

Team performance in paediatric cardiac surgery

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Observational studies have demonstrated that in paediatric cardiac surgery (PCS) less effective non-technical team performance results in more technical errors and more adverse events and increased postoperative morbidity. The aim of this session is to make cardiac anaesthesiologist familiar with key elements of human factor elements in the OR suite

We performed a longitudinal observation study in two phases in which two experienced human factor observers performed real-time observations of the PCS team from inception of anaesthesia to patient hand-over in the intensive care unit. Teamwork aspects were rated using four categories: leadership, situation awareness, decision making and teamwork and cooperation. NREs were defined as any event that is perceived to be unusual, out-of-the-ordinary or atypical. After every procedure team members were asked to fill in NREs they had observed. NREs were categorized as individual related, patient related, procedure related and external source related. Between the two observation periods two major events occurred: the introduction of the WHO Surgical Safety Checklist and a substantial increase in case load due to merging with another paediatric cardiac centre.

No correlations could be found for leadership, situation awareness, and teamwork and cooperation for all of the subteams on the one hand, and number of non-routine events on the other hand. However, there was a significant correlation for surgical decision making during cardio-pulmonary bypass period

and the number of non-routine events, indicating that, as the number of non-routine events during this phase increased, surgeons scored higher on decision making. Quality of teamwork for the team as a whole was unrelated to the major indicators of complexity, duration and patient outcome. Comparing the first set of observations with the second set of observations no significant differences were found in team performance, while the number of non-routine events significantly dropped.

After this session participants should have a better understanding

- of the elements of good team performance
- of the occurrence of non-routine effects, even in uncomplicated and successful surgery
- of the complexity and advantages of observational studies to identify latent failures, which may compromise the outcome

References

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