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**ABSTRACT TITLE:** Double level osteotomy for severe genu varum: an alternative to Total Knee Arthroplasty

### **BACKGROUND**

We present a case in which a patient with 24 degrees of varus angulation and complete loss of medial joint space with lateral subluxation of the tibia underwent a distal femoral opening osteotomy in concomitance with a medial closing wedge tibial osteotomy to preserve the joint line. A systematic review of the literature was also performed to assess the outcomes of this procedure, as it is an uncommon approach to osteoarthritis management.

### **METHODS**

Prisma guidelines were followed to perform a systematic review of the literature. Two independent researchers searched Pubmed for articles in which the title included the keywords of interest. Only articles written in English which involved patients greater than 19 years old were included. A comprehensive list of studies which met our inclusion criteria was retrieved and reviewed.

### **RESULTS**

We report our surgical technique and outcomes, as well as a meta-analysis of the current literature.

### **CONCLUSIONS**

The results of our study suggest that double level osteotomy is a valuable procedure for joint preservation in patients with large varus deformity. This is an uncommon technique to preserve joint line anatomy and avoid joint obliquity in young and active patients who have no bone wear or instability and therefore are not yet candidates for total knee arthroplasty.