



Publications number: PRN01579

Doxycycline Further Supply Anthrax Patient Group Direction (PGD)

This PGD is for the further 20 days' supply of doxycycline 100mg capsules, to adults and children aged 12 years and over exposed to a known deliberate release of anthrax, by registered healthcare practitioners identified in <u>Section 3</u>, subject to any limitations to authorisation detailed in <u>Section 2</u>.

Reference:	Doxycycline 100mg capsules PGD further supply anthrax
Version no:	5.00
Valid from:	1 October 2024
Review date:	1 March 2027
Expiry date:	30 September 2027

The UK Health Security Agency (UKHSA) has developed this PGD for local authorisation in line with national recommendations.

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 <u>HMR2012</u> <u>Schedule 16 Part 2</u>.

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, but only for the purposes for which these sections are provided, that is the responsibilities and governance arrangements of the NHS organisation using the PGD. The fields in Section 2 and 7 cannot be used to alter, amend or add to the clinical content. Such action will invalidate the UKHSA clinical content authorisation which is provided in accordance with the regulations.

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 PGD templates for authorisation can be found from: <u>NHS England » Hazardous</u> <u>Materials (HAZMAT) and Chemical, Biological, Radiological and Nuclear (CBRN)</u>

Any concerns regarding the content of this PGD should be addressed to: <u>SMA@uksha.gov.uk</u>

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¹ This includes any relevant amendments to legislation

Change history

Version number	Change details	Date
PGD 2014/1	Original template developed and ratified	2 July 2014
PGD 2.00	 Put into the new PHE template format For use in anthrax only, tularemia put in separate PGD Clinical indications: "another biological agent" removed 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 Interactions: advice simplified References updated 	1 May 2016
PGD 3.00	 Put into the new PHE template format Duration of further supply changed to 20 days Off-label use changed to 'yes' Cautions: "Hepatic impairment: Only use where mild stable hepatic disease present; otherwise initiate chemoprophylaxis with ciprofloxacin, amoxicillin or co- amoxiclav" removed. References updated 	16 October 2018
PGD 4.00	 Addition of 'following deliberate release' to page 1, clinical indication and criteria for inclusion for clarity Note under clinical condition to use doxycycline wherever possible, reserving continuity of prophylaxis with ciprofloxacin for children under 12 years of age. Retinoid treatment moved from cautions to criteria for exclusion Under actions to be taken if the individual is excluded, consider supply of ciprofloxacin if not contraindicated or refer to the supervising doctor for assessment and prescription of amoxicillin or co-amoxiclav. Minor rewording, layout and formatting changes for clarity and consistency with other UKHSA PGD templates 	26 October 2021
PGD 5.00	 Minor rewording, layout and formatting changes for clarity and consistency with other UKHSA PGD templates Qualification and professional registration section updated with other registered professionals Amoxicillin and co-amoxiclav recommendations changed to assessment and consideration of alternative antibiotics throughout Notes under clinical condition or situation to which this PGD applies replaced with link to guidance 	26 September 2024

5.	Criteria for inclusion updated to remove 'suspected' and to	
	include 'not showing symptoms compatible with anthrax infection'	
6.	Under 12s, no valid consent, known severe hepatic	
0.	impairment, enzyme inducing antiepileptics, and	
	unacceptable side effects added to exclusion criteria	
7.	Wording under cautions: 'Where there is an established	
	history of severe allergic reaction to ciprofloxacin', removed	
	and replaced with alternative wording	
8.	Cautions updated to remove renal impairment, and include	
	advice for individuals with liver impairment, chronic alcohol	
	dependence and those taking ciclosporin, lithium, penicillin,	
	other tetracyclines. Wording slightly amended for existing	
	cautions	
9.	Wording under actions to be taken if the individual is	
	excluded updated	
10.	Symptoms added to action to be taken if individual declines	
	treatment, link to CBRN guidance and document advice	
	given and decision reached	
11.	Arrangements for referral for medical advice section added	
10	as per PGD template	
12.	Dose and frequency updated with consideration of other formulations if individuals unable to swallow	
13	Duration of treatment updated with 'following an initial 10-	
10.	day supply of antibiotics'	
14.	Drug interactions updated with 'This list is not exhaustive.	
	Full details of drug interactions are available in the SPC or	
	the BNF online, referral back to cautions or exclusion	
	criteria added for relevant interactions, 2-3 hours added to	
	antacid interaction	
15.	Hypersensitivity and rash added to adverse reactions and	
	advice on management added	
16.	Avoiding alcohol, to read the PIL, advice if symptoms	
	develop, added to advice and follow up	
17.	'or password-controlled on records' added to 'All records	
	should be signed and dated	

