IMPACT OF AN ERGONOMIC INTERVENTION ON SIMULATED COLONOSCOPY PERFORMANCE

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Background: Endoscopists are at risk of musculoskeletal injury due to the repetitive strain of motions used during procedures. Additionally, appropriate ergonomic practice contributes to better performance in endoscopy. Despite this, gastroenterology trainees do not receive education about ergonomics. Furthermore, there is a lack of literature on effective methods to teach ergonomic principles and behaviours to trainees.

Aims: To determine the effectiveness of an educational intervention for novice endoscopists designed to teach proper ergonomic principles to use in performing colonoscopy.

Methods: Novice endoscopists (performed <50 previous colonoscopies) were enrolled in a simulation course in colonoscopy. The ergonomics teaching intervention consisted of the following: one hour didactic lecture; a video demonstrating ideal ergonomics during colonoscopy; and a self-reflection checklist on ergonomics in colonoscopy used after each simulated procedure. Participants were assessed at baseline (i.e. pre-test) and after the intervention (i.e. post-test) using the Rapid Upper Limb Assessment (RULA), an assessment tool of ergonomic behaviours. Higher scores on the RULA correspond to poorer ergonomic techniques.

Results: Sixteen residents completed the training intervention. The mean final scores based on the RULA for the pre-test was 6.31 (SD=0.70) and 5.31 (SD=1.58) for the post-test. All participants showed a significant decrease in their RULA scores (p<0.015).

Conclusions: A teaching intervention for instruction of ergonomic principles in colonoscopy, involving a video, lecture, and self-reflection tool was associated with improved performance among novices. Further work should be performed to determine the most effective means of teaching proper ergonomic technique to novice endoscopists, and to determine if this training translates into improved clinical performance.

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