

## CONFERENCE ABSTRACT

### Promoting smoother and faster recovery for elderly sustaining hip fractures - A dedicated integrated care unit

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**Introduction:** Elderly patients who sustained hip fractures are presented with complex surgical, medical, and rehabilitation needs, and a well-coordinated multidisciplinary team approach is imperative for the best outcome. The traditional model of care comprised of patients being wholly under the care of orthopaedic surgeons in an orthopaedic ward. There was a lack of coordination between different disciplines and a standardized approach to care which resulted in fragmentation and inefficiency.

**Practice change implemented, aim of change, targeted population:** A unique tripartite (Geriatric, Orthopaedics and Anaesthesia) Hip Fracture Unit (HFU) was set up in Khoo Teck Puat Hospital (KTPH) to improve the care of elderly with hip fractures. An integrated care pathway was developed to provide uniform care approach to patients with hip fractures. Essentially, the HFU strives towards achieving three main objectives: early surgery; optimizing patient's medical condition which includes early detection and management of complications; and early discharge.

**Stakeholders and timeline:** A multidisciplinary taskforce involving the geriatricians, orthopaedic surgeons, anaesthetists, nurses, case managers, and allied health professionals was set up during early 2014 to prepare for the setting up of the integrated hip unit. Following more than 6 months of training, the HFU officially opened on 3rd November 2014.

**Highlights:** KTPH is the first hospital in Singapore to propose an integrated hip unit managed by geriatricians, orthopaedic surgeons, anaesthetists with support from nurses and allied health professionals. The HFU has spearheaded many new practices in the integrated care hip pathway developed which include administering peripheral nerve blocks for all patients admitted into the unit together with oral analgesia by anaesthetists to optimize pain control, as well as starting patients on subcutaneous clexane up to 12 hours preoperatively as part of the venous thromboembolism prophylaxis protocol.

Of the 668 patients admitted into the HFU from January 2015 to October 2016, the HFU managed to achieve a low 30-day mortality of 1.00%. Almost half of our patients for surgical intervention (45%) managed to undergo surgery within 48 hours. Additionally, the HFU also

managed to achieve significantly lower medical complications among patients as compared to international data. The medium length of stay for our surgical patients was 12.5 days in 2015, and was reduced to 11.0 days in 2016.

**Sustainability and transferability:** There are continuous multiple quality improvement projects within the HFU, and regular surveillance and feedback to address the different needs of these fragile complex patients. The HFU was designed using existing resources and facilities with no extra hospital beds, and no extra medical, nursing and therapy staff, making it economically effective and sustainable for healthcare systems. It is therefore possible to replicate this model of care at other hospitals in Singapore and elsewhere with the integrated care hip pathway developed to improve outcomes frail elderly with hip fractures.

**Conclusions and discussions:** The implementation of a transdisciplinary approach in a geographically defined unit providing integrated, standardized care to patients with hip fractures facilitated planning of early surgery, reduced incidences of medical complications, and early discharge. We have demonstrated that hip fracture care could be provided in a more effective manner for the medically complex elderly inpatient group. The HFU is feasible in an acute hospital and can meet the needs of elderly with hip fractures using existing resources and facilities.

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**Keywords:** elderly; hip fractures; integrated unit

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