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The Vanguard Study: human performance evaluation of UK National Organ Retrieval Service (NORS) teams utilising a single scrub nurse in thoraco-abdominal organ retrieval

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Introduction: The NORS review recommended a single scrub nurse to provide support simultaneously to abdominal and cardiothoracic teams in thoraco-abdominal retrieval. This model, although contentious, had been successfully employed by the Scottish Organ Retrieval Team. The current study reports the impact on individual and team performance as part of the wider Vanguard study, which piloted the single scrub practitioner role with five NORS teams, to determine whether this model could be extended UK-wide.

Methods: Participants comprised members of abdominal (n=56) and cardiothoracic (n=54) surgical teams attending thoraco-abdominal retrievals in the UK from end May to end December 2017. Data were collected by validated psychometric scales to assess teamwork and individual workload, anxiety, confidence, demands and coping resources. Additionally data were collected through open comments contained in response forms and quantitative data describing context (e.g. duration) and outcome of retrieval. Comparisons were made between retrievals using single scrub practitioner (Vanguard) and dual scrub practitioners (Standard).

Results: Abdominal and Cardiothoracic teams reported different responses. Vanguard configuration was associated with significantly higher anxiety for abdominal but not cardiothoracic teams. Perceived workload increased for abdominal teams during Vanguard but decreased for cardiothoracic teams (Figure 1). Scrub practitioners reported elevated anxiety and decreased confidence in retrievals using Vanguard configuration (Figure 2).

Discussion: This is the first large scale study examining human performance factors in organ retrieval in the UK. Despite successful use previously of the single scrub nurse in Scotland, this study shows a significant negative impact on abdominal teams in Vanguard configuration. As retrieval faces major developments, these data support the need to use human performance analysis as an essential part of successful development in organ retrieval practice. Alongside efforts to advance technological aspects of organ preservation and refine surgical techniques it is equally important to investigate the application of such advancements by individuals and teams.

Figure 1. Perceived Workload Comparison Results (unpaired t-test)

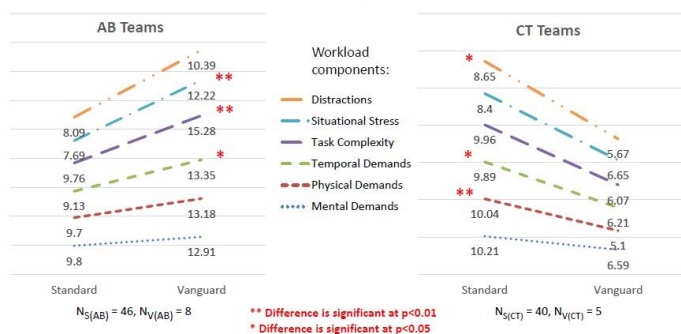


Figure 2. Mental Readiness Comparison Results (unpaired t-test)

