This Patient Group Direction (PGD) must only be used by registered healthcare professionals who have been named and authorised by their organisation to practice under it. The most recent and in date final signed version of the PGD should be used.

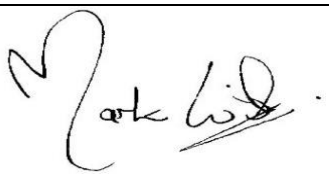
PATIENT GROUP DIRECTION (PGD)

Supply of clarithromycin tablets/oral suspension/oral solution for the treatment of acute sore throat due to suspected streptococcal infection under the NHS England commissioned Pharmacy First service

Version Number 1.0

Change History	
Version and Date	**Change details**
Version 1.0 January 2024	New template

ORGANISATIONAL AUTHORISATIONS

Name	Job title and organisation	Signature	Date
Senior doctor ***Professor Sir Stephen Powis***	National Medical Director, NHS England		11.12.23
Senior pharmacist ***David Webb***	Chief Pharmaceutical Officer, NHS England		08.12.23
Specialist in microbiology ***Professor Mark Wilcox***	National Clinical Director for AMR & IPC, NHS England		11.12.23
Person signing on behalf of authorising body ***David Webb***	Chief Pharmaceutical Officer, NHS England		08.12.23

PGD DEVELOPMENT GROUP

Date PGD comes into effect:	31/01/2024
Review date	30/07/2026
Expiry date:	30/01/2027

This PGD has been peer reviewed by the Upper Respiratory Tract Infection (URTI) antimicrobial national PGD Short Life Working Group in accordance with their Terms of Reference. It has been reviewed by The Advisory Committee on Antimicrobial Prescribing, Resistance and Healthcare Associated Infection (APRHAI) to the Department of Health and Social Care (England) in November 2023.

Name	Designation
Dr Diane Ashiru-Oredope	Lead Pharmacist, HCAI, Fungal, AMR, AMU & Sepsis Division, UK Health Security Agency
Dr Imran Jawaid	GP and RCGP AMR representative
Dr Jeeves Wijesuriya	GP and Clinical Advisor to NHS England Primary Care Team and Vaccination and Screening Team
Jackie Lamberty	Medicines Governance Consultant Lead Pharmacist, UK Health Security Agency
Jo Jenkins	Lead Pharmacist Patient Group Directions and Medicines Mechanisms, Medicines Use and Safety Division, Specialist Pharmacy Service
Liz Cross	Advanced Nurse Practitioner QN
Dr Martin Williams	Consultant in Microbiology and Infectious Diseases
Temitope Odetunde	Head of Medicines Management
Nigel Gooding	Consultant Paediatric Pharmacist. Neonatal and Paediatric Pharmacist Group (NPPG) representative.
Kieran Reynolds (SLWG co-ordinator)	Specialist Pharmacist – Medicines Governance, Medicines Use and Safety Division, Specialist Pharmacy Service
Laura Whitney	NHS England Regional Antimicrobial Stewardship lead for the London region
Ms Wendy Smith	Consultant ENT Surgeon
Ghulam Haydar	Senior Policy Lead, Primary Care, Community Services and Strategy Directorate, NHS England

Characteristics of staff

Qualifications and professional registration	Registered healthcare professional listed in the legislation as able to practice under Patient Group Directions.
Initial training	• The registered healthcare professional authorised to operate under this PGD must have undertaken appropriate education and training and be competent to undertake clinical assessment of patients ensuring safe provision of the medicines listed in accordance with the specification. • To deliver this service, the registered healthcare professional should have evidence of competence in the clinical skills and knowledge covered in the Centre for Pharmacy Postgraduate Education (CPPE) Pharmacy First Service self-assessment framework. • Before commencement of the service, the pharmacy contractor must ensure that pharmacists and pharmacy staff providing the service are competent to do so and be familiar with the clinical pathways, clinical protocol and PGDs. This may involve completion of training.
Competency assessment	• Individuals operating under this PGD must be assessed as competent or complete a self-declaration of competence to operate under this PGD (see an example authorisation record sheet in Appendix A). • Individuals operating under this PGD are advised to review their competency using the NICE Competency Framework for health professionals using patient group directions.
Ongoing training and competency	• Individuals operating under this PGD are personally responsible for ensuring they remain up to date with the use of all medicines and guidance included in the PGD - if any training needs are identified these should be discussed with the senior individual responsible for authorising individuals to act under the PGD and further training provided as required.
The decision to supply any medication rests with the individual registered health professional who must abide by the PGD and any associated organisational policies.	

