Antimicrobial Guidelines for Adult In-Patients

NHS Highland

⚠ STOP - THINK - IS THIS SEPSIS? START SEPSIS 6 IMMEDIATELY

DOCUMENT THE INDICATION FOR THERAPY & REVIEW DATE IN PATIENT NOTES.
Review regularly, stop (if not infection) de-escalate/switch from IV to oral with culture & sensitivity information and clinical response.
Choose narrow spectrum agent where possible to reduce risk of disease due to *C. difficile*.
Avoid ceftriaxone, ceftazidime, clindamycin, ciprofloxacin or co-amoxiclav unless as protocol or on specialist advice.
If known or recent *C. difficile* positive and requiring broad spectrum treatment, contact Microbiology for advice.

Illness	Severe/Complicated (IV)	Mild/Moderate (Oral)	Duration	Notes
Severe Sepsis site unknown	Gentamicin* PLUS metronidazole 500mg 3 x daily PLUS amoxicillin 1g 3 x daily +/- flucloxacillin 2g 4 x daily (if *Staph. aureus* suspected)		Seek advice	Seek immediate senior help. Measure lactate, manage in HDU. Administer piperacillin/tazobactam dose over 3 hours (see TAM)
Neutropenic Sepsis	Piperacillin/tazobactam 4.5g every 6 hours PLUS gentamicin* NB - only add gentamicin if high risk or high NEWS			
CNS Infection	Ceftriaxone 2g every 12 hours. **ADD** amoxicillin 2g every 4 hours if over 60 years or immunocompromised. Consider dexamethasone 10mg 4 x daily up to 12 hours after first dose of antibiotic. Suspected viral encephalitis ADD aciclovir 10mg/kg 3x daily.		Seek advice	Discuss with Microbiology. Inform Public Health if meningococcal disease suspected. Use ideal bodyweight for aciclovir if obese.
Diagnosis unclear ?Chest / ?UTI	Vancomycin* PLUS Aztreonam 2g x 4 daily	Use combination of first line options for each infection	Depends on diagnosis	Review within 24 hours to confirm diagnosis and duration.
Community Acquired Pneumonia	**CURB65 = 3 to 5 OR CAP with Sepsis.** Amoxicillin 1g 3 x daily **PLUS** doxycycline (oral) 100mg 2 x daily if no antibiotics before admission Levofloxacin 500mg 2 x daily if prior antibiotics, penicillin allergy, suspected Legionella or NBM	**CURB65 = 2 OR Recent foreign travel** Amoxicillin 1g 3 x daily PLUS doxycycline 100mg 2 x daily (OR clarithromycin 500mg 2 x daily if recent foreign travel) **CURB65 = 0 - 1** as Inf Exac COPD	Score = 0 5 days (review at 3 days) Score 1-5 7 to 10 days	**Record CURB65 score in notes.** Severity overestimated in frail and elderly. Risk factors for *Staph. aureus* (post influenza, chicken pox, haemorrhagic inf.), ADD flucloxacillin (IV) 2g x 4 daily to CURB65 = 2 and give all IV. If bilateral, cavitations known / suspected MRSA - ADD vancomycin*.
Check BNF for levofloxacin and clarithromycin drug interactions e.g. warfarin, tacrolimus, theophylline, statins (clarithromycin only)				
Infective Exac.COPD /acute bronchitis	Co-amoxiclav (oral) 625mg PLUS Amoxicillin 500mg 3 x daily (IV only required if NBM)	Amoxicillin 1g 3 x daily **OR** Doxycycline 100mg 1 x daily	5 - 10 days	**Dual therapy unnecessary,** Doxycycline first dose 200mg stat.
Aspiration Pneumonia	**ASPIRATION PNEUMONITIS = NO ANTIBIOTICS** Gentamicin* PLUS Metronidazole 500mg 3 x daily PLUS Amoxicillin 1g 3 x daily	Metonidazole 400mg 3 x daily PLUS Amoxicillin 1g 3 x daily (If NBM give by IV route)	7-14 days	Infection indicated by new muco or purulent sputum, fever and x-ray changes.
Urinary Tract Infection (Signs and symptoms)	**Dipstick results alone are not diagnostic** **Urosepsis** 1st line: Gentamicin* 2nd line: if recent gentamicin, mod renal impairment or renal replacement therapy Aztreonam 2g x 4 daily (reduce dose in renal impairment - see TAM)	**Upper UTI/ Catheterised** Co-amoxiclav 625mg 3 x daily Ciprofloxacin 750mg 2 x daily **Lower UTI/Cystitis** Trimethoprim 200mg 2 x daily Nitrofurantoin MR 100mg 2 x daily Cefalexin 500mg 3 x daily	7 days 3 days (7 days for men)	**Take samples for Microbiology BEFORE antibiotics start, esp in urosepsis or upper UTI** Check SCi Store for recent sensitivities. Avoid trimethoprim if any antibiotics in last 3 months. Consider prostatic involvement. Remove/replace catheter after 24 hours therapy.
Skin & Soft Tissue Infection	Flucloxacillin 1 – 2g 4 x daily If dirty or penetrating wound ADD gentamicin* and Metronidazole 500mg 3 x daily	Flucloxacillin 500mg to 1g 4 x daily. If dirty or penetrating wound ADD Metronidazole 400mg 3 x daily	Depends on response 7-14 days	Care with facial cellulitis. Bites require co-amoxiclav. Penetrating wounds need surgical advice.
Septic Arthritis	Flucloxacillin 2g 4 x daily	Oral treatment NOT indicated	4 weeks	Send joint fluid or intra-operative samples to Microbiology. Consider OPAT referral early. Seek advice for prosthetic joints.
Osteomyelitis	ADD Rifampicin 300mg 2 x day (oral)		6 to 12 weeks	
Necrotising fasciitis is a surgical emergency. **SEEK URGENT SURGICAL OPINION AND CONTACT CONSULTANT MICROBIOLOGIST or ID CONSULTANT FOR REVIEW AS SOON AS POSSIBLE. Initiate treatment with Meropenem 2g 3 x daily PLUS clindamycin 1.2g 4 x daily. This will be reviewed by consultant microbiologist**				
Intra-abdominal (inc.Hepatobiliary)	Gentamicin* PLUS Metronidazole 500mg 3 x daily PLUS Amoxicillin1g 3 x daily		7-10 days	Seek surgical advice early. Oral route rarely appropriate initially.

