



UK-PAS

Antimicrobial Paediatric Guide

UK-PAS national empirical antimicrobial prescribing guidance

CLINICAL GOVERNANCE RECORD

This document is a fixed PDF snapshot of the interactive web guidance, generated for archival and clinical governance purposes.

Snapshot date: 07 October 2026

Source: BSAC UK-PAS Antimicrobial Paediatric Summary (national)

Status: Reference copy — always check for the latest approved version before clinical use.

Contents

1. Sepsis inc. CLABSI

- Sepsis
- Contact Prophylaxis
- Sepsis immunocompromised
- Central line associated blood-stream infection (CLABSI)

2. Central Nervous System

- Meningitis / Encephalitis
- Meningitis / Encephalitis Organism Targeted
- Brain Abscess
- CSF shunt infection
- Neurosurgical prophylaxis
- Toxoplasmosis

3. Ear, Nose & Throat

- Otitis Media
- Cochlear Implant Infection
- Otitis Externa
- Mastoiditis
- Tonsillitis / Lemierre's
- Tracheitis / Epiglottitis
- Oral candida
- Retropharyngeal abscess
- Lymphadenitis / Parotitis
- Scarlet fever
- Sinusitis
- ENT Surgical prophylaxis

4. Respiratory

- Community Associated Pneumonia
- Healthcare Associated Pneumonia
- Aspiration Pneumonia
- Empyema / Pneumothorax
- Bronchiectasis
- Pneumocystis jirovecii pneumonia (PCP)
- Pertussis
- Tuberculosis
- Influenza
- COVID
- Cystic fibrosis

5. Skin & Soft Tissue

- Impetigo
- Cellulitis
- Skin abscess
- Human / Animal Bites
- Necrotising fasciitis
- Pyomyositis
- Burns
- Soft Tissue Injury
- Surgical Site Infection
- Lyme Disease / Tick Bites
- Scabies
- Head lice
- Fungal skin Infection
- Leishmaniasis

6. Bone & Joint

- Osteomyelitis / Septic arthritis
- Discitis
- Orthopaedic surgical prophylaxis

7. Gastrointestinal

- Infectious diarrhoea
- Helicobacter pylori
- Appendicitis / Peritonitis
- Mediastinitis
- Pancreatitis
- Cholecystitis / Biliary Infection
- Liver abscess
- GI / Thoracic Surgical Prophylaxis

8. Eye / Orbital

- Conjunctivitis
- Orbital cellulitis and Pre-septal cellulitis
- Ophthalmia Neonatorum
- Blepharitis
- Endophthalmitis
- Keratitis

- Toxoplasmosis
- 9. **Urinary Tract**
 - Lower Urinary Tract Infections
 - Pyelonephritis / Upper Urinary Tract Infection
 - Complicated UTI
 - UTI Prophylaxis
 - Catheter Associated Urinary Tract Infections
 - Peritoneal dialysis associated peritonitis
 - Urology Surgical Prophylaxis
- 10. **Genital Tract**
 - Chlamydia trachomatis / other urethritis
 - Epididymitis / Orchitis
 - Vulvovaginal Candidiasis
 - Bacterial Vaginosis
 - Genital Herpes
 - Gonorrhoea
 - Trichomoniasis
 - Pelvic Inflammatory Disease
 - Balanitis
 - Syphilis
 - Warts - anogenital
- 11. **Cardiovascular**
 - Endocarditis
 - Cardiac Surgical Prophylaxis
 - Rheumatic fever
- 12. **Invasive fungal infections**
- 13. **Neonatal & Viruses**
 - Neonatal unit infections
 - Syphilis
 - Cytomegalovirus
 - Toxoplasmosis
 - Chickenpox / Varicella Zoster (VZV)
 - Herpes Simplex
 - HIV
 - Hepatitis B
 - Hepatitis C
- 14. **Prophylaxis**
 - Splenectomy / hyposplenism
- 15. **Parasites**
 - Malaria
 - Worms
- 16. **Major Incident**
 - Major incident
 - Infection
- 17. **Appendices**
 - Abbreviations
 - Start smart then focus: antimicrobial stewardship toolkit for inpatient care settings - GOV.UK (www.gov.uk)
 - Penicillin Allergy
 - Notify Public Health
 - Antimicrobials
 - Solid dose forms (tablets and capsules)
 - IV to Oral Switch (IVOS)
 - Intravenous Antibiotics at Home / paediatric out-patient parenteral antimicrobial therapy (pOPAT)
 - AWaRe
 - Editorial Process
 - Scope and purpose
 - Clinical governance



Sepsis inc. CLABSI

Sepsis

Sepsis

Sepsis: life-threatening acute organ dysfunction due to a dysregulated response to infection

Fever without focus:

<1 month treat as serious bacterial infection

1-3 months treat if unwell or WBC <5 or >15 x10⁹/L

>3 months treat if 'red' flag (see NICE NG143)

>5 years see NICE NG51

If focus, treat as per localised infection

Obtain appropriate **cultures** before starting antibiotic (including blood culture, urine (catheter if necessary), lumbar puncture)

Severe sepsis start within **1 hour**

If not severe, start within **3 hours**

Start Smart Then Focus

Check previous **microbiology** results

if recent antibiotic-resistant organisms contact Paed ID / Micro

if Listeria not grown stop **amoxicillin** / **co-trimoxazole** after 48 hours incubation

Adjust empiric treatment with oral switch based on results of cultures

Notify Public Health of suspected invasive meningococcal and GAS infection

Neonatal Units follow Neonatal Guidelines, usually **benzylpenicillin** and **gentamicin**

- Typhoid see Infectious Diarrhoea

Key points	Treatment	Duration	Penicillin allergy
Sepsis with no obvious focus Not immunocompromised BSAC Paediatric Pathways Fever under 90 days BSAC Paediatric Pathways Petechial rash	cefTRIAXone OR cefOTAXime	Empiric 5 days if rapid response 7-10 days usually	low risk allergy cefTRIAXone OR cefOTAXime <1 month old + co-trimoxazole IV high risk allergy meropenem <1 month old + co-trimoxazole IV Carbapenem allergy vancomycin OR teicoplanin + ciprofloxacin discuss with Allergy / Immunology / Infection Specialist
	<1 month old + amoxicillin IV		
	+ aciclovir IV *see below See below and Meningitis / encephalitis		
	+ gentamicin if severe sepsis requiring inotropes/critical care or likely resistant organisms e.g., frequent or prolonged hospitalisation onset >48 hours following admission		
	+ teicoplanin IV if previously MRSA positive or concern about infected prosthetic material see CLABSI below		
Sickle cell fever with no focus	+ clindamycin IV if suspected staphylococcal / streptococcal toxic shock until stable usually 48 hours (discuss IVIG with Paed ID/ Micro unresponsive to antibiotics or life threatening)	If no bacterial focus identified and clinically improving, consider stopping antibiotic	clarithromycin PO if severe high risk allergy meropenem + clarithromycin PO
	co-amoxiclav PO OR if severe cefTRIAXone OR cefOTAXime + clarithromycin PO		

***Aciclovir:**

<1 month, if any one of:

- ALT or AST >2x ULN
- coagulopathy
- vesicles
- seizures
- CSF pleocytosis
- suspected meningitis/encephalitis
- recent maternal herpes simplex disease OR
- postnatal contact with herpes simplex virus

Day 3-14 age at presentation:

- no other obvious cause OR
- not improving OR
- unexplained maternal febrile illness peripartum to 14 days postpartum, especially if premature

Organisms

Sepsis	Duration of treatment	<i>Depends on clinical scenario discuss with Infection specialist</i> Oral switch / shorter duration if - improve <72 hrs - source control - not immune-compromised
Group A Strep / Pneumococcus	7 - 10 days	
Group B Strep	7 days	
Meningococcus	5 days	
Staphylococcus aureus MSSA	14 days (7 days on Infection Specialist advice)	
Staphylococcus aureus MRSA	14 days	
Gram negative	7 - 10 days	

Group A Strep, Meningococcus and Haemophilus influenzae see Contact Prophylaxis

NICE NG51 Sepsis: recognition, diagnosis and early management

NICE NG143 Fever in under 5s: assessment and initial management

NICE CG195 Neonatal infection: antibiotics for prevention and treatment

RCPC Blue Book 4 edn p340 Ch 36 Toxic shock

Surviving Sepsis Campaign

Sepsis Trust

AAP 2020 Clinical Management of Staphylococcus aureus Bacteremia in Neonates, Children, and Adolescents

IDSA 2021 *Optimizing the Management of Uncomplicated Gram-Negative Bloodstream Infections: Consensus Guidance Using a Modified Delphi Process*

ADC 2021 Listeria infection in young infants: results from a national surveillance study in the UK and Ireland

Section updated Feb 2025

Feedback: UKPAS@BSAC.org.uk

Contact Prophylaxis

Contact Prophylaxis

Confirmed cases of Sepsis or Meningitis

Notify Public Health

Key points	Treatment	Duration	Penicillin allergy
Meningococcus	<u>ciprofloxacin</u> PO	Single dose	
Group A Streptococcus	<u>phenoxymethylpenicillin</u> (Penicillin V) PO	10 days	<u>clarithromycin</u> PO
Haemophilus influenzae type b	<u>rifampicin</u> PO	4 days	

Give household contacts prophylaxis immediately from hospital

UKHSA 2023 UK guidelines for the management of contacts of invasive group A streptococcus (iGAS) infection in community settings

UKHSA 2024 Revised recommendations for the prevention of secondary Haemophilus influenzae type b (Hib) disease

UKHSA 2024 Guidance for public health management of meningococcal disease in the UK

Section updated Feb 2025

Feedback: UKPAS@BSAC.org.uk

Sepsis immunocompromised

Sepsis immunocompromised

Haematology / Oncology, Febrile Neutropenia $<0.5 \times 10^9/L$ or other immune deficiency

Refer to local Paediatric Haematology / Oncology Antibiotic and Antifungal Guideline for full guideline

Refer to local severe sepsis and sepsis shock guidelines for paediatric critical care

Key points	Treatment	Duration	Penicillin/Cephalosporin allergy
1st line	piperacillin with tazobactam	As above for Sepsis	meropenem Carbapenem allergy teicoplanin + ciprofloxacin discuss with Allergy specialist
Patient-specific or local specialist unit protocols	gentamicin OR amikacin (discuss with Paed ID / Micro if high local rates of gentamicin resistance)		
IV methotrexate	ceftazidime + gentamicin OR amikacin		
2nd line or colonised with organisms resistant to piperacillin with tazobactam	meropenem +/- amikacin		
Suspected central venous catheter infection (see CLABSI)	1st line above + teicoplanin OR vancomycin		

NICE CG151 *Neutropenic sepsis: prevention and management in people with cancer*

ESPAUR 2024 Local resistance English surveillance programme for antimicrobial utilisation and resistance

JAC-AMR 2025 Adaptation of the WHO AWaRe antibiotic classification to support national antimicrobial stewardship priorities in the UK

UKHSA 2025 Laboratory surveillance of paediatric bacterial bacteraemia and antimicrobial resistance in England: 2019 to 2023

Section updated Feb 2025

Feedback: UKPAS@BSAC.org.uk

Central line associated blood-stream infection (CLABSI)

Central line associated blood stream infection (CLABSI)

Key points	Antibiotic	Duration	Penicillin allergy
Empiric treatment	vancomycin OR teicoplanin + cefTRIAxone OR cefOTAXime if septic	If line removed, duration of antibiotics from 1st negative culture after line removal: • Coagulase negative staphylococci: 5–7 days • <i>Staphylococcus aureus</i> (MSSA): 7–14 days • MRSA: 14–28 days • Enterococcus: 7–14 days • Gram-negative bacilli: 7–14 days • Candida: 14 days after blood cultures have become sterile and no disseminated disease • Other organisms: discuss with Paed ID / Micro	low risk: cefTAZidime + vancomycin OR teicoplanin high risk: gentamicin + vancomycin OR teicoplanin
Immunosuppressed or history of <i>Pseudomonas</i> sepsis	piperacillin with tazobactam (6-hourly) + vancomycin OR teicoplanin		
Coagulase negative staphylococcus	vancomycin OR teicoplanin		
<i>Staphylococcus aureus</i>	MSSA: flucloxacillin IV MRSA: vancomycin OR teicoplanin		vancomycin OR teicoplanin
Enterococcus	<i>E. faecalis</i> : amoxicillin IV <i>E. faecium</i> : vancomycin OR teicoplanin	If line stays in (see Line lock below): • Coagulase negative staphylococci: 10–14 days • Enterococcus: 7–14 days	vancomycin OR teicoplanin VRE: linezolid OR daptomycin
<i>Candida</i> spp (except <i>C. glabrata</i> / <i>lusitanae</i>)	Echinocandin (e.g. micafungin / caspofungin)		
On parenteral nutrition (TPN) give via line	vancomycin OR teicoplanin + high dose cefTRIAxone (NOTE: not compatible with TPN) OR cefOTAXime . Consider piperacillin with tazobactam if severe sepsis. Consider echinocandin (e.g. micafungin / caspofungin) if unresponsive after 48 hrs.		
Seek Paed ID / Micro advice if isolate resistant to any of the suggested empiric agents or not listed (e.g. glycopeptide-resistant Enterococcus, Gram-negative organism).			

Cultures: take repeat blood cultures from the Central Venous Catheter (CVC) when the laboratory calls to say there is a positive blood culture. Two positive blood cultures with the same organism are highly suggestive of CVC infection. Repeat blood cultures (both CVC and peripheral) after 48 hours of antibiotic treatment if the line cannot be removed, or if fever persists and the child is not improving clinically.

Remove non-tunnelled venous catheters associated with confirmed blood stream infection promptly if *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Stenotrophomonas* or *Candida*, or if persistently positive blood cultures despite treatment, or if clinically unstable where CLABSI is suspected.

Line lock

1. Infection

- Improves the chance of salvaging the CVC.
- Line locks are not useful in CVCs which have been inserted <14 days previously.
- Antibiotic line-lock should be locked into the catheter lumen for as long as possible (up to 48 hours), during periods when the catheter is not being used.
- The antibiotic lock should be aspirated before the line is used for other infusions.
- The amount instilled should be equivalent to the priming volumes printed on the catheter or clamp.
- The volume of antibiotic line locks prescribed should be no more than 1 ml for children <2 years, and 2 ml for children ≥2 years.
- Suitable antibiotics for line locks: [vancomycin](#) (for Gram positive infections), [aminoglycosides](#) (for Gram negative infections) — discuss sensitivities with Paed ID / Micro. Refer to local guidelines.

2. Prevention

- Use catheter lock solutions (e.g. Taurolock or Kitelock) as a preventative strategy for the following:
 - Prophylaxis for patients with limited venous access and a history of recurrent CLABSI
 - Patients who are at heightened risk of severe sequelae from a CLABSI

RCPCH Blue Book 4th edn p97 Ch 9 — Central Venous Catheter Infection · IDSA 2009 — Diagnosis and Management of Intravascular Catheter-Related Infection · Lancet ID 2016 — Antibiotic duration and IV-to-oral switch timing · American Society for Microbiology 2018 — Tetrasodium EDTA eradication of CVC biofilms · JAC-AMR 2021 — Treatment of MRSA: updated UK guidelines · J Vasc Access 2021 — 4% T-EDTA catheter lock solution in home parenteral nutrition · JPEN 2021 — Reduction of CLABSI and line occlusions using 4% tetrasodium EDTA · J Hosp Infect 2022 — Catheter salvage strategies in children (systematic review) · SHEA/IDSA/APIC 2022 — Strategies to prevent CLABSI in acute-care hospitals · PIDJ 2024 — Oral Antibiotics and Shorter Durations · AAP 2024 — Pediatric Central Venous Access Device Lock Solutions: Network Meta-analysis · J Hosp Infect 2024 — 2% taurolidine lock solution in neonates.

Section updated Feb 2025



Central Nervous System

Meningitis / Encephalitis

- Empiric treatment pending culture sensitivities then see [organism targeted treatment](#) or shunt related meningitis
- Start antimicrobial therapy <1 hour of presentation after lumbar puncture unless contraindicated
- Oral antibiotics are not appropriate treatment for a patient with suspected or confirmed meningitis
- Refer to severe sepsis and sepsis shock guidelines for paediatric critical care
- Notify Public Health

Key points	Age	Antibiotics	Duration	Penicillin allergy	
amoxicillin / co-trimoxazole : stop if cultures do not grow <i>Listeria</i> after 48 hours (<i>Listeria</i> rare >1-month-old)	<1 month	high dose cefTRIAxone OR cefOTAXime + amoxicillin IV +/- aciclovir IV* see below	See organism targeted treatment	Penicillin low risk allergy: high dose cefTRIAxone OR cefOTAXime + co-trimoxazole IV if <1 month old	
Dexamethasone Age: >3 months 0.15 mg/kg to a maximum dose of 10 mg, four times daily for 4 days • Start if ≤12 hours from first antibiotics		>1 month		high dose cefTRIAxone OR cefOTAXime	Penicillin high risk allergy: meropenem +/- aciclovir IV* see below
Stop if organism other than pneumococcus or Hib identified		Healthcare Associated Infection or surgery in last 3 months		vancomycin + ceftAZidime OR if ESBL colonised meropenem	Carbapenem allergy teicoplanin + ciprofloxacin discuss with Allergy / Immunology / Infection Specialist
**Encephalitis		aciclovir IV high dose			

*[aciclovir](#):

<1 month, if any one of:

- ALT or AST >2x ULN
- coagulopathy
- vesicles
- seizures
- CSF pleocytosis
- suspected meningitis/encephalitis
- recent maternal herpes simplex disease OR
- postnatal contact with herpes simplex virus

Day 3-14 age at presentation:

- no other obvious cause OR
- not improving OR
- unexplained maternal febrile illness peripartum to 14 days postpartum, especially if premature

**[Any age encephalopathy and fever](#)

Send EDTA blood and CSF for HSV PCR; if negative and low suspicion or alternative cause found then can stop [aciclovir](#).

NICE NG240 2024 Meningitis (bacterial) and meningococcal septicaemia in under 16s: recognition, diagnosis and management · RCPCH Blue Book 4th edn p49 Ch 6 — Bacterial meningitis · BPAIG 2012 — Suspected viral encephalitis in children · ADC 2012 — Encephalitis in children · ESCMID 2016 — Acute bacterial meningitis · IDSA 2017 — Healthcare-Associated Ventriculitis and Meningitis · ADC 2021 — *Listeria* infection in young infants · CID 2023 — Acute encephalitis · ESCMID 2024 — AWARe empiric antibiotic recommendations.

Section updated July 2026

Meningitis / Encephalitis Organism Targeted

Meningitis / encephalitis — organism specific

Confirmed cause	Treatment	Duration (longer if empyema)	Penicillin / cephalosporin high risk allergy Discuss with Allergy Specialist
<i>Neisseria meningitidis</i> See Prophylaxis	High dose cefTRIAxone OR cefOTAXime OR if confirmed penicillin sensitive: benzylpenicillin	5 days	meropenem Carbapenem allergy ciprofloxacin (if recent travel to USA or Asia, chloramphenicol empirically until sensitivities known)
<i>Haemophilus influenzae</i> type b See Prophylaxis	High dose cefTRIAxone OR cefOTAXime OR if confirmed amoxicillin sensitive: amoxicillin IV	7-10 days	meropenem Carbapenem allergy ciprofloxacin
<i>Streptococcus pneumoniae</i>	High dose cefTRIAxone OR cefOTAXime OR if confirmed penicillin sensitive: benzylpenicillin	10 days	meropenem Carbapenem allergy vancomycin OR teicoplanin (if able to measure levels)
Group B streptococcus	Targeted benzylpenicillin + gentamicin Alternative High dose cefTRIAxone OR cefOTAXime	14 days gentamicin 5 days 14 days	meropenem Carbapenem allergy vancomycin OR teicoplanin (if able to measure levels) + gentamicin
<i>Listeria monocytogenes</i>	amoxicillin IV + co-trimoxazole IV OR gentamicin	21 days co-trimoxazole IV OR gentamicin for initial 7 days only	co-trimoxazole IV + gentamicin
Gram negative bacillus	High dose cefTRIAxone OR cefOTAXime	Minimum 21 days	meropenem Carbapenem allergy ciprofloxacin + gentamicin (until sensitivities known)
Herpes simplex encephalitis	aciclovir IV Prophylaxis following treatment for HSV encephalitis <3 months old: aciclovir PO <3 m old: 300 mg/m ² 8 hrly >3 m old: 1340 mg/m ² 12 hrly to 12 months	<12 years old or immunosuppressed 21 days then repeat LP >12 years old 14 days then repeat LP	
Tuberculosis	Discuss with Paed ID / TB specialist		
CNS Candidiasis (rare outside the neonatal period, besides neurosurgery)	Liposomal amphotericin B +/- 5-flucytosine (with TDM). Followed by maintenance with Fluconazole IV or Voriconazole IV	At least 6 weeks after resolution of the signs and symptoms associated with the infection. Specialist advice required.	
Culture & PCR negative suspected bacterial meningitis	High dose cefTRIAxone OR cefOTAXime	<3 months 14 days >3 months 10 days	meropenem Carbapenem allergy teicoplanin + ciprofloxacin

NICE NG240 2024 Meningitis (bacterial) and meningococcal septicaemia in under 16s: recognition, diagnosis and management · RCPCH Blue Book 4th edn p598 Ch 76 — HSV 1 and 2 · UKHSA 2024 — Meningococcal disease: public health management · UKHSA 2024 — Prevention of secondary *Haemophilus*

influenzae type b disease · AAP Red Book 2024 — Group B Streptococcal Infections, *Haemophilus influenzae*, Meningococcal Infections, Pneumococcal Infections.

Candida references: ESCMID 2012 — Candida diseases: prevention and management of invasive infections in neonates and children caused by *Candida* spp · IDSA 2016 — Clinical Practice Guideline for the Management of Candidiasis · ISHAM/ECMM 2025 — **Global guideline for the diagnosis and management of candidiasis.**

Section updated July 2026

Brain Abscess

Brain abscess

Brain abscess / subdural empyema	Treatment	Duration	Penicillin or cephalosporin high risk allergy
Community associated	high dose cefTRIAXone OR cefOTAXime + metronidazole PO. If associated with chronic suppurative otitis media, start piperacillin/tazobactam empirically.	Excised brain abscess: 4 weeks Aspirated or conservatively treated brain abscess: 6-8 weeks	meropenem Carbapenem allergy: telcoplanin + ciprofloxacin Discuss with Allergy Specialist
Severe immunocompromised • organ transplant recipient • active chemotherapy • biological treatment, or • haematological malignancy	high dose cefTRIAXone OR cefOTAXime + metronidazole PO + co-trimoxazole IV + voriconazole IV	IVOS with infection specialist advice	meropenem Carbapenem allergy: telcoplanin + ciprofloxacin . Discuss with Allergy Specialist immunocompromised: + voriconazole IV
Post-neurosurgical	meropenem + vancomycin IV		

Likely causative organisms

There is often a mixture of organisms involved. The most likely pathogens are anaerobes and streptococci (including *Streptococcus anginosus*). Coliforms and *Staphylococcus aureus* may also be involved.

Lancet ID 2016 — IV-to-oral switch timing · IDSA 2017 — Healthcare-Associated Ventriculitis and Meningitis · ESCMID 2024 — Diagnosis and treatment of brain abscess in children and adults · PIDJ 2024 — Oral Antibiotics and Shorter Durations.
Section updated July 2026

CSF shunt infection

Shunt infection

Complete removal of an infected CSF shunt and replacement with an external ventricular drain, combined with intravenous antimicrobial therapy, is recommended in patients with infected CSF shunts.

Key points	Treatment	Duration	Penicillin or cephalosporin high risk allergy
Empiric antibiotics after CSF culture	<u>cefTRIAxone</u> OR <u>cefOTAXime</u> + <u>vancomycin IV</u>	10–14 days if shunt removed	<u>meropenem</u> Carbapenem allergy: <u>vancomycin</u> + <u>ciprofloxacin</u>
Healthcare Associated Infection or surgery in last 3 months	<u>cefTAZidime</u> + <u>vancomycin IV</u> OR if ESBL colonised: <u>meropenem</u> + <u>vancomycin IV</u>		
Coagulase Negative Staphylococcus	<u>vancomycin IV</u> + <u>rifampicin PO</u> if sensitive and CSF shunt or drain in situ + (if access is available) intrathecal <u>vancomycin</u> <i>Discuss with PID if shunt cannot be removed.</i>		

Likely causative organisms

Initial treatment of these infections should cover both Gram-positive organisms (e.g. *Staphylococcus epidermidis*) and Gram-negatives (e.g. coliforms).

