Management of diabetes in emergency department during coronavirus pandemic

This crib sheet is for emergency departments, acute medical admissions wards or acute medical assessment units to use during the covid-19 pandemic for people with:

- Known Type 1 diabetes
- Known Type 2 diabetes or unknown diabetes

Referring to your Trust's specialist diabetes team

- Refer to your local diabetes team via the relevant diabetes specialist nurse or diabetes SpR bleep holder
- If the referring out of hours and no response from the diabetes bleep holder, please refer via your local system (i.e. email, electronic patient record)
- Referral must include telephone and/or email contact for the patient for diabetes team to organise a review.

Management of hyperglycaemia (>13mmol/l) in MAU – Known Type 1 diabetes

Fast acting insulin administration:

- This is based on either the total daily dose (total of all insulin taken within a 24 hour period (background and mealtime)) OR patient's weight (if dose unknown)

Ketones **+** to **++** on urine test and 1.5-3mmol/L on blood test	Give 10% of total daily dose as quick acting insulin every 2 hours plus usual insulin to carbohydrate ratio if eating. You may need to increase your basal (long acting) insulin dose by 10-20%
Ketones **+++** to **++++** on urine test and over 3mmol/L on blood test	Give 20% of total daily dose as quick acting insulin every 2 hours, plus usual insulin to carbohydrate ratio if eating. You may need to increase your basal (long acting) insulin dose by 10-20% or more.

- Insulin should be prescribed via EPR as STAT subcutaneous dose
- Further insulin doses should not be repeated within 2 hours of each other.
- For more information on management of blood glucose and ketones, refer to Sick day rules – Type 1 diabetes multiple daily injections (MDI) or Sick day rules – Type 1 diabetes insulin pump
- On discharge from ED please provide patient with Type 1 diabetes discharge pack

Medication adjustment: Adjust medication according to the patient information sheet on page 6

Fluid management: If COVID-19 positive/suspected then consider halving the amount of IV fluid administered to avoid exacerbating ARDS.

Management of hyperglycaemia (capillary glucose >18 mmol/l) in Acute assessment setting (ED/MAU) – Known Type 2 diabetes or unknown aetiology

Fast-acting insulin administration:

- This is based on either the total daily dose (total of all insulin taken within a 24hour period (background and mealtime)) OR patient's weight (if not on insulin/unknown).
- Insulin should be prescribed via EPR as STAT subcutaneous dose
- Further insulin doses should not be repeated within 2 hours of each other.
- For more information on management of blood glucose and ketones, refer to Covid-19 sick day rules – Type 2 diabetes crib sheet
- See table below for guidance on insulin for Type 2 diabetes or unknown aetiology.
- For known Type 2 diabetes, on discharge from ED please provide patient with Type 2 diabetes discharge pack

Total daily dose of insulin (only use body weight if dose unknown or insulin naive)	Dose of fast-acting insulin* (Novorapid/Humalog/Actrapid) according to capillary blood glucose (cBG) levels:		
	cBG 18-25	cBG 26-30	cBG >30
<35 units- (≤70kg)	3 units	5 units	7 units
35-49 units - (70-99kg)	4 units	6 units	8 units
50-99 units - (100-199kg)	6 units	9 units	12 units
≥100 units - (≥200kg)	10 units	15 units	20 units