*For gentamicin & vancomycin dosing and adjustment of dose in renal impairment refer to TAM website

Diarrhoea Diarrhoea may be a symptom associated with any systemic infection. Antibiotics are not usually indicated for community-acquired gastroenteritis.
Consider and test for C. diff. If C. diff + ve : See treatment algorithm. Assess severity and review current antibiotics, PPIs, laxatives.

Additional Notes: This guideline is ONLY for use for community-acquired infections being treated in hospital, and requiring empiric therapy. For hospital-acquired infections, and infections not covered here, refer to the Treatments and Medicines website (TAM) or contact microbiology for advice. **Assess need for antibiotics at each ward-round. "Full course" does not need completing if situation has changed.** Always check on SCI store for previous results and sensitivities, which may alter empiric therapy from the above. **If MRSA +ve, seek advice on need to cover MRSA in the current treatment.**

Antibiotic allergy: Document allergy history carefully, including checking with GP. True Penicillin allergy is rare, and cross-reactions with cephalosporins are exceptionally rare. If anaphylaxis documented to any antibiotic, all antibiotics should be used with caution. In life-threatening infection, use the most appropriate antibiotic, unless it has been documented as causing severe reaction.
True Penicillin allergy: Use aztreonam PLUS vancomycin* in neutropenia, chloramphenicol in CNS infection, aztreonam PLUS vancomycin PLUS metronidazole in sepsis of unknown origin, vancomycin in severe or doxycycline in mild/mod SSTI, levofloxacin in severe infective exacerbation of COPD, levofloxacin PLUS metronidazole in severe aspiration pneumonia and ciprofloxacin PLUS vancomycin* PLUS metronidazole in intra-abdominal sepsis.

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