NHS Grampian NHS Orkney NHS Shetland NHS Tayside NHS Eileanan Siar Western Isles

Patient Group Direction For The Administration Of Sodium Chloride 0.9% w/v Solution For Injection For Flushing Intravenous Catheters/Cannulae By Approved Healthcare Professionals Working Within NHS Grampian, Orkney, Shetland, Tayside and Western Isles

Lead Author: Medicines Management Specialist Nurse NHSG	**Consultation Group:** See relevant page in the PGD	**Approver:** NoS PGD Group **Authorisation:** NHS Grampian
Signature:		**Signature:**
NoS Identifier: NoS/PGD/NaClflush/ 1357	**Review Date:** October 2025 **Expiry Date:** October 2026	**Date Approved:** October 2023

NHS Grampian, Orkney, Shetland, Tayside and Western Isles have authorised this Patient Group Direction to help individuals by providing them with more convenient access to an efficient and clearly defined service within the NHS Boards. This Patient Group Direction cannot be used until Appendix 1 and 2 are completed.

Uncontrolled when printed

Version 2

Revision History:

Reference and approval date of PGD that has been adapted and/or superseded	PGD supersedes NoS/PGD/NaClflush/MGPG1121, Version 1	
Date of change	**Summary of Changes**	**Section heading**
December 2022	2 yearly review of PGD on new NoS PGD template.	
December 2022	Additional information added as per the SmPC.	Storage
February 2023	Note added regarding fluid restricted patients.	Dosage/Maximum total dose
February 2023	Further training requirement added Infection control module (IPC) zone – aseptic technique1 - Principles of aseptic technique.	Ongoing training and competency
October 2023	SMPC statement added with regards to contraindicated in patients presenting with hypernatraemia or hyperchloraemia,	Precautions and special warnings

NoS Identifier: NoS/PGD/NaClflush/MGPG1357
Keyword(s): PGD Patient Group Direction Sodium Chloride, Flush, Cannula

Policy Statement: It is the responsibility of the individual healthcare professionals and their line managers to ensure that they work within the terms laid down in this PGD and to ensure that staff are working to the most up to date PGD. By doing so, the quality of the services offered will be maintained, and the chances of staff making erroneous decisions which may affect individual, staff or visitor safety and comfort will be reduced. Supervisory staff at all levels must ensure that staff using this PGD act within their own level of competence.

The lead author is responsible for the review of this PGD and for ensuring the PGD is updated in line with any changes in clinical practice, relevant guidelines, or new research evidence.

Review date: The review date for a PGD needs to be decided on a case-by-case basis in the interest of safety. The expiry date should not be more than 3 years, unless a change in national policy or update is required.

Document:	Drafted:	December 2022
	Completed:	October 2023
	Approved:	October 2023 (published – October 2023)
	Amended and re authorised:	

Organisational Authorisations

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

PGD Developed/Reviewed by;

Medical practitioner	**Name:** Dr Elaine Toms **Health Board:** NHSO **Title:** Clinical Lead, Orkney **Contact email:** elaine.toms@nhs.scot **Signature:** ..... **Date:** 26/10/2023
Senior representative of the professional group who will provide care under the direction	**Name:** Lesley Gow **Health Board:** NHSG **Title:** Nurse Manager **Contact email:** lesley.gow@nhs.scot **Signature:** .... **Date:** 31/10/2023
Lead author	**Name:** Jodie Allan **Health Board:** NHSG **Title :** Medicines Management Specialist Nurse **Contact email:** jodie.allan@nhs.scot **Signature:** ..... **Date:** 26/10/2023
Pharmacist	**Name:** Alison Jane Smith **Health Board:** NHSG **Title :** Medicines Management Pharmacist **Contact email:** alisonjane.smith@nhs.scot **Signature:** ..... **Date:** 26/10/2023

Approved for use within NoS Boards by;

North of Scotland (NoS) PGD Group Chair	Signature	Date Signed
Lesley Coyle		26/10/2023

Authorised and executively signed for use within NoS Boards by;

NHS Grampian Chief Executive	Signature	Date Signed
Professor Caroline Hiscox		31/10/2023

Management and Monitoring of Patient Group Direction

PGD Consultative Group

The consultative group is legally required to include a medical practitioner, a pharmacist and is best practice to have a representative of the professional group who will provide care under the direction.

