

عنوان مقاله:

Comparison of Double and Single Leg Weight-Bearing Radiography in Determining Knee Alignment

محل انتشار:

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خلاصه مقاله:

Background: Knee malalignment is an important modifiable cause of osteoarthritis (OA). Surgical therapeutic procedures depend on proper knee alignment assessment. The purpose of this study was to compare knee alignment parameters between double and single leg weight-bearing radiographs and to evaluate the reproducibility of inter- and intra-observer measurements. Methods: One hundred eight patients (59 male and 49 female) with knee deformity visited at Kerman Knee Clinic were selected. Full limb anteroposterior (AP) Radiographs were taken for each participant in double and single leg weight-bearing positions. Hip-Knee-Ankle Angle (HKAA), Medial-Proximal-Tibial Angle (MPTA), Lateral-Distal-Femoral Angle (LDFA) and Joint-Line-Convergence Angle (JLCA) measured. Images stored on PC were examined by three observers to assess inter and intra observer reproducibility. Data analysis was done by SPSS software. Results: The mean age of patients was 48.4 (± 6.84) years, mean BMI was 26.55 (± 1.94) Kg/m². The mean HKAA and JLCA were significantly different between double and single leg weight-bearing radiographs. Intraclass correlation coefficient (ICC) test showed high (0.99) inter-reproducibility between three observers in all cases, except one (ICC=0.92). Intra-observer reproducibility indicated a strong correlation between the observer's measurements at different times (ICC > 0.99). Conclusion: HKAA and JLCA were affected by the patient's position. Observer and time interval had no effect on either of HKAA, MPTA, LDFA, and JLCA. Also the measurement of knee alignment parameters was not dependent on observer's experience. In conclusion single leg .weight-bearing radiography is more representative of knee alignment and is inter and intra-observer reproducible

کلمات کلیدی:

Knee alignment, Osteoarthritis, Radiography, Reliability

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