

Antibiotic Protocol



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General Intensive Care Unit

GICU 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)* ²	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock IV Piperacillin/Tazobactam ± IV Vancomycin*
Lung	IV Amoxicillin / Clavulanate + Azithromycin	IV Cefepime	High dose IV Ampicillin/Sulbactam Add on IV Meropenem [If CPIS score worsen and/or SOFA increase >2 from baseline]
Urine	IV Amoxicillin / Clavulanate	IV Piperacillin/Tazobactam	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock or pyelonephritis Nitrofurantoin* ¹ if CrCL > 30
Skin & soft tissue	IV Amoxicillin / Clavulanate	IV Piperacillin/Tazobactam ± IV Gentamicin (for 3 days only) * ²	If in Septic shock IV Imipenem/Meropenem + IV Vancomycin* Without shock IV Piperacillin/Tazobactam ± IV Gentamicin If MRSA is strongly suspected* ³ , add vancomycin*

*¹ Nitrofurantoin NOT for pyelonephritis *² Stop Gentamicin till culture review *³ Suspect MRSA if colonized with MRSA, previous MRSA infections within past 3 months.

Continuing treatment	<p>If the pathogen is sensitive or culture is negative & patient responds clinically; Consider ORAL switch if</p> <ol style="list-style-type: none"> 1. T < 38 °C for >24 hours with clinical improvement AND 2. Orally tolerated, AND 3. No sign of sepsis AND 4. No high risk / deep seated infection. 	<p>De-escalate to narrowest spectrum antimicrobials if culture negative and clinically stable, consider 5-7 days duration (*Strongly recommend ID consultation)</p>
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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 [GICU] 2014 – 2018

Blood (Top 5 is 55% of 614 blood-positive isolates)	Urine (Top 5 is 87% of 215 urine-positive isolates)
Klebsiella sp. [n=88 (14%); ESBL 41 (47%), CRE 4 (5%)]	Escherichia coli [n=58 (27%); ESBL 23 (40%), CRE 0 (0%)]
Acinetobacter sp. [n=72 (12%)]	Klebsiella sp. [n=43 (20%); ESBL 23 (53%), CRE 6 (14%)]
Staphylococcus aureus [n=63 (10%); MRSA 35 (56%)]	Enterococcus sp. [n=34 (16%); VRE 3 (9%)]
Pseudomonas aeruginosa [n=59 (10%)]	Pseudomonas aeruginosa [n=33 (15%)]
Enterococcus sp. [n=58 (9%); VRE 9 (16%)]	Acinetobacter sp. [n=19 (9%)]
Respiratory (Top 5 is 87% of 655 respiratory-positive isolates)	Pus (Top 5 is 62% of 552 pus-positive isolates)
Acinetobacter sp. [n=140 (21%)]	Klebsiella sp. [n=86 (16%); ESBL 30 (35%), CRE 4 (5%)]
Pseudomonas aeruginosa [n=135 (21%)]	Pseudomonas aeruginosa [n=78 (14%)]
Staphylococcus aureus [n=135 (21%); MRSA 40 (30%)]	Staphylococcus aureus [n=77 (14%); MRSA 28 (36%)]
Klebsiella sp. [n=124 (19%); ESBL 50 (40%), CRE 2 (2%)]	Acinetobacter sp. [n=59 (11%)]
Enterobacter sp. [n=39 (6%); ESBL 4 (10%), CRE 1 (2%)]	Escherichia coli [n=43 (8%); ESBL 13 (30%), CRE 2 (5%)]