

# A Retrospective Analysis of Antibiotic Treatment Duration for Bone and Joint Infections in Saint James's Hospital

Jane Fagan, Eamonn Faller<sup>1</sup>, Mary Kelly<sup>2</sup>, Roisin O'Connor<sup>2</sup>, Claire Williamson<sup>2</sup>, Concepta Merry<sup>1</sup>  
Department of Infectious Disease, St James's Hospital, Dublin<sup>2</sup>  
Department of Pharmacy, St James's Hospital, Dublin<sup>2</sup>

## Introduction

Bone and joint infections are associated with high rates of morbidity and are often subject to long durations of both IV or PO antimicrobials.

Although there is some debate over both the optimal duration and route of antibiotics in the treatment of such infections, IDSA guidelines on the management of vertebral osteomyelitis and IWGDF guidelines on the management of diabetic foot osteomyelitis both suggest a treatment duration of no longer than six weeks.<sup>[1][2]</sup>

## Aims

We aimed to analyse durations of both IV and PO antibiotic therapy for native bone and joint infections in our institution and to compare these to available international guidelines. The relevant patient cohort were those with an acute native tissue bone or joint infection in whom curative surgical management has not been performed.

Potential benefits from an audit of this nature include service evaluation and improvements in antimicrobial stewardship with potential for reduction in antimicrobial prescribing and resultant patient welfare and cost benefits.

## Methods

We requested a list of all patients in our institution who were prescribed antibiotics for the indication 'Bone/joint infection' during the period of 1<sup>st</sup> October 2021 to 28<sup>th</sup> February 2022. We then conducted a chart review of these 140 patients in order to delineate the prespecified cohort.

In doing so we excluded patients with insufficient evidence of bone and joint infection, those with hardware-associated infections, those who underwent curative surgical management, those being treated for acute-on-chronic osteomyelitis and those who died prior to completing their antimicrobial course.

We then examined the patient record to assess durations of antimicrobial therapy used as well as durations of IV and PO components of each.

