NON-TECHNICAL SKILLS: REPEATED EXPOSURE TO SIMULATION

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INTRODUCTION: Critical incident reporting and observational studies have identified non-technical skills that are vital to successful anesthesia crisis management. Examples of such skills include task management, team working, situation awareness and decision making. These qualities are not necessarily acquired through clinical experience and may need to be specifically taught. This study uses a high fidelity patient simulator to assess the effect of repeated exposure to simulated anesthesia crises on the non-technical skills of anesthesia residents. No published studies have addressed this issue.

METHODS: After institutional ethics approval, 20 anesthesia residents were recruited. Each resident was randomized to participate as the primary anesthesiologist in the management of three different simulated anesthesia crises using a high fidelity patient simulator. After each session, videotaped footage was used to facilitate debriefing of their non-technical skills. The videotapes were later reviewed by two expert blinded independent assessors to rate each resident's non-technical skills, using a previously validated and reliable marking system.¹

RESULTS: A significant improvement in the non-technical skills of residents was demonstrated from their 1st (baseline) to 2nd session, and from their 1st (baseline) to 3rd session (both $p < 0.005$). However from their 2nd to 3rd session, no significant improvement was observed. Inter-rater reliability between assessors was acceptable (single rater ICC=0.53).

DISCUSSION: A single exposure to anesthesia crises using a high fidelity patient simulator can improve the non-technical skills of anesthesia residents. However, additional simulation sessions may confer little or no short term benefit.

REFERENCE: ¹ *Br J Anaesth* 2003; 90(5): 580-8.

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