

LAC+USC MEDICAL CENTER
DEPARTMENT OF EMERGENCY MEDICINE
Empiric Antibiotic Recommendations 2010

These are the agents generally preferred for first-line empiric therapy at LAC+USC Department of Emergency Medicine

Circumstances of individual cases may dictate different antibiotic choices

* denotes antibiotics require dosing adjustments in renal impaired patients

Site	Diagnosis	Likely Pathogens	Initial Treatment Regimens		Cultures	Comments
			Outpatient	Inpatient		
Abdomen	Spontaneous bacterial peritonitis (paracentesis WBC > 500 or neutrophils > 250)	<i>E.coli</i> <i>Streptococci</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Klebsiella</i>	N/A	ceftriaxone 2g iv q24h or cefotaxime* 2g iv q8h	Peritoneal fluid	<i>E.coli</i> sensitivity: 92% to ceftriaxone PCN allergy: ciprofloxacin* 400mg iv q12h
	Localized abdominal infection (e.g., localized appendicitis,)	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Anaerobes</i>	N/A	ceftriaxone 2g iv q24h + metronidazole 500mg iv q8h		PCN allergy: metronidazole 500mg iv q8h + ciprofloxacin* 400mg iv q12h
	Perforated appendicitis (gangrenous, contained and ruptured abscess)	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Anaerobes</i>	N/A	piperacillin/tazobactam* 3.375g iv q6h		PCN allergy: metronidazole 500mg iv q8h + ciprofloxacin* 400mg iv q12h
	Abdominal sepsis - peritonitis, shock	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Anaerobes</i>	N/A	piperacillin/tazobactam* 3.375g iv q6h + gentamicin* 5-7mg/kg iv q24h	Blood culture x 2	
	Diverticulitis	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Anaerobes</i>	ciprofloxacin* 750 mg po bid + metronidazole 500 mg po q6h x 7-10 days	ceftriaxone 1g iv q24h + metronidazole 500mg iv q6h		PCN allergy: metronidazole 500mg iv q8h + ciprofloxacin* 400mg iv q12h
	Cholecystitis – acute without cholangitis		N/A	No antibiotics		
	Cholecystitis – acute with cholangitis		N/A	cefoxitin* 2g iv q8h or ceftriaxone 2g iv q24h + metronidazole 500mg iv q8h or piperacillin/tazobactam* 3.375g iv q6h		
	Pancreatitis		N/A	No antibiotics unless patient has CT proven necrotizing pancreatitis Necrotizing pancreatitis - doripenem* 500mg iv q8h		

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	Infectious diarrhea: fever > 38.5, bloody stool	<i>Shigella</i> <i>Salmonella</i> <i>Campylobacter</i> <i>E. coli</i>	ciprofloxacin* 750mg po x 1 or 500mg po bid x 3 days	ciprofloxacin* 400mg iv q12h	Stool cultures not routinely needed for diarrhea - only if fever, blood, or suspected outbreak. Check C. diff toxin if prolonged or severe	Most diarrhea does not require cultures or antibiotics—treat with fluids ± anti-motility agents
	Antibiotic associated diarrhea	<i>C. difficile</i>	metronidazole 500mg po tid x 7-14 days	metronidazole 500mg po q8h (iv if pt cannot tolerate po)	<i>C. difficile</i> toxin (NOT culture)	If fail metronidazole then vancomycin 125mg po qid x 14 days
CNS	Meningitis	<i>S. pneumoniae</i> <i>N. meningitidis</i> (<i>Listeria</i> in elderly, HIV, immunosuppressed; Group B Strep or <i>E. coli</i> in neonates)	N/A	ceftriaxone 2g iv q12h + vancomycin* 15mg/kg iv q12h if bacterial meningitis confirmed/suspected. (+ ampicillin* 2g iv q6h if elderly, pregnant, AIDS or immunosuppressed)	Blood and CSF cultures prior to abx. If unable to get CSF cultures prior to abx, then obtain blood culture	Before 1 st dose abx, consider dexamethasone 10mg iv q6h or 0.4mg/kg iv q12h (D/c if gram stain negative for bacteria)
CV	Endocarditis native valve	<i>S. aureus</i> <i>Strep. viridans</i> <i>Enterococci</i>	N/A	vancomycin* 15mg/kg iv q12h (if MRSA suspected) + gentamicin* 1mg/kg q8h (for resistant strep. viridans)	Blood culture x 3 (total volume is most important—should be ≥ 30ml for adults)	
	Endocarditis prosthetic valve	<i>S. epidermidis</i> <i>S. aureus</i> <i>Strep viridans</i> <i>Enterococci</i> <i>Enterobacteriaceae</i> (rarely)	N/A	vancomycin* 15mg/kg iv q12h + gentamicin* 1mg/kg q8h + rifampin* 300mg po/iv q8h	Blood culture x 3	
ENT	Acute sinusitis	<i>S. pneumoniae</i> <i>H. flu</i> <i>Moraxella</i>	amoxicillin* 500mg po tid x 10-14 days or amoxicillin/clavulanic acid* 875/125mg po q12h or 500/125mg po q8h	ceftriaxone 1g iv q24h		<i>S. pneumo</i> sensitivity: levofloxacin 100% penicillin 100% cefotaxime 100%
GU	Cervicitis/ urethritis	<i>N. gonorrhoeae</i> <i>Chlamydia</i>	cefixime 400mg po x 1 dose + azithromycin 1g po x 1 dose		cervical/urethral swab-GC, chlamydia. Consider RPR, HIV	Complete STD public health report form.