Name:	**Title:**
Jodie Allan	**Lead Author:** Medicines Management Specialist Nurse NHSG
Alison Jane Smith	**Pharmacist:** Medicines Management Pharmacist NHSG
Dr Elaine Toms	**Medical Practitioner:** Clinical Lead NHSO
Lesley Gow	**Senior Representative:** Nurse Manager NHSG
Liam Callaghan	Chief Pharmacist NHSWI
Liz Cheung	Midwifery Manager NHSG
Laura Farquharson	Superintendent MRI Radiographer, NHSG
Russel Mackay	Clinical Lead Pharmacist NHSO
Mary McFarlane	Principal Pharmacist NHSS
Gillian McKenzie-Murray	Professional and Practice Development Facilitator NHSG

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Clinical indication to which this PGD applies

Definition of situation/ Condition	This Patient Group Direction (PGD) will authorise approved healthcare professionals as detailed in the characteristics of staff authorised to work under this PGD to administer sodium chloride 0.9% w/v solution for injection for flushing intravenous catheters/cannulae. The use of sodium chloride 0.9% flushes between medicines prevents potential incompatibilities and ensures that the full dose is received by the patient and not retained within the dead space of the catheter. Sodium chloride 0.9% flush may also be administered to maintain patency of intravenous catheters/cannulae and also to confirm placement and patency of newly inserted catheters/cannulae. This PGD should be used in conjunction with the recommendations in the current British National Formulary (BNF), British National Formulary for Children (BNFC), and the individual Summary of Product Characteristics (SmPC).
Inclusion criteria	• Patients who require insertion or re-siting of a peripheral intravenous catheters/cannulae or who have a peripheral intravenous cannula in situ. Prior to the administration of the sodium chloride flush, valid consent to receiving treatment under this PGD must be obtained. Consent must be in line with current individual NHS Boards consent policy.
Exclusion criteria	Patients may be administered sodium chloride 0.9% w/v solution for injection under this PGD unless: • They are suffering from thrombophlebitis. • They are patients in the neonatal unit. • The cannula insertion site is red and/or inflamed. • Sodium chloride 0.9% w/v solution for injection is incompatible with the intravenous medicine to be administered. See Injectable medicines guide. • Refer to the PVC insertion and maintenance bundle – if Visual infusion phlebitis score (VIP) is 2 or above the PVC cannot be used and **must** be removed. Individuals for whom no valid consent has been received.

Precautions and special warnings	SMPC states contraindicated in patients presenting with hypernatraemia or hyperchloraemia, although unlikely to be clinically significant due to volumes administered when used as a flush.
Action if excluded from treatment	Medical advice must be sought – refer to relevant medical practitioner. Document the reason for exclusion under the PGD and any action taken in the individual's appropriate clinical records.
Action if treatment is declined	Inform/refer to the relevant medical practitioner if individual/parent/carer declines treatment. Document that the administration was declined, the reason and advice given in appropriate clinical records.

Description of treatment available under the PGD

Name form and strength of medicine	Sodium chloride 0.9% w/v solution for injection. **Note:** There are various strengths of sodium chloride solution for injection, ensure only 0.9% ampoules are used.
Legal status	Sodium chloride 0.9% w/v solution for injection is a Prescription-only Medicine (POM).
Is the use out with the SmPC?	No.
Dosage/Maximum total dose	**Adults**: Up to 5 - 10mL as a single dose for flushing: • At the time of cannulation. • Before and after the administration of each intravenous medication. • Up to twice a day to maintain cannula patency. **Note:** Volume of flush administered should be restricted in fluid restricted patients. **Children (excluding Neonate)**: 2 - 10mL for the above indications depending on the age, size and condition of patient.
Frequency of dose/Duration of treatment	The frequency of administration will vary according to the indication.