IDSA 2017 — Healthcare-Associated Ventriculitis and Meningitis · PIDJ 2024 — Oral Antibiotics and Shorter Durations.
Section updated July 2026

Neurosurgical prophylaxis

Neurosurgical prophylaxis

Key points	Treatment	Duration	Penicillin or cephalosporin high risk allergy
CSF leak or depressed skull fracture	Pneumococcal vaccine. Antibiotic prophylaxis not required.		
Penetrating intracranial injury	<u>cefTRIAxone</u> OR <u>cefOTAXime</u> + <u>metronidazole PO</u>	5 days	penicillin high risk allergy or MRSA: <u>vancomycin IV</u> + <u>metronidazole PO</u>
Clean neurosurgery including shunt	<u>cefUROXime IV</u>	Single dose within 60 minutes before incision	
Neurosurgery involving mastoid / nasal sinus	<u>cefUROXime IV</u> + <u>metronidazole PO</u>		
Healthcare Associated Infection	<u>ceftAZidime</u> if device or MRSA: + <u>vancomycin IV</u> if ESBL colonised: <u>meropenem</u> + <u>vancomycin</u> + <u>ciprofloxacin</u>		<u>meropenem</u> Carbapenem allergy: <u>teicoplanin</u> discuss with Allergy Specialist

Likely causative organisms

Initial treatment of these infections should cover both Gram-positive organisms (e.g. *Staphylococcus epidermidis*) and Gram-negatives (e.g. coliforms).

NICE NG125 — Surgical site infections · Cochrane 2015 — Antibiotic prophylaxis for meningitis in basilar skull fractures · Lancet ID 2016 — IV-to-oral switch timing · IDSA 2017 — Healthcare-Associated Ventriculitis and Meningitis · WHO 2018 — Prevention of surgical site infection · Acta Neurochir 2023 — Antibiotic prophylaxis in penetrating traumatic brain injury · ESCMID 2024 — AWaRe empiric antibiotic recommendations.

Section updated July 2026

Toxoplasmosis

Toxoplasmosis

Discuss all cases with an expert in Paediatric Infection to ensure appropriate investigations and parental counselling.

Key points	Treatment	Duration
Congenital toxoplasmosis (Do not start without Paediatric Infection specialist advice)	pyrimethamine sulfadiazine folinic acid	12 months
Encephalitis — immunocompromised	pyrimethamine PO sulfadiazine PO folinic acid PO OR if oral not tolerated: co-trimoxazole IV	6 weeks Then prophylaxis. Stop if CD4 >200 cells/microL and HIV undetectable over 3 months.
Ocular disease	co-trimoxazole	6–8 weeks, until clinical resolution. Prophylaxis 6–12 months. Joint management with ophthalmology.

AAP 2017 — Diagnosis, Treatment and Prevention of Congenital Toxoplasmosis in the United States · CMR 2020 — Epidemiology, pathophysiology, diagnosis, and management of cerebral toxoplasmosis · ADC EP 2020 — Fifteen-minute consultation: Management of the infant born to a mother with toxoplasmosis in pregnancy · ADC 2021 — Stop, think SCORTCH: rethinking the traditional ‘TORCH’ screen in an era of re-emerging syphilis · EACS 2023 — European AIDS Clinical Society Guidelines v12.0 · BHIVA Guideline — Opportunistic infections · British Journal of Ophthalmology 2022 — Current practice in the management of ocular toxoplasmosis · Asia-Pacific Journal of Ophthalmology 2025 — Controversy and consensus on the management of ocular toxoplasmosis.

Section updated January 2026



Ear, Nose & Throat

Otitis Media

Otitis Media

The majority of infections are viral. Antibiotics should only be given if there is no resolution or deterioration in symptoms over 72 hrs.

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin allergy
First line Antibiotics vs placebo 88% vs 84% no pain at 2-3 days	paracetamol / ibuprofen		
If no otorrhoea	anaesthetic and analgesic ear drops (phenazone with lidocaine e.g., Otigo™)	4 drops 2-3x/day for 7 days	
Systemically unwell or high risk of complications	phenoxymethylpenicillin PO if unable to tolerate phenoxymethylpenicillinamoxicillin PO	5 days 7 days for severe or recurrent infection	clarithromycin PO
If worsening symptoms after 2-3 days on first line treatment	co-amoxiclav PO		co-trimoxazole PO
Recurrent acute otitis media	Do not use prophylactic antibiotics		

Likely causative organisms	
Common	Viruses <i>H. influenzae</i> , <i>S. pneumoniae</i> , Group A streptococcus, <i>Moraxella catarrhalis</i>

NICE NG91 Otitis media (acute): antimicrobial prescribing

PIDJ 2019 Section updated Guidelines for the Management of Acute Otitis Media in Children by the Italian Society of Pediatrics: Prevention

ESCMID 2024 WHO's essential medicines and AWARe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Cochlear Implant Infection

Cochlear Implant Infection

Key points		Treatment	Duration	Penicillin allergy low risk allergy	Penicillin allergy high risk allergy
Acute otitis media with cochlear implant (no signs of meningitis)	> 2 months since surgery	co-amoxiclav PO	2-6 weeks according to response / deep-seated infection	clarithromycin PO	
	< 2 months since surgery	cefTRIAxone OR cefOTAXime			
Cochlear implant infection (with mastoiditis or meningitis)	> 2 weeks since surgery	cefTRIAxone OR cefOTAXime			vancomycin + ciprofloxacin IV
	< 2 weeks since surgery	meropenem + vancomycin			

AAP 2010 Cochlear Implants in Children: Surgical Site Infections and Prevention and Treatment of Acute Otitis Media and Meningitis

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Otitis Externa

Otitis Externa

Key points	Treatment	Duration	Penicillin allergy
First line	analgesia for pain relief and apply localised heat (such as a warm flannel)		
Second line	topical acetic acid 2% OR	7 days	
	topical gentamicin with hydrocortisone If perforation: ciprofloxacin ear drops	7 -14 days	
If cellulitis or disease extends outside ear canal, or systemic signs of infection, take deep swabs before treating	flucloxacillin PO OR if unable to take capsules cefALEXin PO OR co-amoxiclav PO	7 days	clarithromycin PO OR doxycycline (>8 years old)
Malignant otitis externa to cover <i>Pseudomonas aeruginosa</i>	piperacillin with tazobactam high dose + ciprofloxacin topical	4-6 weeks	low risk allergy: cefTAZidime + ciprofloxacin topical high risk allergy: ciprofloxacin IV + gentamicin topical

Likely causative organisms	
Common	<i>Staphylococcus aureus</i> , <i>S. pyogenes</i> (Group A)
Rare	<i>Pseudomonas aeruginosa</i>

Oto Head Neck Surg 2014 Clinical practice guideline: acute otitis externa

ENT UK 2023 Otitis externa - Global ENT Guideline

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Mastoiditis

Mastoiditis

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin Low risk allergy	Penicillin High risk allergy
Mastoiditis (no intracranial involvement)	co-amoxiclav IV Oral switch: co-amoxiclav PO	2 weeks	clindamycin IV/OS	
Mastoiditis (with intracranial involvement)	high dose cefTRIAXone OR cefOTAXime + metronidazole PO + vancomycin IV if MRSA	If intracranial involvement 4 weeks	high dose cefTRIAXone OR cefOTAXime + metronidazole PO + vancomycin IV if MRSA	vancomycin IV + ciprofloxacin IV

Likely causative organisms
<i>Streptococcus pneumoniae</i> <i>Moraxella catarrhalis</i> <i>Haemophilus influenzae</i> Group A <i>Streptococcus</i> Less common: <i>Staphylococcus aureus</i> occasionally anaerobes

ENT UK Clinical Guideline: Management of acute mastoiditis in children

BSO 2020 Acute mastoiditis guideline
Acta Biomedica 2020 Acute mastoiditis in children
Section updated Sept 2024
Feedback: UKPAS@BSAC.org.uk

Tonsillitis / Lemierre's

Tonsillitis / Lemierre's

- The majority of cases are viral and require no treatment
- Please use clinical decision-making tools to support your prescribing decisions.
- FeverPAIN is a validated tool to predict Streptococcal sore throats.

≥3 years old use FeverPAIN to assess symptoms:

FeverPAIN criteria (score 1 for each)

- **F**ever (during previous 24 hours)
- **P**urulence (pus on tonsils)
- **A**ttend rapidly (within 3 days after onset of symptoms)
- **S**everely **I**nflamed tonsils
- **N**o cough or coryza (inflammation of mucus membranes in the nose)

0-1: no antibiotic

2-3: no or back-up antibiotic

4-5: immediate or back-up antibiotic

<3 years old:

- Fever <1 month treat
- Fever 1-3 months treat if unwell or WBC <5 or >15 x 10⁹/L
- Fever >3 months treat if 'red' flag (see NICE NG143)

Systemically very unwell or high risk of complications: immediate antibiotic

Key points BSAC Paediatric pathways	Treatment	Duration	Penicillin allergy
First line	Paracetamol / ibuprofen		
<3 yrs old See NICE 143 above ≥3 yrs old FeverPAIN ≥4 (score 2-3: back up prescription)	phenoxymethylpenicillin PO if unable to tolerate phenoxymethylpenicillin amoxicillin PO if unable to take oral benzylpenicillin	5 days 10 days for recurrence /relapse within 2 weeks	clarithromycin PO
Peritonsillar abscess with surgical drainage +/- dexamethasone	benzylpenicillin IV Oral switch: phenoxymethylpenicillin PO If unresponsive co-amoxiclav IV to oral switch If evidence of toxin mediated disease + clindamycin	7 days total	clindamycin IV to oral switch
Lemierre's <i>Fusobacterium necrophorum associated with septic thrombophlebitis of internal jugular vein and emboli to lungs and other organs</i>	cefTRIAXone OR cefOTAXime + metronidazole IV Oral switch: co-amoxiclav PO	3 - 6 weeks	clindamycin PO

NICE NG84 Sore throat (acute): antimicrobial prescribing

NICE NG143 Fever in under 5s: assessment and initial management

Cochrane 2012 Short-term late-generation antibiotics versus longer term penicillin for acute streptococcal pharyngitis in children

Cochrane 2016 Needle aspiration versus incision and drainage for the treatment of peritonsillar abscess

J Micro, Imm, Infect 2020 Lemierre's syndrome: A forgotten and re-emerging infection

Cochrane 2021 Antibiotics for sore throat in children and adults

Pediatric Reports 2024 Pediatric Lemierre's Syndrome: A Comprehensive Literature Review

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Tracheitis / Epiglottitis

Tracheitis / Epiglottitis

If *Haemophilus influenzae* type b vaccine given, *Staphylococcus aureus* more likely

Key points	Treatment		Duration	Penicillin allergy
Epiglottitis	high dose cefTRIAxOne OR cefOTAXime	Oral switch: co-amoxiclav PO	5 days	low risk allergy cefaZOLin + ciprofloxacin
Tracheitis	cefUROXime + clindamycin IV			high risk allergy: clindamycin + ciprofloxacin . Oral switch: co-trimoxazole
If MRSA colonised	high dose cefTRIAxOne OR cefOTAXime + teicoplanin OR vancomycin Oral switch: co-trimoxazole (if sensitive) PO			

Otolaryngology 2019 Pediatric bacterial tracheitis

BMJ Best Practice 2023 Epiglottitis

Section reviewed March 2025

Feedback: UKPAS@BSAC.org.uk

Oral candida

Oral candida

Key points	Treatment	Duration
Non-immunocompromised	miconazole oral gel	7 days after lesions healed
Immunocompromised	fluconazole PO	7 – 21 days (7 days after lesions healed)

NICE CKS Candida – oral

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Retropharyngeal abscess

Retropharyngeal abscess

See Tonsillitis for Peritonsillar abscess

Key points	Treatment	Duration	Penicillin allergy high risk allergy:
Duration depends on drainage. Make sure any pus is sent for culture and treatment is targeted to culture results	co-amoxiclav IV Severe: cefUROXime IV + metronidazole PO (or IV if unable to swallow) Oral switch: co-amoxiclav PO	10-14 days	clindamycin IVOS

Likely causative organisms	
Common	<i>Streptococcus viridans</i> , <i>Staphylococcus aureus</i> , <i>Streptococcus epidermidis</i> and beta-haemolytic streptococci
Rare	<i>Veillonella</i> species, <i>Bacteroides melaninogenicus</i> , <i>Haemophilus parainfluenzae</i> and <i>Klebsiella pneumoniae</i>

BMJ Best practice 2022 Retropharyngeal abscess

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Lymphadenitis / Parotitis

Lymphadenitis / Parotitis

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin allergy
Well child with few systemic symptoms and generalised lymphadenopathy	no antibiotics		
Well child with few systemic symptoms and unilateral, red, hot, tender lymphadenopathy	flucloxacillin PO (capsules) OR if not tolerated: cefALEXin PO OR co-amoxiclav PO	7 days minimum IVOS	clarithromycin OR clindamycin PO
Systemically unwell (acute bacterial lymphadenitis / suppurative parotitis)	flucloxacillin IV OR co-amoxiclav IV		
Atypical mycobacteria	Consult ENT for excision if possible No antibiotics		
Toxoplasma	co-trimoxazole PO	1 month	
Bartonella	no antibiotics		
EBV serology	test if adolescent, pharyngitis, headache, hepatosplenomegaly, hepatitis		
Viral parotitis	more commonly bilateral (e.g., mumps) do not give antibiotics. Acute bacterial parotitis is often unilateral		

RCPCH Blue Book 4 edn p146 Ch 15 Enlarged lymph nodes & 692 Ch 91 NTM Infections

Int J ID 2010 Treatment of toxoplasmic lymphadenitis with **co-trimoxazole**: double-blind, randomized clinical trial

Oral Surg 2015 Pediatric cervicofacial lymphadenitis caused by Bartonella henselae

J Infect 2015 The management of non-tuberculous cervicofacial lymphadenitis in children

Int J Ped Oto 2023 International Pediatric Otolaryngology Group: Consensus guidelines on the diagnosis and management of non-tuberculous mycobacterial cervicofacial lymphadenitis

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Scarlet fever

Scarlet fever

Key points	Treatment	Duration	Penicillin allergy
Prompt treatment with appropriate antibiotics significantly reduces the risk of complications. Vulnerable individuals (immunocompromised, other conditions, or skin disease) are at increased risk of developing complications. Optimise analgesia and give safety netting advice Notify Public Health	phenoxymethylpenicillin PO amoxicillin PO can be used if unable to tolerate phenoxymethylpenicillin	10 days	clarithromycin PO

NICE CKS *Scarlet fever*

UKHSA 2019 *Scarlet fever: symptoms, diagnosis and treatment*

Section updated Aug 2024

Feedback: UKPAS@BSAC.org.uk

Sinusitis

Sinusitis

Key points	Treatment	Duration	Penicillin allergy
Symptoms for 10 days or less	paracetamol or ibuprofen for pain		
Symptoms with no improvement for more than 10 days	no antibiotic or back-up antibiotic depending on likelihood of bacterial cause. Consider high-dose nasal corticosteroid (if over 12 years) mometasone furoate or fluticasone .		
	phenoxymethylpenicillin PO amoxicillin PO can be used if unable to tolerate phenoxymethylpenicillin	5 days	clarithromycin PO
Systemically unwell High risk of complications: pre-existing illness (e.g., significant heart, lung, renal, liver or neuromuscular disease, immunosuppression, cystic fibrosis and prematurely born infants) CT head if GCS falls or new neurological signs	co-amoxiclav PO		

Likely causative organisms	
Common	Viruses <i>H. influenzae</i> , <i>S. pneumoniae</i> , Group A streptococcus, <i>Moraxella catarrhalis</i>

NICE NG79 Sinusitis (acute): antimicrobial prescribing

ESCMID 2024 WHO's essential medicines and AWARe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

ENT Surgical prophylaxis

ENT Surgical prophylaxis

Key points	Treatment	Duration	Penicillin allergy
General airway procedures Adenoidectomy Bronchoscopy Tonsillectomy	Not recommended		
Grommet insertion	Consider topical ciprofloxacin	Single dose (2 drops each ear) within 60 minutes before incision	
Major ear surgery Mastoid surgery Tympanoplasty/ myringoplasty Pinnaplasty Cochlear implant Nasal surgery Dermoid Glioma Other congenital masses Neck surgery Lymphatic malformation Tracheostomy Branchial abnormalities Thyroglossal cyst	co-amoxiclav IV	Single dose within 60 min before incision	low risk allergy cefaZOLin IV + metronidazole IV high risk allergy clindamycin IV MRSA teicoplanin

NICE NG125 Surgical site infections: prevention and treatment

Laryngoscope 2009 Antibiotic Prophylaxis in Cochlear Implant Surgery

Cochrane 2012 Antibiotics to reduce post-tonsillectomy morbidity

Cochrane 2013 Interventions for the prevention of postoperative ear discharge after insertion of ventilation tubes (grommets) in children

IAO 2013 Antibiotic prophylaxis in otolaryngologic surgery

WHO 2018 Global guidelines for the prevention of surgical site infection

JAMA 2019 Evaluation of Prolonged vs Short Courses of Antibiotic Prophylaxis Following Ear, Nose, Throat, and Oral and Maxillofacial Surgery: A Systematic Review and Meta-analysis

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk



Respiratory

Community Associated Pneumonia

Community Associated Pneumonia

Consider differentials. This guidance should not be applied to children unlikely to have CAP. Presence of generalised wheeze makes a viral aetiology far more likely, and presence of fever is an essential feature in CAP.

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin Allergy
<1 month old	cefTRIAxone OR cefOTAXime Oral switch co-amoxiclav PO	5 days	
>1 month old	amoxicillin PO	3 days (unless 1–2 months old or >12 years: 5 days)	clarithromycin PO OR doxycycline (>8 years old)
Severe infection*	Amoxicillin PO (IV if unable to tolerate enterals). If no improvement despite 48 hours amoxicillin or completed amoxicillin course in preceding 14 days, for co-amoxiclav PO. If complicated pneumonia (empyema / necrotising pneumonia) or significant immunosuppression, for co-amoxiclav IV	5 days unless complicated pneumonia i.e. empyema or necrotising pneumonia – minimum 14 days antibiotic course (4 weeks if loculated empyema)	low risk allergy: cefUROXime IV +/- clarithromycin PO high risk allergy: teicoplanin IV + ciprofloxacin IV
Atypical infection**	+ clarithromycin PO		
Sickle cell acute chest syndrome	cefTRIAxone OR cefOTAXime + clarithromycin PO	5–7 days	
Protracted bacterial bronchitis	co-amoxiclav PO	2–4 weeks: review at 2 weeks and stop if improved	clarithromycin PO OR doxycycline (>8 years old) PO
PVL <i>Staphylococcus aureus</i>	clindamycin if sensitive, IV to oral OR linezolid IV to oral	10–14 days	

Antibiotics are not indicated in viral LRTI, e.g. if coryzal symptoms, and including SARS-CoV-2 if not requiring oxygen.

Consider also pertussis.

* Severe community-associated pneumonia (NPEWS)

- Severe tachypnoea
- Severe tachycardia
- Severe respiratory distress (severe recession; age <12 months: nasal flaring, grunting)
- Apnoeas (ages <12 months)
- Hypoxia (sustained O₂ sats ≤92% in room air)
- Cyanosis
- Signs of severe dehydration
- Capillary refill time >2 secs

** Atypical infection

- Pertussis
- *Chlamydia trachomatis* under 4 months old
- *Mycoplasma pneumoniae*
 - Negative upper respiratory PCR can help rule out *M. pneumoniae* LRTI.
 - Positive PCR results should not be used to diagnose *M. pneumoniae* LRTI — poor specificity, false positive asymptomatic upper respiratory tract carriage.
 - Features to increase suspicion include:
 - therapy failure after 3 days of beta-lactam antibiotics

- older children (>5 years)
- prolonged fever and respiratory symptoms (>6 days)
- low CRP (<50 mg/L)
- mucocutaneous manifestations, in particular Stevens-Johnson-like lesions
- current epidemiology (outbreaks occur every 4 to 7 years)
- Extra-pulmonary symptoms are usually immune mediated and are not an indication for prescribing antibiotics.
- CXR findings cannot distinguish between *M. pneumoniae* and other causes of pneumonia.

NICE NG138 Pneumonia (community-associated): antimicrobial prescribing · NICE NG120 Cough (acute): antimicrobial prescribing · BTS 2011 Paediatric Community Associated Pneumonia · PLOS 2013 Carriage of *Mycoplasma pneumoniae* in the Upper Respiratory Tract of Symptomatic and Asymptomatic Children · Lancet ID 2016 Antibiotic duration and timing of the switch from intravenous to oral route · J Infect 2017 Things that could be *Mycoplasma pneumoniae* · ERS 2017 ERS statement on protracted bacterial bronchitis in children · IJAA 2018 Pantone-Valentine leukocidin-positive *Staphylococcus aureus*: position statement · CAP-IT 2021 Effect of Amoxicillin Dose and Treatment Duration on the Need for Antibiotic Re-treatment · Lancet Resp 2021 Duration of amoxicillin-clavulanate for protracted bacterial bronchitis in children (DACS) · WHO 2022 AWaRe antibiotic book Ch 12 p147 and Ch 27 p362 · PIDJ 2024 Challenging Dogma in the Treatment of Childhood Infections: Oral Antibiotics and Shorter Durations

Section updated March 2025

Healthcare Associated Pneumonia

Healthcare Associated Pneumonia

Key points		Treatment	Duration	Penicillin allergy
<4 days in hospital		Treat as Community Associated Pneumonia (CAP)		
≥4 days in hospital 1st line	Age <1 month	cefTRIAXone OR cefOTAXime + gentamicin	Routine 5 days Slow response up to 10 days Review IV therapy after 24-48 hours	clarithromycin PO
	Age >1 month	co-amoxiclav PO		
Severe infection	1st line	cefTRIAXone OR cefOTAXime Oral switch co-amoxiclav PO		ciprofloxacin IV + teicoplanin
	2nd line / immunocompromised	piperacillin with tazobactam		
	if suspected or confirmed MRSA infection	+ teicoplanin		

Likely causative organisms	
Common	Coliforms
Rare	Pseudomonas spp.

NICE NG139 Pneumonia (hospital-associated): antimicrobial prescribing

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated Aug 2024

Feedback: UKPAS@BSAC.org.uk

Aspiration Pneumonia

Aspiration Pneumonia

Samples / Investigations

Sputum /respiratory cultures

Blood cultures if septic / febrile

Key points	Treatment	Duration	Penicillin allergy
Mild	chemical inflammation / irritation of airways, no antibiotic required		
Moderate	<u>amoxicillin</u> PO	5 days If no signs of infection at 72 hours STOP antibiotics Slow response: up to 10 days	low risk allergy: <u>cefUROXime</u> IV oral switch <u>clarithromycin</u> high risk allergy: <u>clindamycin</u> PO + <u>ciprofloxacin</u> if septic IV
Severe	<u>co-amoxiclav</u> PO		

Likely causative organisms

Streptococci, coliforms
Less common: anaerobes

BTS 2023 *BTS clinical statement on aspiration pneumonia*

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Empyema / Pneumothorax

Empyema / Pneumothorax

Samples / Investigations

Pleural fluid, blood cultures

Additional management: drainage; site peripherally inserted central catheter (PICC) / midline when placing chest drain

Consider TB culture and PCR if high risk group for tuberculosis

Key points	Treatment	Duration	Penicillin allergy
Initial IV therapy	co-amoxiclav IV if toxin mediated disease (haemodynamic instability, mucosal erythema, rash, diarrhoea) + clindamycin IV	Total 2 - 3 weeks Less for small effusion Oral switch when afebrile >24 hrs; no respiratory distress; not septic; tolerating feeds and CRP improving	low risk allergy ceFUroxime IV high risk allergy ciprofloxacin IV + clindamycin IV IVOS clindamycin PO OR co-trimoxazole PO + metronidazole PO

Prophylaxis	Treatment	Duration	Penicillin allergy
Spontaneous pneumothorax	No antibiotics		
Traumatic pneumothorax	co-amoxiclav PO	Single dose at time of drain insertion	low risk allergy ceFUroxime IV high risk allergy clindamycin IV

Likely causative organisms

Streptococcus pneumoniae, Group A *Streptococcus*, *Staphylococcus aureus*

BTS 2005 *BTS guidelines for the management of pleural infection in children*

BTS 2010 Management of pleural infection in adults: British Thoracic Society pleural disease guideline

Lancet 2020 Complicated pneumonia in children

TSACO 2022 Antibiotic prophylaxis for tube thoracostomy placement in trauma

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Bronchiectasis

Bronchiectasis

(non-cystic fibrosis)

- Send sputum for culture: target therapy to previous culture results if available

Key points	Treatment	Duration	Penicillin allergy
Pseudomonas not previously isolated	<u>amoxicillin</u> PO	7-14 days Review by 48 hours and consider switch to oral antibiotics	<u>clarithromycin</u> PO OR <u>doxycycline</u> (>8 years old) PO
If higher risk of treatment failure	<u>co-amoxiclav</u> PO if hypoxic IV		<u>ciprofloxacin</u> PO
If treatment failure on <u>co-amoxiclav</u>	<u>piperacillin with tazobactam</u> high dose		<u>ciprofloxacin</u> IV + <u>teicoplanin</u>

Treatment of exacerbations where pseudomonas is isolated

Key points	Treatment	Duration	Penicillin allergy
Initial episode	<u>piperacillin with tazobactam</u> high dose	14 days	<u>ciprofloxacin</u> IV + <u>tobramycin</u>
	+ <u>tobramycin</u>		
Exacerbation when chronically colonised	<u>ciprofloxacin</u> PO OR	14 days	
	<u>piperacillin with tazobactam</u>	14 days	<u>ciprofloxacin</u> IV/PO +/- <u>tobramycin</u>
	+/- <u>tobramycin</u>		

Likely causative organisms	
Common	<i>Haemophilus influenzae</i>
Rare	<i>Streptococcus pneumoniae</i> , <i>Staphylococcus aureus</i> , <i>Moraxella catarrhalis</i> , <i>Pseudomonas aeruginosa</i>

- For tobramycin refer to tobramycin monitoring information
- For treatment of an initial episode when IV treatment is less suitable for an individual patient eradication may be attempted with ciproflo
- with or without nebulised colomycin for 2 weeks

Do not routinely offer antibiotic prophylaxis to prevent exacerbations

NICE NG117 Bronchiectasis (non-cystic fibrosis), acute exacerbation: antimicrobial prescribing

ERS 2021 European Respiratory Society guidelines for the management of children and adolescents with bronchiectasis

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Pneumocystis jirovecii pneumonia (PCP)

Pneumocystis jirovecii pneumonia (PCP)

An opportunistic infection occurring in immunocompromised patients (including HIV). Please refer all patients to relevant specialist / microbiology.

