Low incidence of complications in computer assisted total knee arthroplasty – a retrospective review of 1596 cases

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Introduction: Computer Assisted Total Knee Arthroplasty (CATKA) has proven benefits of achieving reproducible and accurate component alignment with outcomes comparable to conventional jig based TKR. Optical trackers are required for assessment of alignment and are fixed via bone pins. This technique does present its own unique complications including fracture and infection at the pin- sites. We report our experience of a single surgeon series performing CATKA.

Objectives: Assess incidence of complications associated with Computer Assisted Total Knee Arthroplasty.

Method: We collected data of all patients undergoing CATKA for the last 8 Years. Intra-operative and Post-operative records were reviewed retrospectively. All patients undergoing CATKA had surgery performed by a single surgeon. Data stored on the Navigation System was matched with patient identifiers.

Results: 1596 cases were performed by the senior author. Intraoperatively, there were 8 episodes of software failure of which 6 were successfully retrieved and 2 required a change to conventional jig based TKR. There were 4 broken drill bits when positioning the pins for data entry. 2 episodes of intraoperative malalignment of tibial and femoral navigation trackers requiring repositioning. Post-operatively there were 17 episodes of superficial pin site infections at the tibial pin-site managed conservatively with antibiotics. No patients with infection required reoperation or readmission. At 3 months post-op there was a single episode of a fractured tibia at the level of the tibial pin site, there were no femoral fractures.

Conclusion: Our experience of Computer Assisted Total Knee Arthroplasty demonstrates a complication rate of 1.5% related to the tibial tracker device. We believe that CATKA is a safe and effective method of performing Total Knee Replacements and careful placement of the tibial tracker pin can give low complication rates.

References