



Antibiotic prophylaxis for arthroplasty: the implications for day case surgery

A quality improvement project completed at Lewisham and Greenwich NHS trust
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- Outline: Antibiotic prophylaxis remains a key principle of reducing prosthetic joint infection in arthroplasty
- A move towards more day case knee arthroplasty at the trust required updating old antibiotics guidelines as previous recommendations involved intravenous antibiotics for over 24 hours which can't be facilitated in a day case setting

Antibiotic	Half-life (hours)	Dosing regime
Flucloxacillin	0.75-1	3-4 times daily
Cefuroxime	1-2	Once daily
Gentamicin	2-3	Once daily
Vancomycin	4-6	Once daily
Teicoplanin	100	Once daily

Despite similar half life-lives antibiotics such as cefuroxime and Teicoplanin maintain effective blood levels with once day dosing when compared with Flucloxacillin



Concern of an associated risk of clostridium difficile with cephalosporin's historically has caused a move away from their use

- However this was based off low quality evidence: retrospective studies found this difference to be inconclusive with figures between 0.17-0.22% higher risk

Audit undertaken reviewing antibiotic prophylaxis for arthroplasty



Data collected compared with other regional centres with discrepancies found and compliance with local guidelines



- Extensive up to date literature review undertaken
- Multidisciplinary approach taken Orthopaedics, Microbiology and hospital managers
- with input from



- New updated guidelines publish
- Second audit loop reviewing compliance with new guidelines

Results - 47 Cases reviewed

1. First loop
 - A. 66% patients received flucloxacillin and gentamicin
 - B. 33% received Teicoplanin and Gentamicin
2. Second loop
 - A. 40% Cefuroxime
 - B. 40% Flucloxacillin and Gentamicin
 - C. 20% other

Conclusion

- Day case surgery prophylactic regimes should be optimised to provide a single dose at induction allowing patients to be discharged the same day
- Pharmacokinetic profiles of certain antibiotics favour this such as Cephalosporin's
- Despite new guidelines they have been slow to be adopted
- A further review should now be undertaken at Lewisham Hospital to determine if more same day discharges have been facilitated