Key points	Treatment	Duration	Additional treatment
	<u>co-trimoxazole</u> (high dose) Oral route preferred	21 days	Continue secondary prophylaxis after completion of treatment according to underlying condition and immune status

Corticosteroids in moderate-severe infection with HIV

- **Prednisolone PO** 2 mg/kg (max. 80 mg daily) for 5 days, or IV **hydrocortisone**.
- Reduce dose over the next 16 days and then stop.
- Start at the same time as the anti-pneumocystis therapy (no later than 72 hours after).
- Stop before anti-pneumocystis treatment is complete.

ECIL 2016 — Treatment of *Pneumocystis jirovecii* pneumonia in non-HIV-infected haematology patients · EACS 2024 — European AIDS Clinical Society v12.
Section updated July 2026

Pertussis

Pertussis

Key points	Treatment	Duration	Macrolide contraindication
Notify Public Health	<u>clarithromycin</u> PO	7 days	<u>co-trimoxazole</u> PO

NICE CKS Whooping cough

RCPCH Blue Book 4 edn *p742 Ch 98 Pertussis*

NIHP (PHE) 2018 Pertussis (whooping cough): information for healthcare professionals

UKHSA 2024 Pertussis: guidelines for public health management

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Tuberculosis

Tuberculosis

Refer all cases of suspected or proven TB to Paeds ID / TB specialist

Formulations: Rifampicin 100mg/5ml; 300mg, 150mg cap Isoniazid 50mg/5ml; 300mg; 100mg, 50mg tab Pyrazinamide 500mg/5ml; 500mg tab Ethambutol 400mg/5ml; 400mg, 100mg tab Pyridoxine (if on isoniazid) 10 mg once/day 5 mg <1 month old (½ x 10mg tab)		mg/kg	range (mg/kg)	max	Rifater 1 tab	Voractiv 1 tab	Latent TB RH 3 months OR H 6 months OR R 4 months Non-CNS TB 2 months RHZE then 2-4 months RH CNS TB (urgent) 2 months RHZE then 10 months RH
	Isoniazid (H)	10	10-15	300 mg	50 mg	75 mg	
	Rifampicin (R)	15	10-20	450 mg (<50kg) 600 mg (>50kg)	120 mg	150 mg	
	Pyrazinamide (Z)	35	30-40	1.5 g (<50kg) 2 g (>50kg)	300 mg	400 mg	
	Ethambutol (E)	20	15-25			275 mg	
CNS TB (URGENT) treatment with prednisolone 4 mg/kg/24 h OR dexamethasone 0.6 mg/kg/24 h for 4 weeks followed by a reducing course over 2 weeks							

Active TB first 2 months (use combinations to simplify treatment and reduce pill burden – example below)

Body weight (kg)	Rifinah (R/H) 150/100	Voractiv	Isoniazid 50	Pyrazinamide 500	Ethambutol 400	Pyridoxine 10	Total tablets
15-20	1	1	1			1	4
20-25	2			1 ½	1	1	5 ½
25-30	1	2				1	4
30-35	1	2	1	½		1	5 ½
35-45	1	3				1	5
45-70		4				1	5
>70		5				1	6

Active TB continuation phase and Latent TB

Body weight (kg)	Rifinah (R/H) 150/100	Rifinah (R/H) 300/150	Pyridoxine 10 mg	Total tablets
10-15	1		1	2
15-20	1 ½		1	2 ½
20-25	2		1	3
25-30	2 ½		1	3 ½
30-35	3		1	4
35-40	1 ½	1	1	3 ½
>40		2	1	3

Resistance: Discuss with experts in Paediatric TB

Isoniazid Mono - resistance	6 months RZE + levofloxacin (Lfx)
Pyrazinamide Mono - resistance	2 months RHE then 7 months RH
Ethambutol Mono - resistance	2 months RHZ then 4 months RH

NICE NG33 Tuberculosis

TB monographs

BIA TBM 2009 British Infection Society guidelines for the diagnosis and treatment of tuberculosis of the central nervous system in adults and children

WHO 2022 WHO consolidated guidelines on tuberculosis. Module 4: treatment - drug-resistant tuberculosis treatment

WHO 2022 WHO consolidated guidelines on tuberculosis: module 5: management of tuberculosis in children and adolescents

BAPT 2023 Care of children and young people exposed to or infected with tuberculosis

WHO 2024 Key updates to the treatment of drug-resistant tuberculosis

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Influenza

Influenza

Key points	Treatment	Duration
Uncomplicated Previously healthy	No treatment OR if serious risk complications <u>oseltamivir</u> PO	Start within 48 hours of onset 5 days
At risk group OR <6 months old	<u>oseltamivir</u> PO	
Complicated OR Severely immunosuppressed	<u>oseltamivir</u> PO OR <u>zanamivir</u> <i>inhaled</i> / IV (2nd line)	5 days 10 days (immunosuppressed)
High risk <u>oseltamivir</u> resistance OR 2nd line: poor clinical response, resistance	<u>zanamivir</u> <i>inhaled</i> / IV (2nd line)	5 days 10 days (immunosuppressed)

Annual vaccination is essential for all those 'at risk' of influenza. Treat 'at risk' patients with 5 days oseltamivir, when influenza is circulating in the community, and ideally within 48 hours of onset (36 hours for zanamivir)

At risk: children under 6 months; chronic respiratory disease (including asthma); significant cardiovascular disease (not hypertension); immunosuppression; chronic neurological, renal or liver disease; diabetes mellitus; morbid obesity (BMI>40).

In severe immunosuppression, or oseltamivir resistance, use zanamivir 10mg BD (2 inhalations twice daily by diskhaler for up to 10 days) and seek advice.

Uncomplicated influenza: Influenza presenting with fever, coryza, generalised symptoms (headache, malaise, myalgia, arthralgia) and sometimes gastrointestinal symptoms, but without any features of complicated influenza.

Complicated influenza: Influenza requiring hospital admission and/or with symptoms and signs of lower respiratory tract infection (hypoxaemia, dyspnoea, lung infiltrate), central nervous system involvement and/or a significant exacerbation of an underlying medical condition

Low risk oseltamivir resistance A(H3N2), influenza B

High risk oseltamivir resistance A(H1N1)

NICE CKS Influenza - seasonal

UKHSA 2021 Guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Treatment should be discussed with the regional paediatric infectious diseases team: see RCPCH 2024 for indications

Key points			Treatment	Duration
In air + <5 days symptoms + high risk group: immunosuppressed; BMI >95th centile; severe respiratory, cardiac, renal or liver disease; neuro-disability; haemoglobinopathy; chromosomal anomalies with significant comorbidity	1st line	≥12yrs, ≥40kg, post pubescent	nirmatrelvir and ritonavir (Paxlovid) PO	5 days
		>4 weeks of age and at least 3kg	remdesivir IV	5 mg/kg loading dose on day 1, followed by 2.5 mg/kg once a day for 2 days
	2nd line	≥12 years and ≥40kg	sotrovimab IV	once
	3rd line	≥12 years and ≥40kg and not eligible for Paxlovid or sotrovimab	remdesivir IV	5 mg/kg loading dose on day 1, followed by 2.5 mg/kg once a day for 2 days
Additional O2 requirement + high risk group			dexamethasone IV/PO	150 microgram/kg once/day (max 6 mg) 10 days
	1st line	>4 weeks of age and at least 3kg	remdesivir IV	5 mg/kg loading dose on day 1, followed by 2.5 mg/kg once a day for 2 days
	2nd line	Only after discussion with paediatric infectious diseases team	tocilizumab IV	

RCPCH 2024 SARS-CoV-2 / COVID-19 Treatments

NICE 2024 COVID-19 rapid guideline: managing COVID-19

Section updated Feb 2025

Feedback: UKPAS@BSAC.org.uk

Cystic fibrosis

Cystic fibrosis

Check sensitivities and give narrowest spectrum

Key points	Treatment	Duration	Penicillin allergy
<i>Staphylococcus aureus</i> MSSA	flucloxacillin PO IV for severe exacerbation	Prophylaxis to 3-6 years Acute exacerbation 14 days	<8 years co-trimoxazole >8 years doxycycline
<i>Staphylococcus aureus</i> MRSA	<8 years clindamycin PO >8 years doxycycline PO If severe: teicoplanin IV	14 days	
<i>Pseudomonas aeruginosa</i>	ciprofloxacin if well PO; if unwell IV + colistimethate inhaled OR tobramycin inhaled	Early infection: up to 3 months Exacerbation: 14 days	
<i>Burkholderia cepacia</i> complex	cefTAZidime if resistant meropenem	14 days	ciprofloxacin
<i>Stenotrophomonas maltophilia</i>	Only if chronically infected and deteriorating with no other cause: co-trimoxazole	14 days	
<i>Haemophilus influenzae</i>	co-amoxiclav	14 days	<8 years clarithromycin PO >8 years doxycycline PO
Non-tuberculous mycobacteria	Mycobacterium avium complex (MAC) clarithromycin PO rifampicin PO ethambutol PO <i>Mycobacterium abscessus</i> amikacin IV 3-4 weeks then nebulised meropenem IV clarithromycin IV	12-18 months	
<i>Aspergillus fumigatus</i> complex	Prednisolone PO	1-2 weeks	
	If no response to steroids: itraconazole	3-6 months	

NICE NG78 Cystic fibrosis: diagnosis and management

CF Trust UK 2009 Antibiotic treatment for cystic fibrosis

Section updated April 2025

Feedback: UKPAS@BSAC.org.uk



Skin & Soft Tissue

Impetigo

Impetigo

Key points	Treatment	Duration	Penicillin allergy
First line for mild impetigo	hydrogen peroxide 1% topical (e.g., Crystacide® cream)	5 days	
Small, localised lesions if hydrogen peroxide fails / unsuitable	Topical fusidic acid If MRSA: topical mupirocin	5 days	
Second line if antiseptic and topical antibiotics fail	flucloxacillin PO or if flucloxacillin unsuitable / not tolerated: cefALEXin PO	5 days	clarithromycin PO

NICE NG153 (2020) Impetigo

NICE 2024 Summary of antimicrobial prescribing guidance – managing common infections

BMJ 2024 Best Practice Impetigo

Section updated Oct 2024

Feedback: UKPAS@BSAC.org.uk

Cellulitis

Cellulitis

Cellulitis, erysipelas, wound infections, infected eczema, staphylococcal scaled skin

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin allergy
First line	flucloxacillin PO (IV if severe) or if flucloxacillin unsuitable / not tolerated: cefALEXin OR co-amoxiclav PO	5-7 days	clarithromycin PO
	+ gentamicin if signs and symptoms of systemic sepsis	Single dose	
	+ clindamycin IV if toxic shock	Until shock resolved	
Infection near eyes or nose	co-amoxiclav PO	5 - 7 days (full resolution is not expected, skin takes time to return to normal) 14 days if systemic signs	clarithromycin PO +/- metronidazole PO
MRSA	clindamycin PO OR co-trimoxazole PO (if sensitive) OR linezolid PO vancomycin OR teicoplanin (if septic)		
PVL	clindamycin PO If severe: clindamycin IV + linezolid IV		
Staphylococcal scaled skin Consider IVIG if life threatening and not responding to antibiotics	flucloxacillin IV IVOS when tolerating oral fluids MRSA vancomycin OR teicoplanin (if septic) IVOS co-trimoxazole If resistant clindamycin If >8 years doxycycline	Total 10 days	

NICE NG141 Cellulitis and erysipelas: antimicrobial prescribing

IJAA 2018 **Panton-Valentine leukocidin-positive Staphylococcus aureus: a position statement from the International Society of Chemotherapy**

Clin & Exp Derm 2022 Panton-Valentine leucocidin-producing *Staphylococcus aureus*: a clinical review

BAD 2023 Staphylococcal scalded skin

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section reviewed March 2025

Feedback: UKPAS@BSAC.org.uk

Skin abscess

Skin abscess

Key points	Treatment	Duration	Penicillin Allergy
Abscess Boil without cellulitis	Drain – no antibiotics		
Decolonisation	Preventative measures (see NICE CKS)	Do not start decolonization until acute infection has resolved	
	Chlorhexidine 4% body wash (Hibiscrub®) + mupirocin	5 days	
	Chlorhexidine 4% body wash (Hibiscrub®) + neomycin (Naseptin®)	5 days of Hibiscrub® and 10 days of Naseptin®	
Paronychia	Drain abscess If cellulitis or fever: flucloxacillin		clarithromycin

Likely causative organisms

Staphylococcus aureus (MSSA, MRSA, +/- PVL)

NICE CKS Boils, carbuncles and staphylococcal carriage

NICE CKS Paronychia - acute

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Human / Animal Bites

Human / Animal Bites

Key points	Treatment	Duration	Penicillin low risk allergy	Penicillin high risk allergy
Prophylaxis	<u>co-amoxiclav</u> PO	Prophylaxis: 3 days	<8 years <u>co-trimoxazole</u> PO >8 years <u>doxycycline</u> PO + <u>metronidazole</u> PO	
Treatment	<u>co-amoxiclav</u> PO	Active infection: 5 - 7 days		
Deep bites	<u>co-amoxiclav</u> IV		Deep bites with penicillin allergy: <u>cefUROxime</u> IV OR if septic <u>cefTRIAxone</u> OR <u>cefOTAXime</u> + <u>metronidazole</u> PO	<u>clindamycin</u> PO / IV + <u>ciprofloxacin</u> IV

Likely causative organisms

Pasteurella multocida, *Staphylococcus aureus* and anaerobes

Human: thorough irrigation is important. Antibiotic prophylaxis is advised. Assess risk of tetanus, rabies, HIV, and hepatitis B & C

Cat: if broken the skin and drawn blood give prophylaxis

Dog: give prophylaxis if: puncture wound, bite to hand, foot, face, joint, tendon, or ligament; immunocompromised; cirrhotic; asplenic; or presence of prosthetic valve/joint

Penicillin allergy: Review all at 24 and 48 hours, as not all pathogens are covered

Tetanus: ask about immunisation status and administer vaccine if not received within past 10 years

Rabies: consider for animal bites overseas (discuss risk assessment with Paed ID / Micro)

Other animals discuss with Paed ID / Micro

Surgical debridement and drainage may be required.

NICE NG184 Human and animal bites: antimicrobial prescribing

NICE 2024 Summary of antimicrobial prescribing guidance – managing common infections

UKHSA 2025 Rabies: risk assessment, post-exposure treatment, management

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Necrotising fasciitis

Necrotising fasciitis

- Discuss all suspected cases with intensive care, surgeons and Paed ID / Micro
- **Urgent** surgical debridement essential and send tissue for culture
- Local authorisation required for IVIG

Key points	Treatment	Duration	Penicillin high risk allergy
1st line	cefTRIAxone OR cefOTAXime + clindamycin IV	Guided by response	ciprofloxacin IV OR gentamicin + linezolid IV OR clindamycin IV if sensitive
if previous antibiotics or Fournier's gangrene	piperacillin with tazobactam + clindamycin IV		
if previous MRSA or recent return from high risk country (inc USA, Canada)	cefTRIAxone OR cefOTAXime + linezolid IV		
if previous ESBL or healthcare associated	meropenem + clindamycin IV		
if severe sepsis	+ gentamicin		

IDSA 2014 Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections

J Infection 2018 Emergence of multi-drug resistant organisms (MDROs) causing Fournier's gangrene

CID 2022 Should **Linezolid** Replace **Clindamycin** as the Adjunctive Antimicrobial of Choice in Group A Streptococcal Necrotizing Soft Tissue Infection and Toxic Shock Syndrome?

Open forum ID 2023 **Clindamycin** Plus **Vancomycin** Versus **Linezolid** for Treatment of Necrotizing Soft Tissue Infection

BMJ 2024 Best Practice Necrotising fasciitis

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Pyomyositis

Pyomyositis

Key points	Treatment	Duration	Penicillin allergy
<i>Staphylococcus aureus</i> isolated	flucloxacillin IV	IV 7 days minimum	clindamycin IV + gentamicin if septic IVOS clindamycin PO OR co-trimoxazole PO + metronidazole PO
No organism isolated			
<5 years old	high dose cefTRIAXone OR cefOTAXime		
>5 years old	flucloxacillin IV		
If septic	+ gentamicin	Single dose	
If suspected toxic shock	+ clindamycin IV	Until shock resolved	
Oral switch when afebrile	flucloxacillin PO if able to swallow capsule co-amoxiclav PO if suspension	Oral 2-3 weeks	

IDSA 2014 Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections

J Ped Ortho 2021 Primary Bacterial Pyomyositis in Children: A Systematic Review

BOAST 2022 British Orthopaedic Association Standard: The Management of Children with Acute Musculoskeletal Infection

Section reviewed Nov 2024

Feedback: UKPAS@BSAC.org.uk

Burns

Burns

Only treat if signs of clinical infection, prophylaxis is not required

Key points	Treatment	Duration	Penicillin allergy
Mild-moderate infection	<u>flucloxacillin</u> PO	7 days	<u>clindamycin</u> PO
Second line	<u>co-amoxiclav</u> PO		
In hospital >5 days	high dose <u>cefTRIAxone</u> OR <u>cefOTAXime</u>		<u>clindamycin</u> PO + <u>gentamicin</u>
if known <i>Pseudomonas</i> colonised	<u>piperacillin with tazobactam</u> high dose		

Check tetanus immunisations status

PLoS ONE 2019 Systemic antibiotic prophylaxis does not affect infectious complications in pediatric burn injury: A meta-analysis

NHSE 2020 Clinical guidelines for major incidents and mass casualty events

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Soft Tissue Injury

Soft Tissue Injury

Check tetanus immunisations status

	Antibiotic	Duration	Penicillin allergy
Clean	No antibiotics		
Contaminated - prophylaxis	co-amoxiclav PO	3 days	clindamycin PO
Infected		Guided by response	

NHSE 2020 Clinical guidelines for major incidents and mass casualty events

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Surgical Site Infection

Surgical Site Infection

Incisional surgical site infection

- Not all infections require treatment with antibiotics
- minor infections may respond to drainage of pus
- (for example by removal of sutures) and topical antiseptics
- Deep seated infections may need surgical debridement
- prosthetic material should be removed where possible.

Key points	Treatment	Duration	Penicillin allergy
Surgery of trunk or extremity away from axilla or perineum	<u>flucloxacillin</u> IV	3 days	<u>clindamycin</u> IV
Surgery of Intestinal or Genitourinary Tract, axilla or perineum	<u>co-trimoxazole</u> PO + <u>metronidazole</u> PO if sepsis high dose <u>cefTRIAXone</u> OR <u>cefOTAXime</u> + <u>metronidazole</u> PO	5 days longer for deep surgical infection longer if prosthetic material	

NICE NG125 Surgical site infections:prevention and treatment

IDSA 2014 Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections

Section reviewed Nov 2024

Feedback: UKPAS@BSAC.org.uk

Lyme Disease / Tick Bites

Lyme Disease / Tick Bites

Key points	Treatment	Duration	Penicillin allergy
Prophylaxis: not routinely recommended If immunocompromised: only if <72 hours of tick removal	amoxicillin (<8 years old) PO OR doxycycline (>8 years old) PO	stat	azithromycin PO
Treatment: exposure + erythema migrans or arthritis or acrodermatitis chronica atrophicans or stable carditis	amoxicillin (<8 years old) PO OR doxycycline (>8 years old) PO	Erythema migrans doxycycline 10 days Other disease and amoxicillin 21 days	azithromycin PO 17 days
cranial nerves or peripheral nervous system	doxycycline PO OR cefTRIAXone		
Neuroborreliosis (CNS) Cardiovascular (if unstable)	cefTRIAXone OR cefOTAXime oral switch doxycycline PO	21 days total	

NICE NG95 Lyme disease

BIA 2011 The epidemiology, prevention, investigation and treatment of Lyme borreliosis in United Kingdom patients

Cochrane 2016 Antibiotics for the neurological complications of Lyme disease

BMJ 2020 Lyme borreliosis: diagnosis and management

IDSA 2021 Guidelines for the Prevention, Diagnosis, and Treatment of Lyme Disease

UKHSA 2022 Lyme disease: management and prevention

Section updated Dec 2024

Feedback: UKPAS@BSAC.org.uk

Scabies

Scabies

Key points	Treatment	Duration
First choice permethrin: Treat whole body from ear/chin downwards, and under nails. If using permethrin and patient is under 2 years, elderly or immunosuppressed, or if treating with malathion: also treat face and scalp. Household / sexual contacts: treat within 24 hours	<u>permethrin</u> 5% cream	Once weekly for 2 doses Wash off after 8-12 hours
	Permethrin allergy: <u>malathion</u> 0.5% aqueous liquid	
Failed topical treatment	<u>ivermectin</u> >15 kg: 200 microg/kg 1 dose 10-14 kg: 3 mg 1 dose	

NICE CKS Scabies

NICE 2024 Summary of antimicrobial prescribing guidance – managing common infections

UKHSA 2024 guidance on the management of scabies cases and outbreaks in long-term care facilities and other closed settings

Lancet 2024 Ivermectin therapy for young children with scabies infection: a multicentre phase 2 non-randomized trial

ADC 2024 Parasite infections: what do paediatricians need to know?

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Head lice

Head lice

Key points	Treatment	Duration
Wet combing	Bug Buster ® kit	2 weeks
Physical insecticide	dimeticone gel, lotion or spray	Twice, 7 days apart
Chemical insecticide	malathion 0.5%	

NICE CKS Head lice

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Fungal skin Infection

Fungal skin infection

Key points	Treatment	Duration
Fungal nail infection	Topical antifungal lacquer e.g. amorolfine 5% nail lacquer	Fingernails 6 months. Toenails 9–12 months
Dermatophyte infections — Tinea corporis (body ringworm) / T. cruris (groin ringworm) / T. pedis (athlete's foot)		
Localised first line	Terbinafine topical (if >12 yrs old)	T. pedis 1–2 weeks. T. corporis / T. cruris 1–4 weeks (continue for 1–2 weeks after visible rash has cleared)
Localised second line	Clotrimazole 1% topical	At least 4 weeks
Extensive	Terbinafine PO	T. corporis 2–4 weeks. T. pedis 2–6 weeks
Tinea capitis (scalp)	If lives in urban area (<i>Trichophyton tonsurans</i>): Terbinafine PO	4 weeks
	If lives in rural area (<i>Microsporum canis</i>): Griseofulvin PO	4–8 weeks
	Additional: Ketoconazole 2% shampoo	2–4 weeks
Tinea unguium (nail) if treatment needed	First line Terbinafine PO	Fingernail 6–12 weeks. Toenail 12–24 weeks
	Second line Itraconazole PO	1 week then repeat course after 21 days. Fingernail 2 courses. Toenails 3 courses
Candida infections		
Candida skin infection	Clotrimazole 1% topical	7 days then review response
Candida oral infection	First line Miconazole oral gel	At least 7 days after lesions have healed and symptoms have cleared
	Second line Nystatin PO	Continue until 48 hours after lesions have resolved, usually 7 days
Candida nail infection	Itraconazole PO	1 week then repeat course after 21 days. Fingernail 2 courses. Toenails 3 courses
Oesophageal candidiasis	First line Fluconazole PO or IV	2–4 weeks, maximum 6 weeks
	Second line Itraconazole PO	According to clinical response
Vulvovaginal candidiasis (≥12–17 yrs old)	First line Clotrimazole 1% topical	Apply 2–3 times a day to skin for 14 days
	Second line Fluconazole oral* *Only prescribe if a documented negative pregnancy test is available	Single episode 1 dose. Recurrent (≥4 mycologically confirmed episodes): 3 doses every 72 hours then once-weekly prophylaxis for 6 months
Malassezia yeast — seborrhoeic dermatitis of scalp	First line (≥12 yrs old) Ketoconazole 2% shampoo	Twice weekly up to 4 weeks

NICE 2024 — Summary of antimicrobial prescribing guidance · NICE CKS — Candida (skin), Fungal nail infection, Fungal skin infection (body/groin, foot, scalp) · PIDJ 2024 — Mucocutaneous Candidiasis · ISHAM/ECMM — Global guideline for the diagnosis and management of Candidiasis.

