Title	Empirical Antibiotic Therapy in Children
Document Type	Guidance
Version number	PX029/03
Approval/Issue date	05/2022
Review dated	05/2024
Approved by	NHS Borders Antimicrobial Management Team Dr. Clare Irving, Cons. Paediatrician
Owner/Person Responsible	Anne Duguid
Developed by	NHS Borders Antimicrobial Management Team Dr. Clare Irving, Cons. Paediatrician
Reviewed by	NHS Borders Antimicrobial Management Team Dr. Clare Irving, Cons. Paediatrician
Healthcare Inequality Impact Assessed	N/A

Addition/amendments	
Removal of Covid indication	May 2022
Addition of Acute Mastoiditis indication	May 2022
UTI: change to referral age cut off & oral agent	May 2022
Bone and Joint: removal of sodium fusidate	May 2022
Addition of link to penicillin allergy advice	May 2022
Change to severe CAP	May 2022

Uncontrolled when printed

EMPIRICAL ANTIBIOTIC THERAPY IN CHILDREN

This guideline is intended to guide medical staff in the choice of appropriate antibiotic treatment of infections.
The initial treatment may need to be modified according to clinical response and results of microbiology and other investigations.
The appropriate specimens for microbiology should be taken whenever possible before administering antibiotics, however this will depend upon the severity of the illness and the nature of the specimen. In patients who are stable and not septic, and in whom infection is only one of a number of possibilities, consideration should be given to deferring antibiotics until the results of cultures are known, as long as there is no change in the clinical condition in the interim.
The need for antibiotics and their route of administration should be reviewed daily.
A definite decision regarding treatment should be taken at 2 and 5 days.
When clinically reasonable, consider changing from IV to oral therapy.
Seek specialist advice if infection suspected in immuno-compromised patients. General advice on Penicillin allergy can be found at http://intranet/resource.asp?uid=40663
Doses of antibiotics are as recommended in the BNF for Children.

NHS Borders

RATIONALISE ANTIBIOTIC THERAPY when microbiology results become available or clinical condition changes.
Further advice can be obtained from the Consultant Microbiologist (Bleep 6231) or Consultant Paediatrician. Infection Control advice may be given by the Consultant Microbiologist.

CNS Infection

Bacterial Meningitis

Always refer to senior staff.
Under 6 weeks (Steroids are not of proven benefit in this age group)
IV Cefotaxime+
IV Amoxicillin +
IV Gentamicin

6 weeks to 3 months (Steroids are not of proven benefit in this age group).
IV Cefotaxime

Older than 3 months
IV Cefotaxime
From 3 months, add **Dexamethasone (duration 4 days),** if bacterial meningitis without purpura.

If true penicillin allergy consult Paediatrician or Microbiology for advice.

Seek Paediatrician/ microbiology advice. Inform Public Health to discuss possible prophylaxis and contact tracing.

Septicaemia of unknown origin

Septic Neonate – community acquired

Early onset
<72 hours of age
IV Benzylpenicillin
+
IV Gentamicin

Late onset
> 72 hours of age
IV Cefotaxime +
IV Amoxicillin +
IV Gentamicin
and see neonatal unit guidelines

1 month and above – Community Acquired
IV Cefotaxime+
IV Gentamicin if severe

If meningitis cannot be excluded consider adding **IV Amoxicilin** for listeria cover up to 6 weeks of age

1 month and above – Hospital Acquired
IV Piperacillin/Tazobactam
+
IV Gentamicin
If true penicillin allergy: consult Microbiology for advice

Ceftriaxone*
In neonates see Cautions/ contra-indications in BNF for Children - an alternative is **Cefotaxime**

If higher dose of **Cefriaxone*** indicated in very severe infections see BNF dosing.

