



myLoop

powered by CamAPS | FX

**Understanding
High Glucose and
the Risk of DKA
in Children with
Type 1 Diabetes**

More freedom. More confidence. With mylife.



DiabetesCare

For parents and caregivers of children living with type 1 diabetes (T1D) using YpsoPump, either on its own or as part of the Automated Insulin Delivery (AID) system myLoop powered by CamAPS FX (CamAPS FX + compatible CGM + YpsoPump).

This leaflet explains what high glucose means, how to recognise warning signs, and what to do to prevent diabetic ketoacidosis (DKA), a serious but preventable emergency.

What is high blood glucose?

High blood glucose (hyperglycaemia) means your child's glucose level is above the target range. This can happen for many reasons, including:

- Illness, infection, or stress
- Missed or delayed insulin doses
- Problems with insulin delivery (e.g. a kinked or blocked cannula, air bubbles, or disconnection)
- Empty insulin cartridge
- Eating extra carbohydrates without enough insulin

Possible signs of high glucose in children

- Feeling very thirsty or tired
- Needing to pass urine more often (especially at night)
- Headache or blurred vision
- Irritability or mood changes
- Drowsiness or lack of energy

i When using an insulin pump or an AID system, all the insulin delivered is rapid- or ultra-rapid-acting. Unlike multiple daily injections (MDI), there is no long-acting ("slow") insulin stored in the body. That means if insulin delivery is interrupted, e.g. from a blocked or disconnected cannula, glucose levels can rise quickly, and ketones may appear within hours. Acting early is the best way to prevent DKA.

The myLoop driven by CamAPS FX cannot rectify hyperglycaemia if insulin is not being delivered (e.g. a blocked or disconnected cannula or an empty cartridge). Always act quickly if glucose is high or rising unexpectedly.

Why high glucose matters

If the body does not get enough insulin, glucose cannot be used for energy. The body then starts breaking down fat instead, producing **ketones**.

When ketones build up, this can lead to **DKA**, a serious and potentially life-threatening condition that needs urgent treatment.

i In young children, ketones can sometimes appear even when glucose is not very high, especially if insulin delivery is interrupted or during illness.

Warning signs of DKA

DKA can develop quickly, sometimes within hours, especially if insulin delivery stops. Warning signs to look for:

- Nausea, vomiting, or tummy pain
- Deep or fast breathing
- Fruity-smelling breath
- Feeling unusually tired, confused, or unwell
- Dry lips or tongue
- Pale or flushed face

i DKA is a medical emergency. If you suspect DKA, contact your child's diabetes team immediately or go to the emergency department.



Interpreting blood ketone results

Blood ketone level	What it means	What to do
Less than 0.6 mmol/L (11 mg/dL)	Normal	No action needed. Continue monitoring.
0.6 to 1.5 mmol/L (11 to 27 mg/dL)	Slightly elevated	Monitor more closely. If your child feels unwell or have high glucose, follow their sick-day plan and contact your diabetes team.
1.5 to 3.0 mmol/L (27 to 54 mg/dL)	Risk of DKA	Contact your diabetes team and follow your child's sick-day plan.^{1,2,3}
More than 3.0 mmol/L (54 mg/dL)	Medical emergency	Seek urgent medical help or go to A&E immediately.

Hydration helps: Encourage your child to drink regularly, water or sugar-free drinks are best. If ketones are present, check again every 2–4 hours until they return to normal.

Checking glucose and ketones

- Check glucose as recommended by your diabetes team.
- If the CGM reading doesn't match how your child feels, confirm with a finger-prick test.
- If glucose is around or above 13.9 mmol/L (250 mg/dL), or rising quickly without clear reason, check for ketones.
- Also check for ketones if your child feels unwell, is vomiting, or if there is a pump or infusion issue even if glucose levels are normal.