Section updated July 2026

Leishmaniasis

Leishmaniasis

Discuss with the national Leishmaniasis MDT: uclh.leishmdt@nhs.net

Key points	Treatment	Duration
Visceral leishmaniasis	1st line: liposomal amphotericin B (IV) 3 mg/kg once daily on days 1-5, 14 and 21 2nd line: miltefosine (PO) >12 years old: 30-44 kg: 50 mg 12-hourly; >44 kg: 50 mg 8-hourly Immunocompromised patient: liposomal amphotericin B (IV) 4 mg/kg on days 1-5, 10, 17, 24, 31 & 38 — repeated as necessary	Miltefosine : 28 days
Cutaneous leishmaniasis	Options include: • meglumine antimoniate (intralesional), repeated as necessary • miltefosine (PO) — >12 years old: 30-44 kg: 50 mg 12-hourly; >44 kg: 50 mg 8-hourly • liposomal amphotericin B (IV) 3 mg/kg once daily on days 1-5 and 10 • meglumine antimoniate (IV) 75 mg/kg over 120 mins for 10 or 21 days depending on species and response Choice is determined by species, location and number of lesions, age of child, comorbidities, tolerability/side-effects, patient preference, logistics and procurement. Cases should be discussed at the national Leishmaniasis MDT.	Miltefosine : 28 days

CDC 2023 — Leishmaniasis: resources for health professionals

Section updated January 2026



Bone & Joint

Osteomyelitis / Septic arthritis

Osteomyelitis / Septic arthritis

- Take blood cultures and consult orthopaedics for samples and Paediatric ID / Microbiology before antibiotics.
- Unifocal** disease indicates "simple" disease at a single site.
- Complex** disease includes multifocal, significant bone destruction, resistant or unusual pathogen, immunosuppression, sepsis or shock, or associated with metalwork.

Key points	Treatment	Oral switch	Duration	Penicillin allergy
<3 months	high dose cefTRIAxone OR cefOTAXime	Oral switch after 7–14 days: high dose cefalexin PO	Unifocal — IV to oral switch if: - afebrile - pain significantly improved - CRP reduced 10–14 days in septic arthritis 3–4 weeks in osteomyelitis	Oral switch: co-trimoxazole PO
3 months - 5 years	IV — START HERE cefUROXime IV OR cefazolin IV ORAL may start straight with oral high dose cefalexin PO	Oral switch after 48–72 hours: high dose cefalexin PO		
>5 years	IV — START HERE flucloxacillin IV OR cefazolin IV ORAL may start straight with oral high dose cefalexin PO	Oral switch after 48–72 hours: cefalexin or flucloxacillin high dose PO capsules OR cefalexin high dose PO suspension		high dose cefTRIAxone OR cefOTAXime high risk allergy: co-trimoxazole PO
Metalwork	high dose cefTRIAxone OR cefOTAXime + rifampicin if sensitive <i>Staphylococcus aureus</i> and source control achieved; if MRSA teicoplanin OR vancomycin	Oral switch after 72 hours if clinical improvement and cultures available, OR after 5 days if culture negative: flucloxacillin high dose PO capsules OR cefalexin high dose PO suspension	Complex disease 6 weeks or longer if not resolved	High risk allergy: ciprofloxacin + rifampicin
Complex osteomyelitis	Individual case management — discuss with ID			

Staphylococcus aureus

Key points	Treatment	Oral switch	Duration	Penicillin allergy
MSSA including bacteraemia	IV — START HERE flucloxacillin IV OR cefazolin IV ORAL may start straight with oral high dose cefalexin PO	cefalexin or flucloxacillin high dose PO capsules OR cefalexin high dose PO suspension	As above	cefOTAXime / OPAT high dose cefTRIAxone high risk allergy: co-trimoxazole
PVL MSSA consider if significant tissue destruction / multifocal disease / associated DVT	flucloxacillin IV OR cefazolin IV + clindamycin IV if sensitive OR linezolid	flucloxacillin high dose PO capsules OR cefalexin high dose PO suspension		clindamycin PO if sensitive OR co-trimoxazole
MRSA	teicoplanin OR vancomycin	clindamycin PO if sensitive OR co-trimoxazole		
Sickle cell disease or no Hib vaccine	high dose cefTRIAxone OR cefOTAXime	Oral switch: high dose co-amoxiclav PO	As above	

Likely causative organisms

- <5 years of age:** *Staphylococcus aureus*, *Kingella kingae*, Group A *Streptococcus*, *Streptococcus pneumoniae*. Rare causes: *Haemophilus influenzae* type b (unvaccinated individuals) & *Salmonella* spp.
- 5–18 years:** *Staphylococcus aureus*, Group A *Streptococcus* and *Streptococcus pneumoniae*.

High-dose **Cefalexin**

Weight	Oral dose
Less than 15 kg	33 mg/kg TDS

15–20 kg	500 mg TDS
21–30 kg	750 mg TDS
31–40 kg	1000 mg TDS
Above 40 kg	1000 mg QDS

RCPCH Blue Book 4th edn p65 Ch 7 — Bone and Joint Infections · Lancet ID 2016 — Antibiotic duration and IV-to-oral switch timing · ESPID 2017 — Bone and joint infections · IJAA 2018 — PVL *S. aureus* position statement · NEJM 2019 — Oral versus IV Antibiotics for Bone and Joint Infection · IDSA 2021 — Acute Haematogenous Osteomyelitis in Pediatrics · BOAST 2022 — Management of Children with Acute Musculoskeletal Infection · ID Now 2023 — GPIP osteoarticular infection proposals · PIDJ 2024 — Oral Antibiotics and Shorter Durations · Lancet 2024 — Oral vs IV empirical antibiotics (Denmark) · Lancet 2025 — Cloxacillin vs [cefazolin](#) for MSSA bacteraemia (CloCeBa).

Section updated July 2026

Discitis

Discitis

Take blood cultures before antibiotics and if not improving. Consult Paed ID / Micro and spinal surgeons for fine needle aspiration / biopsy and molecular testing (targeted PCRs +/- 16S PCR).

Simple discitis – inflammation of the vertebral disc with no vertebrae involvement.

Complex discitis – inflammation of the vertebral disc with involvement of the adjacent vertebrae.

If significant bony involvement (e.g. vertebral destruction), consider pathogens such as TB and discuss with the paediatric infectious diseases team.

Key points	Treatment	Oral switch	Duration	Penicillin allergy
Simple discitis applies to all three age bands →	< 3 months	high dose cefTRIAXone OR cefOTAXime	Oral switch after 7-14 days: high dose cefaalexin PO	Oral switch: co-trimoxazole PO
	3 months – 5 years	IV — START HERE cefUROXime IV OR cefazolin IV ORAL may start straight with oral high dose cefaalexin PO	Oral switch after 48-72 hours high dose cefaalexin PO	
	>5 years	IV — START HERE flucloxacillin IV OR cefazolin IV ORAL may start straight with oral high dose cefaalexin PO	Oral switch after 48-72 hours cefaalexin or flucloxacillin high dose PO capsules OR cefaalexin high dose PO suspension	high dose cefTRIAXone OR cefOTAXime high risk allergy: co-trimoxazole PO
Complex discitis	Individual case management - Discuss with ID			
Sickle cell disease	high dose cefTRIAXone OR cefOTAXime	high dose co-amoxiclav PO		

High-dose **cefaalexin**

Weight	Oral dose
Less than 15 kg	33 mg/kg TDS
15–20 kg	500 mg TDS
21–30 kg	750 mg TDS
31–40 kg	1000 mg TDS
Above 40 kg	1000 mg QDS

J Paed Child Health 2022 — Spondylodiscitis in children · PIDJ 2022 — Spondylodiscitis in Pediatric Age: A Retrospective Cohort Study

Section updated July 2026

Orthopaedic surgical prophylaxis

Orthopaedic surgical prophylaxis

Key points	Treatment	Duration	Penicillin low risk allergy	Penicillin high risk allergy
Clean orthopaedic procedures without implant	Not recommended			
Orthopaedic procedures with implants e.g., K wiring, circular frame application	<u>flucloxacillin</u> IV	Single dose within 60 minutes before incision	<u>cefUROXime</u> IV	<u>teicoplanin</u>
Open fractures requiring surgery Start within 1 hour of injury	<u>cefaZOLin</u> IV OR <u>co-amoxiclav</u> IV	Grade 1: 24 hours Grade 2-3: 72 hours or until wound closure if sooner	<u>cefUROXime</u> IV	<u>clindamycin</u> IV
At first debridement	<u>cefaZOLin</u> IV OR <u>co-amoxiclav</u> IV + <u>gentamicin</u>	Single dose within 60 minutes before incision	<u>cefUROXime</u> IV + <u>metronidazole</u> + <u>gentamicin</u>	<u>clindamycin</u> IV + <u>gentamicin</u>
At skeletal stabilisation and closure	<u>teicoplanin</u> + <u>gentamicin</u>	Single dose within 60 minutes before incision		
Minor fractures with open wound (no surgery)	<u>cefaZOLin</u> IV OR <u>co-amoxiclav</u> PO	Review at 24 hours for signs of infection	<u>clarithromycin</u> PO	
High lower-limb amputation	<u>cefaZOLin</u> IV OR <u>co-amoxiclav</u> IV	Single dose within 30 minutes before incision and continue for at least 2 post-operative doses	<u>cefUROXime</u> IV + <u>metronidazole</u>	<u>teicoplanin</u> + <u>gentamicin</u> + <u>metronidazole</u>
Spinal surgery	<u>cefaZOLin</u> IV OR <u>co-amoxiclav</u> IV	Single dose within 60 min before incision Re-dose at 4 hours if surgery ongoing <i>Consider re-dosing if significant blood loss (>25 ml/kg)</i>	<u>cefUROXime</u> IV	<u>teicoplanin</u>

BNFc NICE Antibacterial prophylaxis

NICE NG37 Fractures (complex): assessment and management

NICE NG125 Surgical site infections: prevention and treatment

NASS 2013 Recommendations Regarding Antibiotic Prophylaxis in Spine Surgery

WHO 2018 Global SSI guideline

BAPRAS 2020 Standards for the management of open fractures

SICOT 2021 Perioperative antibiotic prophylaxis in spinal surgery

NHSE 2023 Clinical guidelines for major incidents and mass casualty events

Section updated Aug 2024

Feedback: UKPAS@BSAC.org.uk



Gastrointestinal

Infectious diarrhoea

Infectious diarrhoea

Antibiotic therapy is not usually indicated unless patient is systemically unwell

Risk of haemolytic uraemic syndrome increased if antibiotics given

Key points	Treatment	Duration
Bloody diarrhoea / dysentery	ciprofloxacin PO	5 days
Campylobacter: suspected (e.g. history of undercooked meat and abdominal pain), if systemically unwell consider treatment if within 3 days	clarithromycin PO	5 to 7 days 14 days if bacteraemia
Giardia: confirmed or suspected (diarrhoea with abdominal cramps, bloating and flatulence)	metronidazole PO	3 days
	or tinidazole PO	Single dose
Salmonella (non-typhoidal): self-limiting unless chronic GI tract disease, haemoglobinopathy, <6 months old, malignancy or immunocompromised	azithromycin PO or amoxicillin PO if sensitive	5 days 14 days if immunosuppressed
Shigella: self-limiting	if severe: ciprofloxacin PO OR azithromycin PO if resistance OR if systemically unwell ceftriaxone OR cefotaxime	7 - 10 days
Listeria	amoxicillin PO penicillin allergy: co-trimoxazole PO	7 days
Cryptosporidium: self-limiting	If high risk e.g. malnourished <5 years old or immunocompromised: nitazoxanide (unlicensed) 1 - 3 years: 100 mg twice daily 4 - 11 years: 200 mg twice daily >12 years: 500 mg twice daily	3 days

Key points	Treatment	Duration
Amoeba: <i>Entamoeba histolytica</i> – not other species (See Liver abscess)	Acute invasive amoebic dysentery metronidazole PO	5 days
	then paromomycin PO 10 mg/kg 8 hourly	7 days
	Asymptomatic paromomycin PO 10 mg/kg 8 hourly	7 days
E. coli Shiga toxin producing (STEC) e.g. O157 H7	Do not give antibiotics	
Clostridioides difficile - toxin producing Severe: T >38.5°C or WCC >15, or creatinine >50% above baseline, or signs/symptoms of severe colitis Discontinue antibiotics, PPI, anti-peristaltic agent where possible Consider faecal microbiota transplant	Severe or recurrence (after >12 weeks): vancomycin PO Life threatening + metronidazole IV Relapse (<12 weeks after 1st episode) or second line: fidaxomicin PO	10-14 days

Typhoid enteric fever Complicated: severe sepsis or shock, gastrointestinal bleeding, intestinal perforation, encephalopathy or metastatic infection	If uncomplicated <u>azithromycin</u> PO	7 days	
	If complicated <u>cefTRIAxone</u> OR <u>cefOTAXime</u> oral switch <u>azithromycin</u> PO or <u>ciprofloxacin</u> PO if sensitive	10-14 days	
	If severe sepsis or from countries with cephalosporin resistance e.g. Pakistan <u>meropenem</u> + <u>azithromycin</u> IV	10-14 days	
Cholera		<u>doxycycline</u> (2-4 mg/kg max 300 mg) PO If resistance to <u>doxycycline</u> documented: <u>azithromycin</u> (20 mg/kg max 1g) PO	Single dose
Enterocolitis	Possible	<u>metronidazole</u> PO	Pouchitis 14 days Acute severe colitis discontinue if no response 4-7 days
	Definite	<u>amoxicillin</u> IV + <u>gentamicin</u> + <u>metronidazole</u> PO	
	Severe	<u>piperacillin with tazobactam</u> + <u>metronidazole</u> PO	

RCPCH Blue Book 4 edn p452 Ch 50 Campylobacter, p495 Ch 58 C. diff, p808 Ch 110 Salmonella, p820 Ch 113 Shigella

NICE CG84 *Diarrhoea and vomiting caused by gastroenteritis in under 5s: diagnosis and management*

NICE NG199 Clostridioides difficile infection: antimicrobial prescribing

Paed Surg 2017 Guidelines for the Diagnosis and Management of Hirschsprung-Associated Enterocolitis

Paed Int Child Health 2018 Guidelines for the treatment of dysentery (shigellosis): a systematic review of the evidence

ESPGHAN 2018 Management of Paediatric Ulcerative Colitis Part.1

ESPGHAN 2018 Management of Paediatric Ulcerative Colitis Part.2

Wolf J CID 2019 Safety and Efficacy of Fidaxomicin and Vancomycin in Children and Adolescents with Clostridioides (Clostridium) difficile Infection

Cur Op ID 2020 Giardiasis treatment: an update with a focus on refractory disease

PLoS 2021 Use-case scenarios for an anti-Cryptosporidium therapeutic

BIA 2022 British infection association guidelines for the diagnosis and management of enteric fever in England

BMJ Best Practice 2023 Amoebiasis

GTFCC 2024 Global Task Force on Cholera Control

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

ADC 2025 Parasitic infections: what do paediatricians need to know?

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Helicobacter pylori

Helicobacter pylori

Key points	Treatment	Duration	Penicillin Allergy
If clarithromycin sensitivity not available	Bismuth + proton pump inhibitor + amoxicillin PO + metronidazole PO	14 days	Bismuth + proton pump inhibitor + clarithromycin PO + metronidazole PO
If clarithromycin sensitive	proton pump inhibitor + clarithromycin PO + metronidazole PO		
If clarithromycin resistant (>8 years old)	Bismuth + tetracycline PO + metronidazole PO		

In situations where these regimens are not suitable, or patients fail to respond please consult a gastroenterologist for advice.

RCPCH Blue Book 4 edn p572 Ch 72 Helicobacter pylori

ESPGHAN 2023 Updated joint ESPGHAN/NASPGHAN guidelines for management of Helicobacter pylori infection in children and adolescents

Section updated June 2025

Feedback: UKPAS@BSAC.org.uk

Appendicitis / Peritonitis

Appendicitis / Peritonitis

Key points	Treatment	Duration	Penicillin low risk allergy	Penicillin high risk allergy
Simple appendicitis (not perforated or gangrenous)	co-amoxiclav	IV pre-op, stop immediately post op	ciprofloxacin IV + metronidazole	
Conservatively managed appendicitis	co-amoxiclav	IV 24 hours minimum 7 days total Oral switch when afebrile inflammatory markers improving	cefuroxime IV + metronidazole	clindamycin IV + gentamicin OR co-trimoxazole + metronidazole
Perforated or gangrenous appendicitis or associated sepsis	co-amoxiclav IV severe sepsis: + gentamicin (single dose) OR amoxicillin IV + metronidazole IV + gentamicin oral switch co-amoxiclav PO	Preop and 3 days postop 7 days total if white cell count raised on day 3 Oral switch when afebrile inflammatory markers improving	ciprofloxacin IV + metronidazole + gentamicin single dose Oral switch co-trimoxazole + metronidazole	
Second line or underlying immunosuppression	piperacillin with tazobactam + gentamicin severe sepsis	3 days then review	gentamicin + clindamycin IV	
Intra-abdominal abscess	co-amoxiclav IV	4 days if drained if not drained until clinically stable, afebrile, no pain, CRP falling and collection smaller Oral switch when afebrile inflammatory markers improving	ciprofloxacin IV + metronidazole	

Lancet ID 2016 Antibiotic duration and timing of the switch from intravenous to oral route for bacterial infections in children: systematic review and guidelines

SIS 2017 The Surgical Infection Society Revised Guidelines on the Management of Intra-Abdominal Infection

Ann Surg 2019 Antibiotic Treatment and Appendectomy for Uncomplicated Acute Appendicitis in Adults and Children

WJES 2020 Diagnosis and treatment of acute appendicitis: 2020 update of the WSES Jerusalem guidelines

WHO 2022 The WHO AWaRe (Access, Watch, Reserve) antibiotic book Ch 31

BMJ 2023 Best practice: Acute appendicitis

JTACS 2023 Duration of antimicrobial treatment for complicated intra-abdominal infections after definitive source control

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

IDSA 2024 Complicated Intra-abdominal Infection risk assessment, diagnostic imaging, and microbiological evaluation

PIDJ 2024 Challenging Dogma in the Treatment of Childhood Infections: Oral Antibiotics and Shorter Durations

Section updated June 2025

Feedback: UKPAS@BSAC.org.uk

Mediastinitis

Mediastinitis

Key points	Treatment	Duration	Penicillin Allergy
Oesophageal perforation	high dose cefTRIAxone OR cefOTAXime + metronidazole IV (IVOS)	14-21 days	metronidazole IV + clarithromycin IV
Deep sternal wound infection	piperacillin with tazobactam		
Severe sepsis / descending necrotising mediastinitis	high dose cefTRIAxone OR cefOTAXime + metronidazole IV (IVOS)		

Clin Micro Infxn 2020 Mediastinitis in the intensive care unit patient: a narrative review

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Pancreatitis

Pancreatitis

Key points	Treatment	Duration	Penicillin Allergy
Acute pancreatitis (including necrosis without evidence of infection)	No antibiotics		
Documented infected necrosis: worsening with fevers, or with presence of gas within collections on imaging	<u>piperacillin with tazobactam</u>	Clinical response	Low risk allergy meropenem High risk allergy <u>teicoplanin</u> + <u>aztreonam IV</u> + <u>metronidazole PO</u>

NICE NG104 Pancreatitis

NASPGHAN 2018 Management of Acute Pancreatitis in the Pediatric Population

BSPAGHAN 2024 Guidelines for the diagnosis and management of pancreatitis in children

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Cholecystitis / Biliary Infection

Cholecystitis / Biliary Infection

Key points	Treatment	Duration	Penicillin allergy
1st Line	co-amoxiclav IV + metronidazole PO if collection present + gentamicin if severe sepsis or shock	5 days Stop if gallbladder removed Longer if abscess present	Low risk allergy: cefUROXime IV + metronidazole PO High risk allergy: co-trimoxazole PO + metronidazole PO
IVOS	co-amoxiclav PO		

Likely causative organisms
Polymicrobial and include coliforms, enterococci and anaerobes

WHO 2022 The WHO AWaRe (Access, Watch, Reserve) antibiotic book Ch 29

IDSA 2024 Complicated Intra-abdominal Infection risk assessment, diagnostic imaging, and microbiological evaluation

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated June 2025

Feedback: UKPAS@BSAC.org.uk

Liver abscess

Liver abscess

Source control with drainage procedures

Key points	Treatment	Duration	Penicillin allergy
Pyogenic	co-amoxiclav IV	4 weeks minimum depending on repeat imaging IVOS after minimum 2 weeks IV according to sensitivities	cefUROXime IV + metronidazole PO
	Severe co-amoxiclav IV + metronidazole PO + gentamicin if septic		
If risk of amoebae	co-amoxiclav IV + metronidazole PO		cefUROXime IV + metronidazole PO
Amoebic	metronidazole PO	5 days	
	then paromomycin PO 10 mg/kg 8 hourly	7 days	

Front Pediatr 2020 Liver Abscess: Trends in the Incidence, Etiology, and Outcomes Based on 20-Years of Experience at a Tertiary Center

WHO 2022 The WHO AWaRe (Access, Watch, Reserve) antibiotic book Ch 30

BMJ Best Practice 2023 Amoebiasis

Section updated June 2025

Feedback: UKPAS@BSAC.org.uk

GI / Thoracic Surgical Prophylaxis

GI / Thoracic Surgical Prophylaxis

Key points	Treatment	Duration	Penicillin low risk allergy	Penicillin high risk allergy
Clean e.g.: PICC / TIVAD insertion	Not recommended	Not recommended		
Clean - contaminated e.g.: Upper GI (stomach, oesophagus) Low risk thoracic procedure Video-assisted thoracoscopy Excision of neurogenic tumour Decortication / lobectomy	<u>cefaZOLin IV OR co-amoxiclav IV</u>	Single dose within 60 minutes before incision (further dose if prolonged procedure >4hrs or major blood loss)	<u>cefaZOLin IV OR cefUROXime IV</u>	<u>gentamicin</u>
Lower GI including appendicectomy Intussusception Open cholecystectomy Pilonidal sinus	<u>co-amoxiclav IV</u>	Single dose within 60 minutes before incision (further dose if prolonged procedure >4hrs or major blood loss)	<u>cefaZOLin IV OR cefUROXime IV</u> + <u>metronidazole IV</u>	<u>gentamicin</u> + <u>metronidazole IV</u>
High risk thoracic procedures Emergency thoracotomy Nuss Bar	<u>flucloxacillin IV</u> + <u>gentamicin</u>	Single dose within 60 minutes before incision and continue <u>flucloxacillin</u> or <u>cefUROXime IV</u> for 24 hours post op	<u>cefaZOLin IV OR cefUROXime IV</u> + <u>gentamicin</u>	<u>teicoplanin</u> + <u>gentamicin</u>
Splenectomy	Surgical prophylaxis as per abdominal procedures Post operatively see splenectomy			
Penetrating abdominal trauma	<u>co-amoxiclav IV</u> + <u>fluconazole IV</u> if GI perforation	Single dose If perforation 5 days	<u>clindamycin IV</u>	

NICE NG125 Surgical site infections: prevention and treatment

BNFc NICE Antibacterial prophylaxis

Open Orthopaedics J 2012 Current Concepts of Prophylactic Antibiotics in Trauma: A Review

Eur J Clin Micro & ID 2013 Antimicrobials as an adjunct to pilonidal disease surgery

