

This patient group direction (PGD) must only be used by registered health 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)

For the administration or supply of

### Lidocaine Hydrochloride 2% (20mg/ml) injection

By registered health care professionals for

### Instillation of Lidocaine during intraosseous needle insertion in the conscious patient

Throughout the Manx Care and those contracted by the Manx Care where appropriate within practice

## PGD NUMBER 131

### 1. Change history

Version number	Change details	Date
1	Original PGD ratified	

## 2. Medicines practice guideline 2: *Patient group directions*

Refer to the relevant sections of NICE medicines practice guideline 2: *Patient group directions* as stated in the blank template notes. For further information about PGD signatories, see the NHS and Manx Care [PGD website FAQs](#)

## 3. PGD development

Refer to the [NICE PGD competency framework for people developing PGDs](#)

Job Title & organisation	Name	Signature	Date
Author of the PGD			
Member of the PGD working group			

## 4. PGD authorisation

Refer to the [NICE PGD competency framework for people authorising PGDs](#)

Job Title	Name	Signature	Date
Medical Director			
Chief Pharmacist/ Pharmaceutical Adviser			
Senior Paramedic			
Director of Nursing			
GP Adviser			
Senior Microbiologist (if PGD contains antimicrobials)			

## 5. PGD adoption by the provider

Refer to the NICE PGD competency framework for people authorising PGDs

Job title and organisation	Signature	Date	Applicable or not applicable to area

## 6. Training and competency of registered healthcare professionals, employed or contracted by the Manx Care, GP practice or Hospice

Refer to the NICE PGD competency framework for health professionals using PGDs

	Requirements of registered Healthcare professionals working under the PGD
<b>Qualifications and professional registration</b>	<ul style="list-style-type: none"><li>Registered healthcare professionals, working within or contracted by the Manx Care, GP practice or Hospice who are permitted staff groups outlined within the current PGD policy</li><li>Pharmacists must be practising in Manx Care authorised premises i.e. contracted pharmacy premises</li><li>Training of intraosseous access and cannulation</li></ul>
<b>Initial training</b>	<ul style="list-style-type: none"><li>Knowledge of current guidelines and the administration of the drug specified in this PGD/BNF and of the inclusion and exclusion criteria</li><li>Training which enables the practitioner to make a clinical assessment to establish the need for the medication covered by this PGD</li><li>Local training in the use of PGDs</li></ul>
<b>Competency assessment</b>	Staff will be assessed on their knowledge of drugs and clinical assessment as part the competency framework for registered health professionals using PGDs
<b>Ongoing training and competency</b>	The registered health care professionals should make sure they are aware of any changes to the recommendations for this medication; it is the responsibility of the registered health care professionals to keep up to date with continuing professional development. PGD updates will be held every two years

## 7. Clinical Conditions

<b>Clinical condition or situation to which this PGD applies</b>	Instillation of Lidocaine during intraosseous needle insertion in the conscious patient
<b>Inclusion criteria</b>	Instillation of Lidocaine during intraosseous needle insertion in the conscious patient
<b>Exclusion criteria</b>	<ul style="list-style-type: none"> <li>• Known allergy to Lidocaine</li> <li>• Child less than 1 year of age</li> <li>• Hepatic encephalopathy and hepato-renal failure</li> <li>• Porphyria</li> <li>• Other procedures within the previous 4 hours that have involved lidocaine infiltration</li> <li>• Falling GCS</li> </ul>
<b>Cautions (including any relevant action to be taken)</b>	<ul style="list-style-type: none"> <li>• Use with caution in patients who have consumed alcohol</li> <li>• May cause drowsiness</li> <li>• May cause dizziness</li> <li>• May cause bradycardia</li> </ul>
<b>Arrangements for referral for medical advice</b>	Patient should be referred to a more experienced clinical practitioner for further assessment
<b>Action to be taken if patient excluded</b>	Patient should be referred to a more experienced clinical practitioner for further assessment
<b>Action to be taken if patient declines treatment</b>	<ul style="list-style-type: none"> <li>• A verbal explanation should be given to the patient on: the need for the medication and any possible effects or potential risks which may occur as a result of refusing treatment</li> <li>• This information must be documented in the patients' health records</li> <li>• Any patient who declines care must have demonstrated capacity to do so</li> <li>• Where appropriate care should be escalated</li> </ul>

## 8. Details of the medicine

<b>Name, form and strength of medicine</b>	Lidocaine Hydrochloride 2% (20mg/ml) injection
<b>Legal category</b>	Prescription only medicine (POM)
<b>Indicate any <u>off-label use</u> (if relevant)</b>	Lidocaine is given intraosseous based on accepted best practice.
<b>Route/method of administration</b>	<p>Intraosseous (IO)</p> <pre> graph LR     A[Initial lignocaine dose given over 120 seconds] --&gt; B[Dwell for 60 seconds]     B --&gt; C[Rapid flush with normal saline Adult 5-10ml Child 2-5ml]     C --&gt; D[Subsequent lignocaine dose given over 60 seconds]     </pre> <p>Total time = ≥ 4 minutes</p>

