



Publications reference number: B1342

Patient Group Direction (PGD) for the further supply of ciprofloxacin to children under 12 for post-exposure to tularemia

For the further supply of ciprofloxacin tablets or suspension to children aged under 12 years of age, exposed to a known or suspected deliberate release of tularemia, by registered healthcare practitioners identified in Section 3, subject to any limitations to authorisation detailed in Section 2.

Reference: Ciprofloxacin under12 further supply tularemia PGD

Version number: 04.00

Valid from: 31 January 2022 Review date: 31 January 2024 Expiry date: 30 January 2025

The UK Health Security Agency (UKHSA) has developed this PGD for local authorisation

Those using this PGD must ensure it is organisationally authorised and signed in Section 2 by an appropriate authorising person, relating to the class of person by whom the product is to be supplied, in accordance with the Human Medicines Regulations 2012 (HMR2012)¹. **The PGD is not legal or valid without signed authorisation in accordance with HMR2012 Schedule 16 Part 2**.

Authorising organisations must not alter, amend or add to the clinical content of this document (sections 4, 5 and 6); such action will invalidate the clinical sign-off with which it is provided.

As operation of this PGD is the responsibility of commissioners and service providers, the authorising organisation can decide which staff groups, in keeping with relevant legislation, can work to the PGD. Sections 2, 3 and 7 must be completed and amended within the designated editable fields provided.

The final authorised copy of this PGD should be kept by the authorising organisation completing Section 2 for 25 years after the PGD expires. Provider organisations adopting authorised versions of this PGD should also retain copies for 25 years after the PGD expires.

Individual practitioners must be authorised by name, under the current version of this PGD before working according to it.

Practitioners and organisations must check they are using the current version of the PGD. Amendments may become necessary prior to the published expiry date. Current versions of UKHSA Chemical, Biological, Radiological and Nuclear (CBRN) PGDs for authorisation can be found from: https://www.england.nhs.uk/ourwork/eprr/hm/

Any queries regarding the content of this PGD should be addressed to: NSAC@phe.gov.uk

Enquiries relating to the availability of organisationally authorised PGDs and subsequent versions of this PGD should be directed to: insert local contact details

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¹ This includes any relevant amendments to legislation (such as <u>2013 No.235</u>, <u>2015 No.178</u>, <u>2015 No.323</u> and <u>2020 No.1125</u>

Change history

Version number	Change details	Date
PGD 2014/1	Original template developed and ratified	2 July 2014
PGD 02.00	Put into the new PHE template format	1 May 2016
	2. For use in anthrax only, tularemia put in separate PGD	
	3. Clinical indications: "another biological agent" removed	
	4. Abbreviated lists of warnings and contra-indications included- these medicines must be offered in all cases where exposure to these biological agents may have occurred unless there are life-threatening contra-indications.	
	5. Interactions: advice simplified.	
	6. References updated.	
PGD 03.00	Put into the new PHE template format	7 December
	2. References updated	2018
PGD 04.00	Addition of 'following deliberate release' to page 1, clinical indication and criteria for inclusion for clarity	31 January 2022
	Removal of concurrent administration of aminophylline and theophylline from exclusion criteria	
	3. Cautions: amended wording for additional advice / actions to be taken; renal impairment and other medications added	
	4. Addition of 100mg tablets	
	5. Amended dose and frequency of administration section	
	Additional information under drug interactions section and patient advice section	
	7. Minor rewording, layout and formatting changes for clarity and consistency with other UKHSA PGD templates	

1. PGD development

This PGD has been developed by the following on behalf of the UKHSA:

Developed by:	Name	Signature	Date
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This PGD has been peer reviewed by the CBRN PGD Expert panel in accordance with the UKHSA PGD Policy. It has been agreed by the UKHSA Medicines Governance Group and ratified by the UKHSA Clinical Quality and Oversight Board.

