Dislocation after total hip replacement - there is no such thing as a safe zone for socket placement with the posterior approach.

Timperley AJ¹, Biau D², Chew D³, Whitehouse SL⁴.

Abstract

INTRODUCTION: Malorientation of the socket contributes to instability after hip arthroplasty but the optimal orientation of the cup in relation to the pelvis has not been unequivocally described. Large radiological studies are few and problems occur with film standardisation, measurement methodology used and alternative definitions of describing acetabular orientation.

METHODS: A cohort of 1,578 patients from a single institution is studied where all patient data was collected prospectively. Risk factors for patients undergoing surgery are analysed. Radiological data was compared between a series of non-dislocating hips and dislocating cases matched 2:1 by operation type, age and diagnosis.

RESULTS: The overall dislocation rate for all 1,578 cases was 3.23% but the rate varied according to the type of surgery performed. The rate in uncomplicated primary cases was 2.4% which increased to 9.3% for second stage implantation for a two stage procedure for infection. There was no significant difference in the variability of the dislocating and non-dislocating groups for either inclination (p = 0.393) or anteversion (p = 0.661).

CONCLUSIONS: A "safe zone" for socket orientation to avoid dislocation could not be defined. The cause of dislocation is multifactorial, re-establishing the anatomic centre of rotation, balancing soft tissues and avoidance of impingement around the hip are important considerations.

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