Dose and frequency	Age	Weight (kg)	Volume of 2% (ml) 1ml of 2% = 20mg	
			Initial dose (ml)	Subsequent dose (ml)
	1 year	9	0.22	0.11
	15 months	10	0.25	0.12
	2 years	12	0.3	0.15
	3 years	14	0.35	0.17
	4 years	16	0.4	0.2
	5 years	18	0.45	0.22
	6 years	20	0.5	0.25
	7 years	23	0.57	0.28
	8 years	26	0.65	0.32
	9 years	29	0.72	0.36
	10 years	32	0.8	0.4
	11 years	35	0.87	0.43
	12 years	39	0.97	0.48
	13 years	44	1.1	0.55
	14 years	50	1.2	0.62
	15 years	54	1.3	0.67
	16 years	58	1.4	0.72
	Adult	60	1.5	0.75
		70	1.7	0.87
		80+	2	1
	Suggested syringe sizes for dose to be administered			
	Lower volumes of 2% lidocaine (<1ml) may be difficult to accurately measure. The use of, or dilution to 1% lidocaine should be considered under these circumstances. Use the appropriate syringe size for the volume to administer to ensure maximum accuracy.		Volume to be administered	Suggested syringe size
			0-1 ml	1ml
			1-2.5ml	2.5ml
			2.5-5ml	5ml
Quantity to be administered and/or supplied	As per dose			
Maximum or minimum treatment period	Single episode of care			
Storage	Room temperature			

<b>Adverse effects</b>	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Arrhythmias</li> <li>• Atrioventricular block</li> <li>• Cardiac arrest</li> <li>• Circulatory collapse</li> <li>• Confusion</li> <li>• Dizziness</li> <li>• Drowsiness</li> <li>• Euphoric mood</li> <li>• Headache</li> <li>• Hypotension (may lead to cardiac arrest)</li> <li>• Loss of consciousness</li> <li>• Methaemoglobinaemia</li> <li>• Muscle twitching</li> <li>• Myocardial contractility decreased</li> <li>• Nausea</li> <li>• Neurological effects</li> <li>• Nystagmus</li> <li>• Pain</li> <li>• Psychosis</li> <li>• Respiratory disorders</li> <li>• Seizure</li> <li>• Sensation abnormal</li> <li>• Temperature sensation altered</li> <li>• Tinnitus</li> <li>• Tremor</li> <li>• Vision blurred</li> <li>• Vomiting</li> </ul>
<b>Records to be kept</b>	The administration of any medication given under a PGD must be recorded within the patient's medical records

## 9. Patient information

<b>Verbal/Written information to be given to patient or carer</b>	<ul style="list-style-type: none"> <li>• Verbal information must be given to patients and or carers for all medication being administered under a PGD</li> <li>• Where medication is being supplied under a PGD, written patient information leaflet must also be supplied</li> <li>• A patient information leaflet is available on request</li> </ul>
<b>Follow-up advice to be given to patient or carer</b>	If symptoms do not improve or worsen or you become unwell, seek medical advice immediately

## 10. Appendix A

References
<ol style="list-style-type: none"> <li>1. British National Formulary (BNF) available online: <a href="https://bnf.nice.org.uk">https://bnf.nice.org.uk</a></li> <li>2. Teleflex available online: <a href="http://www.eziocomfort.com">www.eziocomfort.com</a></li> <li>3. Northern Care Alliance NHS Group IO policy (2020)</li> <li>4. Nursing and Midwifery (2018) "The code" available online: <a href="https://www.nmc.org.uk">https://www.nmc.org.uk</a></li> <li>5. Current Health Care Professions Council standards of practice</li> <li>6. General Pharmaceutical Council standards</li> <li>7. The General Optical Council</li> <li>8. Electronic medicines compendium available online: <a href="https://www.medicines.org.uk">https://www.medicines.org.uk</a></li> <li>9. Acute care coronary syndrome pathway</li> <li>10. Northern Care Alliance NHS Group - Intraosseous (IO) Access and Cannulation (2020)</li> </ol>

## 11. Appendix B

Health professionals agreed to practice
<ul style="list-style-type: none"><li>• Each registered healthcare professional will hold their own Competency framework which will be signed and agreed by their mentor</li><li>• A mentor is defined within the Manx Care policy as any ward/area managers, sisters, senior nurses, GPs, pharmacists or senior paramedics who has completed the PGD training themselves</li></ul>