Reducing the risk

- Respond quickly to alarms or alerts from the YpsoPump, the CamAPS FX app, or your child's CGM.
- Trust your observations: If your child's CGM reading doesn't match how they seem or how they say they feel, check their glucose with a finger-prick test.
- Check the pump and tubing for air bubbles, leaks, or blockages¹
- Make sure insulin is delivered properly - check for wet patches, loose sites, or disconnected tubing.
- If you see alerts such as "No Delivery", "No Insulin", "Cartridge empty", or "Occlusion", inspect your infusion set, tubing, and cartridge for blockages, and replace them if needed.
- Always carry spare infusion sets, insulin, batteries, and your phone charger or power bank.
- Keep a backup insulin pen or syringe for emergencies as well as glucose and ketone meter and strips.
- During illness, check glucose and ketones more often and follow your child's sick-day plan.
- Know how to reach your diabetes team: Keep their emergency contact number and your sick-day plan where you can find them easily.
- Encourage regular sips of water or sugar-free drinks, especially during illness or stress. Check their glucose levels more often at these times.
- Check your child's pump or AID system settings with the diabetes team to make sure the pre-programmed basal rates and settings are right for their current needs and growth.

Acting early helps prevent DKA. Frequent monitoring, quick action when glucose rises and understanding how your child's YpsoPump and CamAPS FX work are the best ways to keep them safe and well.

i Let your diabetes team know if your child has had high ketones or a DKA episode, so they can review what happened and help prevent future episodes.

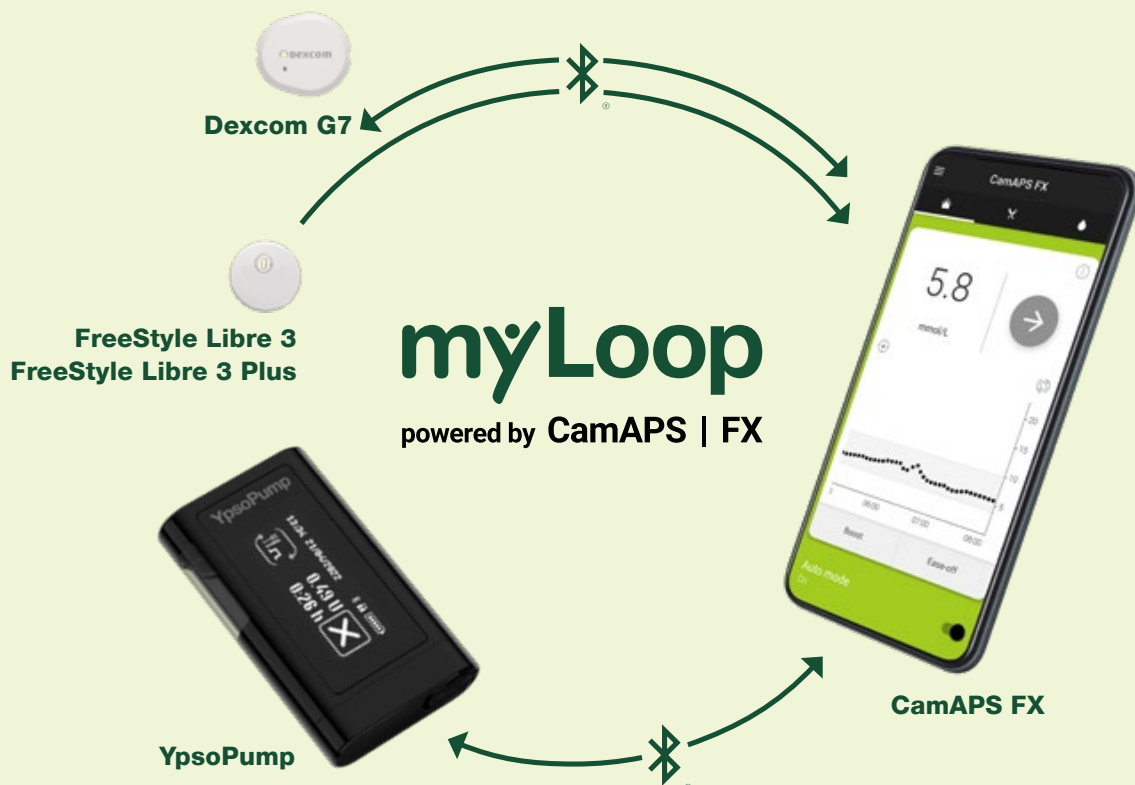
When to ask for help

Contact your diabetes team urgently or seek emergency care if any of the following occur:

- Ketones are elevated or rising
- Glucose stays high despite correction doses or pump adjustments
- Your child is vomiting or breathing rapidly
- He is unusually tired, drowsy, or confused



This leaflet is for general education and does not replace personal medical advice. Always follow guidance from your diabetes care team and the instructions for your mylife devices.



Sources

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