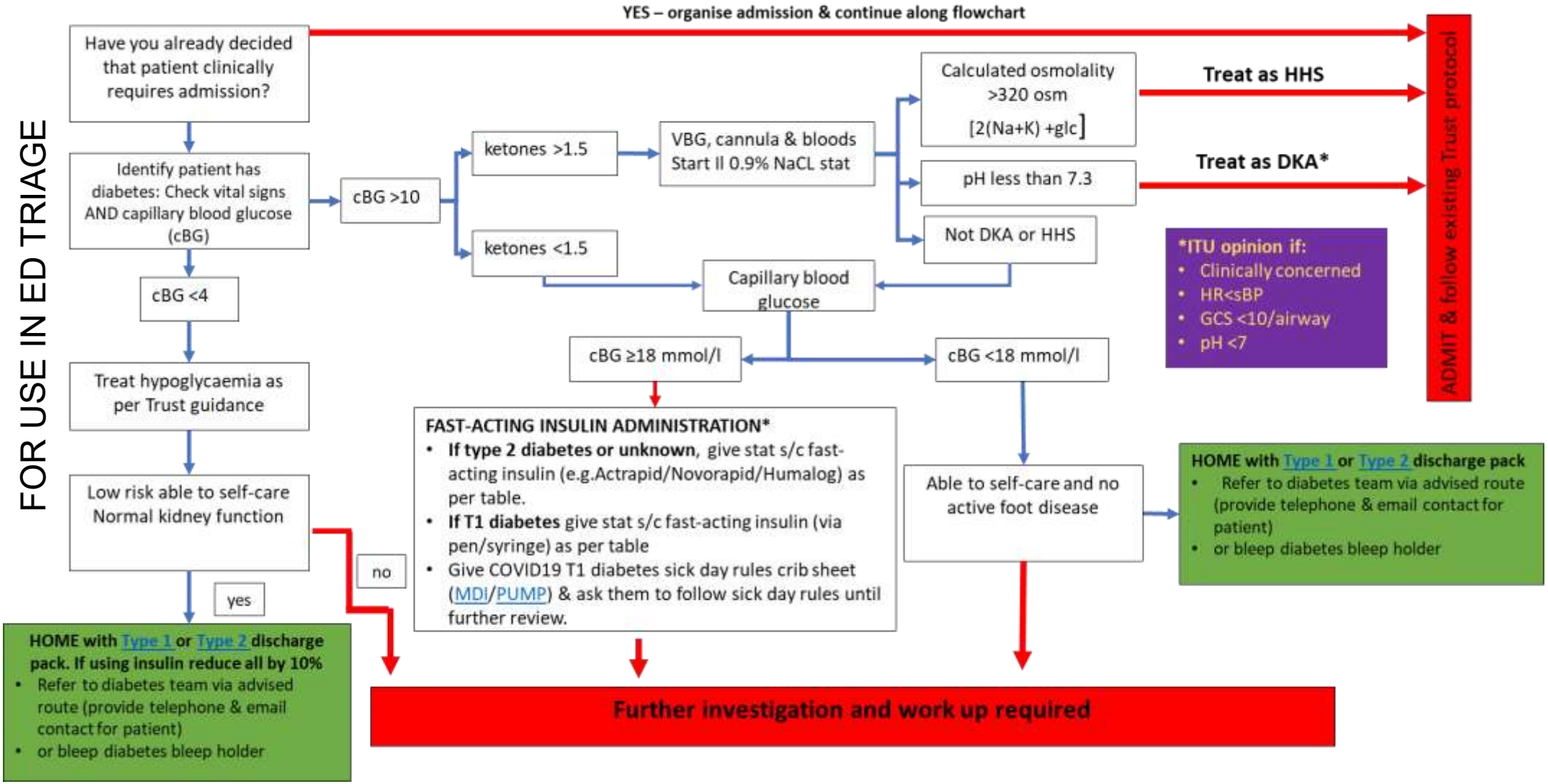
Medication adjustment: Adjust medication according to the patient information sheet on page 6

Fluid management: If COVID-19 positive/suspected then consider halving the amount of IV fluid administered to avoid exacerbating ARDS.

Management of diabetes in emergency department during coronavirus pandemic – Table 1

NHS London Clinical Networks

FOR USE IN ED TRIAGE



Management of hyperglycaemia (capillary glucose >18 mmol/l) in acute assessment setting (ED/MAU) – Known Type 2 diabetes or unknown aetiology

NHS London Clinical Networks

FOR USE IN ED or Medical Assessment Units

Further investigation and work up required
post first dose of subcutaneous insulin

Type 2 diabetes or unknown

YES

Is capillary glucose >18mmol/l?

