

# MONITORING FOR KETONES

## WHAT ARE KETONES?

Ketones are formed from the breakdown of fat and indicate a lack of insulin. They can be an early sign of diabetic ketoacidosis (DKA).

## WHEN TO CHECK KETONES

Check for ketones if patient acutely unwell in the following circumstances:

TYPE OF DIABETES	BLOOD GLUCOSE LEVEL
Individuals with Type 1 diabetes / total pancreatectomy / pancreatitis	<b>Greater than 14mmol/l</b>
Individuals with Type 2 diabetes	<b>Greater than 20mmol/l</b>
Women who are pregnant	<b>Greater than 10mmol/l</b>
Individuals on an SGLT-2 inhibitor (Canagliflozin, Dapagliflozin, Empagliflozin, Ertugliflozin)	<b>Measure capillary blood ketones once daily every day throughout admission</b>

Stop testing ketones if none of the above apply e.g. starvation ketones with normal glucose levels

## USING THRESHOLDS TO THE LEFT, CHECK KETONES AND FOLLOW ACTIONS BELOW:

KETONE LEVEL	ACTIONS
Below 0.6 mmol/l	Normal, use clinical judgement, address hyperglycaemia appropriately. Ensure patient maintains hydration and carbohydrate intake (as food of sugary fluids).
0.6 – 2.9mmol/l	Ensure patient maintains hydration and recheck glucose and ketones in one hour. Alert Doctor in charge of patients care. Ensure patient maintains hydration and carbohydrate intake (as food of sugary fluids).
Above 3mmol/l	HIGH RISK OF DKA – URGENT MEDICAL ATTENTION REQUESTED. Check VBG, if patient in DKA, follow UHS DKA protocol. If patient not in DKA, medical review required as additional insulin and fluids likely to be required. Recheck blood glucose and ketones hourly.



**START WITH THE**  
**D I A B A S I C S**

Created by Paula Johnston from  
University Hospital Southampton NHS  
Foundation Trust