



Sickness and Diabetes

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Objectives

- Investigate the cause of DKA in children with diabetes
- Determine the risks of illnesses in children with diabetes
- Evaluate the management of illness in children with diabetes

Disclosures

- No Financial Conflicts of Interest
- We will only discuss therapies that are currently FDA approved

Outline

1. Background
2. Diabetic ketoacidosis
3. DKA treatment
4. Sick day treatment

Background: Diabetes and Sickness

- Kids with diabetes and other chronic diseases have a higher absentee rate than their peers.
- Illness leads to increased risk of **KETONE** build-up
- Illness leads to increased risk of **DKA**
- **Management of diabetes changes with illness in order to prevent life-threatening DKA.**

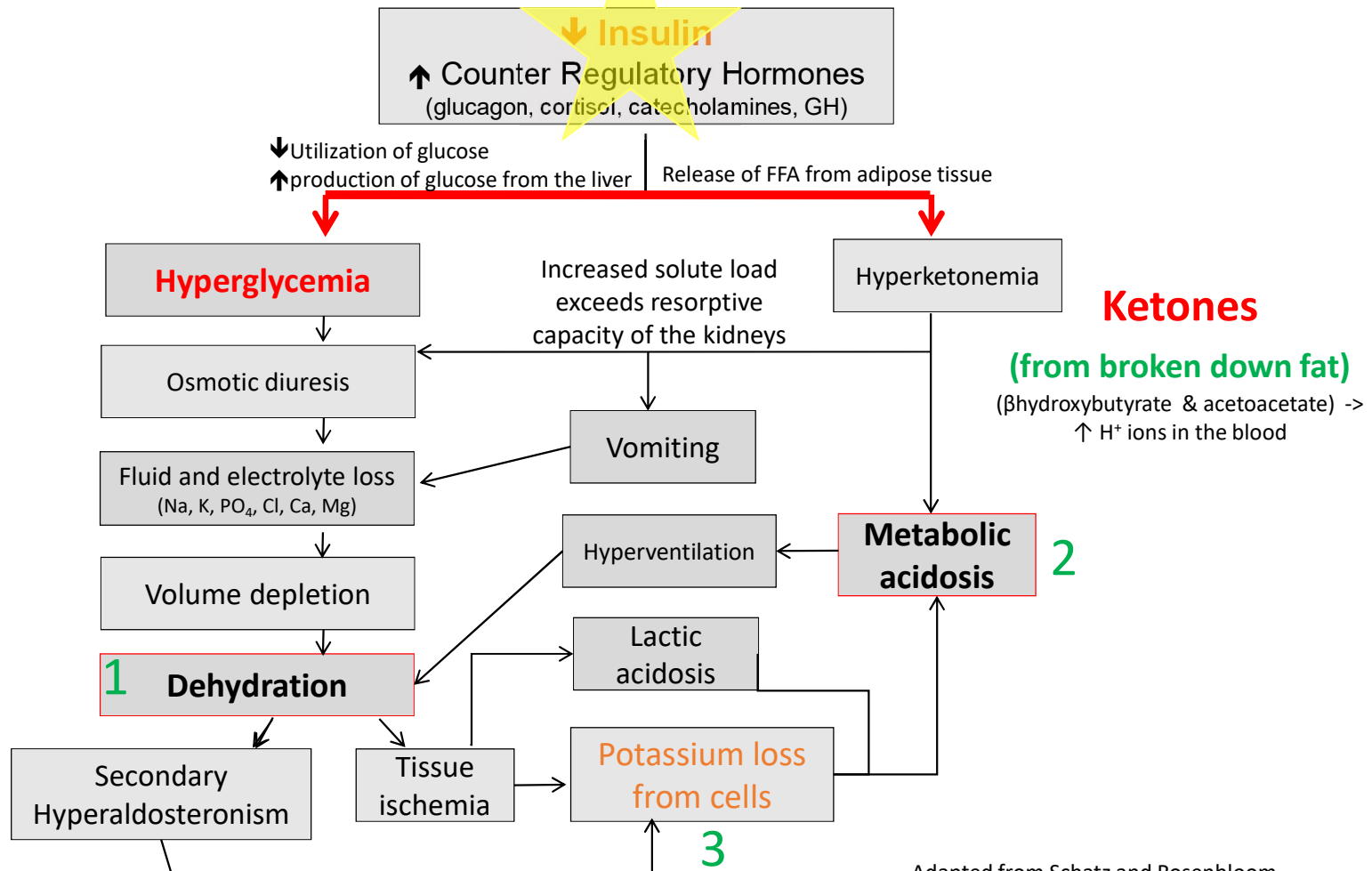
Diabetic Ketoacidosis (DKA)

DKA is the most common cause of death in children T1D.

