BACKGROUND
This study examines the accuracy of after hours emergency radiology reporting at a level 1 trauma centre. The first year registrars are required to pass part one exams (anatomy and physics) prior to commencing on-call reporting and trauma is a significant proportion of the workload. The aim of this study was to determine discrepancy rates between radiology trainees’ preliminary CT reports and amended consultant reports for after-hours CT scans performed in 2014 and 2015. The first 1253 studies were classified as Major or Minor discrepancy. In this series, there were 56 Major (0.3%), and 1179 Minor (6.5%) discrepancies. Of the 56 major discrepancies, there were 12 (1.9%) in trauma and 44 (7.3%) in non-trauma studies.

RESULTS
17,948 after-hours CT scans performed in 2014 and 2015 preliminary reports required amendments (total discrepancy rate of 6.9%). Of the 1253, there were 630 trauma and 605 non-trauma studies. The amended reports were classified as Major or Minor discrepancy. In this series, there were 56 Major (0.3%), and 1179 Minor (6.5%) discrepancies. Of the 56 major discrepancies, there were 12 (1.9%) in trauma and 44 (7.3%) in non-trauma studies.

Review of patient medical records did not indicate any adverse outcomes due to the discrepancy.

No significant association was discovered for Time of Report (p=0.811). The association between Year Level of Trainee and major discrepancy was not statistically significant. Analysis of the variable Scan Type revealed more minor discrepancies in reports of Trauma CTs compared to Non-Trauma studies (p=0.0001). The low discrepancy rate amongst Year 1 trainees is attributable to the closer supervision during their initial on call.

DISCUSSION
Discrepancy rates at the level 1 trauma centre studied are comparable to a recent meta-analysis of adult CT interpretation discrepancy rates, which reported a pooled total discrepancy rate of 7.7% (95% CI: 5.6%, 10.3%) and a major discrepancy rate of 2.4% (95% CI: 1.7%, 3.2%) worldwide. Trauma scans - more frequently encountered during on-call reporting hours - were more accurately reported than non-trauma scans overall, and this finding emphasizes the importance of incorporating rotations to non-trauma facilities into departmental training at a trauma centre. As expected, discrepancy rates declined with increasing registrar experience.

CONCLUSION
The discrepancy rates between after-hours CT registrar reports and subsequent consultant review are marginally lower at the institution studied as compared to international standards (6.9% for this series vs. 7.7% worldwide). Overall, the vast majority of preliminary reports by trainees at this single institution for after hours CT studies are accurate, with no apparent morbidity or mortality resulting from Major discrepancies. There remains room for improvement however, particularly with regards to lowering the major discrepancy rates for non-trauma CT reports, and for those studies reported by more junior trainees.