Clinical condition or situation to which this PGD applies

Clinical condition or situation to which this PGD applies	Acute sore throat due to suspected streptococcal infection in children aged 5 years and over and adults, where phenoxymethylpenicillin is not appropriate due to hypersensitivity.
Criteria for inclusion	• Informed consent • Individuals aged 5 years and over • Diagnosis of sore throat using the appropriate NICE guidance. • Known hypersensitivity to phenoxymethylpenicillin (penicillin V), any penicillin or any of the components within the formulation of phenoxymethylpenicillin - see Summary of Product Characteristics. **Acceptable sources of allergy information include individual/carer/parent/guardian or National Care Record OR** • History of severe immediate hypersensitivity reaction (e.g. anaphylaxis) to another beta-lactam antibiotic (e.g. cephalosporin, carbapenem or monobactam). **Acceptable sources of allergy information include individual/carer/parent/guardian or National Care Record** **Diagnostic tool (children and adults):** FeverPAIN score for Strep pharyngitis (one point for each): ○ **Fever** (high temperature) in previous 24 hours ○ **P**urulent tonsils ○ **A**ttend rapidly (symptom onset ≤3 days) ○ Severe tonsillar **I**nflammation ○ **N**o cough/coryza FeverPAIN score of 4 or 5 with **severe symptoms** required for antibiotic to be considered (see Action to be taken if the individual is excluded section).
Criteria for exclusion	• Consent refused and documented in the individual's clinical notes • Individuals under 5 years of age • Pregnancy or suspected pregnancy • Severely immunosuppressed individuals as defined in Chapter 28a Green book): ***Individuals with primary or acquired immunodeficiency states due to conditions including:*** • *acute and chronic leukaemias, and clinically aggressive lymphomas (including Hodgkin's lymphoma) who are less than 12 months since achieving cure* • *individuals under follow up for a chronic lymphoproliferative disorders including haematological malignancies such as indolent lymphoma, chronic lymphoid leukaemia, myeloma, Waldenstrom's macroglobulinemia and other plasma cell dyscrasias (N.B: this list not exhaustive)* • *immunosuppression due to HIV/AIDS with a current CD4 count of below 200 cells/µl.* • *primary or acquired cellular and combined immune deficiencies – those with lymphopaenia (<1,000 lymphocytes/ul) or with a functional lymphocyte disorder* • *those who have received an allogeneic (cells from a donor) or an*

	autologous (using their own cells) stem cell transplant in the previous 24 months • *those who have received a stem cell transplant more than 24 months ago but have ongoing immunosuppression or graft versus host disease (GVHD)* ***Individuals on immunosuppressive or immunomodulating therapy including:*** • *those who are receiving or have received in the past 6 months immunosuppressive chemotherapy or radiotherapy for any indication* • *those who are receiving or have received in the previous 6 months immunosuppressive therapy for a solid organ transplant* • *those who are receiving or have received in the previous 3 months targeted therapy for autoimmune disease, such as JAK inhibitors or biologic immune modulators including B-cell targeted therapies (including rituximab but for which a 6 month period should be considered immunosuppressive), monoclonal tumor necrosis factor inhibitors (TNFi), T-cell co-stimulation modulators, soluble TNF receptors, interleukin (IL)-6 receptor inhibitors., IL-17 inhibitors, IL 12/23 inhibitors, IL 23 inhibitors (N.B: this list is not exhaustive)* ***Individuals with chronic immune mediated inflammatory disease who are receiving or have received immunosuppressive therapy*** • *moderate to high dose corticosteroids (equivalent ≥20mg prednisolone per day) for more than 10 days in the previous month* • *long term moderate dose corticosteroids (equivalent to ≥10mg prednisolone per day for more than 4 weeks) in the previous 3 months* • *any non-biological oral immune modulating drugs e.g. methotrexate >20mg per week (oral and subcutaneous), azathioprine >3.0mg/kg/day; 6-mercaptopurine >1.5mg/kg/day, mycophenolate >1g/day) in the previous 3 months* • *certain combination therapies at individual doses lower than stated above, including those on ≥7.5mg prednisolone per day in combination with other immunosuppressants (other than hydroxychloroquine or sulfasalazine) and those receiving methotrexate (any dose) with leflunomide in the previous 3 months* ***Individuals who have received a short course of high dose steroids (equivalent >40mg prednisolone per day for more than a week) for any reason in the previous month.*** • Immunosuppressed individuals: individuals who are immunosuppressed or are currently taking immunosuppressants (including systemic corticosteroids*) or immune modulators, but who do not meet the definition of severe immunosuppression (see above). [For equivalent doses in children, see Chapter 6 Green Book] * does not include: ○ replacement corticosteroids for individuals with adrenal insufficiency ○ corticosteroid inhalers or corticosteroids applied topically (e.g. to the skin, ears, eyes, nasal cavity) ○ intra-articular, -bursal or -tendon corticosteroid injections. • Known hypersensitivity to clarithromycin, a macrolide or any of the components within the formulation - see Summary of Product Characteristics. **Acceptable sources of allergy information**