NHSE 2020 Clinical guidelines for major incidents and mass casualties

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated Jan 2025

Feedback: UKPAS@BSAC.org.uk



Conjunctivitis

Conjunctivitis

Samples / Investigations

Eye swab – bacterial culture

NAAT swab for *Chlamydia* and gonococcus

Viral swab for HSV

Treat only if severe as most cases are viral or self-limiting

Bacterial conjunctivitis: usually unilateral and self-limiting

red eye with mucopurulent, not watery discharge

65% and 74% resolve on placebo by days 5 and 7

Key points	Treatment	Dose and frequency	Duration
1st line	sterile saline or cooled boiled water		
2nd line	gentamicin 0.3% eye drops OR chloramphenicol 0.5% eye drops or 1% ointment	4 times a day In severe infection drops initially every 2 hours	Continue for 48 hours after healing
<i>Staphylococcus aureus</i>	fusidic acid 1% eye drops	Twice a day	
Chlamydial conjunctivitis	neonates and <9 years old: erythromycin PO >8 years old: doxycycline PO		14 days 7 days
Gonococcal conjunctivitis	cefOTAXime		Stat dose
Herpes simplex on ophthalmology advice	<1 month: aciclovir IV >1 month: aciclovir PO Older children: + ganciclovir 0.15% eye gel Severe: aciclovir IV; then PO OR >12 years old valaciclovir PO		14 days then prophylaxis

Likely organisms	
Common	<i>Staphylococcus aureus</i> , <i>Streptococcus pneumoniae</i>
Rare	Haemophilus, coliforms, gonorrhoea, chlamydia, herpes simplex

RCPCH Blue Book 4 edn p501 Ch 59 Conjunctivitis

NICE CKS Conjunctivitis – infective

NICE CKS Herpes simplex - ocular

College of Optometrists Conjunctivitis, Bacterial; Conjunctivitis, Chlamydial

MHRA 2021 [Chloramphenicol](#) eye drops containing borax or boric acid buffers: use in children younger than 2 years

CDC 2021 Gonococcal Infections Among Neonates

Cur Eye Res 2022 Herpes Simplex Virus 2 Blepharokeratoconjunctivitis

AAO 2022 Neonatal conjunctivitis

Cochrane 2023 *Antibiotics versus placebo for acute bacterial conjunctivitis*

ESCMID 2024 WHO's essential medicines and AWARe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

BASHH HSV 2024 Herpes in Pregnancy

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Orbital cellulitis and Pre-septal cellulitis

Orbital cellulitis and Pre-septal cellulitis

Refer suspected Orbital cellulitis urgently to Ophthalmologists (sight threatening)

Investigations

Blood cultures

Pus / swab

Key points BSAC Paediatric Pathways	Treatment	Duration	Penicillin allergy Low risk	Penicillin allergy High risk
Mild-moderate pre-septal disease	co-amoxiclav PO	5 days	clindamycin PO	
Severe pre-septal	co-amoxiclav IV	IV 24-48 hours then oral 7 days	clindamycin PO + ciprofloxacin IV	
Orbital cellulitis	high dose cefTRIAXone OR cefOTAXime if >7 years old + clindamycin PO OR metronidazole PO if MRSA history + vancomycin IV	Continue until clinical resolution. Total 2 - 4 weeks	high dose cefTRIAXone OR cefOTAXime if >7 years old + clindamycin PO OR metronidazole PO	clindamycin PO + ciprofloxacin IV
Oral switch if no intracranial involvement and improving	co-amoxiclav PO		clindamycin PO + ciprofloxacin PO	

Likely causative organisms	
Common	<i>Haemophilus influenzae</i> type B, <i>Streptococcus pneumoniae</i> , other streptococcal species, <i>Staphylococcus aureus</i> , and anaerobes
Rare	MRSA

RCPCH Blue Book 4 edn p156-159 Ch 16 Ocular infections

AAO 2022 American Academy of Ophthalmology Orbital Cellulitis

Section updated Feb 2025

Feedback: UKPAS@BSAC.org.uk

Ophthalmia Neonatorum

Ophthalmia Neonatorum

Key points	Treatment	Duration
Urgent ophthalmology review NAAT swab for <i>Chlamydia</i> and gonococcus Consider HSV if vesicles (see Conjunctivitis)	cefOTAXime IV immediately	Single dose
	+ chloramphenicol eye drops	5 days
	+ aciclovir IV if concern HSV	14 days
	OR + erythromycin PO if concern chlamydia	14 days

CDC 2021 Gonococcal Infections Among Neonates

GG&C *Eye infections in the neonate: Ophthalmia Neonatorum and the management of systemic Gonococcal and Chlamydial infections*

AAO 2022 *Neonatal conjunctivitis*

Section updated Oct 2024

Feedback: UKPAS@BSAC.org.uk

Blepharitis

Blepharitis

Key points	Treatment	Duration
First line: lid hygiene for symptom control, including: warm compresses; lid massage and scrubs; gentle washing; avoiding cosmetics.		
Second line: topical antibiotics if hygiene measures are ineffective after 2 weeks.	Second line: topical chloramphenicol OR azithromycin eye drops	6 weeks
Signs of meibomian gland dysfunction, or acne rosacea: consider oral antibiotics.	Third line: doxycycline (>8 years old) PO	8 weeks (low dose)
	erythromycin (<8 years old) PO	2 weeks

College of Optometrists Blepharitis

Moorfields 2017 Blepharitis

Cochrane 2021 Oral antibiotics for chronic blepharitis

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Endophthalmitis

Endophthalmitis

Key points	Treatment	Duration
Result of external source e.g., penetrating eye trauma, post operative or keratitis	Intravitreal injection: vancomycin + ceftAZidime	Single dose
Endogenous e.g., bacteraemia	+ ceftRIAXone OR cefOTAXime IV + vancomycin IV	(see Sepsis)

WHO 2022 The WHO AWaRe (Access, Watch, Reserve) antibiotic book Ch 10 p111

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

AAO 2024 Endophthalmitis

Section updated May 2024

Feedback: UKPAS@BSAC.org.uk

Keratitis

Keratitis

Key points	Treatment	Duration
Start treatment only on ophthalmology advice as cultures may need to be taken first	moxifloxacin eye drops OR ofloxacin eye drops	10 days
Herpes simplex (see Conjunctivitis)		

BJO 2014 Topical antibiotics for the management of bacterial keratitis: an evidence-based review of high quality randomised controlled trials

WHO 2022 The WHO AWaRe (Access, Watch, Reserve) antibiotic book Ch 10 p113

AAO 2024 Bacterial keratitis preferred practice pattern

Section updated May 2024

Feedback: UKPAS@BSAC.org.uk

Toxoplasmosis

Toxoplasmosis

Discuss all cases with an expert in Paediatric Infection to ensure appropriate investigations and parental counselling.

Key points	Treatment	Duration
Congenital toxoplasmosis (Do not start without Paediatric Infection specialist advice)	pyrimethamine sulfadiazine folinic acid	12 months
Encephalitis — immunocompromised	pyrimethamine PO sulfadiazine PO folinic acid PO OR if oral not tolerated: co-trimoxazole IV	6 weeks Then prophylaxis. Stop if CD4 >200 cells/microL and HIV undetectable over 3 months.
Ocular disease	co-trimoxazole	6–8 weeks, until clinical resolution. Prophylaxis 6–12 months. Joint management with ophthalmology.

AAP 2017 — Diagnosis, Treatment and Prevention of Congenital Toxoplasmosis in the United States · CMR 2020 — Epidemiology, pathophysiology, diagnosis, and management of cerebral toxoplasmosis · ADC EP 2020 — Fifteen-minute consultation: Management of the infant born to a mother with toxoplasmosis in pregnancy · ADC 2021 — Stop, think SCORTCH: rethinking the traditional ‘TORCH’ screen in an era of re-emerging syphilis · EACS 2023 — European AIDS Clinical Society Guidelines v12.0 · BHIVA Guideline — Opportunistic infections · British Journal of Ophthalmology 2022 — Current practice in the management of ocular toxoplasmosis · Asia-Pacific Journal of Ophthalmology 2025 — Controversy and consensus on the management of ocular toxoplasmosis.

Section updated January 2026



Urinary Tract

Lower Urinary Tract Infections

Lower Urinary Tract Infections

Key points		Treatment	Duration	Penicillin allergy
1st line If culture result use narrowest spectrum antibiotic susceptible	if low risk of resistance*	<u>trimethoprim</u> PO	3 days for uncomplicated infections.	<u>trimethoprim</u> PO OR <u>nitrofurantoin</u> PO
	if able to swallow solid forms	<u>nitrofurantoin</u> PO OR >40 kg <u>pivmecillinam</u> PO		
	oral solution	<u>cefALEXin</u> PO		
ESBL (use narrowest spectrum antibiotic if sensitive to alternative)		<u>fosfomycin</u> PO	Uncomplicated infections: single dose Reduce dose frequency for patients with CrCl < 50 ml/min Dissolve each 3 gram sachet in 75 ml of water (or other aqueous solutions e.g. cordial) 2 g dose = 50 ml of solution 1 gram = 25 ml of solution	

*Low risk of resistance: if trimethoprim not used in the past 3 months, previous urine culture suggests susceptibility (but this was not used) and in younger people in areas where data suggest resistance is <30%

NICE NG143 Fever in under 5's

NICE NG109 Urinary tract infection (lower): antimicrobial prescribing

NICE CKS Urinary tract infection - children

Fingertips 2025 AMR local indicators E coli urine specimens resistant to trimethoprim

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Pyelonephritis / Upper Urinary Tract Infection

Pyelonephritis / Upper Urinary Tract Infection

Infants and children who have bacteriuria and any of:

fever of $\geq 38^{\circ}\text{C}$

loin pain/tenderness

Start antibiotics **after** urine collected (if not spontaneously consider in-out catheter)

Key points BSAC Paediatric Pathways		Treatment	Duration	Penicillin Allergy
<3 months	Not severe sepsis	cefTRIAxone OR cefOTAXime	Review IV therapy at 24 to 48 hours for oral switch IVOS 7 to 10 days in total	<u>gentamicin</u>
	if severe sepsis	+ <u>gentamicin</u> single dose		
>3 months	Able to take orally	<u>cefALEXin</u> PO high dose		<u>ciprofloxacin</u> PO
	if vomiting, unable to take oral antibiotics	<u>cefUROXime</u> IV		<u>gentamicin</u>
	If sepsis	cefTRIAxone OR cefOTAXime		
	If severe sepsis	+ <u>gentamicin</u> single dose		
Oral switch		<u>cefALEXin</u> PO high dose OR <u>co-amoxiclav</u> PO high dose		<u>ciprofloxacin</u> PO if <u>trimethoprim</u> sensitive: <u>co-trimoxazole</u> PO

NICE NG111 Pyelonephritis (acute): antimicrobial prescribing

NICE CKS Urinary tract infection - children

Lancet ID 2016 Antibiotic duration and timing of the switch from intravenous to oral route for bacterial infections in children: systematic review and guidelines

PIDJ 2024 Challenging Dogma in the Treatment of Childhood Infections: Oral Antibiotics and Shorter Durations

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Complicated UTI

Complicated UTI

Key points		Treatment	Duration	Penicillin allergy
Known significant urological abnormality	Obstruction or VUR grades 4 and 5	gentamicin OR cefTRIAXone OR cefOTAXime	IV: Until afebrile/well Total: 10-14	gentamicin
	VUR grades 1-3 or other abnormality	cephalexin OR co-amoxiclav	10 days	ciprofloxacin PO if trimethoprim sensitive: co-trimoxazole PO
Multiple recurrent UTI	Known past resistance	Use previous susceptibility: eg, amikacin OR fosfomycin	7-10 days	
	High risk of resistance	co-trimoxazole or ciprofloxacin	7-10 days	
	Low risk of resistance	cephalexin OR co-amoxiclav	7-10 days	co-trimoxazole
Severe clinical presentation	Sepsis (tachycardia when afebrile, low BP prolonged CRT and severe dehydration)	cefTRIAXone OR cefOTAXime IVOS co-amoxiclav	IV: Until afebrile/well Total: 10-14 days	gentamicin
	Extensive renal parenchymal disease / abscess	cefTRIAXone OR cefOTAXime IVOS co-amoxiclav	IV: Until afebrile/well Total: 14-21 days	
Non-urological underlying condition	Postrenal transplant	cefTRIAXone OR cefOTAXime	IV: Until afebrile/well Total: 14 days	
	Other renal impairment	cephalexin OR co-trimoxazole	10 days	ciprofloxacin PO if trimethoprim sensitive: co-trimoxazole PO
	immunocompromised	piperacillin-tazobactam IVOS co-amoxiclav OR co-trimoxazole	IV: Until afebrile/well Total: 10 days	meropenem
	Other	cephalexin OR co-amoxiclav	7-10 days	ciprofloxacin PO if trimethoprim sensitive: co-trimoxazole PO
Neonates and infants <2 months	With bacteraemia	benzylpenicillin + gentamicin IVOS co-amoxiclav	IV: ≤ 7 days Total 10-14 days	
	No bacteraemia		IV: ≤ 3 days Total 10-14 days	

PIDJ 2025 ESPID Guidelines for Complicated Urinary Tract Infections in Children

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

UTI Prophylaxis

UTI Prophylaxis

Prophylaxis of UTI (according to initial sensitivities) - Urology only

Do **not** routinely recommended in infants and children following first UTI

Consider only in infants and children with recurrent UTI

Recurrent UTI:

≥2 episodes of UTI with acute pyelonephritis / upper urinary tract infection, or

1 episode of UTI with acute pyelonephritis / upper urinary tract infection + ≥1 episode of UTI with cystitis / lower urinary tract infection, or

≥3 episodes of UTI with cystitis / lower urinary tract infection.

Base on sensitivity results and tolerability

Key points	Treatment	Dose	Frequency	Information
1st line Able to swallow solid forms (50 or 100 mg tablet or capsule)	nitrofurantoin PO	<12 years 1 mg/kg ≥12 years 50 mg to 100 mg	At night	nitrofurantoin is contraindicated in: · babies < 3 months · GFR <45ml/min Requires monitoring of liver and pulmonary function
1st line Unable to swallow solid forms	trimethoprim PO	2 mg/kg	At night	
2nd line If previous culture sensitive	amoxicillin PO	3 months to 11 months, 62.5 mg 1 year to 4 years, 125 mg 5 years to 15 years, 250 mg	At night	
2nd line If resistant to amoxicillin	cefaLEXin PO	12.5 mg/kg (max 125mg)	At night	
3rd line (to avoid antibiotic resistance but evidence lacking)	D-mannose	<6 years 15 mg/kg (max 125 mg) 7-12 years 250 mg 13-16 years 500 mg	8-hrly for 3 days then 12-hrly	

NICE NG112 (2018) Urinary tract infection (recurrent): antimicrobial prescribing

NICE NG224 (2022) Urinary tract infection in under 16s: diagnosis and management

Nature Urology 2018 Nonantibiotic prevention and management of recurrent urinary tract infection

Arch Ped 2020 D-Mannose Reduces the Risk of UTI in Complex Paediatric Urology Patients

Cochrane 2022 D-mannose for preventing and treating urinary tract infections

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Catheter Associated Urinary Tract Infections

Catheter Associated Urinary Tract Infections

Key points	Treatment	Duration	Penicillin high risk allergy
1st line	cefALEXin PO If low risk of resistance: trimethoprim PO If culture result susceptible: co-amoxiclav PO or amoxicillin PO	7–10 days	trimethoprim PO OR gentamicin
Candida spp	Asymptomatic (non-neutropenic, non-immunocompromised patients and no recipients of urinary tract procedures) — attempt catheter removal. No antifungal treatment, in general		
	Symptomatic patients, or neutropenic / immunocompromised / urinary tract procedures Fluconazole IV/oral	14 days	
If vomiting, unable to take oral antibiotics, or severely unwell (sepsis)	cefUROXime IV If culture result susceptible: co-amoxiclav IV OR cefTRIAxone OR cefOTAXime If severe sepsis: gentamicin If high rates of gentamicin resistance: amikacin	Review IV antibiotics by 48 hours and consider switch to oral where possible, for a total of 10 days	gentamicin

- Antibiotic treatment is not routinely needed for asymptomatic bacteriuria in people with a urinary catheter.
- Consider removing or, if not possible, changing the catheter if it has been in place for more than 7 days. Do not delay antibiotic treatment if symptomatic.
- Advise paracetamol for pain.
- Advise drinking enough fluids to avoid dehydration.
- Offer an antibiotic for a symptomatic infection.
- When prescribing antibiotics, take account of severity of symptoms, risk of complications, previous urine culture and susceptibility results, previous antibiotic use which may have led to resistant bacteria, and local antimicrobial resistance data.
- Do not routinely offer antibiotic prophylaxis to people with a short-term or long-term catheter.

1. Lack of paediatric-specific guidelines for Candida sp-related UTI; recommendations adapted from adult guidelines (Global guidelines for the Diagnosis and Management of Candidiasis 2025). Neonates are excluded from this recommendation (see neonatal guidelines).
2. Duration will depend on renal changes, and whether there are signs of Candida bezoars or dissemination.

NICE NG113 — Urinary tract infection (catheter-associated): antimicrobial prescribing.

Section updated July 2026

Peritoneal dialysis associated peritonitis

Peritoneal dialysis associated peritonitis

Send peritoneal dialysis fluid for culture before antibiotics

If entry site infection or systemic sepsis, iv or oral antibiotics only may be required (see Sepsis)

- Consider removing catheter

Key points	Treatment	Duration	Penicillin Allergy
Empiric	vancomycin Intraperitoneal (IP) + ceftAZidime IP	14 days Stop ceftAZidime after 3 days if WC in dialysis effluent resolving	vancomycin IP + gentamicin IP
Staphylococcus aureus (MSSA)	vancomycin IP	21 days	
Methicillin-resistant Staphylococcus aureus (MRSA)	vancomycin IP	21 days	
Coagulase negative staphylococcus (CoNS)	vancomycin IP	14 days	
Enterococcus faecalis / Streptococcus spp	amoxicillin IP	14 days for <i>Streptococci</i> 21 days for <i>Enterococci</i>	vancomycin IP
Enterococcus faecium	vancomycin IP + gentamicin IP (if severe)	21 days	
Vancomycin resistant enterococci spp (VRE) Needs discussion with infection specialist	amoxicillin IP (if sensitive) OR daptomycin IP (if amoxicillin resistant)	21 days	
Corynebacterium	vancomycin IP	21 days	
Pseudomonas	ceftAZidime IP + gentamicin IP	21 days	
Candida spp ^{1,2}	Catheter removal (source control) strongly recommended Liposomal amphotericin B ± 5-flucytosine (+TDM) OR Fluconazole ± 5-flucytosine (+TDM) OR Caspofungin ³	14 days after catheter removal	

ISPD 2022 International Society for Peritoneal Dialysis Peritonitis recommendations

Section updated Apr 2024

Feedback: UKPAS@BSAC.org.uk

¹ Recommendations based on adult management from the Global guidelines for the Diagnosis and Management of Candidiasis 2025. ² Susceptibilities recommended on any *Candida* sp isolate. ³ Any echinocandin, although the literature review acknowledged in the guidelines reports caspofungin.

Urology Surgical Prophylaxis

Urology Surgical Prophylaxis

Key points	Treatment	Duration	Penicillin Allergy
Clean Urological Procedures Circumcision Hydrocoele/Hernia Repair Orchidopexy	Not recommended	Not recommended	
Urological Procedures entering urinary tract Pyeloplasty Nephrectomy/Heminephrectomy Other Renal Surgery Bladder Augmentation Bladder Exstrophy Closure Posterior Urethral Valve Ablation	co-amoxiclav IV	Single dose within 60 min before procedure	gentamicin
Cystoscopy with minor manipulation/biopsy Hypospadias repair Epispadias repair Only if surgery is thought to be extensive and patient at a high risk of infection	co-amoxiclav IV + teicoplanin if MRSA	Single dose within 60 min before procedure	low risk allergy cefUROXime IV high risk allergy gentamicin

J Ped Urol 2017 Adverse events associated with surgical antibiotic prophylaxis for outpatient circumcisions at US children's hospitals

J Ped Urol 2018 Is surgical antibiotic prophylaxis necessary for pediatric orchiopexy?

J Urol 2020 Best Practice Statement on Urologic Procedures and Antimicrobial Prophylaxis

Section updated Jan 2023

Feedback: UKPAS@BSAC.org.uk



Chlamydia trachomatis / other urethritis

Chlamydia trachomatis / other urethritis

Opportunistically screen all sexually active patients for Chlamydia annually and on change of sexual partner.

Antibiotics are not routinely indicated after sexual assault

If positive, treat index case, refer to Sexual Health clinic and initiate partner notification, testing and treatment. Consider safeguarding.

As single dose [azithromycin](#) has led to increased resistance in GU infections, [doxycycline](#) should be used first line for Chlamydia and urethritis.

Advise patient with chlamydia to abstain from sexual intercourse until [doxycycline](#) is completed or for 7 days after treatment with [azithromycin](#) (14 days after [azithromycin](#) started and until symptoms resolve if urethritis).

If chlamydia, test for re-infection at 3 to 6 months following treatment.

Consider referring all patients with symptomatic urethritis to GUM as testing should include Mycoplasma genitalium and gonorrhoea.

- If M. genitalium is proven, use [doxycycline](#), followed by [azithromycin](#) using the same dosing regimen and avoid sex for 14 days after start of treatment and until symptoms have resolved.

Key points	Treatment	Duration
1st line	doxycycline PO (>8 years old)	7 days
2nd line	azithromycin PO	3 days

NICE CKS Chlamydia - uncomplicated genital

- BASHH 2018 Update on the treatment of Chlamydia trachomatis (CT) infection
- BASHH 2022 Sexual violence

ESCMID 2024 WHO's essential medicines and AWARe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

- Section updated Aug 2024
- Feedback: UKPAS@BSAC.org.uk

Epididymitis / Orchitis

Epididymitis / Orchitis

Key points	Treatment	Duration
Urinalysis and culture negative	No antibiotics	
Urinary tract infection associated	ciprofloxacin (<8 years old) PO	10 to 14 days
High risk of STI Refer to Sexual Health clinic	cefTRIAxone OR cefOTAXime	Single dose
	+ doxycycline (>8 years old) PO	10 days

- Annals RCS 2014 The aetiology and current management of prepubertal epididymitis
- BASHH 2020 United Kingdom British association for sexual health and HIV national guideline for the management of epididymo-orchitis
- Ped Em Care 2021 Evaluating the Necessity of Antibiotics in the Treatment of Acute Epididymitis in Pediatric Patients

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Vulvovaginal Candidiasis

Vulvovaginal Candidiasis

Key points	Treatment	Duration
Vulvovaginal candidiasis ≥12–17 years old	First line Clotrimazole 1% topical	Apply 2–3 times a day to skin for 14 days
	Second line Fluconazole oral* *Only prescribe if a documented negative pregnancy test is available	Single episode: 1 dose. Recurrent (≥4 mycologically confirmed episodes): 3 doses every 72 hours, then once-weekly prophylaxis for 6 months

See also Fungal skin infection.

NICE CKS: Candida – female genital

Bacterial Vaginosis

Bacterial Vaginosis

Key points	Treatment	Duration
Oral <u>metronidazole</u> is as effective as topical treatment and is cheaper 7 days results in fewer relapses than 2g stat at 4 weeks	<u>metronidazole</u> PO	7 days
	OR <u>metronidazole</u> 0.75% vaginal gel	5 nights
	OR <u>clindamycin</u> 2% cream	7 nights

- NICE CKS Bacterial vaginosis
- BASHH 2012 UK National Guideline for the management of Bacterial Vaginosis
- Section updated Apr 2025
- Feedback: UKPAS@BSAC.org.uk

Genital Herpes

Genital Herpes

Key points	Treatment	Duration
Advise: saline bathing, analgesia, or topical lidocaine for pain, and discuss transmission. First episode: treat within 5 days if new lesions or systemic symptoms, and refer to Sexual Health clinic, consider safeguarding. Recurrent: self-care if mild or immediate 3-day course antiviral treatment, or suppressive therapy if more than 6 episodes per year.	aciclovir PO OR valaciclovir (licensed >12 years) PO OR fanciclovir (licensed >12 years) PO	5 days

NICE CKS Herpes simplex – genital

BASHH 2014 UK national guideline for the management of anogenital herpes

BASHH 2024 Herpes in Pregnancy

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Gonorrhoea

Gonorrhoea

Key points	Treatment	Duration	Penicillin Allergy
Antibiotic resistance is high. Use IM cefTRIAxone OR cefOTAXime if susceptibility not known prior to treatment Use ciprofloxacin only if susceptibility is known prior to treatment and the isolate is sensitive to ciprofloxacin at all sites of infection Refer to Sexual Health Clinic. Test of cure is essential. Consider safeguarding.	cefTRIAxone OR cefOTAXime OR ciprofloxacin PO (only if known to be sensitive)	Single dose	gentamicin IM + azithromycin PO

- NICE CKS Gonorrhoea
- BASHH 2018 UK national guideline for the management of infection with Neisseria gonorrhoeae

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated Aug 2024

Feedback: UKPAS@BSAC.org.uk

Trichomoniasis

Trichomoniasis

Key points	Treatment	Duration
Oral treatment needed as extra-vaginal infection common. Treat partners and refer to GUM for other STIs. Consider safeguarding.	<u>metronidazole</u> PO	5 to 7 days

NICE CKS Trichomoniasis

BASHH 2021 British Association for Sexual Health and HIV (BASHH) United Kingdom national guideline on the management of Trichomonas vaginalis 2021

ESCMID 2024 WHO's essential medicines and AWaRe: recommendations on first- and second-choice antibiotics for empiric treatment of clinical infections

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Pelvic Inflammatory Disease

Pelvic Inflammatory Disease

Refer women and sexual contacts to Sexual Health clinic, consider safeguarding.

