

ADVERSE EVENTS

Surgery



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Systems failure has been cited as a major contributory factor in medical adverse events, drug prescription and clinical handover in acute admissions. However, this approach is not yet widely used in surgery. A systems approach would encompass not only the technical skills of the operating surgeon and uncontrollable patient factors which are included in the current 'person approach' to surgery, but would also include non-technical skills, the working environment and the political and social system in which the operating team operate. The aim of this study was to identify, classify and rank the system and performance shaping factors present in the OR that may affect surgical performance, and develop a method of prospectively gathering data on systems-issues specific to surgery in the OR.

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System factors in the operating room

Cross sectional observational methods were used to gather examples of systems factors in the operating theatre during 42 complex colorectal and orthopaedic cases. A clinical observer with psychology training took field notes during cases. These were then coded by two human factors experts using the London Protocol.

There were 423 unique observations of systems factors suitable to be coded; 34% of observations related to team factors, 19% to task factors, 13% to each of organizational policies, individual factors and environmental factors, and 9% to patient factors. A clinical panel generated categories for this data and labelled them. In order of importance they were: (i) communication, (ii) protocol/ safety checks, (iii) distraction, (iv) training, (v) resources, (vi) instrument failure and (vii) policy.

This study indicates that there are a multitude of systems or external factors that can affect surgical performance. The next stage is to determine which systems factors have most impact on performance, and how systems factors interact with surgical skill in predicting patient outcomes.

Tool

Systems observation tool.

Publications

Wilkinson, G., Henrickson-Parker, S., Youngson, G., Paterson-Brown, S., & Yule, S. (*in preparation*). Systems factors in the operating room: a sociotechnical analysis.