	include individual/carer/parent/guardian or National Care Record.
	• Inability to absorb oral medications and/or inability to swallow oral dosage formulations (i.e. tablets or oral suspension (or oral solution)
	• Current long-term use of clarithromycin or another macrolide antibiotic (e.g. erythromycin for prophylaxis in asplenia, azithromycin for prophylaxis in individuals with COPD or bronchiectasis etc.)
	• Individuals following a ketogenic diet
	• Failed previous antibiotic for this episode of sore throat
	• Recurrent sore throat/tonsillitis (7 or more significant episodes (with impact to individual and family) in the preceding 12 months or 5 or more episodes in each of the preceding two years, or 3 or more in each of the preceding three years)
	• Previous tonsillectomy
	• Post tonsillar or other throat surgery or procedure
	• FeverPAIN score of 0 or 1: Do not offer an antibiotic. Ask the individual to return to Community Pharmacy after 1 week if no improvement for pharmacist reassessment.
	• FeverPAIN score of 2 or 3: Do not offer an antibiotic. Ask the individual to return to Community Pharmacy within 3-5 days if no improvement for pharmacist reassessment.
	• FeverPAIN score of 4 or 5 with **mild symptoms**: Ask the individual to return to Community Pharmacy within 3-5 days if no improvement for pharmacist reassessment.
	• Symptoms indicating possible epiglottitis (do not examine throat and call an ambulance):
	  ○ Severe and acute onset of sore throat and fever
	  ○ Difficulty breathing, which may improve when leaning forward (especially in young children)
	  ○ Muffled or hoarse voice (especially in young children)
	  ○ Inspiratory stridor (high pitched sound when breathing) (especially in young children)
	  ○ Pain and difficulty swallowing (especially in older children & adults)
	  ○ Drooling (especially in older children & adults)
	  ○ Irritability and restlessness
	• Symptoms indicating possible scarlet fever:
	  ○ High temperature (may also be present in sore throat)
	  ○ Swollen glands in the neck (may also be present in sore throat)
	  ○ White coating on the tongue which later develops into “strawberry” red tongue
	  ○ Red cheeks (may be more difficult to see on darker skin)
	  ○ Pink-red skin rash that has a sandpaper feel (on darker skin the rash may be more difficult to see, but its rough texture should be apparent)
	  ○ Bright red skin in the creases of the underarm, elbow, and groin
	• Symptoms indicating a possible quinsy:
	  ○ Fever
	  ○ Neck pain

