



## Service Priorities and Programmes Electronic Presentations

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**Submitting author:** Dr Yin Yee Kwong

**Post title:** Medical Officer, Queen Mary Hospital, NULL

### **New Hybrid Sedation Service for Paediatric Patients Undergoing Cross-sectional Imaging- Did It Improve Sedation Outcome?**

*Kwong YY, Lam WM, Ng HT, Lee KH*

*Department of Radiology, Queen Mary Hospital, Hong Kong*

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#### **Introduction**

Cross-sectional imaging, namely Computed Tomography (CT) and Magnetic Resonance Imaging (MRI), has become the most important imaging modality in paediatric patients. Due to the relatively long examination time and the possibility of image quality reduction by motion artefacts, effective sedation for paediatric patients is essential. In the past, sedation of paediatric patients was mainly performed by the attending radiologists +/- referring clinicians' involvement (96% success rate and 0.9% complication rate in previous audit study dated Jan 2008 to Dec 2010, done in Queen Mary Hospital). Since September 2012, the Department of Anaesthesiology provided regular sedation service for selected high-risk patients. These patients were screened by the referring clinical department and would be pre-assessed by the corresponding anaesthetist before the CT/MRI appointment

#### **Objectives**

We aim at evaluating the safety and effectiveness of this "hybrid sedation service" for paediatric patients undergoing CT and MRI in Queen Mary Hospital, Hong Kong.

#### **Methodology**

Consecutive paediatric patients who underwent sedation for CT or MRI in the period of March 2015 to Jan 2016 were evaluated prospectively. The sedation protocol, waiting time from date of request, machine occupying time, sedation outcome and presence of complication were recorded. For sedation performed by radiologists, the involvement of referring clinician for difficult cases was recorded.

#### **Result**

380 patients were included for final analysis (M: F= 204:176, mean age: 3.60+/-0.36, CT: MRI= 114:266). The Department of Anaesthesiology provided sedation for 74 patients, 306 patients were sedated by the radiologists. Overall 375 patients (98.7%) were successfully sedated. Success rates for CT and MRI were 98.2% and 98.9% respectively. Only 1 patient (0.26%) developed complication of vomiting. No patient experienced desaturation. An improvement is observed when compared to success

rate of 96% and complication rate of 0.9% from previous audit study. There was no statistically significant difference in mean waiting time whether sedation is performed by the anaesthetist or the radiologist. For patients undergoing MRI, difficult sedation cases performed by the radiologists (defined as requiring referring clinician involvement) had a longer mean machine occupying time than those sedated by the anaesthetists. (57.7mins vs 45.5mins, p-value 0.015) Conclusion The new hybrid sedation service delivers a higher success rate and a lower complication rate than our previous protocol. It potentially shortens machine occupying time without compromising waiting time for imaging service