

Auditing Adherence of Antibiotic Use against the Cheltenham Orthopaedic Ambulatory Pathway (Day-case Arthroplasty Pathway) and GIRFT Standards

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Introduction

The Cheltenham Orthopaedic Ambulatory Pathway (COAP) was implemented at Gloucestershire Hospitals NHS Foundation Trust to deliver day-case arthroplasty for patients undergoing elective primary hip and knee replacements. COAP is a standardised Enhanced Recovery Protocol based on standards in the Getting It Right First Time (GIRFT) Orthopaedic Elective Surgery Guide¹ – two key factors in delivering day-case arthroplasty include using a single dose of prophylactic intravenous antibiotic at the time of induction and avoidance of routine day one post-operative blood tests in low-risk patients.

Audit standards

GIRFT Standards:

1. Selection of routine prophylactic antibiotics are guided locally by microbiology department policies. Single dose regimens facilitate day case discharge and where possible are the default practice
2. Point of care testing of Haemoglobin (Hb) in recovery. If satisfactory, routine post operative blood tests are not indicated.

COAP – Local Microbiology Policy

Routine:

- Single IV dose of IV Ceftriaxone 2g at induction

MRSA or Penicillin Allergy:

- Weight adjusted Teicoplanin & Gentamicin, single IV dose of each
- Or If CrCl<30ml/min, Teicoplanin and Ciprofloxacin

ANTIBIOTIC DOSES				
Ceftriaxone	2 grams IV			
Teicoplanin	>50kg: 600mg IV	50-74kg: 800mg IV	75-100kg 1000mg IV	>100kg 1200mg IV
Gentamicin	3mg/kg, maximum dose 300mg IV			
Ciprofloxacin	400mg IV			

Aims

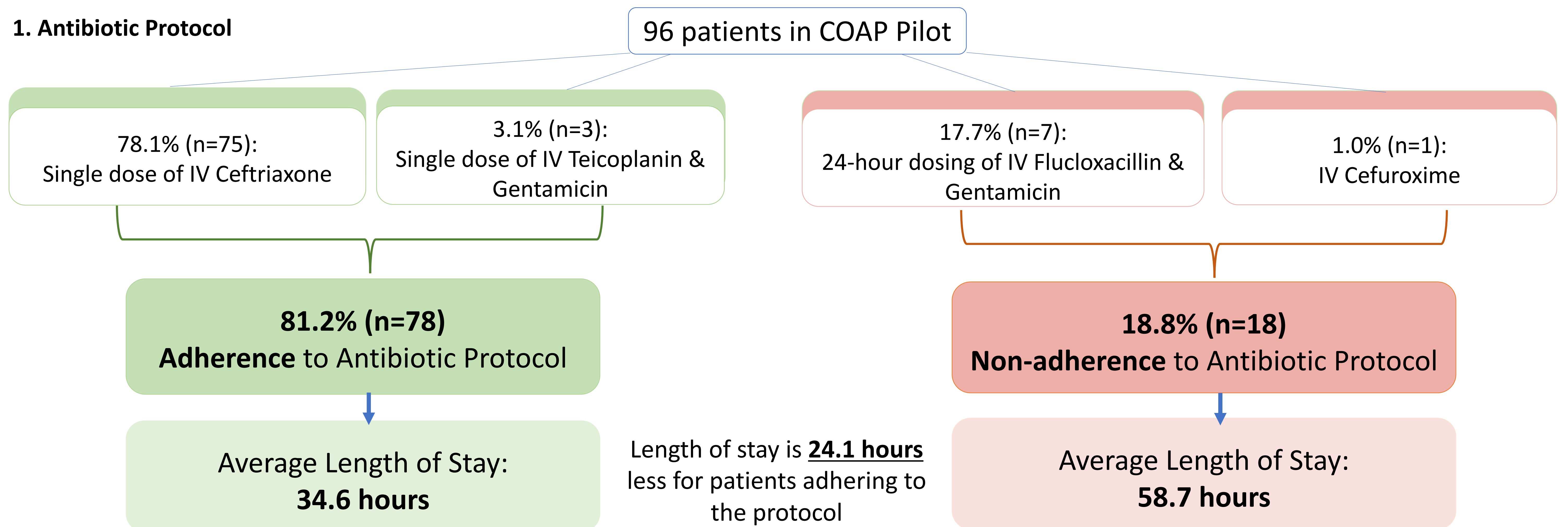
- To audit the adherence of antibiotic use and Haemoglobin point of care testing against the COAP protocol and GIRFT standards.
- To compare the length of stay of patients adhering to the antibiotic protocol versus those against the protocol

Methods

- 96 patients in the COAP Pilot between September 2023 and February 2024.
- Anaesthetic charts and electronic patient records were used to document the antibiotic(s) and dose given at induction and any further doses postoperatively.
- Perioperative nursing booklets (paper) were reviewed to determine whether Haemoglobin point of care testing had been completed.

