## Hypoglycaemia Management for Adult Inpatients with Diabetes

<table>
<thead>
<tr>
<th>Subject:</th>
<th>Hypoglycaemia Management for Adult inpatients with Diabetes</th>
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<tbody>
<tr>
<td>Policy Number</td>
<td>N/A</td>
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<tr>
<td>Ratified By:</td>
<td>Clinical Guidelines Committee</td>
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<tr>
<td>Date Ratified:</td>
<td>May 2011 (Original) Review August 2013</td>
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<tr>
<td>Version:</td>
<td>2.0</td>
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<tr>
<td>Policy Executive Owner:</td>
<td>Divisional Director ICAM</td>
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<tr>
<td>Designation of Author:</td>
<td>Dr Maria Barnard (Lead Consultant in Diabetes) Elly Baker (Lead Inpatient Diabetes Specialist Nurse)</td>
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<tr>
<td>Name of Assurance Committee:</td>
<td>Clinical Guidelines Committee</td>
</tr>
<tr>
<td>Date Issued:</td>
<td>August 2013</td>
</tr>
<tr>
<td>Review Date:</td>
<td>3 years hence</td>
</tr>
<tr>
<td>Target Audience:</td>
<td>All health care professionals caring for adult inpatients with diabetes.</td>
</tr>
<tr>
<td>Key Words:</td>
<td>Hypoglycaemia, Capillary blood glucose (CBG)</td>
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<tr>
<td>Version</td>
<td>Date</td>
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<tr>
<td>1.0</td>
<td>May 2011</td>
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| 2.0     | Aug 2013| Dr Maria Barnard (Lead Consultant in Diabetes) Elly Baker (Lead Inpatient Diabetes Specialist Nurse) | On-line  | • Page 3- *Based on recommendation by NHS diabetes, Hypoglycaemia Kits were introduced on the wards in April 2012*.

  • Page 5- Under severe hypo algorithm
  
  *Check airways. Place patient in recovery position. **Contact doctor. Give 150-160mls 10% Glucose IV *(if patient has IV access) over 10-15 minutes, or, if suitable, give **Glucagon 1mg (subcutaneously, IM or IV) until able to drink and swallow .*
  
  * If patient has IV access, IV Glucose is preferable to Glucagon.

  **Glucagon is contraindicated in patients with Phaeochromocytoma and may be ineffective in chronic hypoglycaemia, starvation, and adrenal insufficiency*.

  • Page 6- reference 4

3. BNF online, July 2013 [http://www.medicinescomplete.com](http://www.medicinescomplete.com)
Criteria for use

For all adult inpatients (>16 years old) with diabetes

Background/ introduction

- Hypoglycaemia in patients with diabetes occurs when the blood glucose is too low, usually below 4 mmol/l. (This level is different to the biochemical definition of hypoglycaemia used in patients without diabetes).

- Hypoglycaemia is a common complication of glucose lowering therapies, particularly insulin and sulphonylureas.

- Elderly patients or those with renal impairment are at particular risk of hypoglycaemia.

- Audit on hypoglycaemia management carried out in The Whittington Hospital in December 2007 showed that:

  - Wards are using a variety of treatments to correct mild to moderate hypoglycaemia, which reflects on availability.

  - They are often using the most expensive method (Glucogel) to correct moderate hypoglycaemia when the patient is co-operative.

- There are suggested protocols for treating hypoglycaemia

- Based on recommendation by NHS diabetes, Hypoglycaemia Kits were introduced on the wards in April 2012.

Inclusion/ exclusion criteria

Inclusion criteria: Adult inpatients (>16 years old) with diabetes and hypoglycaemia.

Exclusion criteria: Children.
Treatment for Hypoglycaemia for patients with Capillary Blood Glucose (CBG) less than 4 mmol/L

Mild
Patient is conscious, able to swallow and cooperative.

Moderate
Patient is conscious, can swallow, but in need of assistance.

Severe
Patient is unconscious and/or unable to swallow.

Step 1

Give 3 dextrose tablets or 100 ml of Lucozade.
Treat with 1 to 2 tubes of Glucogel.
Check airways. Place patient in recovery position. Contact doctor. Give 150-160mls 10% Glucose IV *(if patient has IV access) over 10-15 minutes, or, if suitable, give **Glucagon 1mg (subcutaneously, IM or IV) until able to drink and swallow.

Step 2

Wait 10 minutes, recheck CBG and record.
If still below 4 mmol/L or if no physical improvement repeat step 1.

Once patient is conscious, give sips of Lucozade and recheck glucose level every 10 minutes to ensure CBG levels have increased to 4 mmol/L.

Always follow up with slowly digested/starchy carbohydrate.
Check glucose level. Once it is 4 mmol/L or above and patient has recovered, give ONE of the following:
1 slice of bread; half a sandwich; a very small bowl of cereal; a glass of milk with 1 Rich Tea biscuit; or 1 banana.

