Better the devil you know?

This paper by ElBardissi and colleagues [1] applies the human factor analysis techniques to cardiac surgery. In the study, a trained observer watched 31 operations and noted disruptions to the smooth flow of the operation as technical errors and teamwork failures. The latter were further subclassified as surgeon—anaesthesiologist failures, surgeon—perfusionist failures and so forth. The authors have found strong correlation between technical errors and teamwork failures, and these were all reduced in teams composed of members who normally work together and are familiar with the operating surgeon, when compared with teams where the majority of members were not familiar with the surgeon.

The strengths of this paper are in its relative novelty of analysis and in its innovative application of human factor theory to this field. As efforts continue to improve further the already excellent results of heart surgery, it is natural that attention should be directed to human factors, and the possibility of improving results is a valid reason to venture further in exploring this field of study, which is still in its infancy. We have already shown that the outcome of heart operations can be affected by the recent on-table death of a preceding patient [2] and possibly by burnout, whereas a break from work such as a holiday is likely to be associated with better outcomes [3]. There is therefore little doubt that human factors, such as the surgeon’s state of mind at the time of surgery, can influence cardiac surgical outcomes, and the impact of another human factor, namely team familiarity, is a legitimate area for further study.

The authors have provided a useful tool which allows the assessment of the flow of an operative procedure. The main conclusion of the study is that familiarity within the surgical team reduces flow disruptions, but for this to translate into better outcomes requires a controlled, preferably randomised study comparing the outcomes of operations of familiar and unfamiliar teams. The issue of familiar versus unfamiliar teams is a fascinating one which has been addressed in aviation and there are advantages and disadvantages to both. The disadvantages of unfamiliar teams are clearly stated in the paper. The disadvantages of familiarity, however, include the perpetuation of suboptimal practice by the loss of challenge, the risk of teams becoming complacent and the slowing down of development and innovation.

Furthermore, the transfer of good techniques and practice between teams is hampered when operations are carried out exclusively or nearly so by established familiar teams. Much can be learnt in surgery by cross-fertilisation of ideas and techniques. These issues are important in the long run and it is hoped that further research by the authors and others will help elucidate the relative merits of the two approaches.

References


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