

## Managing hyperglycaemia in patients with cancer

This local guideline has been adapted from –*The Management of glycaemic control in patients with cancer* ([Publications | UK Chemotherapy Board](#)) published by Joint British diabetic society (JBDS-IP) and UK Chemotherapy Board May 2021.

### **This guideline summarises:**

1. Diabetic emergencies
2. **Pathway 1:** Commencing anti-cancer agents/ glucocorticoid therapy in cancer patients without a prior diagnosis of diabetes
3. **Pathway 2:** Commencing immune checkpoint inhibitors (ICP) in cancer patients without a prior diagnosis of diabetes
4. **Pathway 3:** Commencing SACT / glucocorticoid therapy in cancer patients with type 2 diabetes on oral glucose lowering therapies
5. **Pathway 4:** Commencing SACT / glucocorticoid therapy in cancer patients with diabetes treated with insulin
6. Diabetes and driving

### **1. Diabetic emergencies**

#### **Hyperglycaemic hyperosmolar state (HHS)**

- Hypovolaemia
- Marked hyperglycaemia (30mmol/L or more) without significant hyperketonaemia (<3mmol/L) or acidosis (pH>7.3, bicarb >15mmol/L)
- Osmolality usually 320 mosmol/kg or more (calculated  $2(\text{Na}^+) + \text{Glucose} + \text{Urea}$ )