Expert panel

Name	Post
Ruth Milton (Chair)	Senior Medical Adviser, Consultant in Public Health, Emergency Response Department, UKHSA
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Diane Ashiru-Oredope	Lead Pharmacist, HCAI, Fungal, AMR, AMU & Sepsis Division, UKHSA
Tim Brooks	Consultant Medical Microbiologist / Virologist, UKHSA
Rosie Furner	Community Services Pharmacist, East Sussex Healthcare NHS Trust
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Michelle Jones	Principal Medicines Optimisation Pharmacist, NHS Bristol North Somerset and South Gloucestershire CCG
Craig Prentice	Advanced Paramedic Practitioner, Surrey and Sussex Healthcare NHS Trust
Rohini Manuel	Consultant Medical Microbiologist, UKHSA

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3. Characteristics of staff

Qualifications and professional registration	To be completed by the organisation authorising the PGD. For instance:
	 nurses currently registered with the Nursing and Midwifery Council (NMC).
	 pharmacists currently registered with the General Pharmaceutical Council (GPhC).
	Additional registered healthcare professionals to be added by organisation authorising the PGD
	The practitioners above must also fulfil the <u>Additional requirements</u> detailed below.
	Check <u>Section 2 Limitations to authorisation</u> to confirm whether all practitioners listed above have organisational authorisation to work under this PGD
Additional requirements	Additionally, practitioners:
	must be authorised by name as an approved practitioner under the current terms of this PGD before working to it
	must have undertaken appropriate training for working under PGDs for supply/administration of medicines
	must have undertaken training appropriate to this PGD
	must be competent in the use of PGDs (see <u>NICE Competency framework</u> for health professionals using PGDs).
	must be familiar with the product and alert to changes in the Summary of Product Characteristics (SPC)
	must be competent to assess the individual and discuss treatment options
	must have access to the PGD and associated online resources.
	should fulfil any additional requirements defined by local policy
	insert any additional requirements
	The individual practitioner must be authorised by name, under the current version of this PGD before working according to it
Continued training requirements	Insert any continued training requirements

4. Clinical condition or situation to which this PGD applies

Clinical condition or situation to which this PGD applies	A further supply of ciprofloxacin following a known or suspected deliberate release of tularemia	
Criteria for inclusion	Children aged from 4 weeks to less than 12 years of age, following a known or suspected deliberate release of tularemia who have already received ten days' supply of antibiotics for the known or suspected exposure	
	The benefits of using ciprofloxacin to prevent the onset of disease outweigh the potential risks of using this medicine in children who should be given ciprofloxacin in the situation criteria set out above	
	Individuals with the following conditions are included because the benefits of taking the medicine outweigh any risks, but provide the recommended advice given under the Cautions section:	
	History of tendon disorder related to quinolone use	
	2. Conditions with risk factor for QT interval prolongation	
	3. History of epilepsy	
	4. Myasthenia gravis	
	Vitamin K antagonist concomitant treatment (warfarin, phenindione and acenocoumarol)	
	6. Renal impairment – CKD stages 1-5	
	7. Other medications	
Criteria for exclusion ²	Individuals are excluded from this PGD if:	
	1. They are aged 12 years or over	
	2. They are less than 4 weeks of age	
	3. They are known to be outside of weight range for age ³	
	They have a known history of severe allergic reaction to ciprofloxacin, other quinolones or to any of the listed excipients	
	They have experienced side effects while taking the initial ten days' supply of ciprofloxacin	
	6. They are taking tizanidine	
Cautions including any relevant action to be taken	Ciprofloxacin must be offered in all cases where a known or suspected deliberate release of tularemia may have occurred, unless there are life-threatening contra-indications not to do so	
	Supply the chemoprophylaxis to individuals with the conditions listed below, because the benefits of taking the medicine outweigh any risks, but provide affected individuals the recommended advice overleaf	
Continued overleaf	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	

² Exclusion under this Patient Group Direction does not necessarily mean the antibiotic is contraindicated, but it would be outside its remit and another form of authorisation will be required

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³ See British National Formulary for Children (BNFc)

Cautions including any relevant action to be taken

(continued)

- 1. History of tendon disorder related to quinolone use:

 Advise to self-monitor for tendinitis. If tendinitis occurs, switch to doxycycline (see Doxycycline PGD) or, if contraindicated, refer to supervising doctor as soon as reasonably possible.
- 2. Conditions with risk factor for QT interval prolongation:
 - acute myocardial infarction
 - bradycardia
 - congenital long QT syndrome
 - heart failure with reduced left ventricular ejection
 - history of symptomatic arrhythmias

Warn to self-monitor for any exacerbation of symptoms. If there is an exacerbation of symptoms, switch to doxycycline (see Doxycycline PGD) or, if contraindicated, refer to supervising doctor immediately.

