Which antibiotics to use (for medical students)

GastroenteritisNI. (Frequently self-limiting, may not be

bacterial)Campylobacter enteritisNI unless immunocompromised or severe

infection -

Clarithro-, azithro-, OR erythro- mycin.

ALT: ciprofloxacin. ONWHICH ANTIBIOTICS TO USE (FOR MEDICAL STUDENTS)

SPECIFICALLY FOR YOUFOR ONLY$13. 90/PAGEOrder NowSalmonella (non-

typhoid)NI unless immunocompromised or severe infection -

Ciprofloxacin OR

cefotaxime. ShigellosisOnly treat if more than mild -

Ciprofloxacin OR

azithromycin

ALT (if sens): Amoxicillin OR trimethoprimTyphoid feverMulti-resistant (test

sensitivity)

Cefotaxime or ceftriaxone

ALT: Azithromycin OR ciprofloxacin (if sens)Clostridium difficileOral

metronidazole (10-14 days) OR

(for 3rd or severe infection) oral vancomycin (10-14 days)

IF (not responding or very severe) add IV metronidazoleBiliary-tract

infectionCiprofloxacin OR

gentamicin OR

a cephalosporinPeritonitisA cephalosprin + metronidazole OR

gentamicin + metronidazole OR

gentamicin + clindamycin OR

piperacillin with tazobactam (tazocin) aloneEndocarditis: initial 'blind'

therapy(Flucloxacillin OR benzylpenicillin if less severe) + Gentamicin

ALT (if resistant, or prostheses present): vancomycin + rifampicin +

gentamicinEndocarditis caused by staphylococciFlucloxacillin (4-6 weeks)

Add rifampicin for at least 2 weeks if prosthetic valve endocarditis.

ALT: vancomycin + rifampicinNative-valve endocarditis caused by fully sensitive streptococci

(eg. viridans streptococci)Benzylpenicillin (4 weeks)

ALT: vancomycin (4 weeks)

If large/abscess/infected emboli = benzylpenicillin + gentamicin (2 weeks)Native-valve endocarditis caused by less-sensitive streptococci.

Benzylpenicillin (4-6 wks) + gentamicin (2 wks)

ALT: 'vancomycin or teicoplanin (4-6 wks)' + gentamicin (2 wks)Prosthetic valve endocarditis caused by streptococci. Benzylpenicillin (6 wks) + gentamicin (2 wks)

ALT: 'vancomycin or teicoplanin (6 wks)' + gentamicin (2 wks)Endocarditis caused by enterococci

(eg. Enterococcus faecalis)(Amoxicillin or ampicillin) + gentamicin (4-6 wks)

ALT: (vancomycin or teicoplanin) + gentamicin

IF (gent-resistant): change gent to streptomycinEndocarditis caused by hameophilus, actinobacillus, cardiobacterium, eikenella, or kingella ('HACEK' organisms)(Amoxicillin or ampicillin '4-6 wks') + low-dose gentamicin (2 wks)

IF (amoxi-resistant): change amoxi to ceftriaxoneHaemophilus influenzae epiglottitisCefotaxime OR

ceftriaxone

ALT: chloramphenicolChronic bronchitis: acute exacerbations(Amoxicillin or ampicillin) '5 days' OR

a tetracycline '5 days'

ALT: (clarithro-, erythro-, or azithro- mycin) '5 days'Community-acquired pneumonia

(low-severity)Amoxicillin or ampicillin (7 days, 14-21 for staph)

IF (atypical), add (clarithro-, erythro-, or azithro- mycin)

ALT: doxycline OR (clarithro-, erythro-, or azithro- mycin)Community-acquired pneumonia

(moderate-severity)(Amoxicillin or ampicillin) + (clarithro-, erythro-, or azithro- mycin) '7 days, 14-21 for staph' OR

doxycycline alone

IF (MRSA), add (vancomycin or teicoplanin)Community-acquired pneumonia

(high severity)Benzylpenicillin + (clarithro-, erythro-, or azithro- mycin) '7-10 days, 14-21 for staph' OR

Benzylpenicillin + doxycycline

ALT: (cefuroxime or cefotaxime or ceftriaxone) + (clarithro-, erythro-, or azithro- mycin).

