

# Antibiotic Protocol



HOSPITAL CANSELOR TUANKU MUHRIZ, UKM

## Department of Medicine

**Medical Department Empirical Therapy. Send cultures before starting antibiotics!**

	TYPE 1	TYPE 2 Low Risk : < 5 days admission High Risk : > 5 days admission	TYPE 3
Blood	IV Amoxicillin / Clavulanate If IVDU : IV Cloxacillin	IV Piperacillin/Tazobactam + IV Gentamicin (for 3 days only)* <sup>2</sup>	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock IV Piperacillin/Tazobactam ± IV Vancomycin*
Lung	IV Amoxicillin / Clavulanate + Azithromycin  Severe CAP [IDSA Criteria] [CORB≥2, SMART-COP≥5, CURB-65≥3] IV Ceftriaxone + Azithromycin	High risk MDR [CURB-65≥ 3 + DRIP ≥4] IV Piperacillin/Tazobactam + IV Gentamicin (for 3 days only)* <sup>2</sup>	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock IV Piperacillin/Tazobactam ± IV Vancomycin*
Urine	Nitrofurantoin* <sup>1</sup> if CrCL > 30 OR IV Amoxicillin / Clavulanate	Nitrofurantoin* <sup>1</sup> if CrCL > 30 OR IV Ertapenem if CrCL < 30	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock or pyelonephritis Nitrofurantoin* <sup>1</sup> if CrCL > 30
Skin & soft tissue	IV Cloxacillin 2g QID	IV Piperacillin/Tazobactam ± IV Gentamicin (for 3 days only)* <sup>2</sup>	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock IV Piperacillin/Tazobactam ± IV Gentamicin If MRSA is strongly suspected* <sup>3</sup> , add vancomycin*

\*<sup>1</sup> Nitrofurantoin NOT for pyelonephritis

\*<sup>2</sup> Stop Gentamicin till culture review

\*<sup>3</sup> Suspect MRSA if colonized with MRSA, previous MRSA infections within past 3 months.

Continuing treatment	If the pathogen is sensitive or culture is negative & patient responds clinically; Consider ORAL switch if <ol style="list-style-type: none"> <li>1. T &lt; 38 °C for &gt;24 hours with clinical improvement AND</li> <li>2. Orally tolerated, AND</li> <li>3. No sign of sepsis AND</li> <li>4. No high risk / deep seated infection.</li> </ol>	De-escalate to narrowest spectrum antimicrobials if culture negative and clinically stable, consider 5-7 days duration (*Strongly recommend ID consultation)
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**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 [Department of Medicine]

2015 – 2018

Blood (Top 5 is 55% of 1319 blood-positive isolates)	Urine (Top 5 is 86% of 460 urine-positive isolates)
Staphylococcus aureus [n=225 (17%); MRSA 92 (41%)]	Escherichia coli [n=134 (29%); ESBL 51 (38%), CRE 4 (3%)]
Escherichia coli [n=151 (11%); ESBL 41 (27%), CRE 1 (1%)]	Klebsiella sp. [n=113 (25%); ESBL 57 (50%), CRE 15 (13%)]
Klebsiella sp. [n=137 (10%); ESBL 56 (41%), CRE 6 (4%)]	Enterococcus sp. [n=70 (15%); VRE 0 (0%)]
Enterococcus sp. [n=125 (9%); VRE 15 (12%)]	Pseudomonas aeruginosa [n=54 (12%)]
Burkholderia sp. [n=81 (6%)]	Enterobacter sp. [n=25 (5%); ESBL 7 (28%), CRE 3 (12%)]
Respiratory (Top 5 is 90% of 664 respiratory-positive isolates)	Pus (Top 5 is 76% of 752 pus-positive isolates)
Klebsiella sp. [n=186 (28%); ESBL 83 (45%), CRE 1 (1%)]	Staphylococcus aureus [n=199 (26%); MRSA 62 (31%)]
Staphylococcus aureus [n=168 (25%); MRSA 93 (55%)]	Pseudomonas aeruginosa [n=166 (22%)]
Pseudomonas aeruginosa [n=165 (25%)]	Escherichia coli [n=80 (11%); ESBL 12 (15%), CRE 2 (3%)]
Acinetobacter sp. [n=53 (8%)]	Klebsiella sp. [n=75 (10%); ESBL 38 (51%), CRE 5 (7%)]
Enterobacter sp. [n=24 (4%); ESBL 5 (21%), CRE 1 (4%)]	Proteus sp. [n= 54 (7%); ESBL 7 (13%), CRE 3 (6%)]