

### **Continued Surgical Review: a Multidisciplinary Clinical Model for Quality Control and Mentoring**

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**Objective:** To present a new modality for continuous monitoring and improvement of surgical performance, based on clinical review of cases by a multidisciplinary team. To evaluate a novel, stage-based mentoring system for young consultants in congenital cardiac surgery.

**Methods:** A new activity was instituted where all procedures performed by three congenital cardiac surgeons were retrospectively reviewed every fortnight. Patient characteristics, diagnosis, surgical procedure and all Adverse Events (AEs) including near misses were presented and discussed for each procedure in a slide-show format. All entries were categorized in an ad hoc dataset as “mentored”, when surgeries were performed by the junior consultant, and “non-mentored” when performed by two senior surgeons. Mentoring consisted in case-selection, surgical assistance or both. Results were compared with multiple ANOVA analysis.

**Results:** Between Jan 1st 2010 and June 31st 2011, 38 meetings were held, with 100% coverage of the surgical activity. In 18 months, 222, 239 and 268 procedures (total 729) in the first, second and third semester, respectively, were reviewed. These included Central Cardiac Audit Database (CCAD)-eligible consecutive congenital cardiac operations (197, 215 and 213 operations, respectively) and related subsequent interventions (during same hospitalization). In the non-mentored activity the averaged incidence of AEs was 0.76/Op, 0.32/Op and 0.27/Op, respectively. In the mentored activity incidence of AEs was 0.39/Op, 0.25/Op and 1.15/Op, respectively. The incidence of near misses was 0.05/Op, 0.06/Op and 0.06/Op respectively, whereas mortality rates across the board were 1%, 2.8% and 2.3% respectively. The mentored activity had a significantly lower incidence of AEs than the non-mentored one in the first semester of 2010 (0.39/Op vs. 0.76/Op,  $p=0.001$ ) but a significant higher incidence in the first semester of 2011 (1.15/Op vs. 0.27/Op,  $p=0.001$ ). The activity has led to the preparation of two new sets of institutional guidelines, initiated two new clinical activities, and led to the adoption of different surgical techniques.

**Conclusions:** Quality monitoring in a clinical setting allows high degree of scrutiny of surgical performance and immediate interventions when required. This mentoring system allows a controlled integration of surgeons still in a learning curve with no significant impact to the unit’s level of performance.