



# Antibiotic Protocol

Department of Orthopaedic

## Antibiotic Protocol Department of Orthopaedic HCTM UKMMC

### Empirical Therapy

(Send cultures before starting antibiotics)

#### TYPE 1 (CAI)

#### TYPE 2 (HAI)

#### TYPE 3 (NI)

Urine

Amoxicillin/clavulanate  
**OR**  
Nitrofurantoin\*  
if CrCL >50  
*\*NOT for Pyelonephritis*

Nitrofurantoin  
if CrCL >50  
**OR**  
Ertapenem  
if CrCL <50

If patient in severe sepsis / septic shock: Imipenem / Meropenem  
  
Otherwise use Nitrofurantoin if CrCL >50

Skin and Soft tissue

Cloxacillin  
(Amoxicillin/clavulanate if Diabetic foot)

Piperacillin / tazobactam + gentamicin

Imipenem / Meropenem ± Vancomycin

Continuing Treatment

If the pathogen is sensitive or culture is negative & patient responds clinically;  
**Consider ORAL switch if**  
1. T < 38 °C for >24 hours Clinical improvement AND  
2. Orally tolerated, AND  
3. No sign of sepsis AND  
4. No high risk / Deep seated infection.

De escalate to narrowest spectrum antimicrobials If culture negative and clinically stable, consider 5-7 days duration  
*(\* Strongly recommend ID consultation)*

Type 1

No contact with health care system in the last 90 days AND No prior antibiotic treatment in the last 90 days **AND** young Patient with no or few co-morbid conditions

Type 2

Contact with health care system in past 3 months or < 1 week in the hospital or < 48hrs in ICU (eg. admission in hospital or nursing home), invasive procedure **OR** Recent antibiotic therapy in last 3 months **OR** elderly (> 65 years) with few co-morbidities

Type 3

Hospitalization > 5-7 days ± infections following major invasive procedures **OR** Recent & multiple antibiotic therapies **OR** Elderly (> 65 years) + multiple co-morbidities (eg. structural lung disease, immunodeficiency)

## TOP 5 Pathogens [Orthopaedic] Dec 2014 – May 2016

### Urine Infection [ N=141 (Top 5 is 86%) ]

Escherichia coli [ n=54; ESBL 14 (26%) ]  
Klebsiella spp [ n=34; ESBL 17 (47%), CRE 3 (9%) ]  
Pseudomonas aeruginosa [ n=15 (11%) ]  
Proteus spp [ n=11; ESBL 1 (9%) ]  
Enterococcus spp [ n=7; VRE 3 (43%) ]

### Skin and Soft Tissue Infections [SSTI] [ N=728 (Top 5 is 64%) ]

Staphylococcus aureus [ n=168; MRSA 57 (34%) ]  
Pseudomonas aeruginosa [ n=112 (15%) ]  
Klebsiella spp [ n=63; ESBL 15 (24%), CRE 2 (3%) ]  
Escherichia coli [ n=62; ESBL 18 (29%) ]  
Enterobacter spp [ n=59; ESBL 5 (8%) ]

Collaborative effort by HCTM PPUKM Antimicrobial Stewardship Committee

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