comparing Kaplan-Meier survivorship curves. The Cox multivariate proportional-hazards model was used to determine the prognostic factors associated with the time to aseptic revision or the appearance of stem radiolucencies.

**Results**

**Clinical Results**

The average duration of follow-up was 3.5 years (range, 2.2 to 6.2 years). Kaplan-Meier survivorship analysis demonstrated that the overall survival rate of the component at four years was 94.4% (95% confidence interval, 91% to 98%). The clinical results (the UCLA hip score, Harris hip score, and SF-12 scores) are summarized in Table III. Only two patients had a UCLA pain score of <7. In one patient, who had osteonecrosis and lymphoma, the pain was reduced but was not completely eliminated. The other patient was a candidate for revision because of femoral component loosening but was lost to follow-up. The average Harris hip score was 93.5 points (range, 41 to 100 points). Nine hips (one in a patient with Charnley class-A involvement, one in a patient with Charnley class-B involvement, and seven in patients with Charnley class-C involvement) had a Harris hip score of <70 points. An association was found between the Charnley class and the Harris hip scores. The average Harris hip score was 95.2 points (range, 61 to 100 points) for hips in patients with Charnley class-A involvement and 93.3 points (range, 66 to 100 points) for hips in patients with Charnley class-B involvement, and seven in patients with Charnley class-C involvement) had a Harris hip score of <70 points. An association was found between the Charnley class and the Harris hip scores. The average Harris hip score was 95.2 points (range, 61 to 100 points) for hips in patients with Charnley class-A involvement and 93.3 points (range, 66 to 100 points) for hips in patients with Charnley class-B involvement (p = 0.008). The average Harris hip score for patients with Charnley class-C involvement was 80.7 points (range, 41 to 100 points), which was inferior to that for both patients with Charnley class-A and those with class-B involvement (p = 0.001). Postoperatively, the average scores (and standard deviation) on the SF-12 (50.01 ± 9.69 for the physical component and 53.10 ± 9.40 for the mental component) did not differ significantly from those of the general population of the United States matched for age. The range of motion improved from an average of 85.5° (range, 5° to 150°) of flexion, 30.5° (range, 0° to 90°) of abduction-adduction measured in extension, and 18.5° (range, 0° to 85°) in rotation arc measured in extension to an average of 122.0° (range, 55° to 170°), 69.8° (range, 25° to 130°), and 73.7° (range, 10° to 125°), respectively.

**Limb-Length Discrepancy**

Seventy-eight patients had a limb-length discrepancy preoperatively. The discrepancy was <1 cm in fifty-three patients, 1 to 2 cm in sixteen patients, 2 to 3 cm in eight patients, and >3 cm in one patient. Postoperatively, only twenty-five patients had a limb-length discrepancy: twenty-two had a discrepancy of <1 cm and three had a discrepancy of 1 to 2 cm, but all discrepancies were less than the preoperative measurement.

**Radiographic Results**

**Heterotopic Ossification**

One hundred and six hips (36% of the male patients and 12% of the female patients) had some heterotopic bone. The average UCLA pain score for this group was 9.4 points (range, 2 to 10 points), which was not significantly different from that for the rest of the patients. Brooker class-III or IV heterotopic

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**Fig. E-1**

A graph of the distribution of the component sizes by gender highlights the preponderance of smaller component sizes in female patients. The median size of the components was 42 mm in female patients and 48 mm in male patients. This difference affords a nearly 35% increased surface area for cement fixation in the larger size.