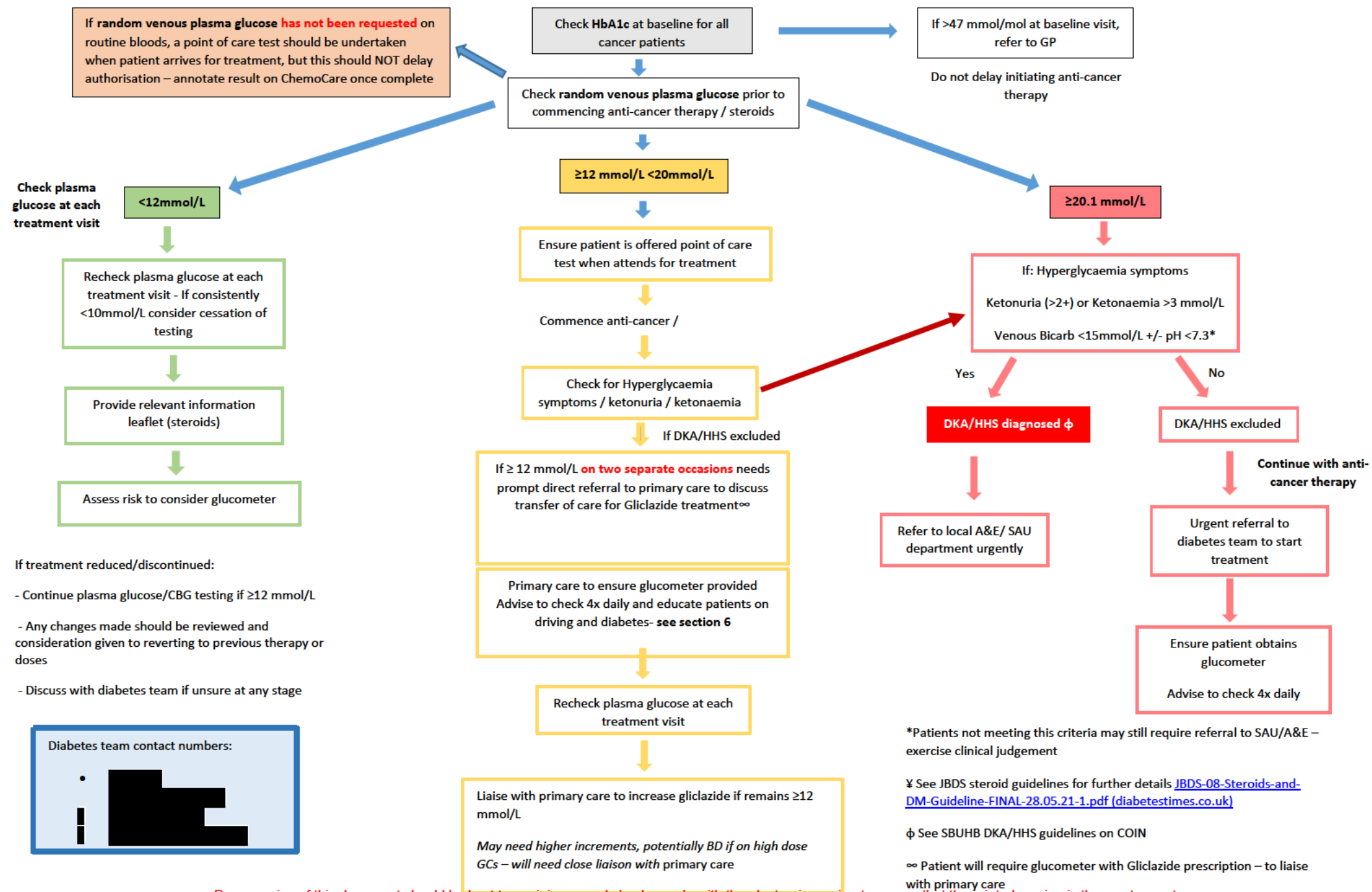
#### **Diabetic Ketoacidosis (DKA)**

- Ketonaemia  $\geq 3.0$  mmol/L or significant ketonuria (more than 2+ on standard sticks)
- Blood glucose >11.0mmol/L or known diabetes mellitus
- Bicarbonate ( $\text{HCO}_3^-$ )  $\leq 15$ mmol/L and/or venous pH<7.3

**Symptoms of hyperglycaemia include:** Polyuria, thirst, nocturia, fatigue, dry mouth, abdominal pain, nausea, blurred vision, headaches, confusion, unintentional weight loss

**Symptoms of hypoglycaemia include:** perspiration, fatigue, dizziness, perioral paraesthesia, tremor, shaking, palpitations, mood change, confusion

**Pathway 1:** Commencing anti-cancer agents/ glucocorticoid therapy in cancer patients without a prior diagnosis of diabetes



## Glucometer

A glucometer is recommended for patients starting gliclazide

Consider a glucometer for **high risk** patients on supra-physiological doses of steroids (>5mg prednisolone, >Dexamethasone 750micrograms or equivalent) for more than 3 days and a risk factor below:

- Individuals already at increased risk of diabetes (e.g. obesity, older age, family history of diabetes, previous gestational diabetes, ethnic minorities, polycystic ovarian syndrome)
- Individuals with impaired fasting glucose or impaired glucose tolerance, HbA1c 42- 47 mmol/mol
- Individuals who have previously developed hyperglycaemia on GC therapy
- Individuals receiving concurrent cytotoxic therapy known to cause hyperglycaemia