3. History of epilepsy:

Warn to self-monitor for any increase in frequency or severity of seizures. If an increase in frequency or severity of seizures occurs, switch to doxycycline (see Doxycycline PGD) or, if contraindicated, refer to supervising doctor as soon as reasonably possible.

4. Myasthenia gravis:

Warn to self-monitor for any increase severity of disease. If an increase in severity of disease occurs, switch to doxycycline (see Doxycycline PGD) or, if contraindicated, refer to supervising doctor soon as reasonably possible.

- 5. Vitamin K antagonist concomitant treatment (warfarin, phenindione and acenocoumarol):

 Warn individual of increased risk of bleeding. Check INR and adjust dose of anticoagulant treatment weekly if necessary, as advised by an anticoagulant clinic or prescriber during long term ciprofloxacin use.
- 6. Renal impairment:

For all individuals with any severity of renal impairment, check with supervising doctor. If a different dose or alternative antibiotic is required, this is not covered under this PGD and a Patient Specific Direction (PSD) will be required.

7. Other medications:

On the balance of risk to benefit, individuals taking medications which might interact with ciprofloxacin should normally receive chemoprophylaxis with ciprofloxacin if exposed to a biological agent. This includes methotrexate, theophylline, phenytoin, ciclosporin, clozapine and zolpidem. If a clinically significant interaction occurs or is reported, consider doxycycline (see Doxycycline PGD)

Action to be taken if the patient or carer declines treatment

Refer the individual to the supervising doctor

Advise the individual or their parent or carer of the possible consequences of declining prophylaxis and of alternative options

Advise about the protective effects of the prophylaxis, risks of infection, and disease complications

Continued overleaf

Action to be taken if the patient or carer declines treatment (continued)	Advise on the need for vigilance for symptoms of the potential disease, recognising symptoms and the need to seek urgent medical attention should symptoms occur Document the advice given and the decision reached
Action to be taken if the patient is excluded	Explain why they have been excluded If they are aged 12 years or over, refer to the Ciprofloxacin 500mq tablet PGD If they are aged less than 4 weeks of age, refer to the supervising doctor If the child is under weight for their age range, refer to the supervising doctor. If a different dose of ciprofloxacin for their age range is required, a PSD will be needed. If they have a known history of severe allergic reaction to ciprofloxacin, other quinolones or to any of the listed excipients, they have experienced side effects while taking the initial ten days' supply of ciprofloxacin or they are taking tizanidine, consider doxycycline (see Doxycycline PGD). If doxycycline is excluded, refer the individual to the supervising doctor. Note: Tularemia is not sensitive to penicillins such as amoxicillin or co-amoxiclay

5. Description of Treatment

Name, strength & formulation of drug	Ciprofloxacin 100mg tab in 5ml suspension	lets, 250mg tal	olets, 500mg tablets, 250mg
Legal category	Prescription Only Medici	ne (POM)	
Black Triangle▼	No		
Off-label use	Yes: ciprofloxacin is not guidance recommends it		se in tularemia. <u>UK national</u>
	consent process, informi	ng the individu nce with nation	abel consider, as part of the al/carer that the product is hal guidance but that this is
Route / method of administration	Oral Tablets to be swallowed prevent the formation of preferably on an empty s	tiny crystals in	ter, as this will help to the urine (crystalluria), and
Dose and frequency of administration	Doses to be taken twice	a day - see do	sage table below.
administration	Age	Milligrams (mg)	
	Less than 4 weeks of age		Excluded
	4 weeks to less than 10 weeks of age	50mg twice a day	1ml of 250mg in 5ml suspension twice a day
	10 weeks to less than 9 months of age	100mg twice a day	2ml of 250mg in 5ml suspension twice a day
	9 months to less than 2 years of age	150mg twice a day	3ml of 250mg in 5ml suspension twice a day
	2 years to less than 4 years of age	200mg twice a day	4ml of 250mg in 5ml suspension twice a day or TWO 100mg tablets twice a day
	4 years to less than 8 years of age	250mg twice a day	5ml of 250mg in 5ml suspension twice a day or ONE 250mg tablet twice a day
	8 years to less than 12 years of age	500mg twice a day	TWO 250mg tablets twice a day or ONE 500mg tablet twice a day
Duration of treatment	Four (4) days (total lengt	h of course 14	days)
	Note: these individuals h supply	ave previously	received an initial ten day

