Paper III
MEDIUM AND LONG-TERM PERFORMANCE OF
11 516 UNCEMENTED PRIMARY FEMORAL
STEMS FROM THE NORWEGIAN
ARTHROPLASTY REGISTER

G. Hallan, MD, S. A. Lie, MSc, PhD, O. Furnes, MD, PhD,
L. B. Engesaeter, MD, PhD, S. E. Vollset, MD, Dr PH, L. I. Havelin, MD, PhD

From the Norwegian Arthroplasty Register,
Department of Orthopaedic Surgery,
Haukeland University Hospital,
Bergen, Norway
Primary uncemented femoral stems reported to the Norwegian Arthroplasty Register in the period 1987-2005, were included in this prospective observational study. The material was comprised of 11,516 hips in 9,679 patients and 14 different stem designs. Kaplan-Meier survival probabilities and Cox regression were used to analyse the data. With aseptic loosening as the end-point, all currently used stem designs performed excellently with survival percentages of 96-100 at 10 years. With the end-point being stem revision of any cause, the long-term results of the different stem designs varied from very poor to excellent with 15-year survival ranging from 29% to 97%. Follow-up longer than 7 years was needed to identify some of the poorly performing stem designs. All the currently used stems had over 90% 10 years survival with this end-point, but there were differences between the designs. The Corail (n=5456) was the most frequently used uncemented stem, and this design had a survival of 97% at 15 years. Male gender was associated with a 1.3 times increased risk of stem revision (95% CI 1.05-1.52). Age and diagnosis had no influence on the results in this study. Overall, we concluded that modern uncemented femoral stems performed well.

Moderate differences in survival between well-performing stems should be interpreted with caution since the differences may be caused by factors other than the femoral stem per se.