Maximum or minimum treatment period	N/A
Route/Method of administration	**Intravenous** The preparation of injections in near patient areas should be carried out in a suitable environment using safe procedures, using aseptic technique, i.e. clean, uncluttered and free from interruption and distraction. **Standard Flushing Technique** • 10mL syringes must be used when flushing. • Administer over 3 - 5 minutes, or if a flush after a medicine, at the same prescribed rate of the medicine. • The flush should be administered using a push-pause and positive pressure method. • The pulsated flush creates turbulence within the catheter lumen, removing debris from the internal catheter. • Positive pressure within the lumen of the catheter should be maintained to prevent reflux of blood.
Quantity to be administered	The quantity to administer will vary according to the indication.
Storage requirements	Should be stored at room temperature and protected from excessive heat and freezing.
Additional Information	N/A
Follow-up (if applicable)	N/A
Advice (Verbal)	• Advise individual/parent/carer what to expect and of the possible side effects and their management. • Inform the patient of the reason for the flush and obtain consent. • If serious adverse or persistent effects occur, the individual/parent/carer should be advised to contact their GP/Accident and Emergency department/NHS24. • Individuals/carers should be advised to report suspected adverse reactions to the Medicines and Healthcare products Regulatory Agency (MHRA) using the Yellow Card reporting scheme.

Advice (Written)	The Patient Information Leaflet (PIL) contained in the medicine(s) should be made available to the individual/parent/carer. Where this is unavailable, or unsuitable, sufficient information should be given in a language that they can understand.
Identifying and managing possible adverse reactions	Adverse events are unlikely due to the small volume use. **This list is not exhaustive. Please also refer to current BNF/BNFC and manufacturers SmPC for details of all potential adverse reactions.** **BNF/BNFC**: BNF British National Formulary - NICE BNF for Children British National Formulary - NICE **SmPC/PIL/Risk Minimisation Material:** Home - electronic medicines compendium (emc) MHRA Products | Home RMM Directory - (emc) If an adverse reaction does occur give immediate treatment and inform relevant medical practitioner as soon as possible. Document in accordance with locally agreed procedures in the individual's record. Report any suspected adverse reactions using the Yellow Card System Yellow Card Scheme - MHRA.
Facilities and supplies required	The following are to be available at sites where the medicine is to be administered: • Appropriate storage facilities • An acceptable level of privacy to respect individual's right to confidentiality and safety • Basic airway resuscitation equipment (e.g. bag valve mask) • Immediate access to Epinephrine (Adrenaline) 1 in 1000 injection • Access to a working telephone • Another competent adult, who can summon urgent emergency support if required should ideally be present • Access to medical support (this may be via the telephone) • Approved equipment for the disposal of used materials • Clean and tidy work areas, including access to hand washing facilities or alcohol hand gel • A copy of this current PGD in print or electronically.

Characteristics of staff authorised to administer medicine(s) under PGD

Professional qualifications	Those registered healthcare professionals that are listed and approved in legislation as able to operate under Patient Group Directions, and as identified and included in individual Board delivery plans.
Specialist competencies	**Approved by the organisation as:** • Competent to assess the individual's/parents/carers capacity to understand the nature and purpose of the medicine administration in order to give or refuse consent • Aware of current treatment recommendations and be competent to discuss issues about the medicine with the individual • Having undertaken appropriate training to carry out clinical assessment of individuals identifying that treatment is required according to the indications listed in the PGD. • Competent to undertake administration of the sodium chloride flush • Competent in the recognition and management of anaphylaxis or under the supervision of persons able to respond appropriately to immediate adverse reactions • Competent to work under this PGD and authorised by name as an approved person to work under the terms of the PGD.
Ongoing training and competency	**All professionals working under this PGD must:** • Have undertaken NoS PGD module training on TURAS Learn • Have attended basic life support training either face to face or online and updated in-line with individual Board requirements • Have undertaken NHS e-anaphylaxis training or equivalent which covers all aspects of the identification and management of anaphylaxis in-line with individual Board requirements and Infection control module (IPC) zone – aseptic technique1- Principles of aseptic technique • Maintain their skills, knowledge and their own professional level of competence in this area according to their individual Code of Professional Conduct. **Note:** All practitioners operating under the PGD are responsible for ensuring they remain up to date with the use of the medicine. If any training needs are identified these should be discussed with those responsible for authorisation to act under the PGD. • Have knowledge and familiarity of the following; ○ SmPC for the medicine(s) to be administered in accordance with this PGD.

Responsibilities of professional manager(s)	**Professional manager(s) will be responsible for;** Ensuring that the current PGD is available to all staff providing care under this direction. Ensuring that staff have received adequate training in all areas relevant to this PGD and meet the requirements above. Maintain up to date record of all staff authorised to administer the medicine(s) specified in this direction.

