University Hospitals of Derby and Burton
NHS Foundation Trust

PATIENT GROUP DIRECTION (PGD)

Administration of Glucagon 1% injection By Registered Nurses, Emergency Nurse Practitioners (ENP), Emergency Care Practitioners (ECP) and Emergency Physiotherapy Practitioners (EPP) In the Emergency Department at Queens Hospital Burton and Minor Injuries departments at Samuel Johnson and Sir Robert Peel community Hospitals

Documentation details

Reference no:	UHDB104
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Expiry date:	27/11/2027

Change history

Version number	Change details	Date
1	Use of new UHDB template	May 2021
2	Planned review and update. No clinical changes	October 2024

Glossary

Abbreviation	Definition

1. PGD template development (PGD Working Group)

PGD Working Group Membership (minimum requirement of consultant, pharmacist and a registered professional who can work under a PGD, or manages the staff who do). If this is a review of existing PGD, replace previous names with the individuals involved for this version

Name	Designation
Dr Venkata Thungala	Consultant Emergency Medicine
Nida Halim	Pharmacist
Nadine Watson	Emergency Nurse Practitioner

Where an antimicrobial is included, confirm the name, designation and date of the antimicrobial pharmacist who has reviewed this version

Name of antimicrobial pharmacist	Designation	Date Reviewed

2. Organisational authorisations

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

University Hospitals of Derby & Burton NHS Foundation Trust authorises this PGD for use by the services or providers listed below:

Authorised for use by the following organisation and/or services
In the Emergency Department at Queens Hospital, Burton and Minor Injuries departments at Samuel Johnson and Sir Robert Peel community hospitals
Limitations to authorisation
For listed professions only: Registered Nurses, Emergency Nurse Practitioners (ENP), Emergency Care Practitioners (ECP) and Emergency Physiotherapy Practitioners (EPP)

Organisational Authorisation (legal requirement).			
Role	**Name**	**Sign**	**Date**
Medication Safety Officer *Pharmacist: Medicines Safety Officer, Chief Pharmacist or assigned deputies)*	James Hooley	**Signed copy held by Pharmacy**	**28/11/2024**

Additional signatories (required as per legislation and locally agreed policy)			
Role	**Name**	**Sign**	**Date**
Pharmacist *Clinical Pharmacist from PGD working group*	**Nida Halim**	**Signed copy held by Pharmacy**	**07/11/2024**
Lead ED Consultant *Doctor*	**Dr Venkata Thungala**	**Signed copy held by Pharmacy**	**14/11/2024**
Senior ENP *Registered Professional representing users of the PGD*	**Nadine Watson**	**Signed copy held by Pharmacy**	**29/11/2024**

Local enquiries regarding the use of this PGD may be directed to UHDB.PGDgovernance@nhs.net

Section 7 provides a registered health professional authorisation sheet. Individual professionals must be authorised by name to work to this PGD.

3. Characteristics of staff

Qualifications and professional registration	Registered Nurses, Emergency Nurse Practitioners (ENP), Emergency Care Practitioners (ECP) and Emergency Physiotherapy Practitioners (EPP) with professional registration working within their usual scope of practice who have a current contract with UHDB.
Initial training	• Completion of all Essential-to-role training as outlined in the UHDB PGD policy including core PGD training. • Individual has read and understood full content of this PGD and signed authorisation (section 7) • Completion of Medicines Management Drug Assessment • Read the UHDB clinical guideline and/or undertaken training to manage hypoglycaemia (adult and paediatric guidelines (see references)
Competency assessment	• Registered nurses, ENPs, ECPs and EPPs with a current registration who are deemed competent by their line manager to undertake the clinical assessment of a patient leading to a diagnosis that requires treatment according to the indications listed in this PGD and Trust clinical guideline for hypoglycaemia (adult and paediatric) . • Staff operating under this PGD are encouraged to review their competency using the NICE Competency Framework for health professionals using patient group directions • Individuals operating under this PGD are personally responsible for ensuring they remain up to date with the use of all medicines included in the PGD - if any training needs are identified these should be discussed with the either authorising manager (section 7) or the manager within the PGD working group (section 1) so that further training can be provided as required.
Ongoing training and competency	• Annual Medicines Safety Training (essential to role) • Review/repeat initial training above when this PGD is revised • It is the responsibility of the registered practitioner to keep up to date with any change to the recommendations for glucagon 1% injection or UHDB clinical guidelines for Hypoglycaemia. • The registered healthcare practitioner will ensure anaphylaxis/CPR training is kept updated yearly. • The registered healthcare professional must actively take part in CPD and annual individual performance reviews. • Regular training and updating in safeguarding children and vulnerable adults as per trust policy
The decision to supply any medication rests with the individual registered health professional who must abide by the PGD and any associated organisation policies.	