Please direct patients to their GP to obtain a glucometer

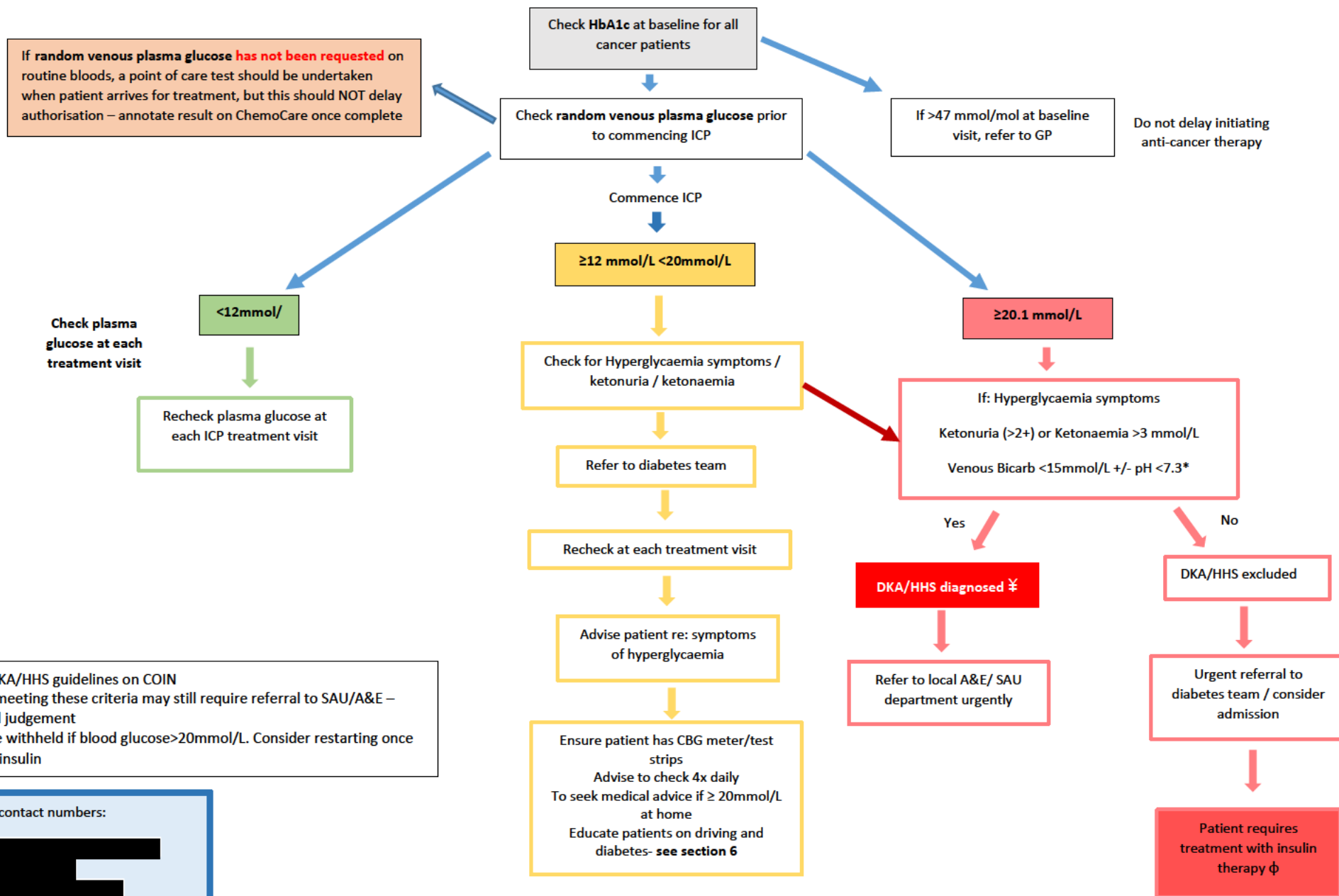
## Glucose monitoring

- Recommend capillary blood glucose (CBG) monitoring at least once a day- preferably before lunch or evening meal or two hours after lunch or evening meal
- Recommended glucose target level is 6.0-12.0 mmol/L
- If CBG is below 12mmol/L consider the person to be low risk and record CBG once a day
- If blood sugars remain over 12 mmol/L individuals should be advised to increased frequency of monitoring to four times a day for 48 hours
- If a CBG is found to be consistently >12mmol/L (on two separate occasions during a 24hour period) then the individual should enter the treatment algorithm, **Pathway 1**.