Quantity to be supplied / administered	NOTE : reconstituted ciprofloxacin suspension has a 14 day shelf life. Each bottle of suspension must be discarded 14 days after reconstitution.	
	Suspension : 1 x 100ml should be supplied per child irrespective of dose.	
	100mg tablets: Children aged 2 years to less than 4 years of age: 16 tablets	
	250mg tablets : Children aged 4 years to less than 8 years of age: 8 tablets	
	Children aged 8 years to less than 12 years of age: 16 tablets	
	500mg tablets: Children aged 8 years to less than 12 years of age: 8 tablets	
	When supplying under a PGD, this must be a complete manufacturer's original pack or over-labelled pre-packs. The individual's name, the date and additional instructions must be written on the label at the time of supply. As split packs cannot be supplied, if an over-supply is required, individuals must be advised to take any remaining medicine to a community pharmacy for destruction.	
Additional information	Ciprofloxacin suspension is the preferred formulation for young children because the tablets have a bitter taste	
	The suspension must be reconstituted according to the manufacturer's instructions before handing to parent/carer or other responsible person	
	Supply an oral syringe with the suspension and instructions for using the syringe	
	Tablets (not suspension) should be issued to children aged 4 years and older unless they have medically confirmed swallowing difficulties	
	The suspension should not be administered through a naso-gastric tube because of the risk of blocking the tube. Refer to the supervising doctor	
	As the reconstituted suspension only lasts 14 days, any remaining solution to be taken to a community pharmacy for destruction	
Storage	Store in original container below 25 °C	
	Reconstituted suspension may be stored in a refrigerator	
Disposal	Any unused product or waste material should be disposed of in accordance with local arrangements.	
Drug interactions	Individuals taking tizanidine are excluded from this PGD	
	On the balance of risk to benefit, individuals taking other medications which might interact with ciprofloxacin should normally receive chemoprophylaxis with ciprofloxacin if exposed to a biological agent. This includes methotrexate, theophylline, phenytoin, ciclosporin, clozapine and zolpidem. If a clinically significant interaction occurs or is reported, consider doxycycline	
Continued overleaf	(see <u>Doxycycline PGD</u>).	

Drug interactions	See Cautions for advice for individuals taking vitamin K analogues
(continued)	A detailed list of drug interactions is available in the <u>SPC</u>
Identification &	Most commonly nausea and diarrhoea
management of adverse reactions ⁴	Ciprofloxacin may affect reaction times and may make the child less alert
	Other side effects are classified as uncommon to very rare
	If any side effects become serious severe or prolonged, or if the parent / carer notices any side effects not listed in the Patient Information leaflet, children should not stop antibiotic treatment, but the parent/ carer should contact their GP or pharmacist
	Tendon inflammation and rupture may occur with ciprofloxacin. Such reactions have been observed particularly in those treated concurrently with corticosteroids. If there is pain or inflammation, individuals should not stop antibiotic treatment, but must see their GP at the earliest opportunity to change to doxycycline.
	A detailed list of adverse reactions is available in the <u>SPC</u>
Reporting procedure of adverse reactions	All suspected adverse reactions in children be reported using the Yellow Card system_or search for MHRA Yellow Card in the Google Play or Apple App Store
	Any serious adverse reaction to the drug should be documented in the individual's record
	Alert the supervising doctor in the event of a serious adverse reaction, document in the individual's record and inform the individual's GP
Written information to be given to patient or carer	Supply marketing authorisation holder's patient information leaflet (PIL)
	The additional information leaflet covering the use of ciprofloxacin in response to known or suspected exposure to a biological agent should also be provided
	An information leaflet explaining how to use and clean the oral syringe
Patient advice /follow up	Explain the treatment
treatment	Ensure the parent / carer is aware of the need for the child to maintain adequate fluid intake
	Advise the parent / carer the child should:
	 not take indigestion remedies or medicines containing calcium, magnesium, aluminium, iron or zinc, 1-2 hours before or 4 hours after taking the medicine
	not take with dairy products (for instance milk, yoghurt) or mineral-fortified fruit-juice (for instance calcium-fortified orange juice)
Continued overleaf	space the doses evenly throughout the day