Lower respiratory tract

Non-severe community-acquired pneumonia (CAP) (Non neonatal)

Under 5 years
Oral Amoxicillin
Duration 5 days
or if true penicillin allergy
oral Azithromycin
Duration 3 days

5 years and above or mycoplasma or Chlamydia likely pathogen
Oral Azithromycin
Duration 3 days

Severe CAP

IV Cefotaxime
+
IV Clarithromycin

If septic consider adding
IV Gentamicin

Aspiration pneumonia
IV Co-amoxiclav
Or if true penicillin allergy
IV Clindamycin

Upper respiratory tract

Tonsillitis
First Line:
No antibiotics
Second Line:
Oral Penicillin V
Duration 5-10 days

Or if true penicillin allergy
Clarithromycin
Duration 5 days

Pertussis
Oral Clarithromycin

Duration 7 days
And inform Public Health.

Otitis media
Children with acute otitis media should not be routinely prescribed antibiotics. Consider delayed antibiotic treatment.
Oral Amoxicillin
or if true penicillin allergy
oral Clarithromycin

Duration 5days

Acute Mastoiditis
Seek ENT advice
IV Cefotaxime
+
IV Metronidazole

Gastro-intestinal

Gastro-enteritis
No antibiotic usually required

Intra-abdominal sepsis
IV Cefotaxime
+
IV Metronidazole

If true beta-lactam allergy
IV Clindamycin
+
IV Gentamicin

H pylori
Discuss with Paediatrician before treatment

Threadworms
> 6 months
Mebendazole

<6months seek advice

Note: mebendazole not licensed in children <2 years of age

Candida (oral)
Nystatin

Urinary Tract

Refer to Paediatrician if child is under 3 months of age /or severely unwell.

Upper tract UTI/pyelonephritis or with systemic upset

●Fever above 38°C and significant systemic upset or if patient below 3 months of age
IV Ceftriaxone*
+/-
IV Gentamicin
If true penicillin allergy use gentamicin initially and discuss with Microbiology

●Fever above 38°C and mild systemic upset in patients above 3 months of age
Oral cefalexin
If true penicillin allergy discuss with Microbiology

3 months or older with lower tract UTI/cystitis with no systemic upset

Oral Cefalexin

Bone/joint Infection

Septic arthritis/ Osteomyelitis

5 years and under
IV Cefuroxime
Switching to oral co-amoxiclav
If true penicillin allergy: Discuss with Microbiology

6 years and above -
IV Flucloxacillin
Switching to oral co-amoxiclav liquid or flucloxacillin capsules

If true penicillin allergy
IV Clindamycin and discuss with Microbiology.
Switching to oral clindamycin

If incomplete HIB immunisation then use IV Co-amoxiclav

Skin/soft tissue

Cellulitis
IV Flucloxacillin
Switching to oral **Flucloxacillin**

or if true penicillin allergy'
Non severe illness:
IV Clarithromycin
Severe illness:
IV Vancomycin

If severe sepsis or incomplete HIB immunisation add **gentamicin to above.**

Duration 5-14 days (longer courses may be required)

Orbital or periorbital cellulitis
Refer to ENT/opthalmology
IV Flucloxacillin + IV Cefotaxime
(+ IV Metronidazole if no clinical improvement after 24-36h)

If true penicillin allergy
IV clindamycin
+IV gentamicin

Human/animal bite
Co-amoxiclav
Or if true penicillin allergy
Human bite **Metronidazole + Clarithromycin**
Animal Bite – **Metronidazole +**
Co-trimoxazole
Duration 5- 7days

3 days of prophylactic antibiotics should be given to all moderate/severe bites especially if oedema, crush, puncture wounds, facial, genital, hand or foot bites or immuno-compromised hosts.
Consider tetanus prophylaxis and, for human bites, blood borne virus transmission. Consider rabies if animal bite acquired in endemic area.

Impetigo - Topical fusidic acid, consider topical if only small areas of very localised lesions after checking with Microbiology

oral Flucloxacillin if widespread.

If true penicillin allergy –**Clarithromycin**
Duration 5 days then review

Eyes

Conjunctivitis
1st line:
No treatment

2nd line:
Chloramphenicol
Drops/ointment

Miscellaneous

Athlete's foot – **topical clotrimazole**

Candida (perineal) - topical clotrimazole

Otitis externa ->2 years of age
Otomize ear spray

NHS Borders Antimicrobial Management Team May 2022 (Review date May 2024)
Based on NHS Greater Glasgow & Clyde Guidelines & Children's BNF