

# CONTROLLED DOCUMENT

## Treatment of Hypoglycaemia in Adults attending Community Dialysis Unit

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# Treatment of Hypoglycaemia in Adults attending Community Dialysis Unit

Symptoms of hypoglycaemia – Not all patients will experience symptoms or display obvious signs of hypoglycaemia

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Sweating

Hunger/Nausea

Odd behaviour/Confusion

Speech difficulty

Palpitations

Pallor

Headache

Unconsciousness

Shaking/Tremor

Drowsiness

Appears uncoordinated

Fitting

## GUIDANCE

### Step 1

Confirm  
Diagnosis

Treat as hypoglycaemia if capillary and/or venous blood glucose less than **4.0 mmol/L** or if complaining of symptoms of hypoglycaemia.

### Step 2a

Start Treatment

**IF ABLE TO SWALLOW give one of the following: (15–20g quick acting carbohydrate)**

- 2 tubes of fast acting dextrose gel (40% oral gel) or 6 dextrose tablets.
- If NG/PEG/NJ fed and you are appropriately trained give 60ml of Glucojuice and flush with at least 50mls water.
- 4 teaspoons of sugar.

If blood glucose remains below 4.0 mmol/L after 3 cycles (or 45 minutes) of oral treatment and/or the patient's condition does not improve or deteriorates contact Emergency Services via 999 for immediate transfer to Emergency Department.

- If access (via dialysis machine, line or fistula) IV infusion of 100ml 20% glucose can be administered whilst awaiting transfer to hospital.
- If treated as above and conscious go to Step 3
- If treated as above and consciousness deteriorated go to Step 2b

### Step 2b

**IF UNCONSCIOUS OR SEMI-CONSCIOUS OR UNABLE TO SWALLOW CONTACT EMERGENCY SERVICES VIA 999 FOR IMMEDIATE TRANSFER TO EMERGENCY DEPARTMENT AND:**

- If access: give 100ml glucose 20% IV over 10–15 minutes via dialysis machine, dialysis line or fistula needle and flush through with bolus adequately.
- If no access: give 1mg IM Glucagon (kept in fridge).
- Check capillary or venous plasma glucose after 10–15 minutes.
- If glucose remains below 4mmol/L 10-15 minutes after IV glucose or Glucagon repeat Step 2a or 2b dependent on assessed consciousness.
- In repeated or relapsing hypoglycaemia (2 consecutive episodes) treat and access with maintenance IV infusion of glucose 20% (100ml) until transfer to hospital.

GLUCAGON 1mg (GLUCA-GEN®) should only be used for the treatment of severe hypoglycaemia (insulin induced) if venous access cannot be established.

**Do not use GLUCAGON 1mg (GLUCA-GEN®), in sulphonylurea-induced hypoglycaemia**, as any response will be short-lived and followed by further episodes of hypoglycaemia.

If GLUCAGON (GLUCA-GEN®) used, double the amount of suggested long acting carbohydrate is required to replenish glycogen stores (Step 4).

If GLUCAGON (GLUCA-GEN®) used continue hourly monitoring for 4 hours once hypoglycaemic episode resolved.

### Step 3

Recheck BG

- Test capillary blood glucose 10–15 minutes after initial treatment.
- If blood glucose remains below 4mmol/L repeat Step 2a or 2b dependent on assessed consciousness level.

## Step 4

### Maintenance

When blood glucose above 4mmol/L continue treatment with **one** of the following carbohydrate foods:

- 2 biscuits (Digestive, Bourbon, Custard Cream)
- Half chapati or half sandwich/1 slice of bread (medium or thick bread)
- Half Fortisip compact or Nutilis stage 1/Forticreme for patients with dysphagia
- Half bottle of Fortisip compact (as a bolus via NG/PEG tube) and restart feed as per regime
- 300mls of milk (only if alternative options above refused)

If GLUCAGON administered, 40g of complex carbohydrate (double the amount above) should be given following the 20g of quick acting carbohydrate in Step 2.

## Step 5

### Referral

All patients with severe or repeated (more than 2) episodes of hypoglycaemia either on one or two dialysis sessions should be referred for review:

- Inform patient's local Diabetes Specialist Nurse and GP (record referral details in medical records)
- Inform patient's allocated renal consultant
- If under the care of UHB Diabetes or on-going issues with hypoglycaemia management, email Diabetes Renal CNS [angela.murphy@uhb.nhs.uk](mailto:angela.murphy@uhb.nhs.uk) and copy in [DiabetesSecretaries@uhb.nhs.uk](mailto:DiabetesSecretaries@uhb.nhs.uk)

## Step 6

### Monitoring

- All patients who experience hypoglycaemia whilst on the dialysis unit should be advised to monitor capillary blood glucose closely particularly over the next 48 hours.
- Blood glucose testing before each meal and before bed is advised.
- Dialysis staff should ensure the patient and/or carer is aware of hypoglycaemia treatment (including legal requirements if a driver) and provide education leaflets (TREND 'hypoglycaemia management' and or 'Safe driving and the DVLA' leaflets).
- If any further episodes of hypoglycaemia the patient should be advised to contact their current diabetes service provider immediately.

## Step 7

### Documentation

Document the following in the patient's medical records:

- Blood glucose recorded at Step 1–3 and one recorded an hour later (until transfer to hospital)
- Treatment given
- Any identified cause
- Details of referrals made
- Ensure unit consultant and GP is aware
- Document in handover to be followed up on next session

\* Patients on dialysis should be encouraged to carry a low GI carbohydrate snack of 20-30g and to consume this snack if blood glucose at start of dialysis is below 7mmols/L in order to lower hypoglycaemia risk (2 digestives, half sandwich with medium/thick bread or half chapati).

\* If hypoglycaemia at mealtimes Steps 1–4 should be followed. Once treated and provided eating normally, insulin should be given followed by normal meal.

\* Do not omit diabetes treatments. If hypoglycaemia occurs consider possible cause. If repeated episodes of hypoglycaemia occur during dialysis, reduce insulin by 10% or, if on Glicazide, reduce Glicazide by 50%. Other oral hypoglycaemic medications do not require changing. Specialist diabetes input should also be sought (see Step 5).

\* Following an episode of hypoglycaemia, co-ordination may be impaired for up to 45 minutes.

**Note: Never omit insulin. In Type 1 diabetes mellitus this increases the risk of Diabetic Ketoacidosis**

## 2017 Hypoglycaemia Box Content – Dialysis unit content list

Item	Number required
Glucosol	3 x 60ml
Dextrose Tablets	2 x packet
DextroGel	6x 25g
20% Glucose vial (for iv administration)	3x100mls
Glucagon 1mg Hypo Kit (Stored in fridge)	2x 1mg
Sodium Chloride 0.9% ampoules	10 x 10ml
10ml or 20ml Syringe	2
Blue needle	5
50ml oral/enteral 50ml syringe (BG only)	2
16g PVC cannula (Grey) ? keep in for DR on site? Cannula dressing	2
Gravity giving set with air inlet	2

### Advice for dialysis nurse for care and cleaning of the Hypoglycaemia Box

1. Ensure immediate refill of box content after each use.
2. Check expiry dates weekly with immediate replacement of out of date items (including Glucagon in fridge).
3. Please clean box weekly as part of weekly routine. Use a cleaning or alcohol wipe.

Back-up supplies for the box should be on site



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