IF (life-threat, gram-neg, or nursing home): Co-amoxiclav + (clarithro-, erythro-, or azithro- mycin)

IF (MRSA), add (vancomycin or teicoplanin)Pneumonia caused by atypical pathogens

(eg. legionella, chlamydial, mycoplasma)(Clarithro-, erythro-, or azithro- mycin) '14 days'

ALT: a quinolone (for legionella), or doxycyline (for chlamydial/mycoplasma)Pneumonia caused by legionella(Clarithro-, erythro-, or azithro- mycin) '7-10 days'

ALT: a quinolone (eg. ciprofloxacin)

IF (high severity), add (Clarithro-, erythro-, or azithro- mycin) OR rifampicin

for first few daysPneumonia caused by chlamydial or mycoplasma(Clarithro-, erythro-, or azithro- mycin) '14 days'

ALT: doxycyclineHospital-acquired pneumonia

(early-onset, within 5 days after admission)Co-amoxiclav (7 days) OR cefuroxime (7 days)

IF (life-threat, recent abx, or resistant) treat as late-onsetHospital-acquired pneumonia

(late-onset, after 5 days post-admission)An antipseudomonal penicillin (eg. tazocin) '7 days' OR

broad-spectrum cephalosporin (eg. ceftazidime) OR

another antipseudomonal beta-lactam OR

a quinolone (eg. ciprofloxacin)

IF (MRSA): add vancomycin

IF (pseudomonas aeruginosa): consider adding aminoglycoside (eg. amikacin, gentamicin)Meningitis

(initial empirical therapy)Transfer to hospital urgently.

Benzylpenicillin 1. 2g (IM/IV) immediately

ALT: cefotaxime or chloramphenicolMeningitis (unknown cause)

(in hospital, in 3 month old to 50 year old.)(Cefotaxime or ceftriaxone) 'at least 10 days'

IF (recent abx, travel outside UK): consider adding vancomycin.

Consider adjunctive dexamethasone. Meningitis (unknown cause)

(in hospital, in adults over 50yo.)(Cefotaxime or ceftriaxone) + (amoxicillin or ampicillin) 'at least 10 days'

IF (recent abx, travel outside UK): consider adding vancomycin.

Consider adjunctive dexamethasone. Meningitis (caused by meningococci)

(in hospital)Benzylpenicillin (7 days) OR

(cefotaxime or ceftriaxone)

ALT: chlorampenhicolMeningitis (caused by pneumococci)

(in hospital)(Cefotaxime or ceftriaxone) '14 days'

IF (penicillin sens): use benzylpencillin instead.

IF (penicillin/cephalosporin resistant): add vancomycin +/- rifampicin.

Consider adjunctive dexamethasone. Meningitis (caused by Haemophilus influenzae)

(in hospital)(Cefotaxime or ceftriaxone) '10 days'

ALT: chloramphenicol

Consider adjunctive dexamethasone. Meningitis (caused by Listeria)

(in hospital)(Amoxicillin or ampicillin '21 days') + gentamicin (7 days)

ALT: co-trimoxazole '21 days'Pyelonephritis (acute)A broad-spectrum cephalosporin '10-14 days' OR

a quinolone (eg. ciprofloxacin) '10-14 days'Prostatitis (acute)(Ciprofloxacin or ofloxacin) '28 days'

ALT: trimethoprim '28 days'Urinary tract infection (lower)Trimethoprim (7 days) OR

nitrofurantoin (7 days)

ALT: (amoxicillin or ampicillin) OR

oral cephalosporin (eg. cefachlor)

Can treat for just 3 days in uncomplicated female UTIsBacterial vaginosisOral metronidazole (5-7 days)

ALT: topical metronidazole (5 days) OR topical clindamycin (7 days)Genital chlamydial infection

(uncomplicated)Contact tracing recommended.

Azithromycin (single dose) OR

doxycyline (7 days)

ALT: erythromycin (14 days)Non-gonococcal urethritisContact tracing recommended.

Azithromycin (single dose) OR

doxycyline (7 days)

ALT: erythromycin (14 days)Non-specific genital infectionContact tracing recommended.

Azithromycin (single dose) OR

doxycyline (7 days)

ALT: erythromycin (14 days)Gonorrhoea (uncomplicated)Contact tracing recommended. Consider chlamydia co-infection.

Azithromycin + IM ceftriaxone (single dose each)

ALT (oral): Cefixime + azithromycin (single dose each)

ALT (if quinolone sens) ciprofloxacin + azithromycinPelvic inflammatory diseaseContact tracing recommended.

Doxycyline + metronidazole (14 days) + IM ceftriaxone (single dose) OR

ofloxacin + metronidazole (14 days)Early syphillis (infection less than 2 years)Contact tracing recommended.

Benzathine benzylpenicillin (single dose)

ALT: doxycyline (14 days) OR

erythromycin (14 days)Late latent syphillis (asymptomatic infection of more than 2 years)Contact tracing recommende.