Documentation

Authorisation of administration	Qualified Health Professionals working within NHS Grampian, Orkney, Shetland, Tayside and Western Isles can be authorised to administer the medicine specified in this PGD in accordance with local delivery plans and by agreement at individual Board level as per the following: Nurses, midwives and health visitors can be authorised by their line manager. Radiographers can be authorised by a Consultant Radiologist. Physiotherapists can be authorised by their Head of Service. Podiatrists can be authorised by their Head of Service. Dental hygienists or dental therapists can be authorised by their Head of Service. Paramedics working in OOH Services (previously GMED) within NHS Grampian **only** can be authorised to administer the flush specified in this PGD by their OOH Line Manager or Medic. All authorised staff are required to read the PGD and sign the Agreement to Administer Medicines Under PGD (Appendix 1). A Certificate of Authorisation (Appendix 2) signed by the authorising professional/manager should be supplied. This should be held in the individual health professional's records, or as agreed within the individual Health Board.
Record of administration	An electronic or paper record must be completed to allow audit of practice.

	An electronic/HEPMA record of the screening and subsequent administration, or not of the medicine(s) specified in this PGD should be made in accordance with individual Health Board electronic/HEPMA recording processes. If a paper record is used for recording the screening of individuals and the subsequent administration, or not of the medicine(s) specified in this PGD, it should include as a minimum: • Date and time of administration • Individuals name and CHI • Exclusion criteria, record why the medicine was not administered (if applicable) • Record that valid consent to treatment under this PGD was obtained • The name, dose, form, route (batch number, expiry date and anatomical site where appropriate for injectable medicines) of the flush administered • Advice given, including advice given if excluded or declined treatment under this PGD • Signature and name in capital letters of the healthcare professional who administered the medicine, and who undertook the assessment of the individual's clinical suitability for the administration/supply of the medicine • Record of any adverse effects and the actions taken (advise individuals' GP/relevant medical practitioner). Depending on the clinical setting where administration is undertaken, the information should be recorded manually or electronically, in one (or more) of the following systems, as appropriate: • HEPMA • Individual service specific systems. Local policy should be followed with respect to sharing information with the individual's General Practitioner. All records should be clear, legible and contemporaneous and in an easily retrievable format.
Audit	All records of the medicine(s) specified in this PGD will be filed with the normal records of medicines in each practice/service. A designated person within each practice/service where the PGD will be used will be responsible for annual audit to ensure a system of recording medicines administered under a PGD.

References	Electronic Medicines Compendium http://www.medicines.org.uk Sodium Chloride 0.9% w/v Solution for Injection (Hameln) – Date of revision of text 18/01/23 accessed 23/10/23. British National Formulary and British National Formulary for Children https://www.bnf.org/products/bnf-online/ accessed 23/10/23.

Appendix 1

Healthcare Professional Agreement to Administer Medicine(s) Under Patient Group Direction

I: _____ (Insert name)

Working within: _____ e.g. Area, Practice

Agree to administer the medicine(s) contained within the following Patient Group Direction:

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I have completed the appropriate training to my professional standards enabling me to administer the medicine(s) under the above direction. I agree not to act beyond my professional competence, nor out with the recommendations of the direction.

Signed: _____

Print Name: _____

Date: _____

Profession: _____

Professional Registration number/PIN: _____

NHS Grampian NHS Orkney NHS Shetland NHS Tayside NHS Eileanan Siar Western Isles

Appendix 2

Healthcare Professionals Authorisation to Administer Medicine(s) Under Patient Group Direction

The Lead manager/Professional of each clinical area is responsible for maintaining records of all clinical areas where this PGD is in use, and to whom it has been disseminated.
The Senior Nurse/Professional who approves a healthcare professional to administer the medicine(s) under this PGD is responsible for ensuring that they are competent, qualified and trained to do so, and for maintaining an up-to-date record of such approved persons.
The Healthcare Professional that is approved to administer the medicine(s) under this PGD is responsible for ensuring that they understand and are qualified, trained and competent to undertake the duties required. The approved person is also responsible for ensuring that administration is carried out within the terms of the direction, and according to their individual code of professional practice and conduct.
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Local clinical area(s) where the listed healthcare professionals will operate under this PGD:

Name of Healthcare Professional	Signature	Date	Name of Manager	Signature	Date

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Name of Healthcare Professional	**Signature**	**Date**	**Name of Manager**	**Signature**	**Date**