Raised CRP supports diagnosis, absent pus cells in high vaginal swab smear good negative predictive value.

Exclude: ectopic pregnancy, appendicitis, endometriosis, UTI, irritable bowel, complicated ovarian cyst, functional pain.

Moxifloxacin has greater activity against likely pathogens, but always test for gonorrhoea, *Chlamydia*, and *Mycoplasma genitalium*.

- If *M. genitalium* tests positive use moxifloxacin.

Key points	Treatment	Duration	Penicillin Allergy High risk
1st line therapy	<u>cefTRIAxone</u> OR <u>cefOTAxime</u>	stat	<u>gentamicin</u> + <u>clindamycin</u> IV 24 hours Oral: <u>metronidazole</u> + <u>doxycycline</u> (>8 years old) OR <u>azithromycin</u>
	+ <u>metronidazole</u> PO	14 days	
	+ <u>doxycycline</u> (>8 years old) PO OR <u>azithromycin</u> if <9 years old PO	14 days	
2nd line therapy	<u>metronidazole</u> PO + <u>moxifloxacin</u> PO alone (first line for <i>M. genitalium associated PID</i>)	14 days	

NICE CKS Pelvic Inflammatory Disease

BASHH 2019 United Kingdom National Guideline for the Management of Pelvic Inflammatory Disease (2019 Interim Update)

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Balanitis

Balanitis

Do not attempt to retract the foreskin

Do not use soap

- Bacterial: painful redness of the glans penis, oedema, erosions, purulent exudate

Key points	Treatment	Duration	Penicillin Allergy
Dermatitis	hydrocortisone 1% cream daily	14 days maximum	
Candida	<u>clotrimazole</u> 1% cream 8-12 hourly + hydrocortisone 1% cream daily	14 days	
Bacterial	<u>flucloxacillin</u> PO	7 days	<u>clarithromycin</u> PO

ADC EP 2022 Balanitis in children

Section updated Aug 2024

Feedback: UKPAS@BSAC.org.uk

Syphilis

Syphilis

Discuss all cases with an expert in Paediatric Infection to ensure appropriate investigations

Key points	Treatment	Duration	Penicillin allergy
Congenital syphilis	benzylpenicillin IV OR for OPAT cefTRIAXone	10 days	cefTRIAXone

ADC 2021 Stop, think SCORTCH: rethinking the traditional ‘TORCH’ screen in an era of re-emerging syphilis

BASHH 2024 Syphilis infant birth plan

BASHH 2024 BASHH guidelines for the management of syphilis in pregnant women, people who are pregnant and their babies

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Warts - anogenital

Warts - anogenital

Key points	Treatment	Duration
Peri-anal warts	imiquimod 5% cream	Until clearance or maximum 16 weeks

NICE CKS Warts - anogenital

STI 2016 How to manage children with anogenital warts

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk



Cardiovascular

Endocarditis

Endocarditis

Empiric treatment	Treatment	Duration	Penicillin allergy
Native valve Take at least 3 aerobic blood cultures with maximum volume of blood for bottle and consult Paed ID / Micro prior to starting antibiotics	amoxicillin (high dose) IV + flucloxacillin (high dose) IV	Until pathogen identification	Low risk penicillin allergy: cefaZOLin + gentamicin High risk penicillin allergy: teicoplanin OR vancomycin + gentamicin
	+ gentamicin (low dose)	gentamicin 7 days	
Native valve + severe sepsis and risk factors for ESBL	teicoplanin OR vancomycin IV + meropenem (high dose)		High risk penicillin allergy: teicoplanin OR vancomycin + gentamicin
Prosthetic valve	teicoplanin OR vancomycin IV + gentamicin + rifampicin PO		
Organism specific Native valve	Treatment	Duration	Penicillin allergy
<i>Streptococcus gallolyticus</i> (Group D) and oral <i>Streptococci</i> with penicillin MIC <0.125mg/L	benzylpenicillin 25 mg/kg 4-hourly IV OR cefTRIAXone 100 mg/kg daily OR cefOTAXime	4 weeks native valve 6 weeks prosthetic valve	Low risk penicillin allergy: cefTRIAXone 100 mg/kg daily OR cefOTAXime High risk penicillin allergy: teicoplanin OR vancomycin +/- gentamicin
	benzylpenicillin 25 mg/kg 4-hourly IV OR cefTRIAXone 100 mg/kg daily OR cefOTAXime + gentamicin 3 mg/kg daily IV	2 weeks native valve	
<i>Streptococcus gallolyticus</i> (Group D) and oral <i>Streptococci</i> with penicillin MIC 0.25-2 mg/L	benzylpenicillin 50 mg/kg 4-hourly IV OR cefTRIAXone 100 mg/kg daily OR cefOTAXime	4 weeks IV course	
	+ gentamicin	2 weeks of gentamicin only	
<i>Staphylococcus aureus</i> (flucloxacillin) (Methicillin) sensitive <i>S. aureus</i> MSSA)	flucloxacillin 50 mg/kg 6-hourly IV	4-6 weeks	Low risk penicillin allergy: cefaZOLin + rifampicin High risk penicillin allergy: teicoplanin OR vancomycin if vancomycin MIC >0.1 mg/L: daptomycin IV + clindamycin IV
Methicillin resistant <i>Staphylococcus aureus</i> (MRSA)	vancomycin	4-6 weeks	
Enterococci (beta-lactam and aminoglycoside sensitive)	amoxicillin IV	6 weeks	teicoplanin OR vancomycin IV + gentamicin IV
	+ gentamicin	2 weeks gentamicin	
Enterococci with high level aminoglycoside resistance	amoxicillin IV + cefTRIAXone OR cefOTAXime	6 weeks	
<i>Enterococcus faecium</i>	vancomycin	6 weeks	
	+ gentamicin IV	2 weeks gentamicin	
Prosthetic valve	Treatment	Duration	Penicillin allergy

Staphylococcus aureus (MSSA)	flucloxacillin IV + rifampicin PO	≥6 weeks	see MRSA
	+ gentamicin IV	2 weeks gentamicin	
Methicillin resistant Staphylococcus aureus (MRSA)	teicoplanin OR vancomycin IV + rifampicin PO	≥6 weeks	
	+ gentamicin IV	2 weeks gentamicin	

American Heart Assoc 2015 Infective Endocarditis in Childhood

European Society of Cardiology 2023 *Guidelines for the management of infective endocarditis*

Section updated Oct 2023

Feedback: UKPAS@BSAC.org.uk

Cardiac Surgical Prophylaxis

Cardiac Surgical Prophylaxis

Key points	Treatment	Duration	Penicillin allergy High risk
Sternotomy	<u>cefaZOLin</u> IV	Single dose within 60 min before incision and continue for total of 48 hours	<u>teicoplanin</u> OR <u>vancomycin</u> IV + <u>gentamicin</u> IV
Pacemaker Insertion	<u>cefaZOLin</u> IV	Single dose within 60 minutes before incision	<u>teicoplanin</u> IV
Explant epicardial pacemaker	<u>cefaZOLin</u> IV	Single dose within 60 minutes before incision	<u>teicoplanin</u> IV

NICE NG125 2020 Surgical site infections: prevention and treatment

AHA Journal 1998 Antibiotic Prophylaxis for Permanent Pacemaker Implantation

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Rheumatic fever

Rheumatic fever

Causative organism: Group A streptococcus

Key points	Treatment	Duration	Penicillin allergy
Acute rheumatic fever (ARF)	benzathine benzylpenicillin IM	Single dose	<u>clarithromycin</u> PO
	OR <u>phenoxymethylpenicillin</u> (penicillin V) PO	10 days	
Secondary prevention	<u>phenoxymethylpenicillin</u> (penicillin V) Twice/day PO OR benzathine benzylpenicillin Every 28 days IM	Possible ARF: 12 months and reassess Probable ARF: minimum 5 years OR to age 21 years (whichever is longer) Rheumatic heart disease: Borderline: 2 years Mild: min 10 years or age 21 years Moderate: min 10 years or age 35 years Severe: min 10 years or age 40 years	

RHD Australia 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease

CDC 2022 Acute Rheumatic Fever

BMJ Best Practice 2024 Rheumatic fever

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk



Invasive fungal infections

Invasive Fungal Infections

Invasive Fungal Infections

Key points	Treatment	Duration
Candida albicans (candidemia)	Neonates <3 months: Echinocandins (e.g. micafungin / caspofungin) OR Fluconazole IV Children >3 months: Echinocandin e.g. caspofungin / anidulafungin	2 weeks following negative blood culture and no disseminated disease and resolution of clinical signs. Antifungal choice and treatment duration for disseminated candidiasis need to be tailored to end-organ involvement.
Candida non-albicans (e.g. <i>C. parapsilosis</i> , <i>C. auris</i>)	Initial treatment with Echinocandin, further treatment according to sensitivity testing	Antifungal choice and treatment duration for disseminated candidiasis need to be tailored to end-organ involvement.
Aspergillus fumigatus (pulmonary, disseminated)	1st line Voriconazole IV (with TDM) OR Isavuconazole IV (with TDM) 2nd line Liposomal amphotericin B	6–12 weeks minimum, dependent on severity of immunosuppression and resolution of clinical disease
Cryptococcus neoformans (meningitis)	Liposomal amphotericin B + flucytosine (with TDM) followed by Fluconazole consolidation treatment. Please refer to the relevant guideline for further management and dosing.	14 days liposomal amphotericin B + flucytosine , followed by fluconazole high dose consolidation. After consolidation, maintenance with fluconazole needed.
Mucormycosis (pulmonary, disseminated)	Liposomal amphotericin B (high dose)	Surgical debridement. If immunosuppression controlled, then continue therapy until resolution of clinical/radiological disease and immunological recovery.
Pneumocystis	See Respiratory (<i>Pneumocystis jirovecii</i> pneumonia)	

ESCMID 2012 — [Candida diseases in neonates and children](#) · IDSA 2016 — [Management of Candidiasis](#) · IDSA 2016 — [Management of Aspergillosis](#) · ESCMID/ECMM 2019 — [Invasive aspergillosis in neonates and children](#) · ECMM/MSG 2019 — [Mucormycosis](#) · ECIL-8 2020 — [Invasive fungal diseases in paediatric cancer / HCT patients](#) · WHO 2022 — [Cryptococcal disease in people with HIV](#) · ECMM 2024 — [Cryptococcosis](#) · [Global guidelines for the Diagnosis and Management of Candidiasis 2025](#).

Section updated July 2026



Neonatal & Viruses

Neonatal unit infections

Neonatal unit infections

Key points	Treatment		Duration
Early Onset 1st line	RNR1 -ve (if available) benzylpenicillin + gentamicin	RNR1 +ve or renal dysfunction cefOTAXime	Low risk: 36 hours Single dose gentamicin 5 mg/kg then review Suspected: 5 days Confirmed: 7 days
	2nd Line cefOTAXime + gentamicin	meropenem	
Late onset 1st line	flucloxacillin IV + gentamicin +/- aciclovir IV	cefOTAXime +/- aciclovir IV	
	2nd Line cefOTAXime + gentamicin	cefOTAXime	
	3rd Line meropenem + gentamicin	meropenem	
Central line 1st line	cefOTAXime + vancomycin		Line removed: 7 days Line not removed: 14 days
	2nd Line meropenem + vancomycin		
Necrotising enterocolitis (NEC)	flucloxacillin IV + gentamicin + metronidazole IV		14 days
Meningitis	cefOTAXime + aciclovir IV + amoxicillin IV		See Meningitis

NICE NG195 Neonatal infection: antibiotics for prevention and treatment

NICE NG240 Meningitis (bacterial) and meningococcal disease: recognition, diagnosis and management

NICE HTE6 Genedrive MT-RNR1 ID Kit for detecting a genetic variant to guide antibiotic use and prevent hearing loss in babies: early value assessment

Lancet ID 2016 Antibiotic duration and timing of the switch from intravenous to oral route for bacterial infections in children: systematic review and guidelines

PIDJ 2024 Challenging Dogma in the Treatment of Childhood Infections: Oral Antibiotics and Shorter Durations

Section updated Jan 2025

Feedback: UKPAS@BSAC.org.uk

Syphilis

Syphilis

Discuss all cases with an expert in Paediatric Infection to ensure appropriate investigations

Key points	Treatment	Duration	Penicillin allergy
Congenital syphilis	benzylpenicillin IV OR for OPAT cefTRIAXone	10 days	cefTRIAXone

ADC 2021 Stop, think SCORTCH: rethinking the traditional ‘TORCH’ screen in an era of re-emerging syphilis

BASHH 2024 Syphilis infant birth plan

BASHH 2024 BASHH guidelines for the management of syphilis in pregnant women, people who are pregnant and their babies

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Cytomegalovirus

Cytomegalovirus

Discuss all cases with a Specialist in Paediatric Infection with experience in managing congenital CMV to ensure appropriate investigations and parental counselling

Key points	Treatment	Duration
Congenital CMV with CNS involvement	valganciclovir 16 mg/kg 12 hourly PO	6 months
Acute CMV immunodeficient or premature	ganciclovir 6 mg/kg 12 hourly IV	6 weeks Transplant guided by viral load
CMV retinitis induction	valganciclovir (mg) = 7 x BSA x CrCl (calculated using modified Schwartz formula) twice/day PO (max 900 mg)	21 days Then prophylaxis
Prophylaxis in transplant or retinitis	valganciclovir (mg) = 7 x BSA x CrCl (calculated using modified Schwartz formula) once/day PO (max 900 mg)	

FDA 2010 New dosing recommendations to prevent Valcyte (valganciclovir) overdose in pediatric transplant patients

ADC 2020 Postnatally acquired cytomegalovirus infection in extremely premature infants: how best to manage?

ECCI 2024 Consensus recommendation for prenatal, neonatal and postnatal management of congenital cytomegalovirus infection

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Toxoplasmosis

Toxoplasmosis

Discuss all cases with an expert in Paediatric Infection to ensure appropriate investigations and parental counselling.

Key points	Treatment	Duration
Congenital toxoplasmosis (Do not start without Paediatric Infection specialist advice)	pyrimethamine sulfadiazine folinic acid	12 months
Encephalitis — immunocompromised	pyrimethamine PO sulfadiazine PO folinic acid PO OR if oral not tolerated: co-trimoxazole IV	6 weeks Then prophylaxis. Stop if CD4 >200 cells/microL and HIV undetectable over 3 months.
Ocular disease	co-trimoxazole	6–8 weeks, until clinical resolution. Prophylaxis 6–12 months. Joint management with ophthalmology.

AAP 2017 — Diagnosis, Treatment and Prevention of Congenital Toxoplasmosis in the United States · CMR 2020 — Epidemiology, pathophysiology, diagnosis, and management of cerebral toxoplasmosis · ADC EP 2020 — Fifteen-minute consultation: Management of the infant born to a mother with toxoplasmosis in pregnancy · ADC 2021 — Stop, think SCORTCH: rethinking the traditional ‘TORCH’ screen in an era of re-emerging syphilis · EACS 2023 — European AIDS Clinical Society Guidelines v12.0 · BHIVA Guideline — Opportunistic infections · British Journal of Ophthalmology 2022 — Current practice in the management of ocular toxoplasmosis · Asia-Pacific Journal of Ophthalmology 2025 — Controversy and consensus on the management of ocular toxoplasmosis.

Section updated January 2026

Chickenpox / Varicella Zoster (VZV)

Chickenpox / Varicella Zoster (VZV)

Key points	Treatment	Duration
Prophylaxis Maternal chickenpox 7 days before or 7 days after birth	varicella immune globulin (VZIg)	Stat
	OR if VZIg not available within 96 hrs intravenous immune globulin (IVIG) 400 mg/kg + aciclovir IV for 48 hrs then PO	21 days
Prophylaxis if significant exposure to chickenpox or zoster AND VZ IgG negative AND: Immunosuppressed, or Neonate and no maternal history of chickenpox or varicella vaccine or mother VZ IgG negative, or <28 weeks gestation or <1 kg at birth in hospital from birth, or Prolonged intensive or special care in 1st year of life.	aciclovir PO OR valaciclovir PO >2 years old: 20 mg/kg (max 1g) 8 hrly (tablets can be crushed)	Days 7 to 14 after exposure
Chickenpox treatment Neonate with no maternal history of chickenpox Neonate with maternal history of chickenpox	aciclovir IV aciclovir PO	7 days
Chickenpox if onset of rash <24 hours AND 1 of the following: >14 years of age severe pain dense/oral rash taking steroids	aciclovir IV OR valaciclovir PO >2 years old: 20 mg/kg (max 1g) 8 hrly (tablets can be crushed)	7 days
Shingles		
if onset of rash <72 hours AND 1 of the following: active ophthalmic Ramsey Hunt syndrome eczema non-truncal involvement moderate or severe pain	If onset of rash <1 week And 1 of the following: severe pain continued vesicle formation immunocompromised	

NICE CKS Chickenpox

NICE CKS Shingles

Clin Infect Dis 2010 Pharmacokinetics and safety of extemporaneously compounded valacyclovir oral suspension in pediatric patients from 1 month through 11 years of age

BMJ 2019 Management of varicella in neonates and infants

UKHSA 2024 Varicella: the green book, chapter 34

UKHSA 2025 Guidelines on post-exposure prophylaxis (PEP) for varicella and shingles

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Herpes Simplex

Herpes Simplex

Key points	Treatment	Duration
Eye (see Conjunctivitis)		
Neonatal HSV*	aciclovir IV 20 mg/kg 8 hourly	14 days Skin Eye Mouth (SEM) 21 days disseminated and encephalitis
Herpes simplex encephalitis**	aciclovir IV	<12 years old or immunocompromised 21 days if repeat LP negative >12 years old 14 days if repeat LP negative
Prophylaxis Following SEM, disseminated or encephalitis in <3 months old	aciclovir PO <3 m old: 300 mg/m ² 8 hourly >3m old: 1340 mg/m ² 12 hourly to 6 months OR valaciclovir 25-40 mg/kg (max 1g) 8 hourly	6-12 months
Gingivostomatitis if <72 hr from onset	aciclovir PO OR valaciclovir PO (crushed 500 mg tablets in water)	3-5 days 5-10 days if immunocompromised If new lesions during treatment, then continue until 3 days after lesions heal over
Eczema herpeticum / immunocompromised	1-23 months: 20 mg/kg (max 100mg) 8 hourly 2-12 years: 30 mg/kg (max 500mg) 8 hourly (double dose if immunocompromised)	
Skin lesions If severe	≥12 years or ≥40 kg: 500 mg 12 hourly (1 g 12 hourly if immunocompromised)	

***Aciclovir:**

<1 month, if any one of:

- ALT or AST >2x ULN
- coagulopathy
- vesicles
- seizures
- CSF pleocytosis
- suspected meningitis/encephalitis
- recent maternal herpes simplex disease OR
- postnatal contact with herpes simplex virus

Day 3-14 age at presentation:

- no other obvious cause OR
- not improving OR
- unexplained maternal febrile illness peripartum to 14 days postpartum, especially if premature

****Any age** encephalopathy and fever

Send EDTA blood and CSF for HSV PCR, if negative and low suspicion or alternative cause found then can stop **aciclovir**

ADC 2021 Stop, think SCORTCH: rethinking the traditional 'TORCH' screen in an era of re-emerging syphilis

NICE CG57 Atopic eczema in under 12s: diagnosis and management

RPCCH Blue Book 4 edn p594 Ch 76 Herpes simplex

BASHH 2024 Herpes in Pregnancy

WMJ 2024 Valacyclovir Versus Acyclovir for Herpes Simplex Virus Suppression Following Neonatal Infection

Section reviewed March 2025

***Aciclovir:** <1 month, if any one of: ALT or AST >2x ULN; coagulopathy; vesicles; seizures; CSF pleocytosis; suspected meningitis/encephalitis; recent maternal herpes simplex disease OR postnatal contact with herpes simplex virus.

Day 3-14 age at presentation: no other obvious cause OR not improving OR unexplained maternal febrile illness peripartum to 14 days postpartum, especially if premature.

**encephalopathy and fever. Send EDTA blood and CSF for HSV PCR; if negative and low suspicion or an alternative cause is found, aciclovir can be stopped.

Neonatal prophylaxis

See BHIVA Pregnancy guidelines section 11 and Appendix 4

Key points	Treatment	Duration
Low risk	zidovudine	2 weeks
High risk Seek Paediatric Infection Specialist advice	zidovudine	4 weeks
	+ lamivudine	4 weeks
	+ nevirapine	2 weeks

Post exposure prophylaxis

Key points	Treatment	Duration
See CHIVA guidelines for indications	≥25kg and ≥12 years bictegravir, emtricitabine, tenofovir alafenamide (Biktarvy®) if Biktarvy not available: raltegravir ≥40kg and ≥12 years OR dolutegravir ≥3kg and ≥4 weeks + emtricitabine/tenofovir disoproxil ≥35kg and ≥12 years OR emtricitabine, tenofovir alafenamide ≥35kg and ≥12 years OR lamivudine + zidovudine from birth	4 weeks

HIV treatment

Do NOT initiate until after discussion with local Paediatric HIV team and Imperial College HIV Paediatric Virtual Clinic

Key points	Treatment	Examples
0-4 weeks	zidovudine OR abacavir + lamivudine + lopinavir / ritonavir OR nevirapine	
>4 weeks	abacavir + lamivudine OR emtricitabine / tenofovir alafenamide + bictegravir OR dolutegravir	e.g. Biktarvy ® Triumeq ® Descovy ® / dolutegravir

CHIVA 2023 Post-Exposure Prophylaxis (PEP) Guidelines for infants, children and adolescents potentially exposed to blood-borne viruses

CHIVA 2023 Antiretroviral / HIV Drug Dosing for Children and Adolescents 2022-23 - Imperial College Healthcare NHS Trust

EACS 2024 European AIDS Clinical Society 12.1

BHIVA 2025 guidelines for the management of HIV in pregnancy and postpartum 2025

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Hepatitis B

Hepatitis B

Discuss all cases with Paediatric Hepatitis team to ensure appropriate investigations

Key points	Treatment	Duration
Seek advice from Paediatric Hepatitis specialist	entecavir OR if concerns about adherence: tenofovir disoproxil	lifelong

NICE 2017 Hepatitis B (chronic): diagnosis and management. Clinical guideline [CG165]

WHO 2024 Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection

UKHSA HIPSNet Enhanced surveillance of childhood cases of hepatitis B and C in England

Section updated Jan 2025

Feedback: UKPAS@BSAC.org.uk

Hepatitis C

Hepatitis C

Key points	Treatment	Duration
Seek advice from Paediatric Hepatitis specialist	sofosbuvir / ledipasvir (Harvoni ®) sofosbuvir / velpatasvir (Epclusa ®) gecaprevir / pibrentasvir (Maviret ®) sofosbuvir / velpatasvir / oxilaprevir (Vosevi ®)	8, 12 or 16 weeks as advised

BASL 2021 National HCV Paediatric Multi-disciplinary Operational Delivery Network (National HCV pMDT ODN)

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk



Prophylaxis

Splenectomy / hyposplenism

Splenectomy / hyposplenism

Key points	Treatment	Duration	Penicillin allergy
Alert card Malaria and animal bite risk	<u>phenoxymethylpenicillin</u> (penicillin V) BD PO	All <5 years old OR 1-3 years post splenectomy OR Lifelong if: previous invasive pneumococcal disease OR splenectomy for malignancy	<u>clarithromycin</u> BD PO
	<u>amoxicillin</u> PO	Emergency treatment at home (e.g. fever) 5 days	

Likely causative organisms

Common	<i>Streptococcus pneumoniae</i> (pneumococcus), <i>Neisseria meningitidis</i> (meningococcus), <i>Haemophilus influenzae</i> type b (Hib) and influenza.
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Immunisations:

1 month prior to operation if elective, postop if emergency:

- pneumococcal (Prevenar 13®)
- meningococcal A, C, W, Y (MedQuadfi ®)
- meningococcal B (Bexsero ®)
- COVID
- Influenza (annually)

BJHaem 2024 Prevention and treatment of infection in patients with an absent or hypofunctional spleen

Section updated Jan 2025

Feedback: UKPAS@BSAC.org.uk



Parasites

Malaria

Malaria

Falciparum is a medical emergency: immediate treatment essential. Discuss with Paed ID / Micro

Key points	Treatment	Duration
Plasmodium falciparum	Severe Give IV ARTESUNATE	<20 kg: 3 mg/kg, or ≥20 kg: 2.4 mg/kg Give at 0, 12 and 24 hr and then once daily. When parasitaemia is resolving and the patient improving, switch to oral artemether with lumefantrine to complete 3 days. (If ARTESUNATE is NOT available give IV QUININE loading dose 20 mg/kg (max 1.4 g) over 4 hrs. Cardiovascular and blood glucose monitoring required.) + IV Ceftriaxone 80 mg/kg
	+ clindamycin PO OR doxycycline PO if >8 years old	7 days
	No severe features artemether with lumefantrine (Riamet®) PO	6 doses: (0, 8, 24, 36, 48 and 60 hr)
	if artemether with lumefantrine unavailable: atovaquone-proguanil (Malarone®) PO	3 days
Non-falciparum Malaria	artemether with lumefantrine (Riamet®) PO	6 doses: (0, 8, 24, 36, 48 and 60 hr)
	if artemether with lumefantrine not available chloroquine PO	1st dose 10 mg/kg (max 620 mg) 2nd dose 5 mg/kg (max 310 mg) after 6 hours then once daily for 2 days
	For <i>Plasmodium vivax</i> or <i>Plasmodium ovale</i> , also requires radical cure with Primaquine OD for 14 days (start as soon as possible after confirming G6PD status). Primaquine can cause gastrointestinal upset and should be given after food.	14 days. <i>P. ovale</i> – 0.25 mg/kg (max 15 mg). <i>P. vivax</i> – 0.5 mg/kg (max 30 mg). For radical cure in mild-moderate G6PD deficiency, modified dosing of Primaquine 0.75 mg/kg (max 45 mg) is given once a week for 8 weeks under close monitoring (discuss with expert).

