

Empirical Initial Antimicrobial Guideline (See Lothian UHD Guideline also)

- Early appropriate antimicrobial therapy with source control¹ improves survival.
- Take appropriate samples for culture before starting antimicrobials.
- **Consider recent antibiotic therapy²** and previous microbiology results.

Infection	Preferred empirical treatment (IV unless otherwise stated)	Renal/CVVH adjustment
Community-acquired pneumonia (CURB65 ≥3)	Co-amoxiclav 1.2g tid WITH clarithromycin 500mg bd Consider oseltamivir in 'flu season'	✓ Consider ✓
Aspiration pneumonia	Early (< 5 days hospitalisation): amoxicillin 1g tid WITH metronidazole 500mg tid Late (hospitalisation ≥ 5 days): piperacillin-tazobactam 4.5g tid ^{3,4} Consider vancomycin ⁵	✓ x ✓ ✓
Hospital-acquired chest infection/VAP⁷	Piperacillin-tazobactam 4.5g tid ^{3,4} OR Ciprofloxacin 400mg bd ⁶ WITH vancomycin ⁵	✓ ✓
Intra-abdominal sepsis	Amoxicillin 1g tid WITH gentamicin (See LUHD guidelines for dosing and further advice) WITH metronidazole 500mg tid IF Severe AKI / on CVVH use Piperacillin-tazobactam 4.5g bd ^{3,4} If prolonged perforation consider antifungal (usually fluconazole)	✓ ✓ x ✓ ✓
Line-related sepsis	Vancomycin ⁵ WITH ONE OF: ciprofloxacin 400mg bd ⁶ OR piperacillin-tazobactam 4.5g tid ^{3,4} Consider antifungal (usually fluconazole - see antifungal guidelines)	✓ ✓ ✓
Dental Abscess	Co-amoxiclav 1.2g tid Alternative: Ceftriaxone 2g bd WITH metronidazole 500mg tid	✓ Consider
Life or Limb threatening soft tissue infection (Surgical debridement is the mainstay of Rx)	Flucloxacillin 2g qid WITH benzylpenicillin 2.4g 4 hourly (x6/day) WITH clindamycin 0.6-1.2g qid WITH gentamicin (See LUHD guidelines for dosing and further advice) WITH metronidazole 500mg tid Consider cutaneous anthrax Penicillin allergy: Contact Microbiology (See also UHD guidance)	✓ ✓ x x x
Sepsis: unknown origin	Amoxicillin 1g tid WITH gentamicin (See LUHD guidelines for dosing and further advice) WITH metronidazole 500mg tid IF Severe AKI / on CVVH use Piperacillin-tazobactam 4.5g bd ^{3,4} Consider vancomycin ⁵	✓ ✓ x ✓ ✓
Meningitis	Ceftriaxone 2g bd. Give dexamethasone 10mg qid before or within 4 hours of first antibiotic dose, stop if pneumococcal infection not confirmed. In patients >50 years, pregnant or immunosuppressed, add amoxicillin 2g 6 hrly (or co-trimoxazole if penicillin allergic) to cover Listeria. Consider adding aciclovir 10mg/kg tid to cover HSV encephalitis.	Consider ✓ ✓ ✓

Notes.

1. **Source control** includes removing lines, draining pus, debriding tissue and definitive operations
2. Take a **history of antibiotic use** in last 3 months, consider using a different class of antibiotics.
3. Piperacillin-tazobactam may be more effective if given as an **extended infusion**. See specific guideline.
4. Consider using meropenem 1g tid rather than piperacillin-tazobactam if recent treatment with co-amoxiclav / pip-taz, or if previous microbiology results suggest multi-resistant organisms.
5. **Consider whether vancomycin is required**, e.g. Gram-positive cover when used along with ciprofloxacin.
6. For severe VAP (especially Pseudomonal and potentially in other severe infections) **consider using more frequent doses of piperacillin-tazobactam (4.5g qid) and ciprofloxacin (400mg tid)**.
7. Yeasts in respiratory specimens are usually colonisers and **do not** normally require antifungals.
8. **Aim to de-escalate therapy** in light of culture results during the microbiology round.
9. **Length of treatment for VAP is generally 7 days**, although may be 5 days if rapid response or doubtful infection. Severe Pseudomonal VAP may need up to 14 days and combination therapy should be considered.
10. **Renal impairment** – may need dose adjustment. See BNF and Renal Dosing Handbook.
11. **Penicillin Allergy**: see UHD Antimicrobial Prescribing Guidelines and current BNF.
 - a) **Serious allergy** i.e. anaphylaxis Ciprofloxacin 400mg bd iv **PLUS** vancomycin* (**PLUS** metronidazole for intra-abdominal sepsis).
 - b) **if minor or questionable allergy** (e.g. minor rash occurring >72h after antibiotic started) it is acceptable to use ceftriaxone or meropenem. See BNF 5.1.1. (Penicillins).

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