1. PGD development

Developed by:	Name	Signature	Date
Doctor	Kiran Attridge, Senior Medical Adviser and Consultant in Public Health, UKHSA	X	26 September 2024
Pharmacist (Lead Author)	Anna Wilkinson Clinical Response Pharmacist, UKHSA	Abilkinon	26 September 2024
Registered Nurse	Gemma Hudspeth, Senior Health Protection Practitioner, UKHSA	Gh	26 September 2024

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

This PGD has been peer reviewed by an expert panel in accordance with the UKHSA PGD Policy. It has been ratified by the UKHSA Medicines Governance Committee.

Expert panel

Name	Designation
Ruth Milton (Chair)	Head of Clinical Public Health Response-Advice, UKHSA
Claire Gordon	Consultant in Infectious Diseases and Deputy head of the UKHSA Rare and Imported Pathogens Laboratory
Diane Ashiru-Oredope	Lead Pharmacist, HCAI, Fungal, AMR, AMU and Sepsis Division, UKHSA
Jo Jenkins	Lead Pharmacist Patient Group Directions and Medicines Mechanisms, NHS Specialist Pharmacy Service
Michelle Jones	Principal Medicines Optimisation Pharmacist NHS Bristol, North Somerset and South Gloucestershire ICB
Jacqueline Lamberty	Medicines Governance Consultant Lead Pharmacist UKHSA
Craig Prentice	Consultant Practitioner Paramedic, Surrey and Sussex Healthcare NHS Trust
Kelly Stoker	Nurse Consultant for Adult Social Care, Health Equity and Inclusion Health Division, UKHSA
Sherine Thomas	Consultant in Emerging Infections and Zoonoses, UKHSA
Sarah Upton	Lead Pharmacist for Medication Safety, community services, Locala Health and Wellbeing

2. Organisational authorisations

The PGD is not legally valid until it has had the relevant organisational authorisation.

It is the responsibility of the organisation that has legal authority to authorise the PGD, to ensure that all legal and governance requirements are met. The authorising body accepts governance responsibility for the appropriate use of the PGD.

Insert authorising body name authorises this PGD for use by the services or providers listed below:

Authorised for use b	v the followina	organisations	and/or services
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Limitations to authorisation

For instance any local limitations the authorising organisation feels they need to apply in-line with the way services are commissioned locally. This organisation does not authorise the use of this PGD by

Organisational approval (legal requirement)			
Role	Name	Sign	Date

Additional signatories according to locally agreed policy			
Role	Name	Sign	Date

Local enquiries regarding the use of this PGD may be directed to insert contact details

Section 7 provides a practitioner authorisation sheet. Individual practitioners must be authorised by name to work to this PGD. Alternative practitioner authorisation sheets may be used where appropriate in accordance with local policy, but this should be an individual agreement, or a multiple practitioner authorisation sheet as included at the end of this PGD

3. Characteristics of staff

Qualifications and professional registration	To be completed by the organisation authorising the PGD for example: registered professional with one of the following bodies:
professional registration	 nurses currently registered with the Nursing and Midwifery Council (NMC)
	 pharmacists and pharmacy technicians currently registered with the General Pharmaceutical Council (GPhC)
	 paramedics currently registered with the Health and Care Professions Council (HCPC)
	 additional registered practitioners, appropriate for the role, who can legally operate under a PGD
	The practitioners above must also fulfil the Additional requirements 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 or administration of medicines
	must have undertaken training appropriate to this PGD
	must be competent in the use of PGDs (see <u>NICE Competency</u> <u>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
	authorising organisation to insert any additional requirements
	Individual practitioners must be authorised by name, under the current version of this PGD before working according to it
Continued training requirements	Authorising organisation to insert any continued training requirements