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	Pelvic inflammatory disease	<i>Chlamydia</i> <i>N. gonorrhoea</i> <i>E. coli</i> <i>Strep</i> <i>Anaerobes</i>	ceftriaxone 250mg IM x 1 + doxycycline* 100mg po bid x 10-14 days	cefoxitin* 2g iv q6h + doxycycline* 100mg iv q12h	GC, chlamydia cultures. Also test VDRL, HIV	Complete STD public health report form.
	Cystitis – uncomplicated	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i> <i>Staph.</i> <i>saprophyticus</i>	cephalexin* 500mg po tid x 7 days ± Macrobid®* 100mg po bid x 3-7 days (avoid if CrCl < 60 ml/min)	ceftriaxone 1g iv qday		PCN allergy: ciprofloxacin* 400mg iv q12h
	Pyelonephritis-uncomplicated	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Staph.</i> <i>saprophyticus</i>	cephalexin* 500mg po tid or qid x 14 days or amoxicillin/clavulanic acid* 875/125mg po q12h x 14 days or 500/125mg po q8h x 14 days	ceftriaxone 1g iv qday	Urine culture only Blood culture not necessary	Change to PO after afebrile for 48 hours PCN allergy: ciprofloxacin* 400mg iv q12h
	Pyelonephritis-complicated (present of Foley catheter or other instrumentation etc.)	<i>E. coli</i> <i>Enterobacteriaceae</i> <i>Enterococci</i>	cephalexin* 500mg po qid x 14 days or amoxicillin/clavulanic acid* 875/125mg po q12h x 14 days or 500/125mg po q8h x 14 days	ceftriaxone 1g iv q24h + gentamicin* 3-5mg/kg iv q24h or piperacillin/tazobactam* 3.375g iv q6h	Urine culture after removal of catheter if catheter is no longer indicated. If foley catheter is still indicated, obtain urine culture after replacement of catheter. Consider blood culture if appear septic	Long term foley catheter present without signs or symptoms of infection (no fever, no increase in WBC) – may just be colonized, consider not to treat