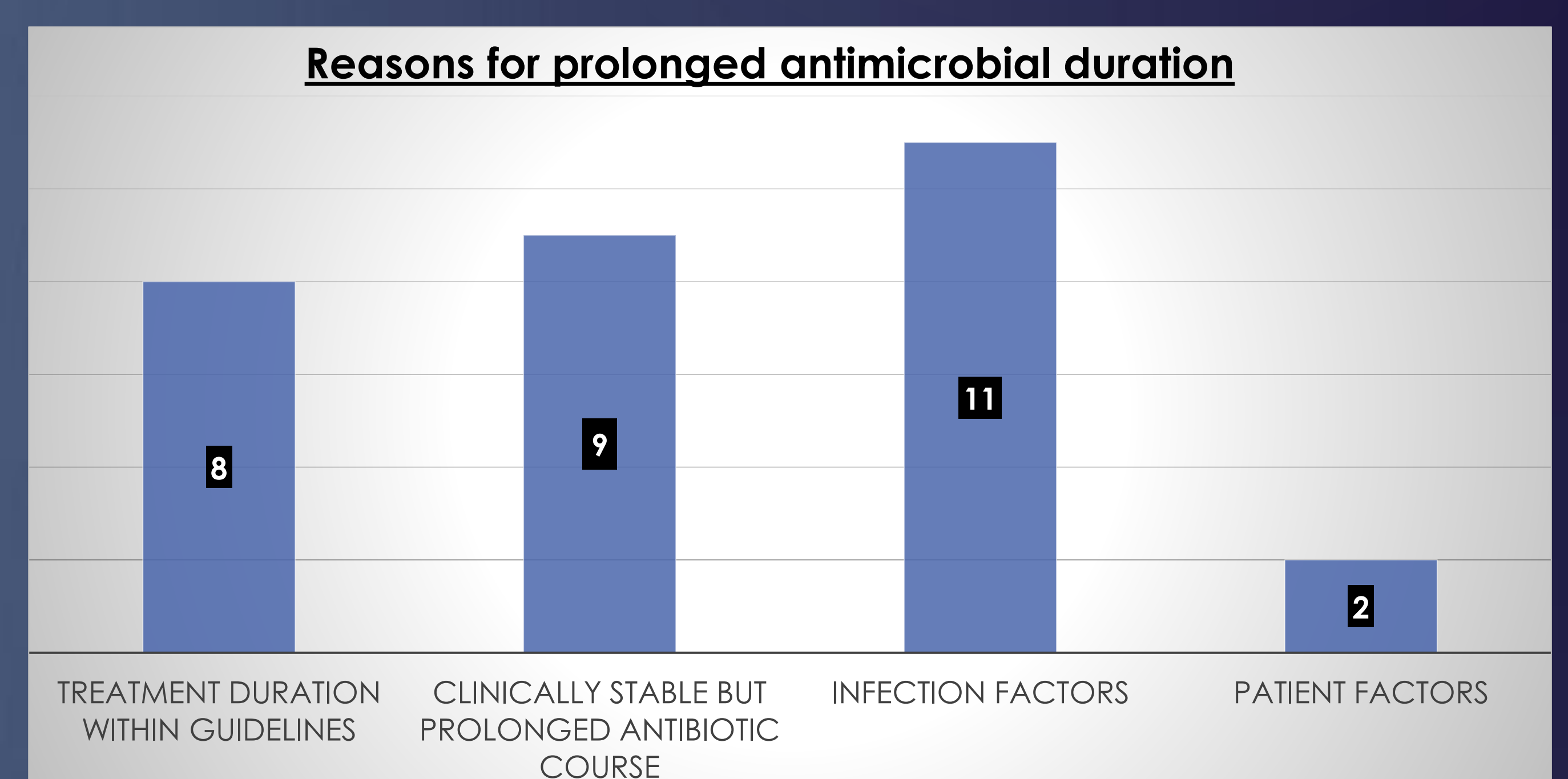
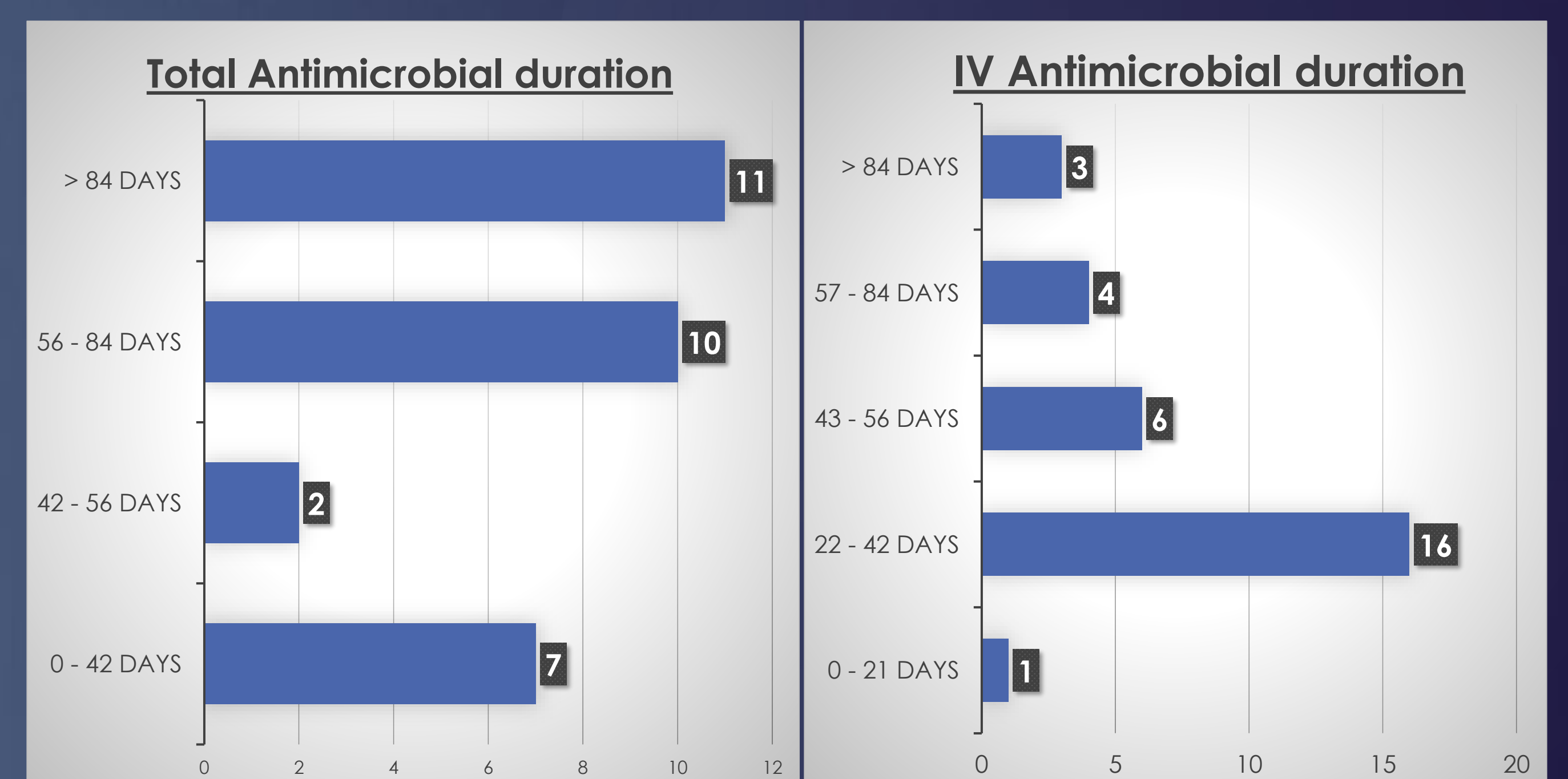
## Results

Of the 140 patients in the study population, 30 met the inclusion criteria. Of these 30, the mean total antimicrobial duration was 76.1 days (range 37 – 126 days). The median duration was 84 days.

In terms of IV antimicrobial duration, the mean duration was 53.9 days with a median duration of 42 days (Range 21 – 122 days).

27% of patients received the suggested six week therapy course with over 50% of patients receiving twelve weeks or more.

Of the patients who received a prolonged course of antibiotics, 11 were due to infection factors, 2 due to patient factors and 9 were given prolonged course despite being clinically stable.



## Conclusions

Our study showed that the average treatment duration for BJI infections in St James's Hospital was significantly longer than is recommended in international guidelines.

Although various complicating factors can result in an appropriate extension of antimicrobial course in these patients, the relatively high median durations would suggest that there may be scope to shorten the duration of antimicrobial treatment courses thus reduce antimicrobial prescriptions.

Our results would also suggest there may be scope for shortening the IV component of treatment courses in line with recently published evidence.<sup>[3]</sup> This would have potential to reduce length of inpatient stay and relieve pressure on greatly in-demand OPAT services.