



AB169. The value of chest radiography in the acute surgical assessment unit: a single-centre retrospective audit

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Background: Chest radiography can be an important diagnostic aid in the acute surgical assessment unit (ASAU), however evidence-based guidelines advocate against their use in patients without appropriate clinical indications. Unnecessary chest X-rays (CXRs) are associated with undue costs and radiation exposure to patients. This study aimed to investigate the uptake, use and yield of chest X-rays in the acute surgical patient within a Model 3 general hospital. **Methods:** A single-centre retrospective audit was conducted of all patients admitted to the ASAU over a 12-day period. Demographics, radiology request forms and imaging results were obtained through electronic patient records

on the HSE National Integrated Medical Imaging System (NIMIS). Recorded CXR indications were compared to the guidelines published by the Royal College of Radiologists (RCR).

Results: A total of 207 patients presented to the ASAU during the 12-day period; median age was 45 (IQR: 24–65), and 54.6% of patients were male. A total of 52 (25.1%) CXRs were performed, of which 28 (53.8%) were assessed as indicated, and 24 (46.2%) as not indicated, in accordance with RCR guidelines. Of the indicated CXR group, 7 (25%) reports had a diagnostic yield. Within the not indicated CXR group, only 1 (4.2%) of the CXRs yielded a significant radiological finding, which was incidental and unrelated to presentation.

Conclusions: Nearly half of the chest X-rays performed on acute surgical patients did not comply with published RCR guidelines, and cost €2,040 over this short 12-day period. Avoiding unjustifiable chest radiography would reduce needless radiation exposure (0.1 mSv/CXR), diagnostic delays, and hospital costs (€85/CXR).

Keywords: Acute; chest X-ray; cost-effectiveness; patient safety

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