4. Clinical condition or situation to which this PGD applies

Clinical condition or situation to which this	Where continuing chemoprophylaxis is required following a known deliberate release of anthrax.		
PGD applies	Use doxycycline wherever possible, reserving continuity of prophylaxis with ciprofloxacin for children under 12 years of age.		
	For additional information on anthrax, including post-exposure prophylaxis, see <u>CBRN guidance</u>		
Criteria for inclusion	Adults and children aged 12 years or over following a known deliberate release of anthrax		
	and		
	who have already received chemoprophylaxis for 10 days with doxycycline or ciprofloxacin.		
	and		
	Who are not showing symptoms compatible with anthrax infection. Individuals with symptoms should be referred urgently to the supervising doctor. See <u>Action to be taken if individual or carer</u> <u>declines treatment</u> below and the <u>Chemical, biological, radiological</u> <u>and nuclear (CBRN) incident guidance</u> for symptoms		
Criteria for exclusion ²	Individuals are excluded from this PGD if:		
	1. They are under 12 years of age		
	 They are pregnant or suspected to be pregnant as doxycycline affects teeth and bone growth in the baby, notably in the second and third trimester 		
	3. They are currently breastfeeding		
	4. They have known severe liver impairment		
	 They have a known history of severe allergic reaction to doxycycline or other tetracyclines or to any of the listed excipients 		
	They have experienced unacceptable side effects while taking the initial ten days' supply of doxycycline		
	 They are receiving systemic retinoid treatment (acitretin, alitretinoin, isotretinoin, tretinoin) due to possible increased risk of benign intracranial hypertension when tetracyclines are given with retinoids. 		
	 They are taking enzyme inducing anti-epileptic medicines (carbamazepine, fosphenytoin, phenobarbitone/phenobarbital, primidone, phenytoin) 		
	 They have not given valid consent (or for whom a best- interests decision in accordance with the <u>Mental Capacity Act</u> <u>2005</u> has not been obtained) 		

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

Cautions including any relevant action to be taken (continued overleaf)	For individuals where the following cautions apply, and ciprofloxacin is contraindicated or not appropriate, supply doxycycline unless there are life-threatening contraindications as benefit is thought to outweigh risk. Provide affected individuals with the advice given below:
	 Myasthenia gravis: Advise to self-monitor for any increase in severity of myasthenia gravis If increase in severity of myasthenia gravis refer to supervising doctor for assessment and consideration of alternative antibiotics Systemic lupus erythematosus(SLE): Consider supply of ciprofloxacin (see ciprofloxacin initial supply
	PGD) if no contra-indications or advise to self-monitor for any increase in severity of SLE. If increase in severity of SLE refer to supervising doctor for assessment and consideration of alternative antibiotics
	3. Liver impairment: Doxycycline has been associated with rare incidents of hepatic injury. Manufacturers advise caution in those with liver impairment or those receiving potentially hepatotoxic medicines. Those with known severe liver impairment are excluded from this PGD (see <u>exclusion criteria</u>)
	4. Chronic alcohol dependence:
	Alcohol may reduce the half-life of doxycycline, particularly for individuals with chronic alcohol dependence. Twice daily dosing may reduce the significance of this interaction. If ciprofloxacin is contraindicated, advise of risk and to seek immediate medical advice if symptoms compatible with anthrax infection develop
	5. Severely immunocompromised individuals:
	Individuals who are severely immunocompromised (as defined in <u>Chapter 28a Green book</u>) should be advised to arrange an appointment with their GP to determine whether they need to continue treatment beyond the course outlined in this PGD
	6. Taking vitamin K antagonists (for example, warfarin, phenindione and acenocoumarol):
	Advise individual to arrange for INR to be monitored 3-5 days after starting treatment and to speak to their GP or anticoagulant clinic if they notice any signs of bleeding.
	7. Taking penicillin:
	Doxycycline may reduce the effect of penicillin. For individuals taking penicillin for a serious infection, seek advice from the supervising doctor.
	8. Taking ciclosporin or lithium:
	Consider supply of ciprofloxacin (<u>see ciprofloxacin initial supply</u> <u>PGD</u>) if appropriate or advise individual to contact the service who prescribe/monitor the affected medicines to arrange monitoring and any dose adjustments. Advise to be aware of any signs of toxicity.
	9. Already taking doxycycline or other tetracycline for another condition:
	Doxycycline: advise individual to stop their existing course. They should now take doxycycline at the dose and frequency outlined