## Withdrawal of steroids in patients with hyperglycaemia/diabetes

- Hyperglycaemia may or may not resolve once the GC are withdrawn or SACT is discontinued.
- If oral steroids are weaned down over several weeks the glucose levels may decline in a dose-dependent fashion, this may not always occur particularly in those with undiagnosed diabetes
- As the steroid dose decreases, the treatment of hyperglycaemia will similarly need to be titrated down e.g. a weekly 5mg reduction of prednisolone from 20mg may require a 20-25% reduction in insulin dose, or a 40mg reduction in gliclazide
- Blood glucose monitoring should continue until blood sugars normalise, CBG testing should continue even after steroid discontinuation whilst CBG >12mmol/L
- Ensure that patients are in contact with primary care for ongoing monitoring of hyperglycaemia post treatment
- If steroid treatment is ceased and blood glucose returns to normal, blood glucose monitoring is not recommended. A definitive test for diabetes should still be undertaken- *please refer patient to primary care*.
- See *JBDS steroid induced hyperglycaemia guidelines for more information* - [JBDS-08-Steroids-and-DM-Guideline-FINAL-28.05.21-1.pdf \(diabetestimes.co.uk\)](#)

**Pathway 2:** Commencing immune checkpoint inhibitors (ICP) in cancer patients without a prior diagnosis of diabetes



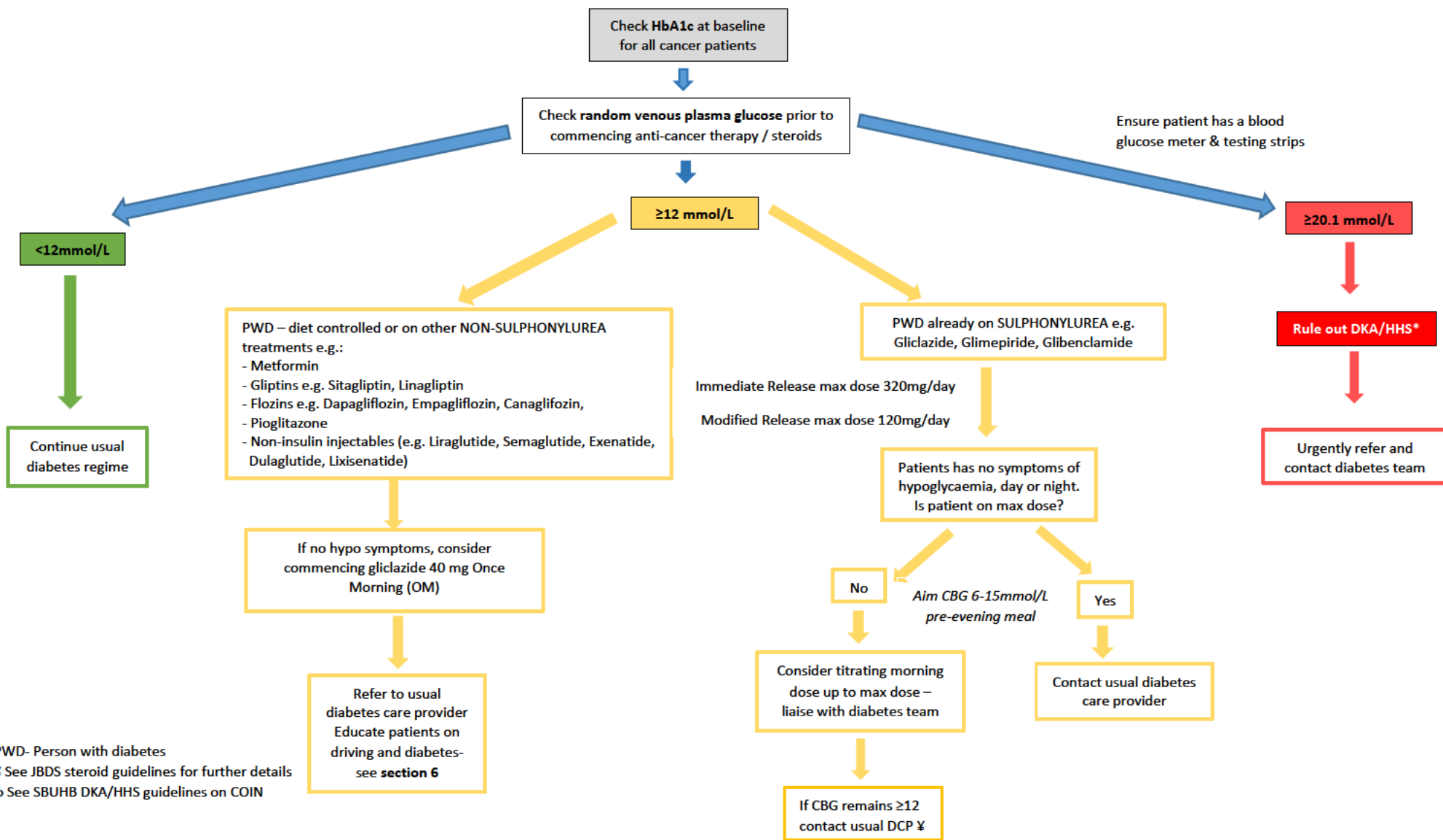
☹ See SBUHB DKA/HHS guidelines on COIN  
 \* Patients not meeting these criteria may still require referral to SAU/A&E – exercise clinical judgement  
 ☺ ICP should be withheld if blood glucose >20mmol/L. Consider restarting once regulated with insulin

