

Scoring of Peri-Operative Radiographs in Trauma Surgery (SPORTS). An Important Quality Assurance Tool and Call for National Standards on Scoring

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Background

Reviewing the quality of fracture reduction and fixation in trauma surgery is a valuable learning experience and forms an important part of clinical governance. We have developed a new departmental process for quality control of patients undergoing orthopaedic trauma surgery requiring peri-operative check x-rays.

Aims

1. To introduce an x-ray review system allowing continued prospective analysis of fixation quality in trauma surgery.
2. To use this as an education tool and provide constructive feedback to trainees.

Methods

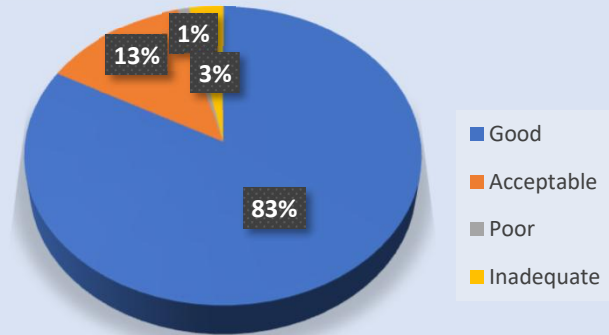
In March 2020 we augmented our trauma database (Access, Microsoft) enabling all cases requiring peri-operative radiographs to be automatically added to a review list. Each patients' radiographs were then scored by a panel of senior orthopaedic trauma surgeons during the daily trauma meeting assessing the radiographic quality of fixation. X-rays were rated as "Good", "Acceptable", "Poor" or "Inadequate". Additional comments could be added. Data prospectively collated within the database was analysed. A second QI cycle identified the named surgeon for each case allowing surgeon specific constructive feedback.

Example of constructive feedback comment:

Distal radius fracture volar plate fixation - Plate positioning could be improved. This may avoid impingement at the DRUJ. Scorers suggested monitoring the DRUJ carefully during follow up and consider removal of metalwork if symptomatic.

Results

All trauma cases requiring peri-operative radiographs (March 2020 - March 2021) were included with a total of 1,154 patients. The X-ray review rate was 98% and the mean time to X-ray review was 3 days. Interestingly there was a 64% reduction in "poor" scores when comparing the first and second 6 months of this study.



Conclusions

This systematic review process for post-operative radiographs allows early feedback, identification of potential problems, encourages discussions of useful learning points and real time teaching. An annual report of an individual surgeon's scores can be produced, providing valuable feedback for reflection and appraisal.

Implications

This system allows continued prospective analysis of fixation quality in trauma surgery. We would support the development of national standards on reviewing trauma fixation and standardisation of scoring for common trauma procedures.