

# Antibiotic Protocol



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## Department of Surgery

### Surgical 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>	<b>If in Septic shock</b> IV Imipenem/Meropenem + IV Vancomycin* <b>Without shock</b> IV Piperacillin/Tazobactam ± IV Vancomycin*
Lung	IV Amoxicillin / Clavulanate + Azithromycin  <b>Severe CAP [IDSA Criteria]</b> [CORB≥2, SMART-COP≥5, CURB-65≥3] IV Ceftriaxone + Azithromycin	<b>High risk MDR [CURB-65≥ 3 + DRIP≥4]</b> IV Piperacillin/Tazobactam + IV Gentamicin (for 3 days only)* <sup>2</sup>	<b>If in Septic shock</b> IV Imipenem/Meropenem + IV Vancomycin* <b>Without shock</b> IV Piperacillin/Tazobactam ± IV Vancomycin*
Urine	Nitrofurantoin* <sup>1</sup> if CrCL > 30 OR IV Amoxicillin / Clavulanate	IV Piperacillin/Tazobactam	<b>If in Septic shock</b> IV Imipenem/Meropenem + IV Vancomycin* <b>Without shock or pyelonephritis</b> Nitrofurantoin* <sup>1</sup> if CrCL > 30
Skin & soft tissue	IV Amoxicillin / Clavulanate	IV Piperacillin/Tazobactam ± IV Gentamicin (for 3 days only)* <sup>2</sup>	<b>If in Septic shock</b> IV Imipenem/Meropenem + IV Vancomycin* <b>Without shock</b> 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	<p>If the pathogen is sensitive or culture is negative &amp; patient responds clinically; Consider ORAL switch if</p> <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>	<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 [Department of Surgery] 2014 – 2018

Blood (Top 5 is 66% of 540 blood-positive isolates)	Urine (Top 5 is 85% of 649 urine-positive isolates)
Klebsiella sp. [n=109 (20%); ESBL 33 (30%), CRE 4 (4%)]	Escherichia coli [n=220 (34%); ESBL 67 (30%), CRE 5 (2%)]
Escherichia coli [n=94 (17%); ESBL 33 (35%)]	Pseudomonas aeruginosa [n=120 (19%)]
Staphylococcus aureus [n=82 (15%); MRSA 36 (44%)]	Klebsiella sp. [n=117 (18%); ESBL 51 (44%), CRE 6 (5%)]
Enterococcus sp. [n=46 (9%); VRE 5 (11%)]	Enterococcus sp. [n=49 (7%); VRE 1 (2%)]
Pseudomonas aeruginosa [n=26 (5%)]	Enterobacter sp. [n=44 (7%); ESBL 4 (9%), CRE 3 (7%)]
Respiratory (Top 5 is 90% of 256 respiratory-positive isolates)	Pus (Top 5 is 75% of 862 pus-positive isolates)
Pseudomonas aeruginosa [n=72 (28%)]	Staphylococcus aureus [n=246 (29%); MRSA 54 (22%)]
Staphylococcus aureus [n=64 (25%); MRSA 39 (61%)]	Pseudomonas aeruginosa [n=125 (14%)]
Klebsiella sp. [n=59 (23%); ESBL 28 (47%), CRE 2 (3%)]	Escherichia coli [n=114 (13%); ESBL 30 (26%)]
Acinetobacter sp. [n=26 (10%)]	Klebsiella sp. [n=111 (13%); ESBL 33 (30%), CRE 5 (5%)]
Escherichia coli [n=11 (4%); ESBL 4 (36%)]	Enterobacter sp. [n= 50 (6%); ESBL 5 (10%)]