



Paper #50

Large Variation in Native Femoral Anteversion in Patients Requiring Total Hip Arthroplasty

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Introduction: Appropriate femoral stem anteversion is an important factor in maintaining stability and maximizing the performance of the bearing after total hip replacement. The anteversion of the native femoral neck has been shown to have a significant effect on the final anteversion of the stem, particularly with an uncemented femoral component. The aim of this study was to quantify the variation in native femoral neck anteversion in a population of patients requiring total hip replacement.

Methods: Pre-operatively, 1,623 patients received CT scans as part of their routine planning for THR. Within the 3D planning, each patient's native femoral neck anteversion, measured in relation to the posterior condyles of the knee, was determined.

Results: The mean native femoral neck anteversion, relative to the posterior condyles, was 13.8° (SD = 10.0°). The range was -27.1° to 54.4° . Males had a mean anteversion of 12.6° . Females had a mean anteversion of 15.2° . These gender specific differences were statistically significant.

Conclusions: Native femoral neck anteversion in patients requiring THA is widely variable, with a range of over 80° . Females have more anteverted necks than males. Having an understanding of 3D patient morphology can greatly assist in pre-operative planning of THA, as post-op stem anteversion is likely influenced by the anteversion of the native femoral neck.

Notes
