

# paediatric WATCH

## Lessons from the frontline

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### Is it the purple or the blue strip?

A previously well 10 year old girl presented to an Emergency Department with increased work of breathing. She was anxious, tachypnoeic and was allocated a triage category 4, as her work of breathing and respiratory rate was thought to be anxiety related.

After one hour in the waiting room the patient was reviewed by the doctor, who, based on her ketotic breathing pattern, considered a diagnosis of Diabetes Ketoacidosis (DKA). This concern was not initially communicated to the nurse allocated to the area the patient was located, as she was involved in another procedure.

As the cubicle nurse was busy with another patient, the doctor, who was not familiar with performing a blood sugar test, located the glucometer kit and performed the test.

The doctor used a purple coloured ketone strip instead of the blue coloured Blood Sugar Level (BSL) strip. Both strips were located in the glucometer kit and are designed to be inserted into the monitor located in the kit. The ketone reading of 4.7mmol/L was misinterpreted as a BSL.

The doctor, who was still concerned about DKA, performed a Venous

Blood Gas (VBG) and a urine sample was requested. Over the next 30 to 60 minutes the patient deteriorated, rapidly becoming drowsy, combative and disorientated.

At this point, she was transferred to the resuscitation room. By this time a VBG result was available which highlighted a significant metabolic acidosis, with a BSL of 33mmol/L. A diagnosis of DKA was made and IV fluids and an insulin infusion were commenced.

She was transferred to a paediatric Intensive Care Unit where her ketotic state normalised over the following 48 hours. She was discharged home the following week to follow-up with the diabetic team.

### Lessons Learnt:

There was a component of diagnostic anchoring when the triage nurse assumed the patient's breathing was thought to be anxiety related. The triage nurse focused on a single feature in the child's presentation (tachypnea), to support this diagnosis, despite other features refuting this diagnosis. This was one contributing factor in delaying diagnosis and commencing appropriate treatment.

It was identified that the practice of co-locating both the ketone and BSL strips in the same kit also contributed to the error and delayed treatment.

The staff involved in the incident, including the medical and nursing team leaders, immediately conducted a huddle to determine how the error

occurred, and what strategies needed to be implemented to mitigate the same mistake occurring again.

Following the huddle, the ketone and BSL strips were separated into clearly labelled separate kits and open disclosure occurred with the family.

This incident highlights the risks of performing a procedure or using equipment you may not be familiar with.

### Recommendations:

Using the wrong strip is an easy error to make when two different strips are co-located in a kit. It is important that system barriers are in place in mitigating risk rather than relying on clinicians to be attentive.

The CEC recommends storing products that can easily be mixed up separately, and to make them look and feel as distinct as possible. If possible, removing a product altogether may be desirable.



Want to learn more? Please visit our website:

[www.cec.health.nsw.gov.au](http://www.cec.health.nsw.gov.au)

The Paediatric Patient Safety Program works across a range of areas to improve the quality and safety of health care for children and young people in NSW.