In patients who have had uncemented primary total hip arthroplasty (THA), does removal of several postoperative functional restrictions (PFR) reduce the risk of postoperative dislocation?

METHODS

Design: randomised controlled trial.

Allocation: not concealed.

Blinding: unblinded.

Follow up period: >6 months.

Setting: a university hospital in Philadelphia, Pennsylvania, USA.

Patients: 265 patients (303 hips) (mean age 58 y, 52% men) who received uncemented primary THA through an anterolateral approach. Exclusion criteria included previous surgery on the ipsilateral hip, hyperflexibility syndromes, and neuromuscular compromise (eg, Alzheimer’s or Parkinson’s disease).

Intervention: PFR (n = 152) or no PFR (n = 151). All patients were expected to limit the range of motion of the hip for the first 6 weeks to <90° of flexion and 45° of external and internal rotation, and to avoid adduction (crossing legs). Furthermore, patients in the PFR group were managed with the placement of an abduction pillow in the operating room before bed transfer; used pillows to maintain abduction while in bed; used elevated toilet seats and chairs in the hospital, rehabilitation facility, and at home; and were prevented from sleeping on the side and driving or riding in an automobile.

Outcomes: dislocation, patient satisfaction, and return to activities of daily living.

Patient follow up: 100%

MAIN RESULTS

Only 1 dislocation (in the PFR group) occurred in the entire study. At 6 months, patients in the PFR group could perform a mean of 96.5% of their preoperative daily activities compared with 106.4% in the unrestricted group (p = 0.015). Fewer patients in the PFR group than in the no PFR group were satisfied with the pace of their recovery (74% v 89%, p<0.001). Mean times (wks) to sleeping on the side (5.8 v 3.2), riding as a passenger in an automobile (1.9 v 1.5), driving an automobile (6.8 v 4.9), and returning to work (9.5 v 6.5) were longer in the PFR group than in the no PFR group (p values < 0.001).

CONCLUSIONS

The rate of postoperative dislocations after uncemented primary total hip arthroplasty was too low to determine the effect of removal of several postoperative functional restrictions. However, removal of restrictions was associated with an increase in patient satisfaction and quicker return to daily functions.

Commentary

The study by Peak et al is an important example of how meaningful outcomes such as cost, postoperative recovery, and patient satisfaction need to be examined when accepted practices are questioned. Peak et al looked at the incidence of dislocation when currently accepted postoperative hip precautions were relaxed for a 6 week period in patients scheduled for uncemented hip arthroplasty. Among the PFR and no PFR groups, there was a single dislocation, representing a dislocation rate of 0.33%. These results compare with those of a similar study by Talbot et al, which found a 0.6% dislocation rate when no postoperative hip precautions were imposed.1

The risk of type II error (to say there is no difference when, in fact, a difference exists) is too great to suggest otherwise. Because the dislocation rate was so low, the study had insufficient power (ie, not a large enough sample) to detect a significant difference between groups. As well, the trial was not blinded, and so the low dislocation rate could be the result of increased staff vigilance. Consequently the effect of relaxed restrictions on THA dislocations has yet to be discerned.

Fortunately, dislocation in people with uncemented THAs is clearly a rare event, and relaxation of restrictions seems unlikely to greatly increase dislocation rates. Relaxation of restrictions would increase satisfaction, promote earlier return to normal activities of daily living, and decrease direct and indirect costs. From a nursing perspective, the study by Peak et al substantiates that a specific group of patients are at low risk of dislocation and actually benefit when hip precautions are not implemented. However, the findings are only directly applicable to patients where an anterolateral approach has been used and who are similar to those recruited by Peak et al (eg, no neuromuscular compromise or hyperflexibility syndrome). For patients not meeting these criteria, hip precautions should still be used until research has determined whether relaxed restrictions are appropriate in other groups and nurses have evidenced based criteria to appropriately implement hip precautions. Cost effectiveness lies in the discriminant use of precautions. Peak et al have shown that questioning traditional practices can have substantial benefits for both institutions and individual patients. Further investigation into relaxation of restrictions in patients thought to be at higher risk of dislocation is warranted.

Faith J Forster, MSN, APRN, BC
Orthopedic Department, Providence Healthcare Vancouver, British Columbia, Canada

Relaxing hip precautions increased patient satisfaction and promoted quicker return to normal activities after total hip arthroplasty

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**Notes**