YES

FAST-ACTING INSULIN ADMINISTRATION:
Give stat dose s/c fast-acting insulin*
Give 500ml 0.9% NaCl stat then >100ml/hr oral

Reassess response after 2 hours (repeat x2 max)

Received 3x stat insulin & still cBG>18?

START VRII

ADMIT & follow existing Trust Pathway

NO

Is there an underlying cause for hyperglycaeamia?

YES

Active foot disease

YES

Follow COVID19 Diabetic foot care pathway

Infection? Cardiac? Other?

YES

Is admission required?

YES

NO

NO

Do any of the following apply?
- Unlikely to be able to follow advice?
- Unlikely to self-care/insufficient support?
- Unlikely to attend follow-up or answer phone?

YES

Contact diabetes team via bleep or local method and consider admission

NO

Known diabetes?

YES

Diet controlled only?

YES

NO

NO

Obesity?
No unintended weight loss?

YES

Insulin treated?

YES

NO

NO

Possible new Type 1 diabetes
HOME with Type 1 or Type 2 **discharge pack**
- **Start Lantus 0.2 units/kg OD (give stat dose prior to discharge)**
- Refer to diabetes team:

Bleep diabetes bleep holder or contact out of hours team

HOME with Type 2 discharge pack Adjust medications as per advice sheet**
- **Start 80mg gliclazide BD**
- GP to follow-up

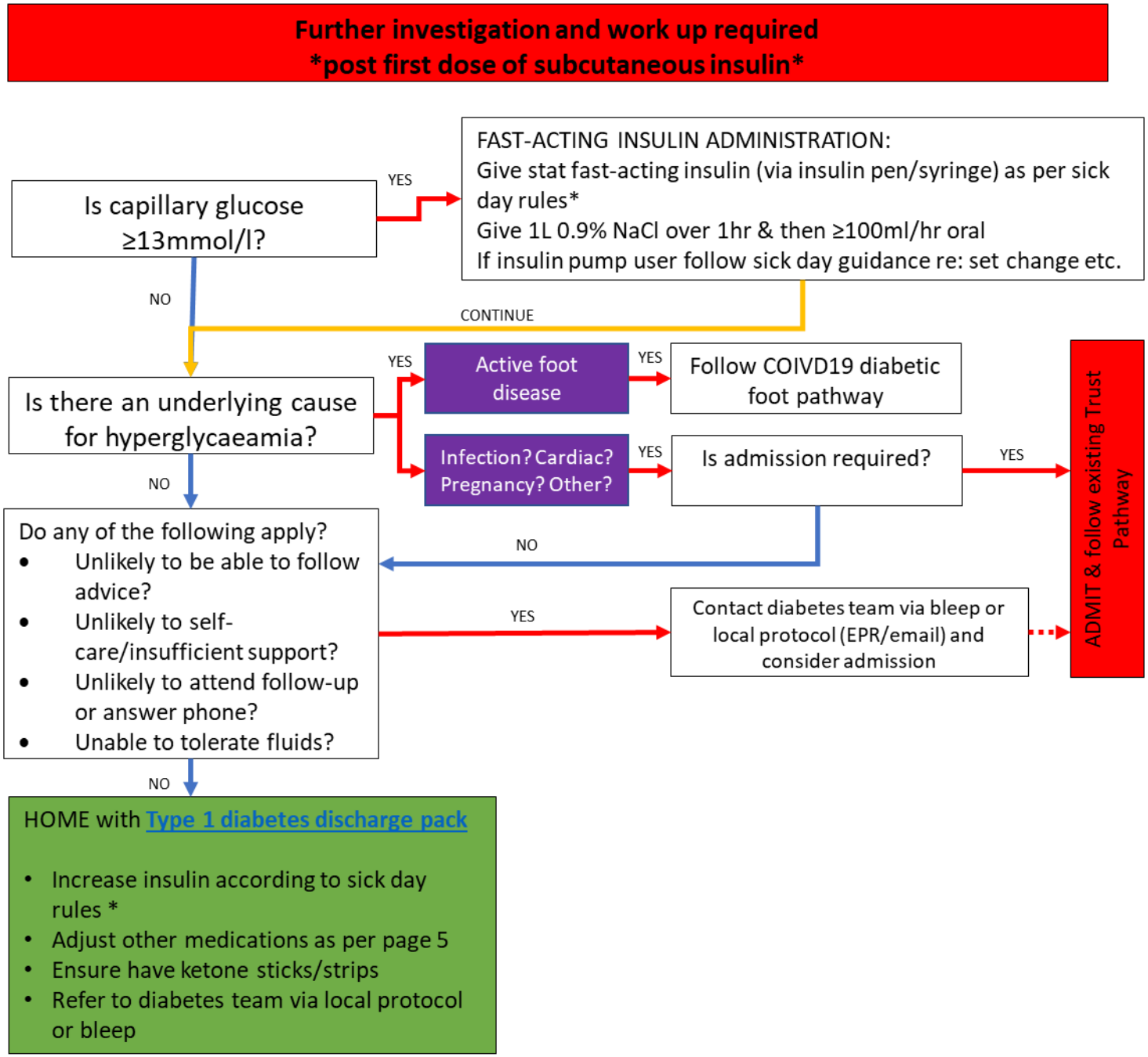
HOME with Type 2 discharge pack
- Adjust medications as per advice sheet**
- **increase insulin by 10% and refer to diabetes team**