Key points	Prophylaxis	Duration
>12 years old	doxycycline PO	2 days before to 4 weeks after return
	OR atovaquone / proguanil PO	2 days before to 7 days after return
<12 years old	atovaquone / proguanil PO	2 days before to 7 days after return

NICE CKS Malaria

BIA 2016 UK malaria treatment guidelines 2016

WHO 2024 WHO Guidelines for malaria

UKHSA 2024 Guidelines for malaria prevention in travellers from the UK 2024

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Worms

Worms

Key points	Treatment	Duration
Threadworm (pinworm, <i>Enterobius vermicularis</i>)	<u>mebendazole</u> PO OR <u>albendazole</u> PO	1 dose for each household member Strict handwashing and scrubbing nails Repeat after 2 weeks
Whipworm <i>Trichuris trichiura</i>	<u>mebendazole</u> PO	3 days
	OR <u>albendazole</u> PO	1 dose
	<u>ivermectin</u> PO If <u>mebendazole</u> and <u>albendazole</u> cannot be used	3 days
Hookworm <i>Ancylostoma</i> <i>Necator</i>	<u>mebendazole</u> PO	3 days
	OR <u>albendazole</u> PO	3 days
	<u>levamisole</u> PO If <u>mebendazole</u> and <u>albendazole</u> cannot be used	1 dose, repeat after 7 days if severe
Roundworm (<i>Ascaris</i>)	<u>mebendazole</u> PO	3 days
	OR <u>albendazole</u> PO	1 dose
	<u>levamisole</u> PO If <u>mebendazole</u> and <u>albendazole</u> cannot be used	1 dose
Tapeworm <i>Taenia solium</i> <i>Hymenolepis nana</i>	<u>praziquantel</u> PO	1 dose
Taeniasis: <i>Taenia saginata</i> (beef tapeworm) <i>Taenia solium</i> (pork tapeworm) <i>Taenia asiatica</i> (Asian tapeworm)	<u>praziquantel</u> PO	1 dose
Neurocysticercosis <i>Taenia solium</i> Discuss with expert	<u>albendazole</u> PO	15 mg/kg daily (max 800 mg) 10–14 days
	+ <u>praziquantel</u> PO	50 mg/kg daily 10–14 days
	with dexamethasone	
<i>Diphyllobothrium latum</i> (broad fish tapeworm) <i>Dipylidium caninum</i> (dog or cat flea tapeworm)	<u>praziquantel</u> PO 10 mg/kg	1 dose
Hymenolepiasis: <i>Hymenolepis nana</i> (dwarf tapeworm) <i>Hymenolepis diminuta</i> (rat tapeworm)	<u>praziquantel</u> PO 25 mg/kg	1 dose
Hydatid <i>Echinococcus</i>	<u>albendazole</u> PO	5–7.5 mg/kg (max 400 mg) 12 hourly +/- surgery Cystic echinococcosis: 1–6 months Alveolar echinococcosis: 2 years minimum
Filaria <i>Wuchereria bancrofti</i> <i>Brugia malayi</i>	<u>diethylcarbamazine</u> PO	Lymphatic filariasis: 2 mg/kg 8 hourly 12 days Tropical pulmonary eosinophilia: 2 mg/kg 8 hourly 14–21 days
Loa loa	<u>diethylcarbamazine</u> PO	3 mg/kg 8 hourly 21 days Discuss with specialist before treating
Onchocerciasis	<u>ivermectin</u> PO	1 dose

Cutaneous larva migrans <i>Ancylostoma</i> (zoonotic hookworm)	≥2 years old or ≥15 kg <u>ivermectin</u> PO	200 microgram/kg 1 dose
	1-2 years old <u>albendazole</u> PO	200 mg 1 dose
Schistosomiasis	<u>praziquantel</u> PO	<i>Schistosoma haematobium</i> , <i>Schistosoma mansoni</i> : 2 doses <i>Schistosoma japonicum</i> : 3 doses
Strongyloides	<u>ivermectin</u> (>5 years old)	1 dose
	<u>albendazole</u> (2–5 years old)	7 days
Scabies and Head lice (see Skin)		



Major Incident

Major incident

Major incident

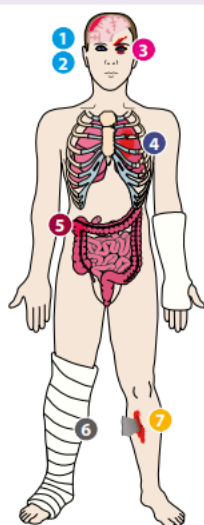
See BNFC for Paediatric dosing and duration according to relevant section

Antimicrobial prophylaxis

Introduction

Blast wounds are extensive and contaminated (and will remain so even after extensive debridement, or will rapidly become recontaminated); whereas **gunshot wounds (GSW) are relatively clean**.

- ▶ Give your microbiologist as much information as possible.
- ▶ How was the injury sustained?
- ▶ What was the environment in which it was obtained?
- ▶ Any organic contamination or water exposure?
- ▶ **Keep to simple measures and antibiotics**
- ▶ Recognise your patient will have a huge inflammatory response and it may not be due to an infection.



▲ If patient is known to be colonised with MRSA, CPE, ESBL+ve or other resistant organisms, discuss with your microbiologist

KEY POINTS

Bacterial infection in blast or ballistic injury, is the same as other wounds but don't just treat the microbiology report.

- ▶ Consider if this is colonisation or infection?
- ▶ Close liaison with a microbiologist within the multidisciplinary team is essential.
- ▶ Common things occur commonly, but be on alert for an unusual clinical picture.

CSF leak post skull fracture 1

- ▶ No antibiotics required
- ▶ Give **Pneumovax** (if sinus/auditory canal breached)

Penetrating CNS injury 2

- ▶ **Ceftriaxone 2g bd iv + Metronidazole tds iv**
- ▲ Non-severe Penicillin allergy: Meropenem 2g tds iv
- ▲ Severe Penicillin Allergy (Anaphylaxis): Ciprofloxacin 400mg bd iv + Vancomycin 1g bd iv + Metronidazole 500mg tds iv
- All courses two weeks duration

Penetrating eye injury 3

- ▶ **Ciprofloxacin 400mg bd iv + Clindamycin 450mg tds iv**
- Give for ≥ two weeks after removal of foreign body

Penetrating chest trauma 4

- ▶ **Co-amoxiclav 1.2g tds iv** (if unavailable, give Cefuroxime 750mg tds iv and Metronidazole 500mg tds iv)
- ▲ Penicillin allergy: Clindamycin 450mg qds iv
- One to two weeks, depending on progress or presence of intercostal drains

Penetrating abdominal trauma 5

- ▶ **Co-amoxiclav 1.2g tds iv** (if unavailable, give Cefuroxime 750mg tds iv and Metronidazole 500mg tds iv)
- ▲ Penicillin allergy: Ciprofloxacin 400mg bd iv and Metronidazole 500mg tds iv. Add Vancomycin 1gm bd if significant soft tissue damage
- ▶ Add **Fluconazole** if GI perforation and risk of spillage of GI contents
- Continue until surgical exploration. Continue for 5 days if perforation.

Open fracture limb/hands 6

- ▶ **Co-amoxiclav 1.2g tds iv** (if unavailable, give Cefuroxime tds iv and Metronidazole 500mg tds iv)
- ▲ Penicillin allergy: Clindamycin 450mg qds iv
- Until soft tissue cover or 72 hours, whichever is soonest (BOAST4 guidelines)

Penetrating soft tissue injury 7

- ▶ **Co-amoxiclav 1.2g tds iv** (if unavailable, give Cefuroxime 750mg tds iv or Metronidazole 500mg tds iv)
- ▲ Penicillin allergy: Clindamycin 450mg qds iv
- Until first surgical debridement/washout

- ▶ Tell the lab about the unexpected findings or unusual clinical picture, as diagnostic labs are set up to look for common pathogens and may overlook others.
- ▶ Be aware or suspicious of wounds with evolving (unexpected) necrosis.

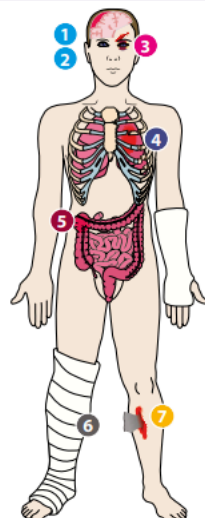
See BNFC for Paediatric dosing

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- Tell the lab about the unexpected findings or unusual clinical picture, as diagnostic labs are set up to look for common pathogens and may overlook others.
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Antimicrobial prophylaxis

- Post event transfers: Infection Prevention and Control (IPC) teams need advance notice of patient movements and suspect organisms if possible, to ensure the receiving unit is prepared and can mitigate risk (ie is there a side room available?).

Prevention of Blood Borne Virus Transmission (Hepatitis B, C and HIV)

Follow principles of Inoculation Accident Injury.

- Obtain blood sample from patient
- As soon as possible, a blood sample from the patient should be stored for baseline.
- Refer to **Bloodborne viruses: managing risk in bomb blast victims** PHE Guideline on BBV

Hepatitis B Vaccination

- Start vaccination course within 48 hours of injury.
- Give accelerated vaccine schedule.
- Store blood and check for seroconversion at three and six months.
- Will have some opioid sparing effect.

Hepatitis C Vaccination

- No vaccine/antiviral strategy possible.
- Store blood and check for seroconversion at three and six months.

HIV

- Post exposure prophylaxis not routinely recommended.
- Risk assessment will be directed by Public Health England.
- Store blood and check for seroconversion at three and six months.

Infection

Infection

Key points	Treatment	Duration	Penicillin allergy

Likely causative organisms	
Common	
Rare	

Section updated

Feedback: UKPAS@BSAC.org.uk



Appendices

Abbreviations

Abbreviations

BASHH: British Association of Sexual Health and HIV

BPAIIG: British Paediatric Allergy Immunology Infection Group

BTS: British Thoracic Society

CLABSI: Central Line Associated Bloodstream Infection

Hib: Haemophilus influenzae type b

IDSA: Infectious Disease Society of America

MHRA: Medicines and Healthcare products Regulatory Agency

MRSA: Methicillin Resistant *Staphylococcus aureus*

MSSA: Methicillin Sensitive *Staphylococcus aureus*

NICE: National Institute for Health and Care Excellence

NIHP: National Institute for Health Protection

OPAT: Outpatient Parenteral Antimicrobial Therapy

PHE: Public Health England

Paed ID/Micro: Paediatric Infectious Diseases / Microbiology

RCPC Blue Book 4 edn: Manual of Childhood Infections 2016 4th edition

SARC: Sexual Assault Referral Centre

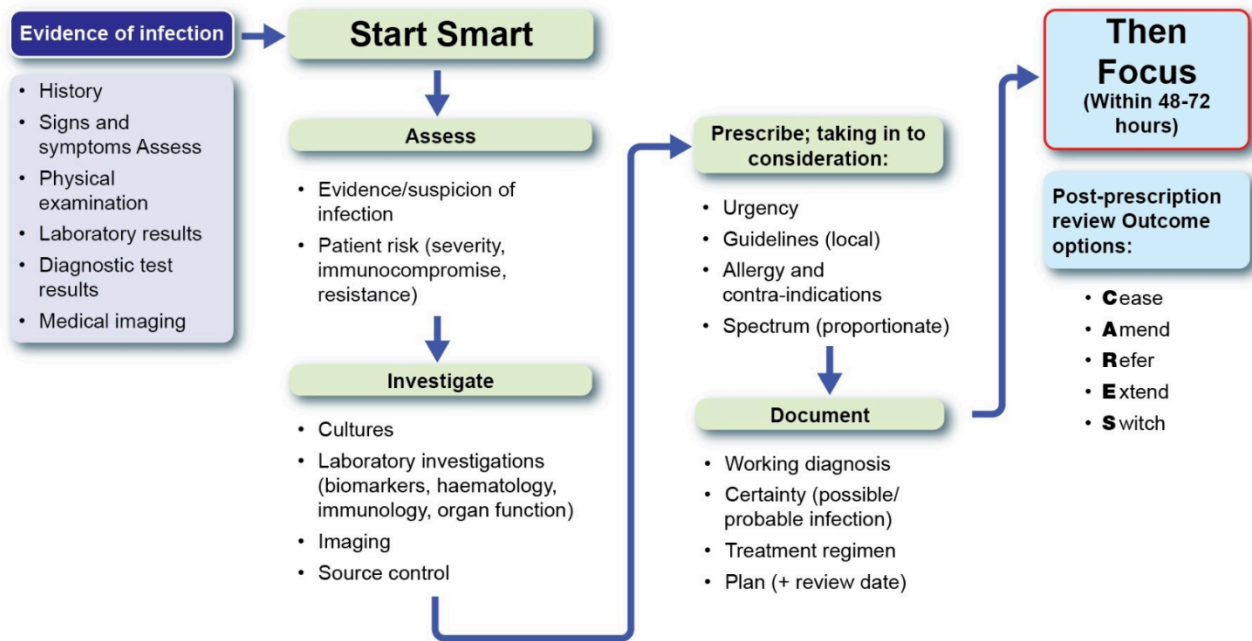
UKHSA: United Kingdom Health Security Agency

ULN: Upper Limit of Normal

Section updated June 2023

Feedback: UKPAS@BSAC.org.uk

Antimicrobial stewardship: Start Smart then Focus Clinical management algorithm



Antimicrobial stewardship: Start smart - then focus

Start smart then focus: antimicrobial stewardship toolkit for inpatient care settings - GOV.UK (www.gov.uk)

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Penicillin Allergy

Penicillin Allergy

Low risk:

Minor gastro-intestinal symptoms (nausea, abdominal pain, diarrhoea)

Candidiasis (thrush)

Minor symptoms unrelated to any form of allergic reaction, for example headache, arthralgia, strange taste in mouth

Family history of penicillin allergy but without personal history of allergy

Patient has taken and tolerated the same penicillin subsequent to the index reaction

Patient reports “benign” rash which developed more than 1 h after the first dose of a course of penicillin

Patient reports a childhood rash with no other history available

Patient cannot remember what happened during index reaction but was told it was not serious and did not require hospital treatment

High risk:

Rash occurring within 1 h of the first dose of penicillin

Rash lasting more than 24 h and/or affecting more than 10% of body surface.

Rash associated with blisters, skin peeling, mucosal inflammation (eyes, mouth, genitals), purpura.

Patients reporting any symptoms suggestive of a type 1 immediate hypersensitivity reaction to penicillin, including swelling, urticaria, angioedema, shortness of breath, wheeze, loss of consciousness, or collapse.

Patients who required hospital treatment due to their reaction

Patients who required treatment with adrenaline for their reaction

Patients who cannot remember what happened during the index reaction but were told it was serious and/or required medical intervention

Unable to give informed consent

Pregnancy

Previous penicillin allergy testing which concluded that the patient was allergic to penicillin

If low risk de-label the penicillin allergy

Low risk allergy:	DO NOT USE Contra-indicated unless no alternative and benefit outweighs risk		CAUTION may be used with caution	SAFE Examples include	
High risk allergy:	Contra-indicated		contra-indicated unless no alternative and benefit outweighs risk (seek senior advice)		
Lists are not exhaustive - see current BNF for full details					
	Amoxicillin Benzylpenicillin CefALEXin (1st generation cephalosporin) Co-amoxiclav Flucloxacillin	Penicillin G Phenoxymethylpenicillin Piperacillin+Tazobactam Pivmecillinam Temocillin Ticarcillin+Clavulanic acid	CefaZOLin (1st Generation cephalosporin) CefUROXime (2nd Generation) CefIXime (3rd Generation) CefOTAXime (3rd Generation) CefTAZidime (3rd Generation) CefTRIAxone (3rd Generation) Ertapenem Imipenem+Cilastatin Meropenem	Amikacin Ciprofloxacin Clarithromycin Clindamycin Daptomycin Doxycycline Fosfomycin	Gentamicin Levofloxacin Linezolid Metronidazole Nitrofurantoin Teicoplanin Trimethoprim Vancomycin

BSACI 2015 Management of allergy to penicillin and other beta-lactams

BSACI 2022 guideline for the set-up of penicillin allergy de-labelling services by non-allergists working in a hospital setting

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Notify Public Health

Notify Public Health

Health Protection Team for telephone number

UK Health Security Agency for form

All Wales Acute Response team 0300 003 0032

Health Protection Scotland via local Health Board

Northern Ireland Public Health Agency 0300 555 0119

Section updated Nov 2024

Feedback: UKPAS@BSAC.org.uk

Antimicrobials

Antimicrobials

Aciclovir:

<1 month, if any one of:

- ALT or AST >2x ULN
- coagulopathy
- vesicles
- seizures
- CSF pleocytosis
- suspected meningitis/encephalitis
- recent maternal herpes simplex disease OR
- postnatal contact with herpes simplex virus

Day 3-14 age at presentation:

- no other obvious cause OR
- not improving OR
- unexplained maternal febrile illness peripartum to 14 days postpartum, especially if premature

****Any age encephalopathy and fever**

Send EDTA blood and CSF for HSV PCR, if negative and low suspicion or alternative cause found then can stop [aciclovir](#)

Aminoglycosides

Consider MT-RNR1 genetic testing for patients at risk of ototoxicity due to aminoglycoside exposure.

Aminoglycosides ([gentamicin](#), [amikacin](#), [tobramycin](#), and neomycin): increased risk of deafness in patients with mitochondrial mutations - GOV.UK

CPIC® Guideline for Aminoglycosides and MT-RNR1 – CPIC

NHS England » National genomic test directory

CefTRIAxone

2 doses can be given up to 12 hrs apart once for suitable timing of OPAT

NG240 Meningitis (bacterial) and meningococcal disease: recognition, diagnosis and management: Evidence review D2 19/03/2024 p14

Gbesemete, D., Faust, S. (2019). Prescribing in infection: antibacterials. In: Barker, C., Turner, M., Sharland, M. (Eds.) Prescribing Medicines for Children: From drug development to practical administration, Pharmaceutical Press, London: UK

Once daily [ceftriaxone](#) for central nervous system infections and other serious paediatric infections PIDJ 1986 5:3;298-303

- **Contraindications to [cefTRIAxone](#): give [cefOTAXime](#)**

Concomitant treatment with intravenous calcium (including total parenteral nutrition containing calcium) in premature and full-term neonates

Full-term neonates with jaundice, hypoalbuminaemia, acidosis, unconjugated hyperbilirubinaemia (bilirubin ≥ 200 $\mu\text{mol/L}$), or impaired bilirubin binding

- <41 weeks corrected gestational age

Bilirubin-Displacing Effect of [CefTRIAxone](#) in Infants With Unconjugated Hyperbilirubinemia Born at Term - The Journal of Pediatrics (jped.s.com)

- If *Staphylococcus aureus* highly suspected for inpatients [cefOTAXime](#) preferred; high dose [cefTRIAxone](#) for OPAT

EUCAST 2023 Guidance Document on [Cefotaxime](#) and [Ceftriaxone](#) for *Staphylococcus aureus* infection

Doxycycline

For evidence of safety <9 years old see:

Red book 2024-2027: report of the committee on infectious diseases 33rd ed p975 Tetracyclines

Dental staining after [doxycycline](#) use in children - PMC (nih.gov) J Antimicrob Chemother. 2017 Oct; 72(10): 2887-2890

No visible dental staining in children treated with [doxycycline](#) for suspected Rocky Mountain Spotted Fever - PubMed (nih.gov) J Pediatr. 2015 May;166(5):1246-51

Quinolones

Only recommended when other commonly recommended antibiotics are inappropriate

Fluoroquinolone antibiotics: must now only be prescribed when other commonly recommended antibiotics are inappropriate - GOV.UK (www.gov.uk)

Macrolides

[Clarithromycin](#) is recommended over [azithromycin](#) because of the long half life and therefore increased likelihood of resistance with [azithromycin](#); and over [erythromycin](#) because adverse events were significantly higher with [erythromycin](#) compared with [clarithromycin](#) (45.7% versus 21.4%; Pakhale 2014). Consider [azithromycin](#) if drug interaction or [clarithromycin](#) not tolerated.

Summary of the evidence | Pneumonia (community-acquired): antimicrobial prescribing | Guidance | NICE

[Meropenem](#)

Avoid if history of immediate hypersensitivity reaction to carbapenems e.g. [meropenem](#)

There is a very low risk of reactivity to carbapenems in patients with a history of immediate reactions to penicillins, but the risk of an immediate reaction will be higher than in patients without any history of drug reactivities, so it is recommended that the first dose is given by infusion over 30 minutes and the patient is monitored for possible allergy for an hour

[Meropenem](#) allergy testing performed at the bedside of hospitalized patients labelled with a penicillin allergy - ScienceDirect 2023

Allergic Reactions in Hospitalized Patients With a Self-Reported Penicillin Allergy Who Receive a Cephalosporin or [Meropenem](#) 2017

Safety of [Meropenem](#) in Patients Reporting Penicillin Allergy: Lack of Allergic Cross Reactions 2008

[Temocillin](#)

β -lactamase-resistant penicillin paediatric dosing 25 mg/kg 12-hrly or 8-hrly in critically ill

[Temocillin](#) for febrile urinary tract infections caused by ESBL-producing Enterobacteriaceae in children: a monocentric exposed/non-exposed study | Journal of Antimicrobial Chemotherapy | Oxford Academic (oup.com)

Section updated Apr 2025

Feedback: UKPAS@BSAC.org.uk

Solid dose forms (tablets and capsules)

Solid dose forms (tablets and capsules)

Children should be encouraged to swallow oral solid dose forms (tablets and capsules) wherever possible. Most children can learn to swallow tablets from around 4 years of age.

Why solid dose forms are preferred

Tablets / capsules	Liquids
Little or no taste; do not coat the mouth	Often unpalatable; coat the mouth
Sugar-free	Often sugary — contribute to dental decay
Long expiry; no refrigeration needed	Short expiry; many need refrigeration
Compact and easy to store and transport	Bulky
More reliable supply	Can be harder to source
Standardised content — accurate dosing	Measuring errors more likely
Generally cheaper	More expensive
Lower carbon footprint	Greater environmental impact

Liquid to solid dose conversion

For children **over 4 years of age and at least 12 kg** who have been assessed as able to take solid dose forms. This table converts an existing liquid dose to the equivalent tablet or capsule — it does not determine the dose. Select dose and regimen using the BNFc.