Note: Doses of insulin and tablets will need to be reviewed following an episode of hypoglycaemia. Please contact DSN (bleep 2706) or doctor to get advice.

After acute treatment

Do regular CBG monitoring (pre meals and pre bed) for 24-48 hours. Patients must continue this at home if they are discharged.

Hypoglycaemia maybe prolonged if caused by long acting insulin or sulphonylurea, particularly in renal failure. Patients may need a continuous infusion of 5% Glucose to maintain CBG levels.

* If patient has IV access, IV Glucose is preferable to Glucagon.

** Glucagon is contraindicated in patients with Phaeochromocytoma and may be ineffective in chronic hypoglycaemia, starvation, and adrenal insufficiency^4.
Further information

Immediate advice is available during working hours from the Lead Inpatient Diabetes Specialist Nurse (DSN), Bleep 2706

Contacts (inside and outside the Trust including out-of-hours contacts)

During working hours:
Lead Diabetes Specialist Nurse Bleep 2706, ext 3344
Diabetes Specialist Registrar Bleep 3086, 3147
Diabetes Consultants ext 5218

Outside working hours:
On call medical team

References


4. BNF online, July 2013 http://www.medicinescomplete.com
To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

<table>
<thead>
<tr>
<th></th>
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<th>Yes/No</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1.</td>
<td>Does the procedural document affect one group less or more favourably than another on the basis of:</td>
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<td></td>
<td>Race</td>
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<td>Disability - learning disabilities, physical disability, sensory impairment and mental health problems</td>
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<td>2.</td>
<td>Is there any evidence that some groups are affected differently?</td>
<td>No</td>
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<td>3.</td>
<td>If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?</td>
<td>No</td>
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<td>4.</td>
<td>Is the impact of the procedural document likely to be negative?</td>
<td>No</td>
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<td>5.</td>
<td>If so can the impact be avoided?</td>
<td>N/A</td>
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<td>6.</td>
<td>What alternatives are there to achieving the procedural document without the impact?</td>
<td>N/A</td>
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<td>7.</td>
<td>Can we reduce the impact by taking different action?</td>
<td>N/A</td>
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If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact the Director of Human Resources.
Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

<table>
<thead>
<tr>
<th>Title of document being reviewed:</th>
<th>Yes/No</th>
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<tr>
<td>1. Title</td>
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<tr>
<td>Is the title clear and unambiguous?</td>
<td>Yes</td>
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<tr>
<td>Is it clear whether the document is a guideline, policy, protocol or standard?</td>
<td>Yes</td>
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<td>2. Rationale</td>
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<td>Are reasons for development of the document stated?</td>
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<td>3. Development Process</td>
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<td>Is it clear that the relevant people/groups have been involved in the development of the document?</td>
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<td>Are people involved in the development?</td>
<td>Yes</td>
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<td>Is there evidence of consultation with stakeholders and users?</td>
<td>Yes</td>
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<td>4. Content</td>
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<td>Is the objective of the document clear?</td>
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<td>Is the target population clear and unambiguous?</td>
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<td>Are the intended outcomes described?</td>
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<td>5. Evidence Base</td>
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<td>Are key references cited in full?</td>
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<td>Are supporting documents referenced?</td>
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<td>7. Dissemination and Implementation</td>
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<td>Is there an outline/plan to identify how this will be done?</td>
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<td>8. Document Control</td>
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<td>9. Process to Monitor Compliance and Effectiveness</td>
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<td>effectiveness of the document?</td>
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<td>Is there a plan to review or audit compliance with the document?</td>
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**10. Review Date**

<table>
<thead>
<tr>
<th>Is the review date identified?</th>
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<td>Is the frequency of review identified? If so is it acceptable?</td>
<td>Yes</td>
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**11. Overall Responsibility for the Document**

| Is it clear who will be responsible for coordinating the dissemination, implementation and review of the document? | Yes |

**Executive Sponsor Approval**

If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval

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<thead>
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<tr>
<th>Signature</th>
<th>Name &amp; role of Committee Chair</th>
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**Relevant Committee Approval**

The Director of Nursing and Patient Experience’s signature below confirms that this procedural document was ratified by the appropriate Governance Committee.

<table>
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| Signature | |
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**Responsible Committee Approval – only applies to reviewed procedural documents with minor changes**

The Committee Chair’s signature below confirms that this procedural document was ratified by the responsible Committee

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## Tool to Develop Monitoring Arrangements for Policies and guidelines

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<tr>
<th>Element to be monitored</th>
<th>Lead</th>
<th>Tool</th>
<th>Frequency</th>
<th>Reporting arrangements</th>
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<tbody>
<tr>
<td>All patients who have a hypoglycaemic attack should be treated appropriately based on these guidelines. Staff should use Hypo Kits when treating patients with Hypoglycaemia.</td>
<td>Elly Baker – Lead Diabetes Specialist Nurse for inpatients</td>
<td>Basic audit tools</td>
<td>-Biannually</td>
<td>Clinical guidelines committee</td>
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</table>