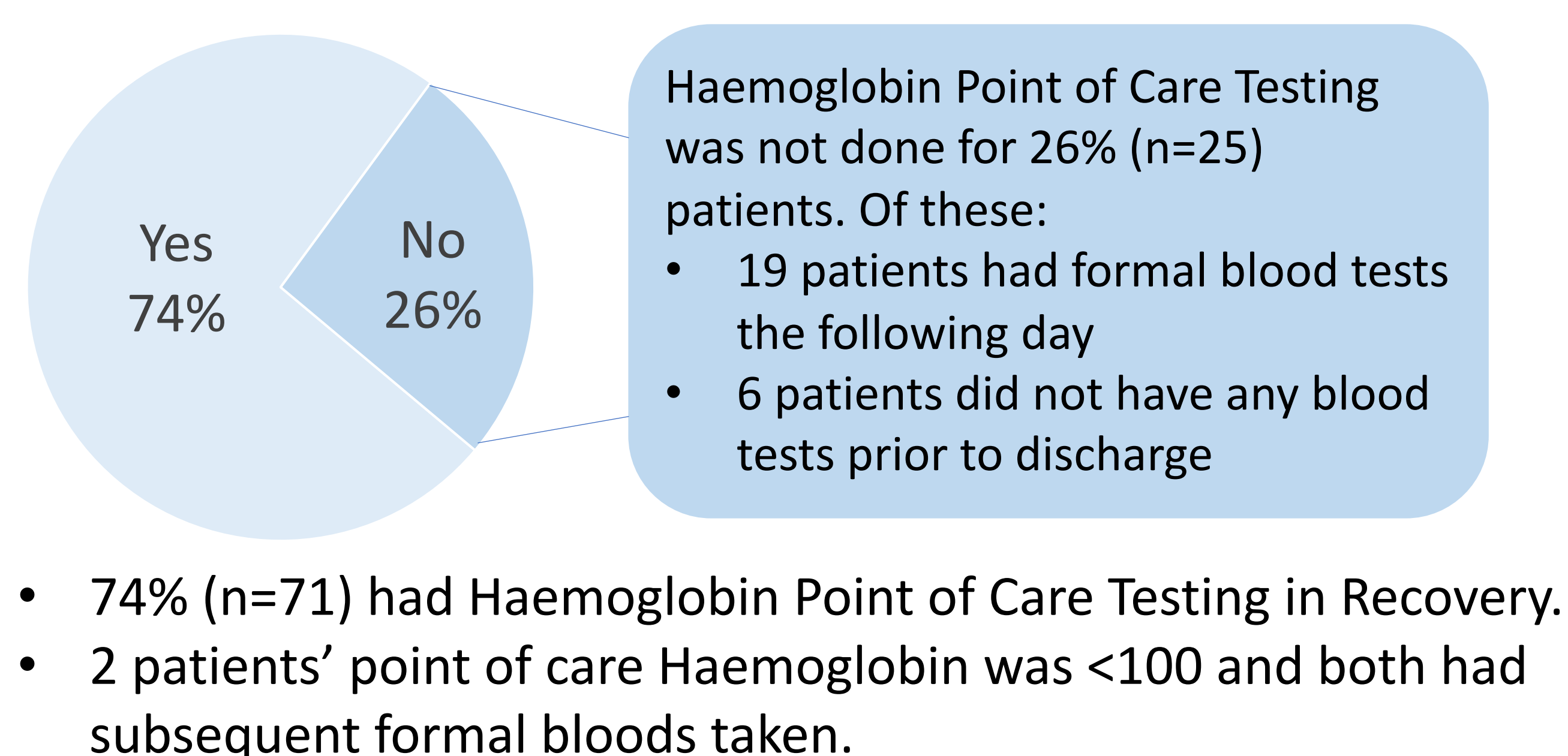
Results

1. Antibiotic Protocol



2. Haemoglobin Point of Care Testing in Recovery

- Documentation of results was found in various sections of the perioperative nursing booklet
- Hb >100 is regarded as satisfactory in the COAP protocol



Conclusions

- Adherence to the antibiotic policy is crucial for delivering day-case arthroplasty and is associated with 24 hours less length of stay.
- There was overall good adherence to the antibiotic policy, however due to running two arthroplasty pathways concurrently (the standard inpatient pathway and the day-case COAP pathway), there were initially two antibiotic policies which caused confusion.

Next steps

- We have worked with the Microbiology team to standardise both policies to single dose Intravenous Ceftriaxone at induction.
- Point of care haemoglobin results are now formally documented in electronic patient records.

A further audit will be conducted in 2 months to assess adherence to the COAP Protocol following the above interventions.