Cautions including any relevant action to be taken (continued)	 in this PGD. If doxycycline has previously been prescribed for ongoing treatment, the individual can be advised to continue at the previous dose once the course for anthrax post-exposure prophylaxis is complete. Other tetracycline: assess suitability for ciprofloxacin, or if contraindicated, consider if appropriate to pause tetracycline treatment whilst receiving doxycycline for post exposure prophylaxis. If unclear, seek advice from the supervising doctor. Refer to the <u>SPC</u> for doxycycline for full details on special warnings and precautions for use.
Action to be taken if the individual is excluded	Explain why they have been excluded. Consider supply of ciprofloxacin (see <u>ciprofloxacin further supply</u> <u>PGD</u>). Where ciprofloxacin is contraindicated refer the individual to the supervising doctor for assessment and consideration of alternative antibiotics Document reasons for exclusion and any referrals that have been made
Action to be taken if the individual or carer declines treatment	Refer the individual to the supervising doctor. Advise the individual or their 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. Advise on the need for vigilance for symptoms compatible with anthrax infection and the need to seek urgent medical attention should symptoms occur. Symptoms will depend on the type of exposure:
	 Inhalational: flu-like illness (fever, malaise, nausea/vomiting, headache, non-productive cough) Cutaneous: initial pimple/pauple that enlarges, blisters, ulcerates over 2 to 6 days to form a black scab Gastrointestinal: severe abdominal pain, nausea, vomiting, bloody diarrhoea See <u>CRBN guidance</u> for information on symptoms to be aware of depending on the type of exposure Document the advice given and the decision reached
Arrangements for referral for medical advice	Follow local procedures for referral to the supervising doctor and/or other services

5. Description of treatment

Name, strength and formulation of drug	Doxycycline 100mg capsules				
Legal category	Prescription Only Medicine (POM)				
Black triangle▼	No				
Off-label use	Anthrax is not included under the therapeutic indications in the <u>SPC</u> but is recommended in the <u>Guidance on CBRN incidents.</u>				
	Where a product is recommended off-label consider, as part of the consent process, informing the individual/carer the product is being offered in accordance with national guidance but this is outside the product licence.				
Route / method of administration	Oral				
Dose and frequency of administration	One capsule (100mg) to be taken twice daily				
administration	For individuals who are unable to swallow the capsules, refer to the supervising doctor for assessment and consideration of alternative antibiotics or formulation.				
Duration of treatment	20 days following an initial 10-day supply of antibiotics				
Quantity to be supplied /	40 (forty) capsules				
administered	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 manufacturers 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.				
Storage	Store in original container below 25 °C				
Disposal	Any unused product or waste material should be disposed of in accordance with local requirements.				
Drug interactions	This list is not exhaustive. Full details of drug interactions are available in the \underline{SPC} or the \underline{BNF} online.				
	 individuals taking systemic retinoids or enzyme-inducing anti- epileptics are excluded from this PGD (see <u>exclusion criteria</u>) 				
	 anticoagulants, vitamin K antagonists, ciclosporin, lithium, penicillin and alcohol: see <u>cautions</u> for advice to be given 				
	 oral contraceptives: additional contraceptive precautions are recommended if vomiting or diarrhoea occurs. Advise individuals to follow the instructions given with their contraceptive. 				
	 antacids, aluminium, calcium, iron, magnesium, bismuth and zinc salts: greatly decrease the absorption of doxycycline. Administration should be separated by 2 to 3 hours 				