4. Clinical condition or situation to which this PGD applies

Clinical condition or situation to which this PGD applies	For emergency treatment of hypoglycaemia in adults and children over 1 month of age.
Criteria for inclusion	Diabetic patients aged 1 month and over who present with signs and symptoms of hypoglycaemia (defined as a finger prick or lab glucose level of less than 4mmols/l) and where oral carbohydrates* (including glucose gel) has been considered for use but is contraindicated (e.g. unconscious or unable to swallow). *See references; Paediatric and Adult guidelines include detail on appropriate types and quantities of oral carbohydrates and glucose gel.

Criteria for exclusion	• Patient able to take oral carbohydrates or glucose (dextrose) gel
	• Children under 1 month old (call 999)
	• The following patients are likely to have poor glycogen stores and will not respond to glucagon
	  ○ Adrenal insufficiency
	  ○ chronic hypoglycaemia
	  ○ Starvation
	  ○ Liver failure
	  ○ Alcohol induced hypoglycaemia
	• Known to have phaeochromocytoma (a neuroendocrine tumour of the medulla of the adrenal glands)
	• Known to have insulinoma or glucagonoma
	• previous local or systemic reactions to the medicine
	• Known hypersensitivity to the active ingredient or to any component of the product (see references)

Cautions including any relevant action to be taken	• Medical consultation is required for ALL patients with severe hypoglycaemia • If normal response within 10 minutes then provide oral carbohydrate to restore liver glycogen and prevent relapse of hypoglycaemia • If no response within 10 minutes call 999 (IV glucose required) •
Action to be taken if the patient is excluded	• Oral glucose to be given if possible • Discuss with ED Doctor and consider prescribing an alternative medication • Call 999 if excluded, unable to take oral glucose and requires treatment • Discuss with the patient and advise alternative treatment. • Record exclusion reasons and any action taken in patient notes
Action to be taken if the patient or carer declines treatment	• Patient verbal/implied consent must be obtained if possible • Document advice given • Any treatment decision made in the absence of consent must be made in that person's best interest
Arrangements for referral for medical advice	Refer to ED Consultant or Medical team consultant on duty. Call 999 if appropriate for transfer

5. Description of treatment

Name, strength & formulation of drug	GlucaGen 1mg powder and solvent for solution for injection
Legal category	Prescription-only Medicine (POM)
Route / method of administration	Before reconstitution the compacted powder should be white or nearly white. The solvent should be clear, colourless and free of particles. Draw up the water for injections (1.1 ml located in the box) and inject into the vial containing the glucagon compacted powder. Shake the vial gently until the glucagon is completely dissolved and the solution is clear. Withdraw the solution back into the syringe. The reconstituted solution appears clear and colourless and forms an injection of 1 mg (1 IU) per ml to be administered intramuscularly. **This should be administered immediately after reconstitution.** (IM is preferred route in UHDB guidelines) The subcutaneous route is licensed and may be used if IM injection is not possible or appropriate.
Indicate any off-label use (if relevant)	N/A
Dose and frequency of administration	**1month – 8 years (body weight up to 25kg)**- 500 microgram **9 years – 17 years (body weight 25kg and above)**- 1mg **Adult** - 1mg If normal response within 10mins then provide oral carbohydrate as per hypoglycaemia guidelines to prevent relapse of hypoglycaemia. If no response within 10 minutes, call 999, IV glucose is required. Glucagon dose should **not** be repeated- failure to respond implies inadequate glycogen stores.
Duration of treatment	STAT dose only If no response within 10 minutes call 999, IV glucose must be given
Quantity to be supplied	N/A
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 (see references): • Do not freeze. • GlucaGen HypoKit 1 mg: GlucaGen HypoKit should be stored at a temperature of 2-8°C (in a refrigerator). • Store in the original package in order to protect from light. • If, in rare cases, the reconstituted product shows any signs of fibril formation (viscous appearance) or insoluble matter, it should be discarded.

