

Antibiotic prophylaxis in a new orthoplastic limb trauma service for Ireland:

Deviation from the BOA/BAPRAS standards for open fractures in a Major Trauma Centre

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Introduction

The orthoplastic approach to open limb trauma is predicated by its ability to reduce deep infection rates. Appropriate antibiotic treatment at all points along the pathway of treating these complex injuries is imperative, and minimises the possibility of antibiotic resistance. This study aims to quantify our compliance with the BOA/BAPRAS standards for antibiotic use, as a revised system for trauma evolves nationally^{1,2}.

Methods

A retrospective analysis of a prospectively collated database of all open lower limb fractures attending MMUH from January 2023 to March 2024 inclusive was performed. We examined the patterns of antibiotic administration under the following headings: "Pre-hospital", "Initial fracture debridement", "Definitive reconstruction". We compared antibiotics administered with the BOA/BAPRAS guideline in each case¹.

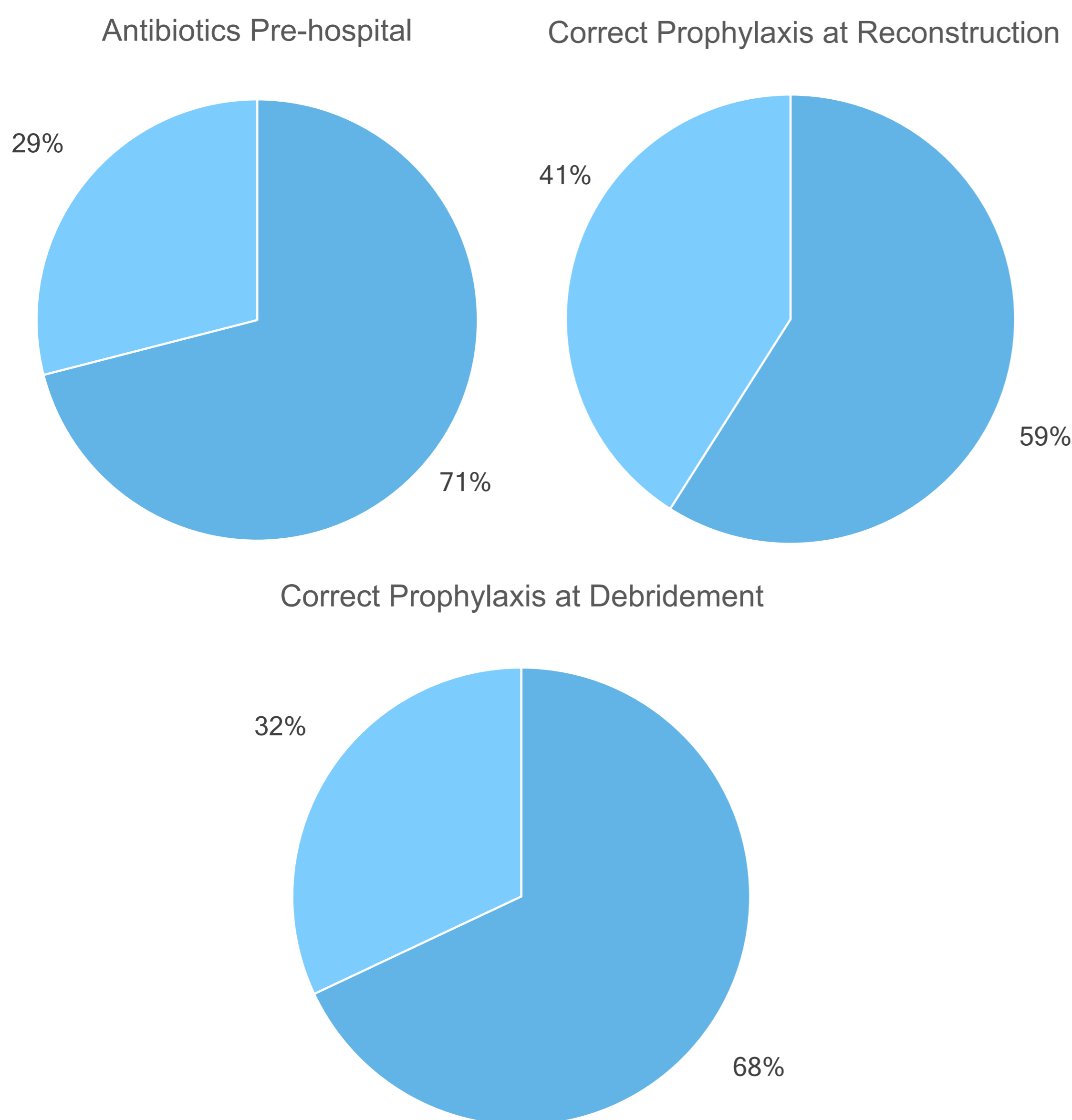


Figure 1. Percentage of correct antibiotic prophylaxis pre-hospital, at initial debridement and at definitive reconstruction

Results

34 open lower limb fractures were managed during the period examined. In 29% of cases there was documentation of the correct antibiotic being given pre-hospital. The BOA/BAPRAS standard for initial debridement was not followed in 68% of cases. At definitive reconstruction, the recommended antibiotic was used in 41%. Overall there were 6 different antibiotic combinations used at debridement and 8 at reconstruction across the 34 cases.