Drug and dose	Liquid	Tablet / capsule
Amoxicillin 250 mg	5 mL of 250 mg/5 mL oral suspension	1 × 250 mg capsule
Amoxicillin 500 mg	10 mL of 250 mg/5 mL oral suspension	1 × 500 mg capsule
Clarithromycin 250 mg	5 mL of 250 mg/5 mL oral suspension	1 × 250 mg tablet
Clarithromycin 500 mg	10 mL of 250 mg/5 mL oral suspension	1 × 500 mg tablet
Erythromycin 250 mg	5 mL of 250 mg/5 mL oral suspension	1 × 250 mg tablet
Erythromycin 500 mg	10 mL of 250 mg/5 mL oral suspension	1 × 500 mg tablet
Flucloxacillin 250 mg	5 mL of 250 mg/5 mL oral solution	1 × 250 mg capsule
Flucloxacillin 500 mg	10 mL of 250 mg/5 mL oral solution	1 × 500 mg capsule
Penicillin V 250 mg	5 mL of 250 mg/5 mL oral solution	1 × 250 mg tablet
Penicillin V 500 mg	10 mL of 250 mg/5 mL oral solution	1 × 500 mg tablet

- For the antibiotics above there is **no tablet or capsule option below 250 mg**.
- Do **not** prescribe **Erythromycin** tablets for children under 20 kg.
- Two smaller tablets may be given in place of one larger tablet. Ask the pharmacist which tablets may be broken or dispersed.

Raising it with families

- Ask “can your child swallow tablets?” when prescribing — many families have simply never considered it.
- If they are not ready this time, raising the idea may prepare them to try on the next occasion.
- Signpost to Medicines for Children, which has guides on giving tablets and giving capsules, and to Healthier Together — Swallowing pills.

Tips for tablet-swallowing practice

- Choose a comfortable place free of distractions and practise together.
- Let the child choose their drink — milk, water or sugar-free juice.
- Start with the smallest practice sweet or placebo pill and work upwards; never announce that the next one is bigger.
- Place it in the middle of the tongue; the head should not be tipped back.

- Use a bottle with a sports cap, or a straw. Seal the lips around the bottle and take three gulps without putting it down.
- Keep it positive and playful; avoid bargaining or bribing.
- Store all real medicines securely, out of sight and reach.

Resources for clinicians

- KidzMed — e-Learning for healthcare professionals teaching children to swallow pills (also on the NHS Learning Hub).
- Medicines for Children — parent and carer guides, including giving tablets and giving capsules.

Oral solutions should be reconstituted with potable tap water.

Conversion table and tablet-swallowing advice adapted, with acknowledgement, from *Guidance on switching children from liquid antibiotics to tablets/capsule medication* (NHS South Yorkshire ICB, Paediatric Antimicrobial Stewardship Network Yorkshire & Humber, and South Yorkshire Primary Care Workforce & Training Hub). This is a supplementary aid and does not replace established prescribing guidance or clinical judgement.

Section updated September 2026

IV to Oral Switch (IVOS)

IV to Oral Switch (IVOS)

Does your patient have an infection that may require special consideration?

Infections that may require special consideration include: deep-seated infections, infections requiring immediate or persistently high blood or tissue concentration not achievable via oral antimicrobials, confirmed bacterial infections in severely immunocompromised children or in young infants (28 days of age and under), or in children being managed on a paediatric intensive care unit or with critical infections with high risk of mortality (for example, sepsis requiring inotropes or ventilation).

To note: on specialist advice, an IVOS within 48 hours may still be indicated for some patients with these infections.

Infections for special consideration include, but are not limited to, those listed below:

• bloodstream infection	Y/N	• osteomyelitis	Y/N
• pleural empyema	Y/N	• severe or necrotising soft tissue infections	Y/N
• endocarditis	Y/N	• septic arthritis	Y/N
• meningitis	Y/N	• undrained abscess	Y/N
• exacerbation of cystic fibrosis or bronchiectasis	Y/N	• central venous catheter-associated infection	Y/N

If **YES** → check for clearly documented plan or seek specialist advice, with the aim to switch if appropriate

If **NO** → continue to 1.

1. Enteral route

- 1.1. Is the patient's gastrointestinal tract functioning with no evidence of malabsorption? Y/N
- 1.2. Is the patient's swallow or enteral tube administration safe? Y/N
- 1.3. Has the patient been free from vomiting for the past 24 hours? Y/N
- 1.4. Is there a tolerable oral antibiotic available (taste / frequency of dosing)? Rather than offering large volumes of suspensions, has pill swallowing training been offered? Y/N
- 1.5. Is the patient expected to adequately adhere to oral treatment? Y/N

If **NO** → continue IV and reassess in 24 hours

If **YES** → continue to 2.

***Oral bioavailability:** amoxicillin 70%, azithromycin 60-90%, cefalexin 95%, ciprofloxacin 70-80%, clarithromycin 50-55%, clindamycin >90%, co-amoxiclav 70%, flucloxacillin 80%, fluconazole >90%, linezolid 100%, metronidazole 90-95%, rifampicin 90-95%⁵

2. Clinical signs and symptoms

- 2.1. Are the patient's clinical signs and symptoms of infection improving? Y/N
- 2.2. Is the patient's Early Warning Score (EWS) decreasing? Y/N
- 2.3. Has the patient's temperature been between 36-38°C for the past 24 hours? Y/N

If **NO** → continue IV and reassess in 24 hours

If **YES** → continue to 3.

3. Infection markers (if available)

- 3.1. Is the patient's White Cell Count (WCC) trending towards the normal range? Y/N
- 3.2. Is the patient's C-Reactive Protein (CRP) decreasing? Y/N

If **NO** → continue IV and reassess in 24 hours

If **YES** → prompt or assess for switch

PROMPT FOR SWITCH & DOCUMENT RATIONALE:

Nursing/pharmacy teams to prompt prescriber or infection specialist to consider IV to oral switch.

ASSESS FOR SWITCH & DOCUMENT RATIONALE:

Paediatric team or infection specialist to consider IV to oral switch. Identify whether a suitable oral switch option is available, considering for example microbiology results, oral bioavailability, any clinically significant drug interactions, patient allergies or contra-indications.

Intravenous antimicrobial initiation: Date: __/__/____ Time: Name:
 IVOS first assessment (daily thereafter): Date: __/__/____ Time: Name:
 IV to Oral Switch: Date: __/__/____ Time: Name:

^{**} To note: These infection markers could also indicate inflammation or be affected by for example, steroid treatment, 'Prompt for switch' or 'Assess for switch' may still be considered if the CRP/WCC are not falling or have not been repeated in a child that is improving clinically.

Does your patient have an infection that may require special consideration?

Infections that may require special consideration include: deep-seated infections, infections requiring immediate or persistently high blood or tissue concentration not achievable via oral antimicrobials, confirmed bacterial infections in severely immunocompromised children or in young infants (28 days of age and under), or in children being managed on a paediatric intensive care unit or with critical infections with high risk of mortality (for example, sepsis requiring inotropes or ventilation).

To note: on specialist advice, an IVOS within 48 hours may still be indicated for some patients with these infections.

Infections for special consideration include, but are not limited to, those listed below:

• bloodstream infection	Y/N	• osteomyelitis	Y/N
• pleural empyema	Y/N	• severe or necrotising soft tissue infections	Y/N
• endocarditis	Y/N	• septic arthritis	Y/N
• meningitis	Y/N	• undrained abscess	Y/N
• exacerbation of cystic fibrosis or bronchiectasis	Y/N	• central venous catheter-associated infection	Y/N

If **YES** → check for clearly documented plan or seek specialist advice, with the aim to switch if appropriate

If **NO** → continue to 1.

1. Enteral route

- | | | |
|--|-----|---|
| 1.1. Is the patient's gastrointestinal tract functioning with no evidence of malabsorption? | Y/N | If NO → continue IV and reassess in 24 hours |
| 1.2. Is the patient's swallow or enteral tube administration safe? | Y/N | |
| 1.3. Has the patient been free from vomiting for the past 24 hours? | Y/N | |
| 1.4. Is there a tolerable oral antibiotic available (taste / frequency of dosing)? Rather than offering large volumes of suspensions, has pill swallowing training been offered? | Y/N | If YES → continue to 2. |
| 1.5. Is the patient expected to adequately adhere to oral treatment? | Y/N | |

***Oral bioavailability:** amoxicillin 70%, azithromycin 60-90%, cefalexin 95%, ciprofloxacin 70-80%, clarithromycin 50-55%, clindamycin >90%, co-amoxiclav 70%, flucloxacillin 80%, fluconazole >90%, linezolid 100%, metronidazole 90-95%, rifampicin 90-95%⁵

2. Clinical signs and symptoms

- | | | |
|--|-----|---|
| 2.1. Are the patient's clinical signs and symptoms of infection improving? | Y/N | If NO → continue IV and reassess in 24 hours |
| 2.2. Is the patient's Early Warning Score (EWS) decreasing? | Y/N | |
| 2.3. Has the patient's temperature been between 36-38°C for the past 24 hours? | Y/N | If YES → continue to 3. |

3. Infection markers (if available)

- | | | |
|--|-----|---|
| 3.1. Is the patient's White Cell Count (WCC) trending towards the normal range?* | Y/N | If NO → continue IV and reassess in 24 hours |
| 3.2. Is the patient's C-Reactive Protein (CRP) decreasing?* | Y/N | |
| | | If YES → prompt or assess for switch |

PROMPT FOR SWITCH & DOCUMENT RATIONALE:

Nursing/pharmacy teams to prompt prescriber or infection specialist to consider IV to oral switch.

ASSESS FOR SWITCH & DOCUMENT RATIONALE:

Paediatric team or infection specialist to consider IV to oral switch. Identify whether a suitable oral switch option is available, considering for example microbiology results, oral bioavailability, any clinically significant drug interactions, patient allergies or contra-indications.

Intravenous antimicrobial initiation:	Date: __/__/____	Time:	Name:
IVOS first assessment (daily thereafter):	Date: __/__/____	Time:	Name:
IV to Oral Switch:	Date: __/__/____	Time:	Name:

** To note: These infection markers could also indicate inflammation or be affected by for example, steroid treatment, 'Prompt for switch' or 'Assess for switch' may still be considered if the CRP/WCC are not falling or have not been repeated in a child that is improving clinically.

National criteria for prompt intravenous-to-oral switch (IVOS) of antimicrobials in children and young people (including newborns) - GOV.UK (www.gov.uk)

Paeds IV to Oral Switch Decision aid (publishing.service.gov.uk)

Lancet ID 2016 Antibiotic duration and timing of the switch from intravenous to oral route for bacterial infections in children: systematic review and guidelines

PIDJ 2024 Challenging Dogma in the Treatment of Childhood Infections: Oral Antibiotics and Shorter Durations

Intravenous Antibiotics at Home / paediatric out-patient parenteral antimicrobial therapy (pOPAT)

Benefits

- Reduces hospital admissions and bed occupancy.
- Demonstrates safety, efficacy, and high parental satisfaction.
- Aligns with NHS strategies for community-based care.

Requirements

- Requires robust multidisciplinary teams and governance structures.
- Necessitates parental/caregiver education and support.
- Service expansion and staffing require sustainable funding models.

Service structure

pOPAT services operate via various models:

- **Home-based care:** administered by community nurses or trained parents.
- **Hospital-based ambulatory services:** families visit daily for review and administration.
- **Hybrid models:** combining hospital and home care.

Key personnel to deliver a **tertiary** pOPAT service include:

- paediatric infectious disease specialists or a paediatrician,
- specialist nurses and antimicrobial pharmacists.

Key personnel to deliver a **DGH-based** pOPAT service include:

- paediatrician with an interest in infection,
- local microbiologists,
- nurses / hospital-at-home nurses and pharmacy support.

Antimicrobial stewardship (AMS)

AMS principles are central to pOPAT:

- Promote early IV-to-oral antibiotic switches when clinically appropriate.
- Monitor drug side effects and dosing rigorously.
- Avoid unnecessary IV antimicrobial use.

Click [here](#) for nationally agreed clinical pathways, and click [here](#) for internationally agreed paediatric AMS good practice recommendations and service improvement models.

Patient selection

Appropriate candidates for pOPAT must meet clinical, social, and caregiver readiness criteria. Assessment includes:

- Severity of infection.
- Secure intravenous access.
- Family's ability to manage home care, including recognition of complications.

Vascular access

- **PICC lines:** safe and effective for prolonged therapy.
- **Midlines:** suitable for shorter courses of IV antibiotics (up to 14 days).
- **Peripheral cannula** for short courses of antimicrobials.

Drugs and delivery

- **Commonly used antibiotics** — ceftriaxone is frequently preferred due to ease of administration and dosing.
- **Elastomeric devices** allow continuous infusions but require stability validation for various drugs. Consider pre-filled (CIVAS or commercial purchase) or fresh-fill (nurse or parent filled).
- Consider **parent-administered OPAT** for children on longer courses of IV antibiotics — requires training and competency check.

Parental training and support

- Parental training in drug administration and symptom monitoring is critical.
- Building a “trustful alliance” between families and the healthcare team helps alleviate parental anxiety.

Parent safety-netting information can be found [here](#).

Click [here](#) for additional paediatric support resources and parent information, including:

- PICC line information,
- competency checklist (parent administration),
- parent OPAT contract and discharge information for parents.

Monitoring and safety

Routine monitoring is essential to detect complications such as treatment failure, line infections or adverse drug reactions. Blood tests should include full blood count, renal and liver function, C-reactive protein (CRP) and therapeutic drug monitoring where appropriate. Other tests may be required for specific indications or therapies (especially in children on complex oral regimens / CoPAT).

Data collection for quality improvement and benchmarking is encouraged. Benchmarking should include annual review of compliance with the BSAC good practice recommendations (updated 2026).

Section updated October 2026

AWaRe

AWaRe

Access

- narrow spectrum of activity
- fewer side effects, lower costs
- lower resistance potential

Amoxicillin

Ampicillin

Ampicillin + sulbactam

Benzathine benzylpenicillin

Benzylpenicillin

Co-trimoxazole

Doxycycline

Flucloxacillin

Fosfomycin PO

Fusidic acid

Gentamicin

Metronidazole

Neomycin

Nitrofurantoin

Phenoxymethylpenicillin

Pivmecillinam

Procaine benzylpenicillin

UKHSA

JAC-AMR 2025

ESCMID 2024

WHO 2022

Section updated March 2025

Feedback: UKPAS@BSAC.org.uk

Watch

- higher resistance potential
- broader-spectrum
- indicated for a limited number of infective syndromes

Amikacin

Azithromycin

Cefaclor

CefALEXin

Cefazolin

Cefixime

CefOTAXime

Ceftazidime

CefTRIAXone

CefUROXime

Ciprofloxacin

Clarithromycin

Chloramphenicol

Clindamycin

Co-amoxiclav

Erythromycin

Levofloxacin

Moxifloxacin

Oxytetracycline

Piperacillin + tazobactam

Rifampicin

Temocillin

Tetracycline

Ticarcillin

Tobramycin

Vancomycin

Reserve

- “last resort” antibiotics, including new antibiotics.
- highly selected patients (life-threatening infections due to multi-drug-resistant bacteria)

Ceftazidime + avibactam

Colistin

Dalbavancin

Ertapenem

Fosfomycin IV

Linezolid

Imipenem

Meropenem

Meropenem + vaborbactam

Telavancin

Editorial Process

Editorial Process

Aim

Improve child health for individual patient and direct or indirect contacts

By improving antimicrobial prescribing:

- appropriate antibiotics to achieve a response to treatment
- minimising adverse effects including reducing antimicrobial resistance

Objective

Reduce unnecessary variance by having a national guide

Change behaviour of prescribing by making guidance accessible and trustworthy by use of Eolas App and References given

Target

All prescribers of antimicrobials to children in hospital including primary care in A&E, surgical specialties and tertiary care; and to those who advise them e.g. Microbiology, Paediatric Infectious Diseases Specialists and Public Health.

Principles

To achieve national consensus recommendations on hierarchy of **National guidelines > RCTs > local practice**

NICE > RCPCH >

National specialist society >

BNFc >

International guideline

Cochrane > meta-analysis > systematic review >

RCT > other peer review research > review >

local practice

More recent guidance or evidence may take precedence according to UK-PAS expert consensus

Method

Template from NICE Summary of antimicrobial prescribing guidance - managing common infections

Input from all health professionals (Infectious Diseases Specialists, Paediatricians, Microbiologists, Pharmacists, Nurses etc)

By email to UKPAS@BSAC.org.uk

Uncontroversial changes my coordinator

Other topics requiring discussion e.g. new sections, deviation from NICE, brought to bi-annual UKPAS Webinar for consensus.

Threshold resistance rate

Infection	Organism	Threshold range (mid)			UK % resistance	Escalation		Ref
Lower UTI	E coli	10	(30)	35	30	<u>Trimethoprim</u>	<u>Cefalexin</u>	1
Upper UTI	E coli	10	(15)	20	9	<u>Cefalexin</u>	<u>Gentamicin</u>	3
LRTI / CAP	S pneumo	14	(20)	25	1.7	<u>Amoxicillin</u>	<u>Co-amoxiclav</u>	2
HAP / VAP	MRSA	10	(15)	20	6.7	<u>Co-amoxiclav</u>	<u>Teicoplanin</u>	2
HAP / VAP	Ps aer /ESBL	10	(10)		15	<u>Co-amoxiclav</u>	<u>Piperacillin</u> tazobactam	2
Cellulitis, Orbital cellulitis	MRSA	10	(12)	15	6.7	<u>Flucloxacillin</u>	<u>Teicoplanin</u>	2,4
Meningitis	S pneumo	5	(5)		<1.7	<u>Ceftriaxone</u>	<u>Vancomycin</u>	2
Gonorrhoea	Gonorrhoea	5	(5)		60	<u>Ciprofloxacin</u>	<u>Ceftriaxone</u>	2
Osteomyelitis	MRSA	10	(10)		6.7	<u>Flucloxacillin</u>	<u>Teicoplanin</u>	2

1.What is the evidence base of used aggregated antibiotic resistance percentages to change empirical antibiotic treatment? A scoping review - ScienceDirect

2.AMR local indicators - produced by the UKHSA - Data | Fingertips | Department of Health and Social Care

3.ESPAUR report 2023 to 2024

4.UKHSA 2025 Laboratory surveillance of paediatric bacterial bacteraemia and antimicrobial resistance in England: 2019 to 2023

Local variation

See thresholds for escalation below. This assumes 95% confidence intervals for representative populations for antibiotic indication (e.g. rates of resistance will be higher in previously antibiotic exposed complex patients). NICE takes into account variation in resistance rates across whole UK Paediatric population from UKHSA:

UKHSA data dashboard

AMR local indicators - produced by the UKHSA | Fingertips | Department of Health and Social Care

Appropriate variation

See User Guide: once organism identified narrow spectrum antibiotic to best penetration for organ infected

IV to Oral Switch

Duration: based on evidence rather than previous practice

Penicillin allergy: encourage challenge or desensitisation

Complex patients should be discussed with infection specialists who should follow the guide or document specific reasons for variation

Review

Rolling timetable to review and update whole guide over 12 months

	Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Sepsis	x											
CNS		x										
Ear, Nose and Throat			x									
Respiratory				x								
Skin & Soft Tissue					x							
Bone & Joint					x							
Gastrointestinal						x						
Eye							x					
UTI								x				
GU								x				
Cardiovascular									x			
Blood									x			
Parasites										x		
Neonatal and viruses											x	
Major incident												x
Appendices												x

Process:

Check links work

Literature search in last 12 months

Compare with NICE, BNFC, RCPCH, other specialist society guidance updates

Review format and content clear

Feedback

Email link on every page

Annual survey of use and general comments

Integration

Liaise with NICE, RCPCH

Disclaimer

This summary is not intended as a sole source of guidance in managing infections in children. Rather, it is designed to assist clinicians by providing an evidence-based framework for decision-making strategies. The summary is not intended to replace clinical judgment or establish a protocol for all individuals with this condition and may not provide the only appropriate approach to diagnosing and managing this problem. Individual Trust governance and ratification processes are still required. In order to ensure the delivery of patient centred care, there may be deviation from this guidance when advised by paediatric infection specialists.

Contact details:

Please find latest version at: Paediatrics - British Society for Antimicrobial Chemotherapy (bsac.org.uk)

UK PAS (scroll down to Guidelines for latest version, no need to register, but please register for notification of monthly meeting to discuss Summary)

Send comments to UKPAS@BSAC.org.uk or contact for record of comments, Track Change and for editable Word version

Individual Trust governance and ratification processes are still required

Please disseminate the guidance to associated organisations, departments and individuals

Changes discussed by UK PAS editorial committee

Updates discussed on 3rd Wednesday of the month at UK PAS webinar

Section updated May 2025

Feedback: UKPAS@BSAC.org.uk

Scope and purpose

Scope and purpose

- Objectives
- Health intent
- Prevention of antimicrobial resistance
- Expected benefits and outcomes
- Reduced variance in prescribing
- Recommendations
- Interventions
- Antimicrobial recommendations
- Comparisons
- References given
- Outcomes
- Resolution of infection
- Health care setting or context
- Hospitals, both district general and tertiary
- Population
- Target population
- Children
- Clinical condition
- Infections
- Severity
- Inpatient and outpatient
- Excluded populations
- Neonatal units

Stakeholder Involvement

- Group membership
- See 'Contributors'
- See 'Comments' spreadsheet
- Public engagement
- Strategy
- National guidelines e.g., NICE
- Methods
- Lay member on NICE Common Infections Committee
- Outcomes
- In reference documents
- Input
- Recommendations include input e.g., palatability
- Target users
- Audience
- Paediatric prescribers
- Use
- Treatment recommendations

Rigour of development

- Search methods
- Database
- Source document search
- Time period
- Not time limited
- Terms
- Dependent on infection

- Strategy
- In reference document
- Evidence
- Target
- Paediatric
- Design
- Priority given to published guidance over research over local opinion
- Comparisons
- Adult guidance where necessary
- Outcomes
- Resolution of infection
- Language
- Not limited
- Context
- Priority to UK over other industrialised setting over global
- Strengths & limitations
- Design
- Meta-analysis if available
- Methodology
- Randomised controlled trials data limited
- Outcomes
- Systematic reviews if available
- Consistency
- Cohort data compared across studies
- Direction
- Published reviews across studies
- Magnitude
- Specialist opinion of benefit versus harm
- Applicability
- Consensus if different views for practice context
- Formulation
- Process
- Specialist review committee
- Outcomes
- Comments recorded in spreadsheet
- Influence
- Rapid update process
- Benefits & harms
- Benefits
- Expert guidance from ID, Micro and pharmacy nationally
- Harms
- Change in practice for some infections
- Reporting
- Monthly open meeting to discuss changes
- Recommendations
- Local variation (e.g., resistance differences)
- Link evidence
- How
- Suggestions reviewed, changes made where appropriate
- List
- Spreadsheet of comments and changes
- Table
- Track change versions available

- Supporting Information for national guidance, not for full reference list
- External
- Purpose
- Multiple hospital Trusts around the UK involved
- Methods
- Open to comments on any aspect or section
- Reviewers
- 12 specialists on virtual committee
- Outcomes
- Changes sent with track changes and listed in spreadsheet
- Inform
- Monthly update as necessary
- Updating
- Statement
- See Editorial Review Process
- Interval
- Monthly
- Methodology
- UK PAS teleconference

Clarity

- Recommendations
- Statement
- Medicine section for recommendation
- Purpose
- Key points section
- Population
- Age groups where appropriate
- Caveats
- Length in different scenarios
- Uncertainty
- Options given where necessary
- Management options
- Description
- Key points recommendation on self-care
- Situation
- Options where appropriate
- Recommendations
- Presentation
- Antibiotics in bold
- Grouped
- In Medicines section

Applicability

- Application
- Facilitators and barriers
- Specialists involved
- Resistance to change
- Methods
- MS Word document distributed for comments and edits
- Types
- Infectious Disease specialists, microbiologists and pharmacists
- Influence

- Feedback: UKPAS@BSAC.org.uk from users where already adopted
- Tools
- Materials
- Evolution of summary from North West regional guideline used for 2 years
- Resource implications
- Cost
- NICE recommendations where available
- Method
- Pharmacists involved
- Description
- E.g., [nitrofurantoin](#) suspension cost
- Development
- Engagement with local Antimicrobial Committees
- Monitoring
- Implementation
- Local audit
- Impact
- Audit tool to be developed
- Frequency
- Allow at least 1 year to gain familiarity
- Definitions
- Adherence and Feedback: UKPAS@BSAC.org.uk

Independence

- Funding
- No funding
- Competing interests
- Types
- Financial
- Professional and personal
- Indirect
- Methods
- Self-declaration
- Description
- none
- Influence
- Process and development

Section updated Jan 2021

Feedback: UKPAS@BSAC.org.uk

Clinical governance

Clinical governance

This guidance reflects current evidence and the expert opinion of the BSAC-PAS empirical antimicrobial guidance working group and is reviewed on a 3 yearly cycle. It is a reference resource only. The authors accept no responsibility for its content; it must be reviewed, adapted (if required) and formally ratified locally or regionally before clinical use. Prescribing responsibility remains with the treating clinician.

Section updated September 2026