

The Impact of Patient and Surgical Factors for Primary Knee Arthroplasty Infection: An analysis of 64,566 joints from the New Zealand Joint Registry

S W Young , E R Tayton, C Frampton, G J Hooper

Auckland University, Auckland; Otago University, Christchurch; New Zealand

Objective: The aim of this study was to identify risk factors for Prosthetic joint infection (PJI) following TKA.

Method: The New Zealand Joint Registry database was analyzed, using revision surgery for PJI at 6 and 12 months as primary outcome measures. Statistical associations between revision for infection, with common and definable surgical and patient factors were tested.

64,566 primary TKAs have been recorded on the registry between 1999 and 2012 with minimum 12 months follow-up.

Results: Multivariate analysis showed significant associations with revision for PJI ($p < 0.05$) between male gender (odds ratio (OR) 1.85), previous surgery (osteotomy OR 2.45, ligament reconstruction OR 1.85), the use of laminar flow (OR 1.6) and the use of antibiotic-laden cement OR 1.93). There was a trend towards significance ($p = 0.052$) with the use of surgical helmet systems (SHS) at 6 months (OR 1.53).

Conclusion: These findings show patient factors remain the most important in terms of predicting early PJI following TKA. Furthermore, we found no evidence that modern SHSs reduce PJI risk and laminar flow systems may actually increase risk in TKA. The use of this registry data assists estimation of potential risk of PJI for individual patients, which is important for both informed consent and interpretation of institutional infection rates.

The Orthopaedic Journal of Sports Medicine, 4(7)(suppl 5)

DOI: 10.1177/2325967116S00087

©The Author(s) 2016