	○ Trismus (inability to open the mouth) ○ Muffled voice ○ Displaced uvula ○ Enlarged displaced tonsil ○ Swelling of the peri-tonsillar region • Symptoms indicating possible glandular fever (mostly in teenagers and young adults): ○ A very high temperature (may also be present in sore throat) ○ A severe sore throat (may also be present in sore throat) ○ Swollen glands (either side of the neck) (may also be present in sore throat) ○ Extreme tiredness or exhaustion ○ Tonsillitis that is not getting better • Symptoms indicating possible diphtheria: ○ A thick grey-white coating that may cover the back of the throat, nose and tongue ○ A high temperature (may also be present in sore throat) ○ Sore throat (may also be present in sore throat) ○ Swollen glands in the neck (may also be present in sore throat) ○ Difficulty breathing and swallowing • Any individual identified with symptoms of severe/life-threatening infection or systemic sepsis: refer urgently via ambulance. • Possible cancer: ○ Persistent mouth ulcers ○ Mass/unilateral swelling present ○ Unable to swallow ○ Bleeding or numbness in the mouth ○ Red or white patches in the mouth ○ Individuals over 45 years of age with unexplained hoarse voice, lasting 3 weeks or more • Individuals currently taking/receiving the following medicines known to cause agranulocytosis (e.g. methotrexate, sulfasalazine, carbimazole, propylthiouracil, cotrimoxazole, valganciclovir, clozapine, carbamazepine, all chemotherapy) • Known myasthenia gravis • Known history of QT prolongation (congenital or acquired), or ventricular cardiac arrhythmia, including torsades de pointe • Concomitant use of another medication known to cause QT prolongation (e.g. see Drug interactions section for further information or recommended resources include: CredibleMeds; registration required, or Sudden arrhythmic death syndrome (SADS) - Drugs to avoid) • Known electrolyte disturbances (hypokalaemia or hypomagnesaemia) • Known Chronic Kidney Disease (CKD) stages 4 or 5 (eGFR <30mL/min/1.73m^2) • Known or suspected severe liver disease • Known heart disease (e.g. coronary artery disease, severe cardiac insufficiency, bradycardia < 50 beats per minute) • Less than 3 days before receiving, or within 3 days after receiving,

	oral typhoid vaccine • Concurrent use of any interacting medicine as listed in Drug Interactions section of this PGD
Cautions including any relevant action to be taken	• Breastfeeding individuals: clarithromycin can be used in breastfeeding individuals (as per UKDILAS advice): monitor nursing infant for gastro-intestinal disturbances, oral candida infection, rashes, drowsiness, irritability, sweating and loss of appetite. • Caution should be exercised when supplying clarithromycin, a strong cytochrome P450 (CYP) 3A4 inhibitor to individuals taking the following medicine(s), that are known or suspected to be affected by clarithromycin: ○ **Coumarin anticoagulants (e.g. warfarin, acenocoumarol, phenindione):** rises in INR reported. Individuals should be advised to have their INR monitored while on treatment with clarithromycin and should be counselled re: seeing medical attention if any episode of bleeding develops while taking. ○ **Direct oral anticoagulants (DOACs)** (e.g. apixaban, dabigatran, edoxaban, rivaroxaban) Increased risk of bleeding when given with clarithromycin. Individuals should be advised to seek medical attention if any episode of bleeding develops while taking. ○ **Statins:** simvastatin use is contraindicated with clarithromycin. Counsel individuals taking other statins of the risk of rhabdomyolysis while taking clarithromycin and to seek medical attention if muscle pain develops. Consider withholding statin while taking clarithromycin to reduce risk of rhabdomyolysis. ○ **Calcium channel blockers:** risk of hypotension (low blood pressure) when taking clarithromycin with amlodipine, diltiazem, felodipine, lercanidipine, nifedipine or verapamil. Counsel individuals of the risk and advise to avoid driving/operating machinery if light headed/dizzy. ○ **Oral hypoglycaemic agents (e.g. sulphonylureas)/insulin:** Use with clarithromycin can cause low blood glucose levels (hypoglycaemia). Advise individuals to monitor blood glucose levels more regularly while taking. ○ **Digoxin:** Concomitant use with clarithromycin can increase digoxin levels. Advise individuals of symptoms of digoxin toxicity (change in vision e.g. blurred vision, diarrhoea, confusion, dizziness, nausea, vomiting, skin rash) and to seek medical attention if any of these develop. • Caution should be exercised when supplying clarithromycin to individuals taking **medicines known to cause hypokalaemia** (e.g. diuretics, corticosteroids, xanthines): may cause electrolyte disturbances – monitoring may be indicated. Advise individuals to contact their prescriber to discuss need. • Caution should be exercised when supplying clarithromycin tablets or oral suspension (or oral solution) to individuals who should avoid the following excipients: ○ **Lactose, sucrose, fructose and sorbitol:** Individuals with rare hereditary problems of galactosaemia, galactose intolerance, total lactase deficiency, glucose-galactose

