INTRODUCTION:
Long-term experience with endoprostheses implanted after segmental bone resections has led to better understanding of the natural history of endoprosthetic reconstruction and to improvements in the management of problems unique to these implants.

While wear or failure of polyethylene bushings is a recognized complication of rotating hinge prostheses, a few patients have vague knee complaints which mimic internal derangement of the knee. We present seven cases where dense, fibro-collagenous tissue was found interposed between the rotating components of rotating-hinge prosthesis, forming what we have termed a "pseudomeniscus".

METHODS:
The Modular Reconstruction System ("MRS") by Howmedica (Rutherford, NJ) was used for all patients. All prothetic stems were cemented. Details of surgical technique have been previously described. All patients undergoing repeat surgical procedures after the index operation were identified by review of surgical databases.

Patients whose findings were consistent with "pseudomeniscus" formation were identified and their clinical and histological findings are summarized.

CLINICAL FINDINGS:
All patients complained of activity related knee pain. Three patients complained of the knee "giving way". Three patients also reported specific difficulty with knee flexion or extension. Four patients had flexion contractures varying from 10-35 degrees. Only one patient had a significant effusion. Plain radiographs demonstrated no evidence of femoral or tibial aseptic loosening. Stress views, performed in three patients, showed slightly increased varus-valgus instability. Bone scans, when performed, were non-specific.

HISTOLOGICAL ANALYSIS:
Typical findings consisted of dense fibro-collagenous tissue with minimal chronic reactive and/or degenerative changes. Two specimens also demonstrated foreign body reactions with giant cells and/or rare granulomas. Capsular specimens typically showed marked fibrosis.

RESULTS:
During the period of 1988 to 2002, 114 distal femoral and proximal tibia endoprosthetic reconstructions were performed by the same surgical team. Six patients (5 %) underwent seven procedures for "pseudomeniscus" formation. One patient had a proximal tibia prosthesis; the remainder (5) had distal femur prostheses.

The mean interval from implantation to the reported procedure was 55 months (range 19 – 93 months). The average post-operative follow up was 44 months (range 20 – 71 months). There were no post-operative complications.

One patient, whose symptoms resolved after surgery, had recurrent symptoms approximately six months later and underwent a repeat excision.

All patients had resolution of symptoms and regained full extension at an average of 4.8 months (range 2.5 – 7 months).

CONCLUSIONS:
• Pseudomeniscus formation may occur between rotating surfaces. It represents an unusual but correctable cause of knee pain with a rotating-hinge knee endoprostheses.
• This complication is likely inherent to the design of the mechanism.
• The incidence is approximately 5%. Typical findings include pain and "giving way" without an effusion.
• The key to diagnosis is suspicion of the entity and surgical exploration.