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Investigating the current state of practice for reporting on surgeon’s learning and the learning curve in IDEAL studies of surgical innovation: A systematic review

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Introduction: Community learning is a key component for the progression of surgical innovation, which is itself crucial to advancing surgical practice. Assessment of learning curve’s (LCs) allow rigorous evaluation of new surgical procedures/devices and their introduction into clinical practice. The Idea–Development–Exploration–Assessment–Long-term (IDEAL) framework provides recommendations for the evaluation of new surgical procedures and devices throughout the stages of innovation. This study aimed to identify the current reporting practice of LCs in IDEAL studies.

Methods: A systematic review was conducted to identify author-reported IDEAL/IDEAL-D studies of any IDEAL stage and surgical specialty. Included were primary studies citing any of 10 key IDEAL papers. Data were extracted including information relating to surgeons’ experience and training, support and performance monitoring, and methods for measuring and assessing the LC.

Results: Searches yielded 1411 publications, of which 59 studies met the eligibility criteria. Some 31/59 (53%) studies reported information on the LC, however, only 3 (5%) studies measured or reported on LC in detail. These 3 papers included statistical methods (cumulative sum control charts, Shewhart control charts and multivariate analysis). Some 21/59 (36%) studies reported training for surgeons and 16 (27%) reported support or performance monitoring.

Conclusion: Reporting of the LC or factors influencing LC such as training, was found to be poor in the included studies. Development of more
detailed guidance for measuring and reporting the LC in future studies is recommended to facilitate robust evaluation of new surgical procedures and devices.

Investigating the rate of successful day case discharges for patients who received fluid volumes more than 2500 mls in 24 hours (p = 0.045). Also, all 4 patients who had pneumonia received fluid volumes exceeding 2500mls in the days preceding the pneumonia. In addition, the length of hospital stay was 15 days and 9 days in those with fluids volumes greater than 2500mls and less than 2500mls in 24 hours, respectively.

Conclusion: Majority of the Foundation year doctors in MTH are not aware of post-operative fluid guidelines which resulted in errors in the prescriptions made. This is associated with pneumonia, ileus and prolonged length of hospital stay.

Random-effects meta-analysis was performed for all-cause 5-year (main outcome) and 3-year survival, and disease-specific 5-year and 3-year survival. Meta-regression was performed for the 5-year and 3-year survival outcomes with adjustment for study (region, design, case matching), hospital (centre volume), patient (ASA grade, gender, age), and tumor (stage, neoadjuvant therapy, subtype (i.e. ampullary, distal...