on a regular basis [2]. Fitness, Nordic walking and golf are popular after knee arthroplasty. Hooper et al. [5] reported a return to sport in 63.7% after TKA and in 96.7% after UKA at a resuming time of about 4 month. Similar results in return to sport after UKA are shown by other researchers [9]. A high percentage of patients reported normal knee function when performing swimming (77%), golf (65%), stationary biking (64%) and stretching exercise (61%) [12]. In general, patient's sport activity appears to be at a lower level and with less extend. Activity at the older age is important for mental health and for improvement and maintenance of cardiovascular function [4]. In contrast, inactivity will cause overweight, loss of aerobic fitness, coordination, muscle mass, and osteoporosis will be very likely [1].

Taken together, total joint replacement can be seen as one of the greatest achievements in the orthopaedic world.

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