Benzathine benzylpenicillin (once weekly for 2 weeks)

ALT: doxycyline (28 days)Asymptomatic contacts of patients with infectious

syphillis. Doxycycline (14 days)Septicaemia

(community-acquired)A broad-spectrum anti-pseudomonal penicillin (eg. tazocin or ticarcillin with clavulanic acid) OR

a broad-spectrum cephalosporin (eg. cefuroxime).

IF (MRSA): add vancomycin or teicoplanin.

IF (anerobic): cefuroxime + metronidazole

IF (resistant): meropenem. Septicaemia

(hospital-acquired)A broad-spectrum antipseudomonal beta-lactam antibacterial (e. g. piperacillin with tazobactam, ticarcillin with clavulanic acid, ceftazidime, imipenem with cilastatin, or meropenem).

IF (MRSA): add vancomycin or teicoplanin.

IF (anerobic): cefuroxime + metronidazoleSepticaemia

(related to vascular catheter)Consider removing vascular catheter.

(Vancomycin or teicoplanin)

IF (gram-neg): add broad-spectrum antipseudomonal beta-lactam (eg. tazocin). Meningococcal septicaemiaGive immediate dose.

Benzylpenicillin OR

(cefotaxime or ceftriaxone)

ALT: chloramphenicolOsteomyelitisSeek specialist advice if chronic or prostheses.

Flucloxacillin (6 wks) +/- (fusidic acid or rifampicin '2 wks')

ALT: change fluclox to clindamycin

IF (MRSA): change fluclox to (vancomycin or teicoplanin)Septic arthritisSeek specialist advice if prostheses present.

Flucloxacillin (4-6 wks)

ALT: clindamycin (4-6 wks)

IF (MRSA): (vancomycin or teicoplanin)

IF (gonococcal or gram-neg) (cefotaxime or ceftriaxone)Purulent conjunctivitisChloramphenicol eye dropsPericoronitis (gum inflammation around erupting tooth)NI unless systemic features or persistent.

Metronidazole (3 days)

ALT: amoxicillihn (3 days)GingivitisNI unless systemic features or persistent.

Metronidazole (3 days)

ALT: amoxicillin (3 days)Throat infections (bacterial suspected)Consider bacterial if history of valvular heart disease, systemic upset, increased risk (eg. immunosuppressed).

Phenoxymethylpenicillin (10 days)

ALT: (Clarithro-, erythro-, or azithro- mycin) '10 days'Sinusitis (bacterial suspected)Consider bacterial if persistent and purulent discharge > 7 days, severe, or high risk.

(Amoxicillin or ampicillin) '7 days' OR

doxycycline (7 days) OR

(Clarithro-, erythro-, or azithro- mycin) '7 days'

IF (no improvement in 48 hrs): oral co-amoxiclav.

IF (severe) initial IV co-amoxiclav OR cefuroximeOtitis externaFlucloxacillin

ALT: (Clarithro-, erythro-, or azithro- mycin)

IF (pseudomonas): ciprofloxacin OR aminoglycoside (eg. gentamicin)Otitis mediaMost caused by viruses, or self-limited. Treat if not improved after 72 hrs or deterioration.

(Amoxicillin or ampicillin) '5 days'

ALT: (Clarithro-, erythro-, or azithro- mycin) '5 days'

IF (no improvement > 48 hrs): co-amoxiclavImpetigo

(small areas of skin infected)Seek microbiology advice before using topical treatment in hospital.

Topical fusidic acid (7 days)

IF (MRSA): topical mupirocin (7 days)Impetigo

(widespread infection)Oral flucloxacillin (7 days)

ALT: oral (Clarithro-, erythro-, or azithro- mycin)

IF (streptococci): add phenoxymethylpenicillinErysipelas

(streptococcus infection of superficial skin, with well-defined edge)Phenoxymethylpenicillin (7 days) OR

benzylpenicillin

ALT: clindamycin OR

(Clarithro-, erythro-, or azithro- mycin)

IF (severe): high-dose flucloxacillinCellulitis

(localized or diffuse inflammation of connective tissue with severe inflammation of dermal and subcutaneous layers of the skin)Flucloxacillin (high-dose)

ALT: clindamycin OR

(Clarithro-, erythro-, or azithro- mycin) OR

(vancomycin or teicoplanin)

IF (gram-neg): broad-spectrum antibacterialsAnimal and human bitesConsider tetanus vaccination/immunoglobulin +/- rabies prophylaxis. Assess risk of blood-borne viruses.

Co-amoxiclav

ALT: doxycycline + metronidazoleMastitis during breastfeedingTreat if severe, or persistent > 12-24 hrs, or infected.

Flucloxacillin (10-14 days)

ALT: erythromycin (10-14 days)

Continue breastfeeding throughout.