HOME with Type 2 discharge pack
- Adjust medications as per advice sheet**
- **Start Lantus (Glargine) 0.2units/kg OD (give stat dose prior to discharge)**
- GP to refer to community diabetes team

Management of hyperglycaemia (capillary glucose >13 mmol/l) in acute assessment setting (ED/MAU) – Known Type 1 diabetes– Table 3

NHS London Clinical Networks

FOR USE IN ED or Medical Assessment Units



Medications

If you are on any of the following medication you need to stop them when you are sick. Restart when you are well (normally after 24 to 48 hours of eating and drinking normally). When you restart your medicine, just take them as normal

ACE inhibitors – these medicines are used for heart conditions, high blood pressure and for kidney protection. If you are dehydrated, these medicines can stop your kidneys working properly.

- **Examples:** names ending in '*pril*' such as ramipril, lisinopril, perindopril

ARBs - these medicines are used for heart conditions, high blood pressure and for kidney protection. If you are dehydrated, these medicines can stop your kidneys working properly.

- **Examples:** names ending in '*sartan*' such as candesartan, irbesartan, losartan, valsartan

Diuretics – these medicines are used for excess fluid and high blood pressure and are sometimes called 'water pills'. These medicines can make dehydration more likely.

- **Examples** include bendroflumethiazide, furosemide, indapamide, bumetanide.
- If you are taking more than two tablets a day of either bumetanide or furosemide, please seek medical advice before stopping

Metformin – this is a medicine for diabetes. Dehydration can make it more likely that you will develop a serious side effect called lactic acidosis

GLP-1 analogues – these are medicines for diabetes. Dehydration can make it more likely that you will develop a serious side effect.

- **Examples** are exenatide, dulaglutide, liraglutide, lixisenatide and semaglutide

NSAIDs – these are anti-inflammatory pain killers. If you are dehydrated, these medicines can stop your kidneys working properly.

- **Examples** include ibuprofen, naproxen

SGLT2 inhibitors – these are medicines for diabetes. Dehydration can make it more likely that you will develop a serious side effect called ketoacidosis.

- **Examples:** names ending with '*flozin'* such as canagliflozin, dapagliflozin, empagliflozin and ertugliflozin