The effect of lifestyle restrictions on dislocation rates and hip function after THA

Study Type: Meta-analysis/Systematic Review
OE Level of Evidence: 3
Journal Level of Evidence: N/A

Do lifestyle restrictions and precautions prevent dislocation after total hip arthroplasty? A systematic review and meta-analysis of the literature


van der Weegen W, Kornuijt A, Das D

Synopsis

Six studies (3 randomized controlled trials, 1 retrospective match cohort, 1 retrospective, and 1 prospective cohort study), with data from 1122 procedures, were included in this meta-analysis and systematic review for the purpose of determining if less restricted postoperative protocol following total hip arthroplasty was associated with significantly altered hip prosthesis dislocation, patient function, pain, return to daily activities, and satisfaction. Results demonstrated that patients in the unrestricted group had similar dislocation rates and significantly improved WOMAC, VAS pain, and time required to return to daily activities when compared to standard restrictive protocol. More rigorous investigation with larger patient populations, similar outcome measures, and sound methodological quality is recommended for outcome validation.

Publication Funding Details

- Risk of Bias
  4.5/10

- Reporting Criteria
  14.5/20

Were search methods clearly reported?
Was the search for evidence comprehensive?
Were inclusion and exclusion criteria reported?
Were inclusion and exclusion criteria reported?

Was bias in the selection of studies avoided?
Was bias in the selection of studies avoided?

Were the criteria used for assessing the validity of the included studies reported?
Were the criteria used for assessing the validity of the included studies reported?

Was validity of included studies analyzed through appropriate methods?
Was validity of included studies analyzed through appropriate methods?

Were methods used to combine the findings of studies reported?
Were methods used to combine the findings of studies reported?

Were findings of studies combined appropriately relative to the primary research question?
Were findings of studies combined appropriately relative to the primary research question?

How would you rate the scientific quality of this evidence in relation to risk of bias?
How would you rate the scientific quality of this evidence in relation to risk of bias?

Why was this study needed now?
Standard protocols following total hip and knee arthroplasty often include movement restrictions and precautions such as sleeping in a supine position, using walking aids for an extended period of time, and restriction from sitting cross-legged, bending forward, or hip joint flexion beyond 90 degrees. Although these restrictions are thought to limit the risk of dislocation, there has been and increased use of “fast-track” postoperative protocols. These protocols are suggested to decrease muscle loss, increase hip joint stability, better educate patients, and allow for better management of clinical symptoms. The aim of this systematic review and meta-analysis was to determine if the risk of hip prosthesis dislocation was affected when patients were given postoperative lifestyle restrictions.

What was the principal research question?
For patients undergoing total hip arthroplasty, was the risk of hip prosthesis dislocation significantly reduced with lifestyle restrictions and precautions when compared to a less restrictive postoperative protocol?

Study Characteristics

What were the important findings?

- Restrictions placed on THA patients if allocated to the restricted group included avoidance of extreme hip flexion, avoidance of internal hip rotation and hip adduction, and use of elevated chair and abduction pillow; patients in the unrestricted group were not given any precaution or restrictions, save for one study where a pillow could be placed between patients’ legs for comfort during sleep.
- Pooled results of all six studies revealed that there were 8 dislocations in the restricted group compared to 6 dislocations in the unrestricted groups (1.5% vs. 1.0%).
- Pooled dislocation rates of studies comparing restriction vs. no restriction was 2.7% vs. 0% (n=4 studies), while pooled dislocation results of studies comparing restriction vs. “less” restriction was 0.9% vs. 1.5% (n=6 studies). Pooled dislocation rates of RCTs comparing restriction vs. no restriction was 0.8% vs. 0%, whereas pooled dislocation rates of lower quality of evidence comparing restriction vs. no restriction was 2.1% vs. 1.7%, respectively.
- Significantly improved WOMAC (n=1 study) and VAS pain scores (n=1 study) were observed for patients in the unrestricted group when compared to the restricted group; all other clinical
outcomes, such as Harris Hip score, the Hip Disability and Osteoarthritis Outcome Score, SF-36 and SF-12 scores were comparable between groups

- Time to resume daily activities (driving, walking without aid, etc.) was significantly improved for patients in the unrestricted group (n=4 studies); length of hospital stay was significantly shorter for unrestricted patients (n=2 studies).

What should I remember most?
For patients undergoing total hip arthroplasty, an unrestricted postoperative protocol resulted in a similar dislocation rate and significantly improved WOMAC, VAS pain, and time to return to daily activities when compared to standard (restrictive) postoperative protocol.

How will this affect the care of my patients?
The results of this study suggest that the use of nonrestrictive interventions does not increase the rate of dislocation following total hip arthroplasty and may benefit patients by way of reduced pain, hospital stay, and other clinical outcomes. However, the large study heterogeneity and unsatisfactory methodology of the included trials warrants further investigation with larger patient populations and similar outcome measures prior to clinical recommendation.