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Identification and management of adverse	A detailed list of adverse reactions is available in the <u>SPC</u> .			
reactions	Commonly reported side effects include:			
	 nausea, vomiting and headache 			
	hypersensitivity reactions			
	 photosensitivity and rash including maculopapular and erythematous rashes. 			
	Advise individuals to take doxycycline after food or with a drink of milk instead of water to help with nausea			
	To help with photosensitivity, advise individuals to wear clothes that cover them up and a hat and sunglasses when going outside. Advise they use a high SPF sunscreen of at least 30 to prevent any sunburn.			
	In the event of a severe adverse reaction (for example, anaphylaxis, severe skin reactions, visual disturbance), the individual should seek urgent medical advice			
	If individuals are concerned about other side effects, they should be advised to continue with treatment and contact their GP or pharmacist			
Reporting procedure of adverse reactions	All suspected adverse reactions in children and severe adverse reactions in adults should be reported using the <u>Yellow Card</u> system or search for MHRA Yellow Card in the Google Play or Apple App Store.			
	Any serious adverse reaction to the medicine should be documented in the individual's record and the individual's GP informed.			
Written information to be given	Supply marketing authorisation holder's patient information leaflet (PIL).			
Advice /follow up	Provide the following advice:			
treatment	 the dose, frequency and method of administration 			
Continued overleaf	 to swallow the capsules whole with plenty of fluid during meals in either the sitting or standing position 			
	 to not lie down within an hour of taking the medication, so not to take at bedtime 			
	• to not take on an empty stomach because of the risk of oesophagitis			
	 to not take indigestion remedies or medicines containing aluminium, calcium, iron, magnesium zinc or bismuth, 2 to 3 hours before or after taking the medicine 			
	if gastric irritation occurs, the capsules may be taken with milk			
	• if a dose is missed, advise to refer to PIL supplied with the product			
	 to space the doses evenly throughout the day and finish the course unless told to stop 			
	 to avoid exposure to direct sunlight or ultraviolent light including sunbeds and sun lamps. If unavoidable, advise to cover up and use high SPF sun cream 			
	to avoid alcohol			
	For individuals with conditions listed in the <u>Cautions</u> section, provide the additional recommended advice.			

Advice /follow up treatment (continued)	 Inform the individual/carer: to read the PIL provided with the medicine of possible side effects and their management to seek medical advice if side effects or any other unexplained effects on health are experienced if side effects become serious severe or prolonged, or if the individual notices any side effects not listed in the PIL, they should contact their GP or pharmacist immediately if symptoms compatible with anthrax infection develop to seek medical advice immediately to return any unused medicine to a pharmacy
Records	 Record: whether valid informed consent was given or a decision to supply was made in the individual's best interests in accordance with the Mental Capacity Act 2005 name of individual, address, date of birth, allergies 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 date and brand of the product date and time of supply dose, form, and route of administration of product quantity supplied batch number and expiry date advice given; including advice given if the individual is excluded or declines treatment details of any adverse drug reactions and actions taken that the product was supplied via PGD 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 or an alternative antibiotic, where appropriate. A record of all individuals receiving treatment under this PGD should also be kept for audit purposes in accordance with local policy.

6. Key references

Key references	 <u>Doxycycline SPC</u> last updated 6 December 2021 <u>Doxycycline PIL</u> last updated 20 June 2024
	<u>Chemical, biological, radiological and nuclear incidents: clinical</u> <u>management and health protection</u> (2018)
	British National Formulary (BNF) accessed June 2024
	<u>NICE Medicines Practice Guideline 2 (MPG2): Patient Group</u> <u>Directions</u> last updated 27 March 2017
	<u>NICE MPG2 Patient group directions: competency framework for</u> <u>health professionals using patient group directions</u> last updated 27 March 2017
	Health Technical Memorandum 07-01: Safe Management of Healthcare Waste. Department of Health 20 March 2013 last updated 26 January 2024

7. Practitioner authorisation sheet

Name PGD vXX.XX Valid from: XX/XX/20XX Expiry: XX/XX/20XX

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

Practitioner

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

PGDs 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 PGD 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 practitioners 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 abovenamed 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 practitioners to prevent practitioner additions post managerial authorisation.

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