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Joint	Septic arthritis	<i>N. gonorrhoeae</i> <i>S. aureus</i> <i>Streptococci</i>	N/A	ceftriaxone 2g iv q24h + vancomycin* 15mg/kg iv q12h	Joint fluid gram's stain and culture Blood cultures	
Lung	Community-acquired pneumonia (CAP) – (Non-ICU)	<i>S. pneumoniae</i> <i>H. flu</i> <i>C. pneumoniae</i> <i>Mycoplasma</i>	Otherwise healthy with no co-morbidities: azithromycin 500mg po x 1 day then 250mg po days 2-5 With co-morbidities: levofloxacin* 750mg po daily x 5 days	ceftriaxone 2g iv q24h + azithromycin 500mg iv q24h) or levofloxacin* 750mg iv daily	Tap pleural fluid if present	If HIV is suspected, then TMP/SMX 5mg/kg IV q8h for PCP. Room air pO ₂ <70mmHg or A-a gradient >35mmHg initiate Prednisone 40mg po q12h within 72 hrs
	Severe community-acquired pneumonia (ICU)	<i>S. pneumoniae</i> <i>S. aureus</i> <i>Klebsiella</i> <i>Enterobacteriaceae</i>	N/A	ceftriaxone 2g iv q24h + levofloxacin* 750mg iv q24h ± vancomycin* 15mg/kg iv q12h (if suspect MRSA)	Blood cultures and sputum culture. If intubated, obtain endotracheal aspirate or mini- BAL	
	Nosocomial/nursing home acquired pneumonia (HAP or VAP or HCAP)	<i>Enterobacteriaceae</i> <i>S. aureus</i> <i>Pseudomonas</i>	N/A	cefepime* 2g iv q8h + levofloxacin* 750mg iv q24h + vancomycin* 15mg/kg iv q12h	Blood cultures and sputum culture. If intubated, obtain endotracheal aspirate or mini- BAL	
	Acute exacerbation of chronic bronchitis	<i>S. pneumoniae</i> <i>H. influenzae</i> <i>Chlamydia</i> <i>Mycoplasma</i>	azithromycin 500mg po daily x 3 days or levofloxacin* 750mg po 7 days	azithromycin 500mg iv q24h or levofloxacin* 750mg iv q24h		
Skin	Cellulitis (No pus)	<i>Strep</i> <i>S. aureus</i>	cephalexin* 500mg po qid ± Bactrim DS* 10mg/kg/day po in two to three divided doses or clindamycin 300mg po q6h x 10 days	cefazolin 1g iv q6h		
	Cellulitis with abscess or purulent drainage	<i>S. aureus</i> including MRSA	Drainage first Bactrim DS* 10mg/kg/day po in two to three divided doses or clindamycin 300mg po q6h x 10 days	Drainage first vancomycin* 15mg/kg iv q12h or clindamycin 900mg iv q8h	Wound culture	

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	Bite infections	<i>Pasteurella (cat, dog)</i> <i>Eikenella (human)</i> <i>Streptococci</i> <i>S. aureus</i> <i>Anaerobes</i>	amoxicillin/clavulanic acid* 875/125mg po bid x 10 days	ampicillin/sulbactam* 3g iv q6h or cefoxitin 2g iv q8h	Wound culture	PCN allergy: doxycycline 100mg po bid
	Necrotizing fasciitis	<i>Group A strep</i> <i>S. aureus</i> <i>GNB</i> <i>Anaerobes</i>		<u>Give clindamycin first</u> clindamycin 900mg iv q8h + piperacillin/tazobactam* 3.375g iv q6h + vancomycin* 15mg/kg iv q12h	Wound culture Blood cultures	PCN allergy: clindamycin 900mg iv q8h + levofloxacin* 750mg iv q24h + vancomycin* 15mg/kg iv q12h
	Diabetic foot ulcer - uncomplicated	<i>Polymicrobial - GPC</i> <i>GNB</i> <i>Anaerobes</i>	amoxicillin/clavulanic acid* 875/125mg po q12h or clindamycin 300mg po qid + ciprofloxacin* 750mg po bid	ceftriaxone 2g iv q24h + metronidazole 500mg iv q8h ± vancomycin* 15mg/kg iv q12h	Wound culture	PCN allergy: ciprofloxacin* 400mg iv q12h + metronidazole 500mg iv q8h + vancomycin* 15mg/kg iv q12h
	Diabetic foot ulcer - complicated (with leukocytosis & fever)	<i>Polymicrobial - GPC</i> <i>GNB</i> <i>Anaerobes</i>	N/A	vancomycin* 15mg/kg iv q12h + piperacillin/tazobactam* 3.375g iv q6h	Bone biopsy or deep wound cultures	PCN allergy: ciprofloxacin* 400mg iv q12h + metronidazole 500mg iv q8h + vancomycin* 15mg/kg iv q12h
Systemic	Neutropenic fever	<i>E. coli</i> <i>Pseudomonas</i> <i>Klebsiella</i> <i>Strep</i> <i>Staph</i> <i>Candida</i>		cefepime* 2g iv q8h + amikacin* 7.5mg/kg q12h (add vancomycin* 15mg/kg iv q12h if febrile after 48 hours on cefepime + amikacin)	Blood culture x 2 urine culture	
	sepsis – immunocompetent. No obvious source	<i>meets SIRS criteria</i>		vancomycin* 15mg/kg iv q12h + piperacillin/tazobactam* 3.375g iv q6h	Blood culture x 2 urine culture	