Joint Event
11th International Conference on
OSTEOPOROSIS, ARTHRITIS & MUSCULOSKELETAL DISORDERS
&
10th INTERNATIONAL CONFERENCE ON ARTHROPLASTY
December 04-05, 2017 | Madrid, Spain

Robotic arm assisted uni-compartmental knee replacement - The learning curve

Cathleen J O'Neill[1] and **Stephen A Brennan**[2]
[1]Cork University Hospital, Ireland
[2]Holy Spirit Northside Hospital, Australia

Introduction: Robotic technology is increasingly being employed in the orthopaedic operating theatre. The adoption of this new technology will have a significant impact on patients, surgeons and hospital resources. As with the advent of any new surgical technology, it is imperative that robotics is introduced in a responsible fashion and that patient safety and outcome is not compromised during the learning process. We describe our initial MAKOplasty experience.

Methods: Data was collected prospectively on the combined first 50 cases performed by 5 surgeons. Twenty-nine males and 21 females with a mean age of 63years (range 52-82) were analyzed. Times were recorded pertaining to set-up, surgical procedure, burring, tourniquet use and total theatre usage. Wound length and estimated blood loss were also recorded. Intra-operative surgical difficulties along with post-operative complications and length of stay were recorded. Pre- and post-operative Oxford scores were compared using a paired student's t- test.

Results: The set-up time averaged 36 mins and operative ("skin to skin") time 101 mins. The total theatre utilization was 143 mins for single and 255 mins for bilateral cases. The mean burr time was 18 mins and the mean tourniquet time 90 mins. Wound length was 106 mm and mean estimated blood loss 46 ml. Mean length of hospital stay was 1.4 days for single and 2.4 days for bilateral cases. The mean Oxford score improved from 24.5 pre-operatively to 38.3 post-operatively $p<0.0001$. No robotic procedures were abandoned. There was one deep venous thrombosis and no deep infections.

Conclusion: Our data confirms the safe introduction of robotic technology. No trend was observed in terms of reduction in operative times. This may indicate that the plateau for institutional learning has not yet been reached. Further analysis of individual surgeon learning curves may show a reduction in operative times as case load increases. No serious adverse events were recorded.

Recent Publications

1. Fives C, O'Neill C J, Murphy R, Corrigan M A, O'Sullivan M J, Feeley L, Bennett M W, O'Connell F and Browne T J (2016) When pathological and radiological correlation is achieved, excision of fibroadenoma with lobular neoplasia on core biopsy is not warranted. Breast 30:125-129.
2. Brennan SA, O'Neill CJ, Tarazi M and Moran R (2013) Bilateral neck of femur fractures secondary to seizure Practical Neurology doi: 10.1136/practneurol-2013-000754.
3. Brennan S A, Devitt B M, O'Neill C J and Nicholson P (2012) Periprosthetic fractures in the resurfaced hip-A case report and review of the literature. Injury 44(2):263-265.

Biography

Cathleen J O'Neill is currently employed as a Senior House Officer. She is Core Trainee in Year 1 in the Department of Orthopaedics, Cork University Hospital, Cork, Ireland. She has completed her BSc Physics in 2004. She did her MSc Medical Physics in 2005. She did her MRCS in 2017 and currently working as Senior House Officer in Cork University Hospital in Ireland.

cathleen.oneill@gmail.com