	malabsorption, sucrase-isomaltase deficiency, fructose-1,6-bisphosphatase deficiency (also known as hereditary fructose intolerance): check the individual list of excipients available in the SPC before supplying. ○ **Aspartame:** Individuals with phenylketonuria (PKU) must not use medicines containing aspartame. Check the individual list of excipients available in the SPC before supplying.
Specific information for suspected infection to be provided	Provide the Treating Your Infection Respiratory Tract Infection (TYI-RTI) patient information leaflet (TARGET RTI leaflet) Advise that acute sore throat can last for around 1 week, but most people will get better within this time without antibiotics, regardless of cause (bacteria or virus). Provide self-care advice including: - Paracetamol and ibuprofen (over the counter) can be used for pain and/or fever (where appropriate). (For further information see: Mild to moderate pain and NSAIDs-prescribing issues). - Medicated lozenges and medicated throat sprays may help with pain, but adverse effects (including taste disturbance, numbness) are common. - *Note: regular or increasing repeat purchase/request of throat lozenges or medicated throat sprays should trigger further questioning (suspected cancer red flag).*
Action to be taken if the individual is excluded	• Record reasons for exclusion in the appropriate clinical record **Individuals where treatment is not indicated:** • Where diagnostic tools (FeverPAIN score) indicate unlikely to benefit from antibiotics (FeverPAIN score of 0,1, 2 or 3): provide self-care advice • Advise individual/carer/parent/guardian of alternative non antibiotic treatment if antibiotic not indicated and provide TARGET RTI leaflet and safety netting advice. **Refer urgently to a prescriber for further assessment if:** • Individual has signs or symptoms of scarlet fever or quinsy • Individual has signs or symptoms of glandular fever • Individual is immunosuppressed • Individual is currently taking/receiving the following medicines known to cause agranulocytosis (e.g. methotrexate, sulfasalazine, carbimazole, propylthiouracil, cotrimoxazole, valganciclovir, clozapine, carbamazepine, all chemotherapy) • Individual is systemically unwell, but not showing signs or symptoms of sepsis • Possible cancer suspected: ○ Persistent mouth ulcers ○ Mass/unilateral swelling present ○ Unable to swallow ○ Bleeding or numbness in the mouth ○ Red or white patches in the mouth

	○ Individuals > 45 years of age with unexplained hoarse voice, lasting 3 weeks or more • Individuals where treatment under this PGD is not indicated/permitted but upper respiratory symptoms are present and require further assessment. **Refer urgently to A&E for further assessment if:** • Epiglottis suspected • Diphtheria suspected • Severe complications suspected (such as clinical dehydration, signs of pharyngeal abscess) • Stridor present (noisy or high pitched sound when breathing) (especially in young children) • Individual is severely immunosuppressed **If sepsis is suspected refer the individual urgently to A&E** **For children:** see Healthier Together guidance (tonsillitis/sore throat) for further information on appropriate signposting and parent information sheets.
Action to be taken if the individual/carer/parent/ guardian declines treatment	• Document advice given • Provide safety netting advice and advise individual/carer/parent/guardian of alternative treatment available using TARGET RTI leaflet • Refer to a prescriber if appropriate
Arrangements for referral for medical advice	Refer to the appropriate medical practitioner in the care pathway

Description of treatment

Name, strength & formulation of drug	Clarithromycin 250mg tablets Clarithromycin 500mg tablets Clarithromycin 125mg/5mL oral suspension (or oral solution) x 70mL Clarithromycin 250mg/5mL oral suspension (or oral solution) x 70mL
Legal category	POM
Route / method of administration	Orally, with water (taken with or without food). Tablets should be swallowed whole. *Note: Clarithromycin oral suspension (or oral solution) can cause a bitter after-taste. This can be avoided by drinking juice or water soon after intake of the oral suspension (or oral solution).*
Off-label use	**Temperature variations** Medicines should be stored according to the conditions detailed in the Storage section below. However, in the event of an inadvertent or unavoidable deviation of these conditions the pharmacist must ensure the medicine remains pharmaceutically stable and appropriate for use if it is to be issued.

