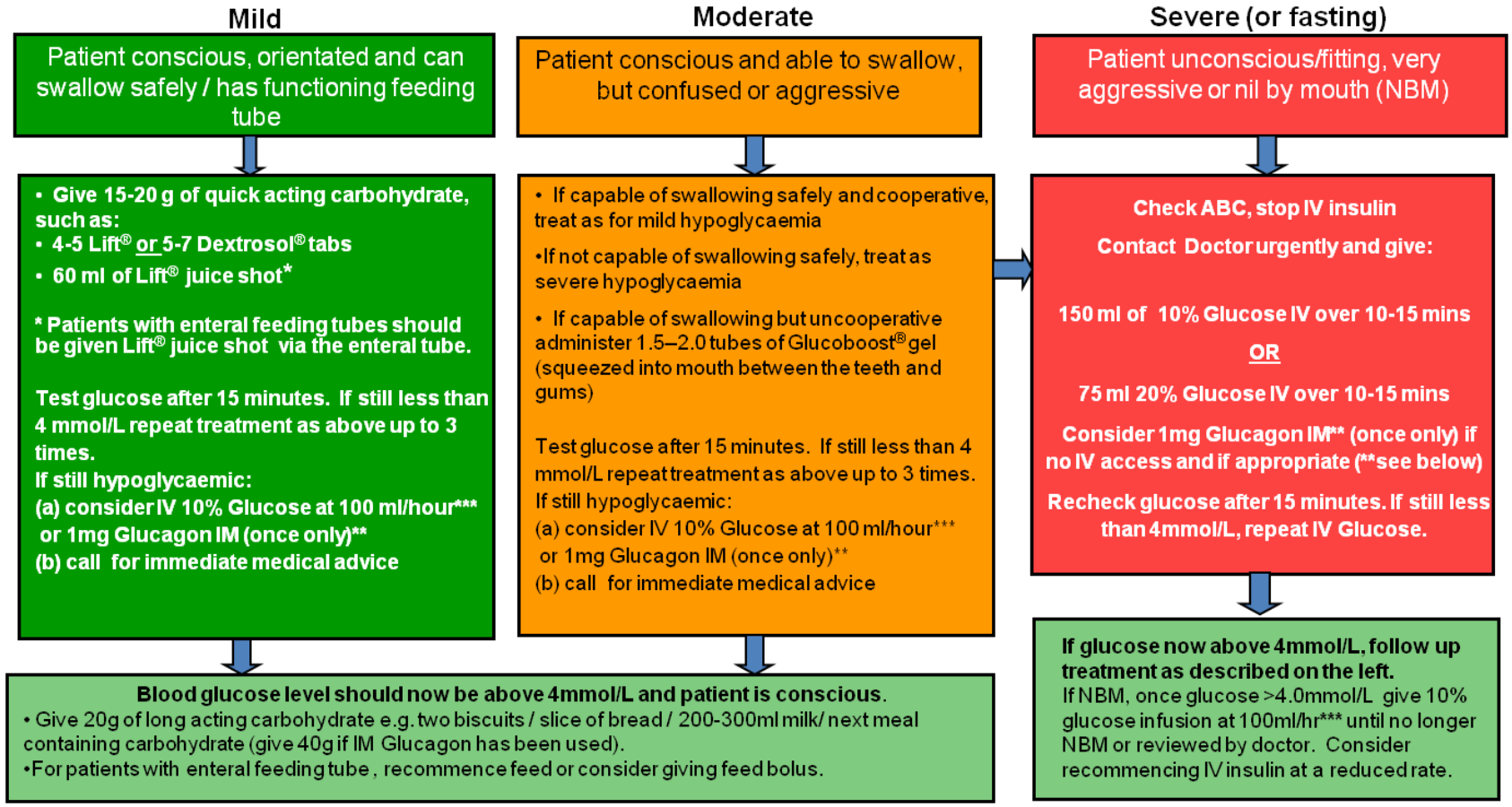
Algorithm for the Treatment and Management of Hypoglycaemia in Adults with Diabetes Mellitus in Hospital

Hypoglycaemia is a serious condition and should be treated as an emergency regardless of level of consciousness. Hypoglycaemia is defined as blood glucose of less than 4mmol/L (if not less than 4mmol/L but symptomatic give a small carbohydrate snack for symptom relief).



DO NOT OMIT SUBSEQUENT INSULIN DOSES. CLOSELY MONITOR CAPILLARY BLOOD GLUCOSE FOR 24 -48 HOURS. THEN MONITOR 4 TIMES DAILY. REVIEW INSULIN / ORAL HYPOGLYCAEMICS. REFER TO DIABETES TEAM IF SEVERE/RECURRENT HYPOGLYCAEMIA.

** GLUCAGON MAY TAKE UP TO 15 MINUTES TO WORK AND CAN BE INEFFECTIVE IN UNDERNOURISHED OR FASTED PATIENTS, SEVERE LIVER DISEASE, ALCOHOLICS AND TYPE 2 DIABETES. AVOID IN SULPHONYLUREA-INDUCED HYPOGLYCAEMIA.

*** IN PATIENTS WITH RENAL/CARDIAC DISEASE AT RISK OF FLUID OVERLOAD, USE INTRAVENOUS FLUIDS WITH CAUTION.

Reference: ADTC 205/4
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SITUATION

Hypoglycaemia – capillary glucose concentration < 4.0 mmol/L

- A potentially dangerous side effect of insulin therapy and sulphonylureas (Gliclazide, Glipizide, Glimepiride)
- Prompt treatment is required

BACKGROUND

Common causes of hypoglycaemia

- Inadequate food intake, fasting, delayed or missed meals
- Too much insulin, sulphonylurea or prandial glucose regulator (Nateglinide, Repaglinide)
- Insulin administration/drug administration at an incorrect time
- Problems with insulin injection technique/injection site causing variable insulin absorption
- Increased physical activity
- Alcohol

At risk groups

- Strict glycaemic control, impaired hypoglycaemic awareness, cognitive impairment, children, the elderly, breast feeding mother with diabetes

Conditions that increase risk of hypoglycaemia

- Malabsorption, gastroparesis
- Abrupt discontinuation of corticosteroids, hypoadrenalism, renal or hepatic impairment, pancreatectomy

ASSESSMENT

Assess recent pattern of blood glucose levels i.e. last 48 hours.

- Establish when and what the patient last ate
- Check insulin/diabetes medication is being prescribed and administered at correct dose, time, and in relation to food intake
- Check for signs of lipohypertrophy (lumpy areas at injection sites) in insulin-treated patients which may affect insulin absorption
- Check credibility of blood glucose monitoring e.g. handwashing before testing

RECOMMENDATION

Treat hypoglycaemia as per protocol. Observe patient until recovery complete and provide information on hypoglycaemia management. Consult diabetes team for advice if recurrent episodes of hypoglycaemia or severe hypoglycaemia.

- Establish the cause of hypoglycaemia and take action to prevent recurrence. Inform patient if medication dose is changed
- **Do not omit insulin in Type 1 diabetes** - treat hypoglycaemia and administer insulin as usual after dose review
- Blood glucose is likely to be high following treatment of hypoglycaemia; do not give additional correction doses of insulin
- If receiving IV insulin treatment, check blood glucose every 15 minutes until above 4.0 mmol/L, then re-start IV insulin after review of infusion rate and equipment. Review on-going requirement for IV insulin. If hypoglycaemia recurs, seek specialist advice.