

## Improving Peri-Operative Care in Emergency Laparotomy: Identifying High-Risk Patients and the Need for Routine NELA Scores

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### Abstract:

**Background:** The National Emergency Laparotomy Audit (NELA) aims to identify high-risk patients undergoing emergency laparotomy and to guide appropriate peri-operative care. Accurate documentation of NELA scores supports risk stratification and optimised management, including consultant involvement and timely postoperative critical care [1-3].

**Methods:** A retrospective review was conducted at Tweed Valley Hospital over an 18-month period. All emergency laparotomies were included. Data collected comprised ASA classification, pre-operative CT imaging, consultant anaesthetic and surgical involvement, postoperative ICU admission, mortality, need for re-look laparotomy, length of stay, and complications (including interventional radiology procedures, infection, and ileus). High-risk patients were defined as ASA  $\geq 3$ . Outcomes were compared between high-risk and low-risk groups. Documentation of NELA scores was also assessed.

**Results:** Forty-eight emergency laparotomy cases were identified: 33 high risk (ASA  $\geq 3$ ) and 15 low risk. High-risk patients more frequently required postoperative ICU admission (45.5% vs 6.7%) and had higher rates of mortality (6.1% vs 0%), re-look laparotomy (15.2% vs 6.7%), and complications (21.1% vs 13.3%). Average length of stay was longer in the high-risk group (16 days [range 3–57] vs 9 days [4–28]). Consultant anaesthetist and surgeon involvement and pre-operative CT rates were high in both groups. Notably, no patient had a documented pre-operative NELA score during the study period.

**Conclusion:** Despite a high prevalence of elevated-risk patients, NELA scores were not documented for any emergency laparotomy. Routine completion of NELA assessment may improve peri-operative planning, including timely ICU admission and consultant presence, and has the potential to reduce adverse outcomes such as complications, re-look procedures, length of stay, and mortality. Strengthening NELA utilisation should be a priority to enhance care for high-risk emergency surgical patients.