	Where medicines have been assessed by a pharmacist in accordance with national or specific product recommendations/manufacturer advice as appropriate for continued use this would constitute off-label administration under this PGD. The responsibility for the decision to release the affected medicines for use lies with the pharmacist. Manipulating solid dosage forms In the event of an individual being unable to swallow solid oral dosage formulations, and alternate liquid formulations not being readily available provide advice on how to give doses by dispersing or crushing tablets. Use in this way may be outside the product licence and is thus off-label. **Dispersing or crushing** Clarithromycin tablets are film-coated and can be crushed and mixed with liquid or soft food. Crushing tablets **should not** be undertaken by anyone with, or in the vicinity of someone with a macrolide allergy. **Dispersing tablets** To disperse the tablet: • Place the tablet in the barrel of a 10mL oral syringe • Replace the plunger • Draw up approximately 5mL of water and 2mL of air • Shake well and allow to disperse (this may take up to 10 minutes) • Ensure all contents of the oral syringe are given in the mouth Alternatively, the tablet may be mixed with 5 to 10mL of water in small glass or medicine cup and stirred well. **Masking the taste** The crushed tablet will taste bitter so it can be helpful to use a strongly flavoured drink (e.g. blackcurrant cordial) or food (e.g. jam, apple sauce, yoghurt) that the individual likes: • Use a small amount of food or drink (e.g. a teaspoonful) so you can be sure the individual eats it all and swallows the whole dose • It might be helpful to use an oral syringe for liquids • After mixing the crushed tablet with food or drink, give it straight away. Where a drug is recommended off-label consider, as part of the consent process, informing the individual/carer/parent/guardian that the drug is being offered in accordance with national guidance but that this is outside the product licence.
Dose and frequency of	**Children 5–11 years:** Body weight:

administration	• up to 8 kg: 7.5 mg/kg twice daily (every 12 hours) • 8–11 kg: 62.5 mg twice daily (every 12 hours) • 12–19 kg: 125 mg twice daily (every 12 hours) • 20–29 kg: 187.5 mg twice daily (every 12 hours) • 30–40 kg: 250 mg twice daily (every 12 hours) **Children 12–17 years and adults:** 500mg twice daily (every 12 hours)
Duration of treatment	5 days **Treatment should be started immediately and 5 days of treatment completed.**
Quantity to be supplied	In line with the Pharmacy First service specification the best value product to meet the clinical need should be supplied from those listed within this PGD. **Children 5–11 years:** Body-weight: • up to 8 kg: appropriately labelled pack of 1 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 1 x 70mL x 125mg/5mL oral suspension (or oral solution) • 8–11 kg: appropriately labelled pack of 1 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 1 x 70mL x 125mg/5mL oral suspension (or oral solution) • 12–19 kg: appropriately labelled pack of 1 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 1 x 70mL x 125mg/5mL oral suspension (or oral solution) • 20**–**29 kg: appropriately labelled pack of 1 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 2 x 70mL x 125mg/5mL oral suspension (or oral solution) • 30–40 kg: Appropriately labelled pack of 10 x 250mg tablets **OR** appropriately labelled pack of 1 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 2 x 70mL x 25mg/5mL oral suspension (or oral solution) **Children 12–17 years and adults:** Appropriately labelled pack of 10 x 500mg tablets **OR** appropriately labelled pack of 20 x 250mg tablets **OR** appropriately labelled pack of 2 x 70mL x 250mg/5mL oral suspension (or oral solution) **OR** appropriately labelled pack of 3 x 70mL x 125mg/5mL oral suspension (or oral solution)
Storage	Stock must be securely stored according to organisation medicines policy and in conditions in line with SPC, which is available from the electronic Medicines Compendium website: www.medicines.org.uk
Drug interactions	Where it is known an individual is concurrently taking one of the following medicines, clarithromycin must not be supplied under this PGD and the individual referred to a prescriber: • Simvastatin, *lovastatin** • Astemizole, *cisapride**, domperidone, pimozide, *terfenadine**.

	• Ergotamine or dihydroergotamine
	• Ranolazine
	• Ticagrelor
	• Colchicine
	• Midazolam (oral)
	• Typhoid vaccine (oral): see Criteria for exclusion
	• Any medicine known to cause QT prolongation. For further information recommended resources include: CredibleMeds; registration required, or Sudden arrhythmic death syndrome (SADS) - Drugs to avoid
	• Medicines that are strong inducers of cytochrome P450 (CYP) and may reduce the efficacy of clarithromycin (e.g.
	  ○ Efavirenz, etravirine, nevirapine,
	  ○ Rifampicin, rifabutin, rifapentine,
	  ○ Phenytoin, carbamazepine, phenobarbital,
	  ○ St. John's wort.
	  ○ For further information recommended resources include:
	  ▪ Indiana University School of Medicine Drug Interactions Flockhart Table™
	  ▪ Mayo Clinic Labs Pharmacogenomic Association Table)
	**May not be readily available in the UK*
	
	See BNF for all drugs that can interact with clarithromycin.
	
