LRCH - Empirical Antibiotics in Inpatients at London Road Community Hospital - Antibiotic Clinical Guideline

Reference no.:CG-ANTI/2016/002

These guidelines are intended for the treatment of inpatients at LRCH, who are not ill enough to need to be transferred over to RDH for intravenous treatment.

Check previous microbiology results before starting treatment

Check for previous "alert organisms" e.g. MRSA, C Difficile (including GDH) and ESBL/AMPC. To do this, select the patient on iCM and click on the "summary" tab. If present, the empirical choice below may not be suitable. Discuss with a consultant microbiologist.

Send samples before starting antibiotics, and deescalate treatment where possible to a narrow spectrum agent once results are available.

Consider arranging transfer to RDH if, in the clinical judgement of the medical team, the patient is unwell enough to require intravenous antibiotics.

Sepsis is life-threatening organ dysfunction as a result of a dysregulated host response to infection. It has a high mortality and is a medical emergency.

Condition	No allergy to penicillin	Penicillin allergy - Non-immediate reaction without systemic involvement	Penicillin allergy – immediate rapidly evolving reaction or non-immediate reaction with systemic involvement	Notes
URINARY TRACT INFECTIONS				
Note nitrofurantoin and oral fosfomycin are only suitable for lower UTIs as they do not reach sufficient tissue concentrations				
Lower uncomplicated UTI in females ***Send MSU for C+S***	eGFR > 45ml/min nitrofurantoin** 50mg qds for 3 days eGFR < 45ml/minute oral fosfomycin 3G sachet single dose Do not use oral fosfomycin if eGFR < 10ml/min or pt on dialysis			
Complicated lower UTI (lower UTI with risk factor(s) that predispose to persistent or recurrent lower UTI or treatment failure. Eg: male, calculus, neurogenic bladder, obstruction, recent instrumentation, diabetes, immunosuppressed) ***Send MSU for C+S***	eGFR > 45ml/min nitrofurantoin** 50mg qds for 7 days eGFR < 45ml/min oral fosfomycin 3 G every 3 days for 2 doses Do not use oral fosfomycin if eGFR < 10ml/min or pt on dialysis (Note: if using oral fosfomycin for a complicated lower UTI in a patient with eGFR >60ml/min, the dose is 3G every 2 days for 3 doses). Note that complicated lower UTI is an unlicensed indication for oral fosfomycin			
UTI in patients with a urinary catheter ***Send CSU for C+S*** Treat for 7 days	Co-amoxiclav* 625mg tds	Cefalexin* 500mg tds	Ciprofloxacin*! 500mg bd	If necessary transfer to RDH for IV treatment. Review CSU results and adjust treatment
	Only treat if symptomatic even if urine culture is positive. Consider removal or replacement of urinary catheter if in situ for >7 days			
Pyelonephritis /upper UTI ie. fever and/or loin pain *Send MSU for C+S and blood culture if pyrexial. Treat for 7 days*	Co-amoxiclav* 625mg tds	Cefalexin* 500mg tds	Ciprofloxacin*! 500mg bd	If necessary transfer to RDH for IV treatment. Review urine results and adjust treatment

*Do not use co-amoxiclav, ciprofloxacin or cefalexin in patients with previous C difficile or who are GDH positive. Discuss alternatives with a consultant microbiologist.

**** NITROFURANTOIN** If eGFR is 30-45ml/min, only use if there are no alternatives. If eGFR is < 30ml/minute, do not use. ! – see below for EMA safety warning for quinolones

RESPIRATORY TRACT INFECTIONS		
Exacerbation of COPD ***Send sputum sample for MC+S***	Doxycycline 200mg stat followed by 100mg od. If allergic or intolerant of doxycycline, amoxicillin oral 500mg tds for 5 days	These regimens will not cover pseudomonas. If the patient has previous documented pseudomonas in sputum, consider transfer to RDH for intravenous treatment. Oral ciprofloxacin may be an option to cover pseudomonas in some patients but carries a higher risk of C difficile and is not suitable as empirical monotherapy for pneumonia or a chest infection as it has poor Streptococcal cover. If known MRSA positive, add oral linezolid 600mg bd unless already on co-trimoxazole and there is confirmed sensitivity to this.
Hospital acquired lower respiratory tract infection ***Send sputum sample for MC+S***	If there is clinical suspicion of pneumonia, consider a chest X-ray. If chest x-ray shows no consolidation or pneumonia is not suspected, use doxycycline 200mg stat followed by 100mg od for 5-7 days. If chest x-ray does show consolidation or pneumonia is suspected, use co-trimoxazole 960mg bd. If aspiration is suspected, add metronidazole 400mg tds. If the patient is unsuitable for co-trimoxazole instead use co-amoxiclav 625mg tds alone (if not penicillin allergic) for 5-7 days. Consider arranging transfer to RDH if, in the clinical judgement of the medical team, the patient is unwell enough to require intravenous antibiotics.	
SKIN AND SOFT TISSUE INFECTIONS		
Skin and soft tissue infection *If open wound, send a tissue sample or deep wound swab after cleaning wound.* *Send a MRSA swab.*	Doxycycline 200mg stat then 100mg od If malodorous wound or pressure sore add metronidazole 400mg tds If clinically indicated transfer patient to RDH for intravenous treatment	Check MRSA status. If previously positive, treat according to sensitivities or if not available, use doxycycline
Cannula site infection *(from previously removed cannula)* *Send a wound swab and an MRSA swab*	Doxycycline 200mg stat then 100mg od unless C+S result available	

! The European Medicines Agency's Pharmacovigilance Risk Assessment Committee has recommended restricting the use of fluoroquinolone antibiotics following a review of prolonged, serious, disabling and potentially irreversible side effects (press release October 2018).
The serious side effects include tendonitis, tendon rupture, arthralgia, pain in extremities, gait disturbance, neuropathies associated with paraesthesia, depression, fatigue, memory impairment, sleep disorders, and impaired hearing, vision, taste and smell. Patients, who are older, have renal impairment or have had solid organ transplantation and those being treated with a corticosteroid are at higher risk of tendon damage. Concomitant treatment with a fluoroquinolone and a corticosteroid should be avoided**.** Patients should be advised to stop treatment with a fluoroquinolone antibiotic at the first sign of a side effect involving muscles, tendons or joints and the nervous system.

Fluoroquinolones may also be associated with a small increased risk of aortic aneurysm and dissection, particularly in older patients and those with a personal or family history of aortic aneurysm or dissection. Fluoroquinolones should only be used after careful assessment of the benefits and risks and after consideration of other therapeutic options. Click here for the MHRA advice

Documentation Controls

Development of Guideline:	Antimicrobial Pharmacist Consultant Microbiologists Consultant in rehabilitation Medicine Dr Youde
Consultation with:	Antimicrobial D+T subgroup Respiratory consultant
Version	4
Changes since previous version	Change from doxycycline and trimethoprim for non-severe HAP to co-trimoxazole Removal of advice regarding pivmecillinam as no longer in the empirical guideline Safety warning for ciprofloxacin Change to penicillin allergy nomenclature
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