Drug interactions	Beta-blockers - patients taking beta blockers might be expected to have a greater increase in blood pressure and pulse, an increase of which will be temporary because of glucagon's short half-life. The increase in blood pressure and pulse may require therapy in patients with coronary artery disease. Indomethacin - glucagon may lose its ability to raise blood glucose or may even produce hypoglcaemia Warfarin - Glucagon increases the anticoagulant effect of warfarin. A detailed list of drug interactions is available in the SPC, which is available from the electronic Medicines Compendium website (see references).
Adverse reactions	• Nausea & vomiting • Headache • Tachycardia • Hypertension / Hypotension • Diarrhoea • Abdominal pain • Injection site - pain, oedema, bruising, erythema • Hyperglycaemia • Drowsiness • Dizziness A detailed list of adverse reaction is available from the electronic medicines compendium website (see references) If symptoms occur, treat as relevant.
Management of and reporting procedure for adverse reactions	• Healthcare professionals and patients/carers 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 patient's medical record. • Serious adverse reactions (moderate harm or above as per NRLS definition) should be reported via trust incident management system (e.g. Datix) to ensure duty of candour and learning from harm during clinical use.
Written information to be given to patient or carer	If required give marketing authorisation holder's patient information leaflet (PIL) provided with the product or available on the electronic medicines compendium.
Patient advice / follow up treatment	After severe hypoglycaemic event, the patient's ability to concentrate and react may be impaired. Therefore the patient should not drive or operate machinery until they have stabilised. Medical consultation is required for all patients with severe hypoglycaemia. Ensure a meal is eaten prior to discharge
Records	Record the following information on ePMA (Electronic Prescribing system) UHDB – Meditech

	Either the system holding the record, or the healthcare practitioner working under the PGD, must capture/document all of the following: • name of individual, address, date of birth and GP with whom the individual is registered (if relevant) • name of registered health professional • name of medication administered. • date of supply/administration • dose, form, and route of administration • quantity supplied/administered • batch number and expiry date (if applicable e.g., injections and implants) • advice given, including advice given if excluded or declines treatment • details of any adverse drug reactions and actions taken • Confirm administered and that this was done via Patient Group Direction (PGD) Records should be signed and dated (or a password-controlled e-records). All records should be clear, legible, and contemporaneous. If you are not recording in ePMA (or other electronic system which has ability to generate audit reports) then a record of all individuals receiving treatment under this PGD should also be in the clinical area for audit purposes as per UHDB PGD policy.

6. Key references

Key references	• Electronic Medicines Compendium https://www.medicines.org.uk/emc/product/13093/smpc accessed online 27/08/2024 • Electronic BNF https://bnf.nice.org.uk/drugs/glucagon/#interactions accessed online 27/08/2024 • Diabetes - Hypoglycaemia - Paediatric Summary Clinical Guidelines https://derby.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=9800b215ac30b5b6ba1724b63bf67873 accessed 27/08/2024 • Hypoglycaemia = blood glucose (BG) <4mmol/l guidelines https://derby.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=378c4b5526167ff3b8d039dae199431b accessed 27/08/2024 • Glucagen website https://www.glucagenhypokit.com/instructions.html Accessed 27/08/2024 • NICE Medicines practice guideline “Patient Group Directions” https://www.nice.org.uk/guidance/mpg2

7. Registered health professional authorisation sheet

PGD Name [version]: QHB - ED/MIU - Glucagon Injection [v2]
PGD ref: UHDB104

Valid from: 28/11/2024 Expiry date: 27/11/2027

Before signing check that the document you have read is published on Koha or is an in-date hard-copy with all necessary authorisations signed in section 2. The Name/Version/Ref of the document you have read MUST match this authorisation form.

Registered health professional
By signing this patient group direction you are indicating that

a) You agree to and understand all content and commit to only work within this framework.
b) You have completed any core PGD e-Learning or training records on My Learning Passport or within your department.
c) You meet the staff characteristics and have completed any additional learning/competency outlined in Section 3 of this PGD.

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 / Assessor

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 University Hospitals of Derby & Burton NHS Foundation Trust 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 must be retained by a manager in the clinical department where the PGD is in-use to serve as a record of those registered health professionals authorised to work under this PGD.