	A detailed list of drug interactions is available in the SPC, which is available from the electronic Medicines Compendium website: www.medicines.org.uk

Identification & management of adverse reactions	A detailed list of adverse reactions is available in the SPC, which is available from the electronic Medicines Compendium website: www.medicines.org.uk and BNF www.bnf.org The following side effects are listed in the product SPC/BNF as **very common or common** with clarithromycin (but may not reflect all reported side effects): • Gastrointestinal discomfort; including dyspepsia, diarrhoea, nausea and vomiting, abdominal pain, pancreatitis • Abnormal liver function tests • Decreased appetite • Dizziness • Headache • Hearing impairment • Insomnia • Skin rashes/reactions, hyperhidrosis, paresthesia • Taste altered • Vasodilation • Vision disorders Severe adverse reactions are rare, but anaphylaxis (delayed or immediate) has been reported and requires immediate medical treatment.

	In the event of a severe adverse reaction, the individual must be advised to stop treatment immediately and seek urgent medical advice.
Management of and reporting procedure for adverse reactions	• Healthcare professionals and individuals/carers/parents/guardians are encouraged to report suspected adverse reactions to the Medicines and Healthcare products Regulatory Agency (MHRA) using the Yellow Card reporting scheme on: https://yellowcard.mhra.gov.uk • Record all adverse drug reactions (ADRs) in the individual's clinical record. • Report and document in accordance with organisation incident policy. • It is considered good practice to notify the individual's GP in the event of an adverse reaction.
Additional facilities and supplies	• Access to a weighing scales suitable to weigh children (if not available, a recent, accurate reported weight from parent/guardian is acceptable)
Written information to be given to individual/carer/parent/ guardian	• Provide marketing authorisation holder's information leaflet (PIL) provided with the product. • Provide the TARGET RTI leaflet. • Utilise TARGET antibiotic checklist for counselling individuals/carers/parents/guardians. • Give any additional information in accordance with the service specification.
Individual advice / follow up treatment	• Explain the dose, frequency and method of administration. • The individual/carer/parent/guardian should be advised to read the PIL. • Store reconstituted oral suspension (or oral solution) in accordance with the conditions as outlined in the individual product SPC (storage recommendations may vary between different reconstituted oral suspension (or oral solution) products). • Advise individual/carer/parent/guardian to seek medical advice if no improvement after completion of treatment course. • Advise individual/carer/parent/guardian to seek medical attention if symptoms worsen rapidly or significantly at any time. • Advise individual/carer/parent/guardian to seek immediate medical attention (by calling 999 or going to A&E) if the individual develops signs or symptoms of sepsis. • Inform individual/carer/parent/guardian of possible side effects and their management. • Advise individual/carer/parent/guardian to take/give the medication at regular intervals and to finish the course. • If the individual is affected by dizziness or drowsiness advise them not to drive or operate machinery. • The individual/carer/parent/guardian should be advised to seek medical advice in the event of an adverse reaction or if any other new symptoms develop. • If a dose is missed advise to refer to PIL supplied with the product • Advise individual/carer/parent/guardian to complete the full course even if symptoms improve.

	• Advise individual/carer/parent/guardian to return any unused medicines to a pharmacy for disposal: do not dispose of medicines in the bin, down the sink or toilet.

