

**Western Orthopaedic Association  
1998 Abstract Form  
General Scientific Program**

Do not include the name of author(s), institutions or specific manufacturers

LIMIT: Not more than 150 words -- no graphs, charts or photographs

Abstract must fit within the space below, typed, single-spaced (12 point font)

DEADLINE: **NOVEMBER 15, 1997**

**Total Knee Arthroplasty Using the S-ROM Mobile-Bearing Hinge Total Knee System**

A retrospective clinical and radiographic review was performed on 15 patients receiving 16 S-ROM™ mobile-bearing hinge total knee prostheses who were evaluated with at least two year follow-up (average: 47 months; range: 27 to 71 months). This prosthesis is characterized by a mobile-bearing tibial-femoral articulation and the capacity for modular intramedullary sleeves and stems. These characteristics reduce deleterious torsional stresses and facilitate load sharing and load transfer. Additionally, the modularity of the intramedullary components facilitates metaphyseal/diaphyseal fit and fill in situations of bone loss and/or poor bone quality. Indications for use of this prosthesis included severe ligamentous instability and/or marked bone loss.

The average patient age was 63 years (33 to 83 years). There were 15 revision arthroplasties and 1 primary arthroplasty. Clinical and radiographic evaluations were performed on all patients. Twelve patients (13 knees) had sufficient data to perform a battery of detailed knee pain/function scores. Three patients had insufficient data for scoring. One was lost to follow-up. Another refused follow-up, but knee function was reported as good at 39 months post-operation and radiographs were made available to us for analysis. The final patient did well until he developed a recurrent infection at 27 months post-operation and underwent resection arthroplasty.

Modified Hospital for Special Surgery (HSS) scores showed notable improvement in pain/motion/stability (33.6 pre-op vs. 76.5 post-op;  $p < 0.0001$ ) and function (29.2 pre-op vs. 43.5 post-op;  $p = 0.11$ ). When a patient with a traumatically ruptured patellar tendon was excluded, the probability of the latter comparison (HSS function score) improved ( $p < 0.01$ ). Similar improvements were demonstrated by original (non-modified) HSS scores (46.3 pre-op vs. 70.8 post-op;  $p < 0.0001$ ) and Harvard knee scores (33.1 pre-op vs. 68.8 post-op;  $p < 0.0001$ ). Using Ewald's method of roentgenographic analysis, there was no evidence of loosening, and complete bony apposition was seen at all interfaces of tibial plateau components and all tibial and femoral intramedullary sleeves and stems. A localized lucency, which progressed 2mm, was seen beneath the anterior femoral flange of one knee. However, the lucency did not progress further and the patient remained asymptomatic.

In view of these data showing notable clinical improvement and radiographic evidence of bone maintenance and apposition, a high percentage of satisfactory results can be achieved with the S-ROM mobile-bearing hinge knee prosthesis.

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- Original of the information sheet and Disclosure Statement
- Original Abstract, plus six (6) copies
- Original Abstract on 3.5" MS Word 6.0 compatible disk  
(may be submitted via e-mail)

**Western Orthopaedic Association  
1834 First Street Ste 3  
Napa CA 94559-2353  
ph: 707/259-9481  
e-mail: woa@ix.netcom.com**