

Who Operates After Hours? An Audit of the Three Highest Volume Intra-Abdominal Emergency Procedures in a Regional Australian Hospital

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Abstract:

Purpose/Introduction: Emergency operating patterns affect theatre access, staffing, and resource allocation, particularly in regional centres. We audited the three highest volume intra-abdominal emergency procedures at Rockhampton Hospital to describe timing and assess whether after-hours cases differed in duration or urgency.

Methodology: A retrospective audit was performed of all emergency operations at Rockhampton Hospital from 1/11/24 to 1/11/25. The three highest volume intra-abdominal emergency procedures were caesarean section (n=259), appendicectomy (n=233), and cholecystectomy (n=115). Multivariate linear regression assessed associations between after-hours status (6 pm to 8 am) and procedure duration, adjusted for age and priority category. Logistic regression assessed whether after-hours cases were assigned more urgent priority categories.

Results: The frequencies of caesarean sections, appendicectomies, and cholecystectomies occurring after-hours were 65%, 29%, and 17% respectively. Caesarean sections showed the greatest after-hours burden, with 36% commencing between 6 pm and midnight. Appendicectomies and cholecystectomies were concentrated in daytime hours, both peaking between 9 am and midday (27% each). After-hours caesarean sections were shorter than in-hours cases by 7.19 minutes (95% CI 2.25–12.13, $p=0.004$) and were more likely to receive a more urgent priority category (OR 2.66, 95% CI 1.55–4.62, $p<0.001$). After-hours appendicectomies were also shorter by 14.12 minutes (95% CI 6.55–21.69, $p<0.001$). No significant duration difference was seen for cholecystectomies ($p=0.105$).

Conclusion/s: Caesarean section imposes the greatest after-hours theatre demand among the commonest intra-abdominal emergency procedures in our regional centre, whereas appendicectomy and cholecystectomy are predominantly daytime operations. These findings may inform theatre planning, rostering and prioritisation.