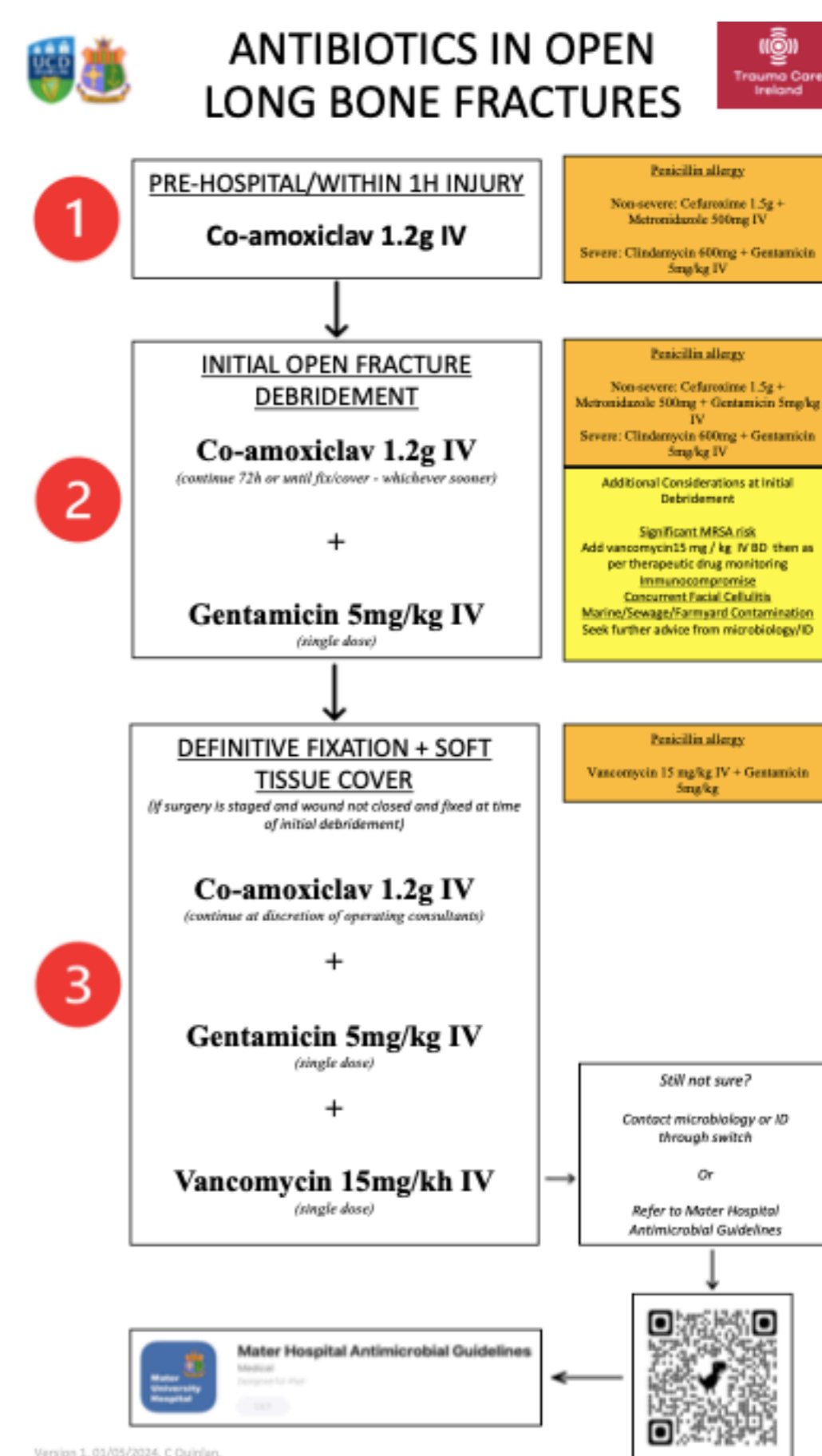


Figure 2. Information poster displayed in clinical areas

Discussion

There was a lack of awareness of the antibiotic guidance contained in the BOA/BAPRAS standards among orthopaedic, plastic surgery, and anaesthesiology team members. Our data demonstrated the need for local antimicrobial guidelines for open fractures.

Following presentation of this data at our orthoplastic MDT meeting agreed local guidelines have been published in conjunction with our microbiology and infectious diseases colleagues. This is published on our hospital's intranet and information posters have been displayed in clinical areas. We are in the process of re-auditing following this intervention.

References

1. Nanchahal J, Nayagam S, Khan U, et al (2009) Standards for the management of open fractures of the lower limb. 1–97
2. Department of Health (2018). 'A Trauma System for Ireland: Report of the Trauma Steering Group'.

