

特別講演

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Non Image Based Knee Navigation with Inclusion of Gap and Soft Tissue Balancing Using a Mobile Bearing Total Knee System

Rolf K. Miehke

(St. Josef-Stift, Sendenhorst)

Objective

A consecutive series of the first 125 implantations of a new mobile bearing knee design (e.motion FP knee) was followed. The OrthoPilot system allows not only navigation of the resection planes but also determination of extension and flexion gaps.

Results

The follow-up period was 13.4 months \pm 4.1 with a maximum of 24 and a minimum of 7 months. Diagnoses were 66 % osteoarthritis (OA) and 34 % inflammatory joint diseases (IJD).

The mechanical axis was corrected to an average of 0° with a maximum of valgus deformity of 6° in OA and 8° in IJD and a maximum of varus deviation of 6° in both groups. The KSS score was 99 points preoperatively and 156 points postoperatively. ROM ranged from 40° to 140° preoperatively and resulted in a range from 60° in a case of JCA to 135° postoperatively. 69 % of the cases had a postoperative ROM of more than 120° . The average postoperative range of motion was 117° . In 59 of the 125 cases navigation was used

for the implantation of the components. The results with respect to radiographically established alignment were rated excellent at $0^\circ \pm 3^\circ$ with respect to the mechanical. The results were classified as outliers from 5° of deviation from the optimum. Over-all alignment represented by the mechanical axis was excellent in 89.8 % and only 3.4 % of the results were unacceptable. With manual instrumentation an excellent result was achieved in only 71.2 % and 6.1 % outliers were registered.

Conclusion

The short term results using the e.motion knee system are promising. A majority of patients show excellent function with more than two thirds of the patients flexing their knees beyond 120° . Knee navigation clearly facilitated proper alignment of the components and only few outliers had to be observed. Therefore, the over-all results of the e.motion knee system, also including the use of a navigation system, favourably compare with the literature data.