Diabetes team contact numbers:

• [Redacted]

Mon – Friday DSN service only

**Pathway 3: Commencing SACT / glucocorticoid therapy in cancer patients with type 2 diabetes on oral glucose lowering therapies**



PWD- Person with diabetes  
 † See JBDS steroid guidelines for further details  
 ‡ See SBUHB DKA/HHS guidelines on COIN

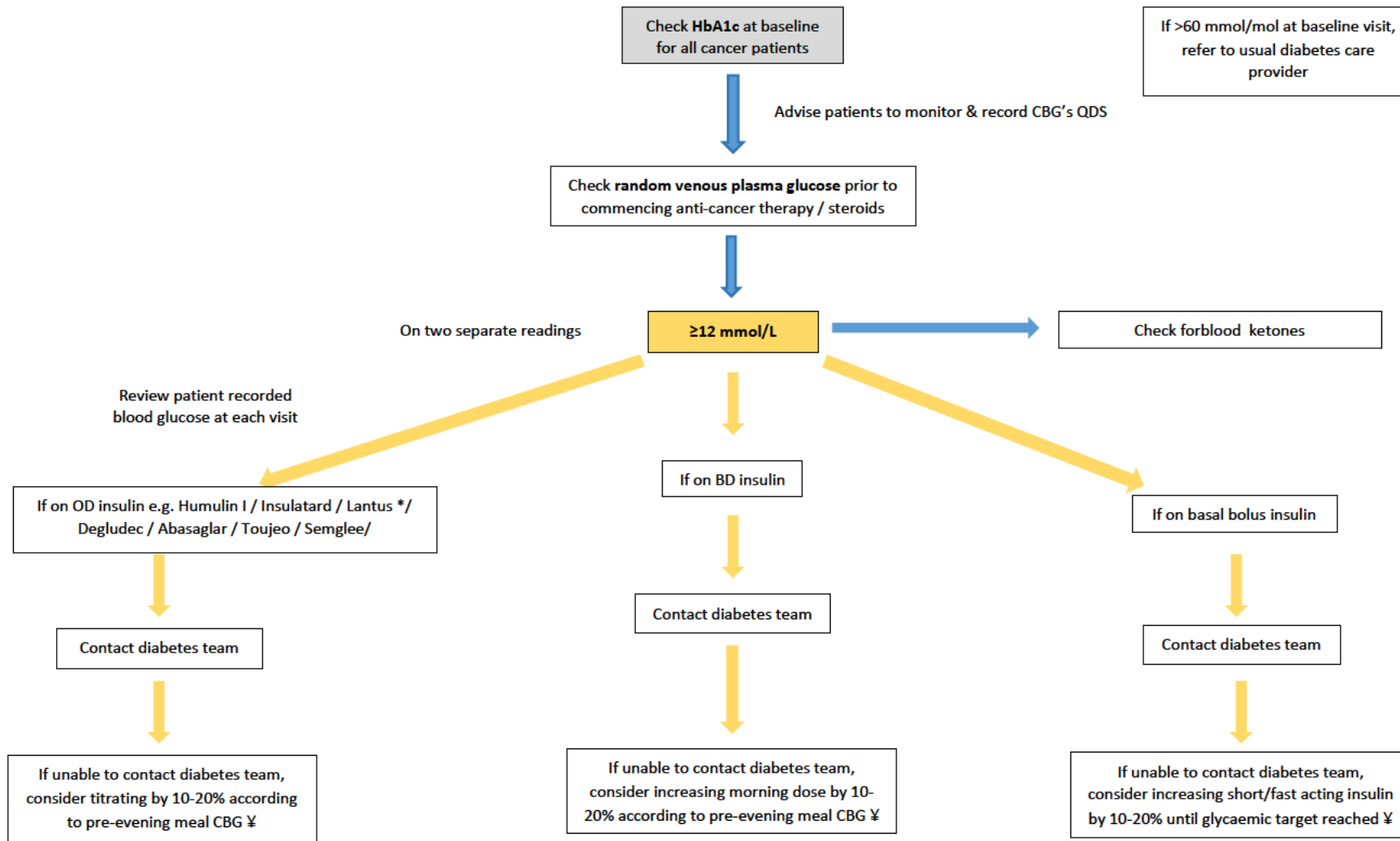
Diabetes team contact numbers:

**01792 202000**

Mon – Friday DSN service only

If treatment reduced / discontinued any changes made should be reviewed and consideration given to reverting to previous therapy / doses (discuss with diabetes team or ensure care is managed / monitored by diabetes team)

**Pathway 4:** Commencing SACT / glucocorticoid therapy in cancer patients with diabetes treated with insulin



\*If long acting insulin is taken once nightly, move this injection to the morning and increase dose according to CBG

† See JBDS steroid guidelines

Diabetes team contact numbers:

- Singleton

Mon – Friday DSN service only

If treatment reduced/discontinued any changes made should be reviewed and consideration given to reverting to previous therapy/doses (discuss with diabetes team or ensure care is managed/monitored by diabetes team)

## 6. Diabetes and driving

Key messages for healthcare professionals, adapted from Diabetes UK [Driving and diabetes – what healthcare professionals should know | Diabetes UK](#)

Type of licence	Diabetes management	Inform DVLA?
Group 1 (car or motorbike) driver	Diet controlled	No
	Oral anti-hyperglycaemics	No
	Insulin	Yes
Group 2 driver	Diet controlled	No
	Any other form of treatment	Yes

When prescribing gliclazide or insulin, healthcare professionals should educate patients on the risk of hypoglycaemia when driving and document this discussion

If patients are taking gliclazide or insulin it is important they:

- Monitor their blood glucose before driving
- Check their blood glucose every 2 hours during a long car journey
- Are advised not to drive if blood glucose levels are below 5 mmol/L
- Are informed of the symptoms and signs of hypoglycaemia (see page 1)
- Ensure their glucometers are approved by DVLA
- Severe hypoglycaemic events have a driving ban of up to 12 months

These leaflets can be supplied to patients for more information:

[Diabetes and Driving Leaflet \(English\).pdf](#)

[Diabetes and Driving Leaflet \(Welsh\).pdf](#)

**Policy Owner: Singleton Service Delivery Unit Cancer Service Group**

**Approved by: SACT Service Improvement Group**

**Version: 3**

**Issue date: November 2023**

**Review date: November 2026**

**Document No: CID4176**