Records	Appropriate records must include the following:
	
	• That valid informed consent has been given
	• Individual's name, address and date of birth
	• Name of GP individual is registered with or record where an individual is not registered with a GP
	• Name and registration number of registered healthcare professional operating under this PGD
	• Specify how the individual has/has not met the criteria of the PGD
	• Relevant past and present medical history and medication history
	• Any known allergies and nature of reaction(s)
	• Name/dose/form/quantity of medicine supplied
	• Date and time of supply
	• Documentation of cautions as appropriate
	• Advice given, including advice given if individual excluded or declines treatment
	• Details of any adverse drug reactions and actions taken
	• Advice given about the medication including side effects, benefits, and when and what to do if any concerns.
	• Any follow up and/or referral arrangements made.
	• Any supply outside the terms of the product marketing authorisation
	• The supply must be entered in the Patient Medication Record (PMR)
	• That supply was made under a PGD
	• Any safety incidents, such as medication errors, near misses and suspected adverse events
	• Any additional requirements in accordance with the service specification:
	  • The pharmacy contractor will ensure that a notification of the provision of the service is sent to the patient's general practice on the day of provision or on the following working day. Where possible, this should be sent as a structured message in real-time via the NHS assured Pharmacy First IT system. In the absence of an automated digital solution or if there is a temporary problem with the system, this should be sent via NHSmail or hard copy.
	  • Where an action is required by the General Practice team (such as booking the patient in for a follow up or appointment) an action message or alternative form of an URGENT ACTION communication (rather than the standard post event message) must be sent to the practice.
	• All records should be kept in line with national guidance. This includes individual data, master copies of the PGD and lists of authorised practitioners.
	
	Records must be signed and dated (or a password controlled e-records).
	
	All records must be clear, legible and contemporaneous.

	A record of all individuals receiving treatment under this PGD must also be kept for audit purposes in accordance with the service specification.

Key references

Key references (last accessed November 2023)	• Electronic Medicines Compendium http://www.medicines.org.uk/ • Electronic BNF https://bnf.nice.org.uk/ • Electronic BNF for children https://bnfc.nice.org.uk/ • ENTUK. Commissioning guide 2020: Tonsillectomy. https://www.entuk.org/_userfiles/pages/files/guidelines/Revised%20ENT%20UK%20Tonsillectomy%20commissioning%20guide%20edit%20to%20final%20(002).pdf • Reference guide to consent for examination or treatment https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/138296/dh_103653__1_.pdf • Medicines for Children. Clarithromycin for bacterial infections. https://www.medicinesforchildren.org.uk/medicines/clarithromycin-for-bacterial-infections/ • NICE Medicines practice guideline "Patient Group Directions" https://www.nice.org.uk/guidance/mpg2 • NICE guidance 84 [NG84] Sore throat (acute): antimicrobial prescribing https://www.nice.org.uk/guidance/ng84 • NHS Specialist Pharmacy Service. Using solid oral dosage form antibiotics in children https://www.sps.nhs.uk/articles/using-solid-oral-dosage-form-antibiotics-in-children/ • UK Sepsis Trust. Sepsis e-learning resources. https://sepsistrust.org/professional-resources/sepsis-e-learning/ • TARGET Treating your infection - Respiratory Tract Infection (TYI-RTI) leaflet https://elearning.rcgp.org.uk/mod/book/view.php?id=12647&chapterid=444 • Little, Paul et al. "Clinical score and rapid antigen detection test to guide antibiotic use for sore throats: randomised controlled trial of PRISM (primary care streptococcal management)." *BMJ (Clinical research ed.)* vol. 347 f5806. 10 Oct. 2013, doi:10.1136/bmj.f5806 https://www.bmj.com/content/347/bmj.f5806

Appendix A – example registered health professional authorisation sheet (example – local versions/electronic systems may be used)

PGD Name/Version **Valid from:** **Expiry:**

Before signing this PGD, check that the document has had the necessary authorisations. Without these, this PGD is not lawfully valid.

Registered health professional

By signing this patient group direction you are indicating that you agree to its contents and that you will work within it.

Patient group directions do not remove inherent professional obligations or accountability.

It is the responsibility of each professional to practise only within the bounds of their own competence and professional code of conduct.

I confirm that I have read and understood the content of this Patient Group Direction and that I am willing and competent to work to it within my professional code of conduct.			
Name	**Designation**	**Signature**	**Date**

Authorising manager

I confirm that the registered health professionals named above have declared themselves suitably trained and competent to work under this PGD. I give authorisation on behalf of insert name of organisation for the above named health care professionals who have signed the PGD to work under it.			
Name	**Designation**	**Signature**	**Date**

Note to authorising manager

Score through unused rows in the list of registered health professionals to prevent additions post managerial authorisation.

This authorisation sheet should be retained to serve as a record of those registered health professionals authorised to work under this PGD.

Add details on how this information is to be retained according to organisation PGD policy.