

Glasgow Clinical Trials Unit Standard Operating Procedure

| | | | |
|------------|--|---------|------------|
| SOP number | 17.028 | Version | 4.0 |
| Title | Management of Hypoglycaemia in Adults | | |

| | | |
|--------------------------|------------------|------|
| Prepared by Signature | Hilary Peddie | Date |
| Approved by Signature | Lynn Prentice | Date |
| Released by Signature | Julie Brittenden | Date |

| | | | | | |
|----------------|---|----------|----------|----------|----------|
| SOP category | 17 NHS GG&C Clinical Research Facility – Clinical | | | | |
| Staff category | Staff Category | R | A | C | I |
| | Nursing | X | | | |
| | Administration | X | | | |
| | Principal Investigator | X | | | |
| | Clinical Research Fellow | X | | | |
| | GCRF Manager | | X | | |
| | GCRF Associate Director | | | | X |
| | Senior R&I Manager | | | | X |

1. Scope

This procedure applies to all clinical staff within GCRF.

2. Purpose

The purpose of this SOP is to describe the action that must be taken if a member of the clinical staff is informed, or suspects, that a study participant is experiencing a hypoglycaemic event (when blood sugar level is too low, usually below 4mmol/l.)

3. Procedures

This SOP must be read and followed in conjunction with the additional information provided online within DIABETES UK at <https://www.diabetes.org.uk> as referenced below.

3.1 Recording the event

All hypoglycaemic events must be recorded in the participants case report form and health record.

3.2 Blood Glucose Monitoring Kit

Glasgow Clinical Trials Unit Standard Operating Procedure

A Blood Glucose Monitoring Kit is located on each arrest trolley. This contains all of the equipment required to treat hypoglycaemia (appendix 1). Contents of the kit must be checked weekly using Form 17.028A. All staff must familiarize themselves with the location and contents of the kit.

3.3 Immediate response required

Check the capillary blood glucose level of the individual concerned. If this is below 4mmol/l assist or provide treatment as specified below (sections 5.3.1 to 5.3.3).

3.3.1 Co-operative individual:

- Provide quick acting carbohydrate e.g.
 - five glucose or dextrose tablets
 - five jelly babies
 - a small glass of a sugary (non-diet) drink
 - a small carton of pure fruit juice
 - two tubes of a glucose gel such as GlucoGel®.
- Re-test capillary blood sugar 10 – 15 minutes after administering the quick acting carbohydrate to check it is back above 4mmol/l.
- If < 4 mmol/L provide more fast acting carbohydrate and retest after 10 minutes
- After having had a hypo you may need to provide 15 – 20g of a slower acting carbohydrate to stop blood sugar levels going down again e.g. a sandwich; piece of fruit; bowl of cereal or a glass of milk – this can be the next meal if this is due.

3.3.2 Uncooperative individual, who is conscious and can swallow:

- Squeeze the contents of 1.5 to 2 tubes of glucose gel into the individual's mouth between their teeth and gums.
- Re-test capillary blood sugar after 5 minutes.
- Repeat the treatment if the blood sugar remains < 4mmol/L.
- When the individual has recovered provide them with long acting carbohydrate (see examples above)
- If blood glucose remains less than 4.0mmol/L after 30-45 minutes or 3 cycles, request medical help and consider:
 - 1mg of glucagon IM (kept in prep room fridge)
 - 150-200ml of 10% glucose over 15 minutes (e.g. 600-800ml/hr)**. Care should be taken with infusion pump settings if larger volume bags are used to ensure that the whole bag is not inadvertently administered.
- Once blood glucose is above 4.0mmol/L and the patient has recovered, give a long acting carbohydrate

3.3.3 Unconscious Individual – severe hypoglycaemia

- Place individual into the recovery position (on the side, head tilted back and knees bent)
- Give a glucagon injection – 1mg Glucagon IM
- Call for help 2222 if no change after 10 minutes

Glasgow Clinical Trials Unit Standard Operating Procedure

4 Referenced documents

- Form 17.028A: Blood Glucose Hypo Kit Checklist (updated DUK referenced)
- DIABETES UK: <https://www.diabetes.org.uk>; Guide to diabetes; Complications; Hypos; The hospital management of Hypoglycaemia in adults with Diabetes (revised 2018)

5 Related documents

None

6 Document history

| Version | Date | Description |
|---------|------------|---|
| 1.0 | 23/02/2012 | First version |
| 2.0 | 15/07/2016 | Updated to template version 1.4. Minor admin changes |
| 3.0 | 18/04/2018 | Form 17.028A added |
| 4.0 | 21/07/2023 | Updated to SOP Template v2.0 Form 17.028A Blood Glucose Hypo Kit Checklist updated SDRN SOP 27: Management of Hypoglycaemia (www.sdrn.org) removed |

This SOP is a controlled document. The current version can be viewed on the GCTU website.
Any copy reproduced from the website may not, at time of reading, be the current version.

Glasgow Clinical Trials Unit Standard Operating Procedure

Appendix 1

The Blood Glucose Monitoring Kit

The contents of the Blood Glucose Monitoring Kit must be checked weekly to ensure it is complete, perishable contents are within date, and the blood glucose and ketone testing kits are calibrated and test for accuracy. The contents must be replenished as soon as possible after each use.

Contents of the Blood Glucose Monitoring Kit

- Glucometer and test strips (use hospital system)
- Ketone meter and strips

Quick Acting Carbohydrate

- 2 x 200 ml carton fruit juice
- 2 x packet of original dextrose tablets
- 2 x bottle of Glucogel/*Slow Acting Carbohydrate
- 1 x mini pack of biscuits

Equipment for IV administration

- Butterfly Cannula (Green/Grey)
- IV Glucose 10% 500mls (alternative 20% IV glucose 100ml **)
- Dressing for cannula
- 3 x vials 0.9% Normal Saline for flushing cannula
- 1 green needle
- 1 10 ml syringe

Additional Information

- Glucagon takes 15 minutes to act. Its effects will last a short time only.
- Glucagon may cause nausea.
- If administered, provide twice the amount of slow acting carbohydrate*

Quick acting carbohydrates (15-20g)

- 150-200ml pure fruit juice or
- 5-7 Dextrosol tablets (or 4-5 Glucotabs) or
- 150mls of ordinary coke/lemonade (half a glass)

* Slow acting carbohydrate

- Two digestive biscuits or
- One slice bread/toast or
- 200-300ml glass of milk or
- Normal meal if due (must contain carbohydrate)