



Title

**NORMAL AXIAL ALIGNMENT OF THE LOWER EXTREMITY
AND LOAD-BEARING DISTRIBUTION AT THE KNEE**

Authors

Hsu RWW, Himeno S, Coventry MB, Chao EYS

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Purpose/Premise

This paper analyzes the geometry of the knee joint to assess gender and age differences.

Material and Methods

Full-length, weight-bearing radiographs of the lower extremity were used to analyze the geometry of the knee joint in a series of 120 normal subjects (60 male and 60 female). The subjects were divided into two age groups: 25-40 years and 41-60 years. Anatomic and biomechanical factors were calculated using a specially designed computer program.

Outcomes

A gender difference in Q-angle of 3.7° was noted in the younger group and 2.7° in the older group. In addition, the female subjects had a higher peak joint pressure.

Conclusion/Recommendation

The authors suggest that the greater Q-angle in females may correlate to the higher incidence of valgus deformity and patellar pain in females. They also suggest that these results can provide a more definitive database for research and clinical applications.

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