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Should Patient Activity Be Restricted After Total Hip, Total Knee, or Unicondylar Knee Arthroplasty?

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Should patient activity be restricted after total hip, total knee, or unicondylar knee arthroplasty?

Response/Recommendation: We recommend no specific activity restrictions following total joint arthroplasty. The patient's ability to return to preoperative activity levels depends on their baseline health status, living environment, and adherence to postoperative rehabilitation guidelines.

Level of Evidence: Limited.

Expert Vote: Agree 68.2%, Disagree 27.7%, and Abstain 4.2%.

Rationale

The appropriate activity restrictions following primary total knee arthroplasty (TKA) have long been a subject of considerable debate. Traditionally, patients are informed that they can safely resume low-to-intermediate impact sports within a period of three to six months postsurgery without incurring a risk of complications. Conversely, they are cautioned against engaging in high-impact sports and are advised to completely avoid high-contact athletic activities, as these may pose major risks. Studies have supported this approach, emphasizing the importance of a gradual return to physical activity while prioritizing the integrity of the surgical outcome and the overall health of the patient [1–3].

Many surgeons caution against high-impact activities due to concerns about adverse effects on the prosthesis and surrounding bone, potentially leading to increased wear and the risk of periprosthetic osteolysis [4]. However, recent studies present a contrary perspective. Witjes et al. [5] included 18 original studies and reported that return to sports (RTS) varied from 36 to 89% after TKA and from 75 to 100% after unicondylar knee arthroplasty (UKA). They found that physical activity level was higher after UKA than after TKA, but a trend toward lower-impact sports was shown after both TKA and UKA. The mean time to RTS after TKA and UKA was 13 and 12 weeks, respectively. Nevertheless, the overall quality of the studies reviewed was limited, as many did not adequately address confounding factors [5,6].

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The patient's ability to return to preoperative activity levels depends on their baseline health status, living environment, and adherence to postoperative rehabilitation guidelines. Engagement in athletic activities preoperatively emerged as the most critical predictor for returning to activity after TJA [5,7]. Patients typically engage in low-impact sports. Participation in moderate-impact sports can be considered individually based on the patient's prior experience [7].

A survey by the European Knee Association offers recommendations for post-TKA sports participation: walking, stair climbing, aqua fitness, and static cycling within the first six weeks; cycling on level ground and yoga from six to 12 weeks; and activities such as doubles tennis, golf, and hiking beyond 12 weeks. Squash is the only sport explicitly advised against [8]. A similar survey by the American Association of Hip and Knee Surgeons found that more than 80% of surgeons support unrestricted participation in activities like swimming, walking, golf, and cycling. In contrast, jogging and difficult Alpine skiing are discouraged. Interestingly, surgeons who have more experience in revision arthroplasties are more liberal in their recommendations [9].

Recommendations and restrictions after total hip arthroplasty (THA) have evolved considerably in the recent two decades, similar to those often recommended after TKA and UKA. Advancements in surgical techniques and implant designs have expanded the range of activities considered safe postsurgery. The gradual reintroduction of running, jogging, and high-impact activities is now more widely accepted due to evolving research on postoperative outcomes [10,11]. Furthermore, studies by Sowers et al. [12] and Vu-Han et al. [13] reflect an increased confidence in modern hip implants, suggesting patients can safely engage in these activities with proper monitoring.

Studies [14,15] emphasize the considerable progress made in promoting sports participation after THA, indicating a positive trend toward the acceptance of higher-impact exercises in postoperative rehabilitation protocols. Additionally, meta-analyses conducted by Magan et al. [16] and studies by Karampinas et al. [17] and Innmann et al. [18] support the notion that athletes can achieve an RTS within a reasonable timeframe following THA, underscoring the feasibility of gradually reintroducing activities such as running and jogging in a structured rehabilitation setting. As a result, the average time to RTS ranged from four to six months [10,19,20]. Bradley et al. [21] surveyed members of the British Hip Society, and approximately one-third of surgeons would allow RTS between six and 12 weeks postsurgery, while 44% would advise RTS after three months postoperatively.

Concerns for long-term survivorship have also been raised for the return to high-demand activity. Older studies do not suggest that RTS causes an increased incidence of revision or aseptic loosening [22,23]. Recent studies that may reflect more modern implants and techniques also support a low risk of revision [24–26].

In summary, there are no universally accepted postoperative limitations following THA, TKA, and UKA. The growing body of evidence supporting a more inclusive approach to postoperative rehabilitation after total joint arthroplasty surgery aligns with the concept of allowing patients to gradually resume running, jogging, and high-impact activities under proper supervision and in adherence to individualized rehabilitation plans. The decision to resume preoperative activities should be individualized, based on the patient's capabilities and overall health status. It is essential to adopt strategies that minimize stress on the joint to ensure the longevity of the prosthesis and prevent complications. This tailored approach emphasizes the importance of considering each patient's unique circumstances and the nature of the activities they wish to engage in to facilitate a safe and effective return to their daily routines. There is currently a lack of long-term data regarding the risks associated with returning to high-impact sports, including potential decreases in implant survivorship.

CRediT authorship contribution statement

Mehmet K. Yılmaz: Writing – review & editing, Writing – original draft, Data curation, Conceptualization. **Ji Baochao:** Writing – review & editing, Writing – original draft, Conceptualization. **Niyazi Çakır:** Writing – original draft, Conceptualization. **Alparslan Uzun:** Data curation, Conceptualization. **Azlina A. Abbas:** Conceptualization. **Brian Culp:** Writing – review & editing, Writing – original draft. **Roger Torga-Spak:** Writing – review & editing, Writing – original draft, Conceptualization. **İbrahim Azboy:** Writing – review & editing, Writing – original draft, Visualization.

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