⁴ Refer to British National Formulary (BNF) and Summary of Product Characteristics (SPC) for complete list

Patient advice /follow up treatment

(continued)

 keep taking the medicine until the course is finished, unless they are told to stop

For suspension: Inform the parent / carer there will be suspension remaining after the 4 days and to take the remaining unused suspension after the 4 days to a community pharmacy for disposal.

For tablets: Inform the parent / carer:

- these should be swallowed whole with water, as this will help to prevent the formation of tiny crystals in the urine (crystalluria), and preferably on an empty stomach
- any unused tablets should be taken to a community pharmacy for disposal

Inform the parent / carer

- for babies receiving milk feeds, to space the doses in the mid period between expected feed times
- of possible side effects and their management
- to read the PIL leaflet before giving the antibiotic and to seek medical advice if side effects, including painful or inflamed joints, or any other unexplained side effects on health are experienced
- that the medicine can make the skin more sensitive to direct sunlight. Children should avoid exposure to excessive sunlight or use high SPF sunblock if prolonged exposure to the sun is unavoidable

For individuals with conditions listed in the <u>Cautions</u> section, provide the additional recommended advice

Local arrangements must ensure that contact is made between the designated centre and all parents / carers to discuss further supplies of ciprofloxacin or an alternative antibiotic, where appropriate

Records

Record:

- whether valid informed consent was given
- name of individual, address, date of birth, weight if known, and GP with whom the individual is registered (or record where an individual is not registered with a GP)
- name of member of staff who supplied the product
- name and brand of product
- date of supply
- dose, form and route of administration of product
- quantity supplied
- batch number and expiry date
- advice given including advice given if excluded or declines treatment
- record supplied via PGD
- records should be signed and dated

Continued overleaf

All records should be clear, legible and contemporaneous

Contact details for the individual must be recorded. Local arrangements must ensure that contact is made between the designated centre and all individuals to discuss further supplies of ciprofloxacin or an alternative antibiotic, where appropriate. A computerised or manual record of all individuals receiving treatment under this PGD should also be kept for audit purposes in accordance with local policy. All records should be clear, legible and contemporaneous.

6. Key references

Key references

- <u>Ciprofloxacin Summary of Product Characteristics</u> accessed December 2021
- Chemical, biological, radiological and nuclear incidents: clinical management and health protection 2018
- British National Formulary for Children (BNFc) accessed December 2021
- NICE Medicines Practice Guideline 2 (MPG2): Patient Group Directions updated 27 March 2017
- NICE MPG2 Patient group directions: competency framework for health professionals using patient group directions updated 27 March 2017
- Health Technical Memorandum 07-01: Safe Management of Healthcare Waste. Department of Health 20 March 2013

7. Individual practitioner authorisation sheet

By signing this PGD you are indicating you agree to the contents and you will work within it

PGDs do not remove inherent professional obligations or accountability

It is the responsibility of each professional to practice only within the bounds of their own competence

Practitioner

I confirm I have read and understood the content of this PGD and I am willing and competent to work to it within my professional code of conduct

Signed	Date
Name (Print)	
Designation	
Authorising manager Manager to give authorisation on b professional who has signed the Po	pehalf of insert name of organisation for the named healthcare
Signed	Date
Name (Print)	
Designation	

Note to authorising manager

By signing above, you are confirming you have assessed the staff member as competent to work under this PGD and they have the organisational approval to do so

You must give this signed PGD to each authorised practitioner as it shows their authorisation to use the PGD