- Type 1 diabetes ~1 in 250-300 kids in WI
- Patients with T1D always need insulin
- DKA: due to relative or absolute insulin deficit
- Prevention: **KISS** education, ↓ social barriers
When sugars >250 or illness: **KISS**!

KISS: Ketones / Insulin / Sugars / Sips

Diabetic Ketoacidosis (DKA)



Adapted from Schatz and Rosenbloom

Diabetic Ketoacidosis (DKA)

- Nausea & emesis
- Abdominal pain (ketones)
- Tachycardia
- Dehydration
- Wheezing/"asthma"/Kussmauling
- Sore / red throat / acetone smell
- Lethargy, weight loss

DKA diagnosis: bicarb <15 • pH <7.25 • anion gap >15 .

- Degree of hyperglycemia → severity of dehydration
- Degree of acidosis → severity of insulinopenia

Rx for DKA: Hydration + Insulin

INSULIN drives K into cells so initial K may be inflated due to insulinopenia!

1. Dehydration (FLUID)
2. Metabolic Acidosis (INSULIN stops ketosis)
3. Hypokalemia (FLUIDS w/ K + replete K)
4. Cerebral edema (watch for it + if needed Tx)

**Increased thirst/urination +/- vomiting?
Think NEW diagnosis of diabetes – emergency!**

Transfer to a children's hospital

Rx for Sick days: Prevent DKA with a **KISS**

- Illness leads to increased **energy** needs
- Illness leads to increased **insulin** needs
- Illness leads to increased risk of **KETONE** build-up
- Illness leads to increased risk of **DKA**

Rx for Sick days: Prevent DKA with a **KISS**

Ketones: Check every time you urinate (pee)

Insulin: Use syringe/pen to give correction insulin every 3 hours (no carb ratio)


Sugar (blood): Check every 3 hours

Sip: Sugar-free drinks if blood sugar >250 or sugary drinks if ≤ 250

KISS: Ketones / Insulin / Sugars / Sips

Rx for Sick days: Prevent DKA with a **KISS**

I am sick and/or I have ketones. What should I do?

Symptoms	What to Do
Mild <ul style="list-style-type: none"> • Able to eat and drink • No vomiting • No fever • Urine: No ketones • Blood: Ketones <0.6 mmol/L 	 <p>Take your long-acting basal insulin as usual, AND....</p> <p>Ketones: Check once a day</p> <p>Insulin: Give all doses – carb ratio and correction</p> <p>Sugar (blood): Check before meals/bedtime</p> <p>Sip: Sugar-free drinks. (Fluids are very important.)</p>
Moderate <ul style="list-style-type: none"> • Fever, nausea, or diarrhea • Urine: Small/moderate ketones • Blood: Ketones 0.6 -1.5 mmol/L 	<p>Take your long-acting basal insulin as usual, AND....</p> <p>Ketones: Check every time you urinate (pee)</p> <p>Insulin: Use syringe/pen to give correction insulin every 3 hours (no carb ratio)</p> <p>Sugar (blood): Check every 3 hours</p> <p>Sip: Sugar-free drinks if blood sugar >250 or sugary drinks if ≤ 250</p>
Severe <ul style="list-style-type: none"> • Vomiting • Urine: Large ketones • Blood: Ketones >1.5 mmol/L 	

Thank you.

TYPE 1 DIABETES

Home > Pediatric Diabetes and Endocrinology > Type 1 Diabetes

UW Health diabetes specialists provide services and care for young patients with type 1 diabetes education, counseling and treatment, including the genetics of diabetes.

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Halloween may mean costumes, but sometimes also means candy! [Check out this file for common Halloween treats](#) (pdf)

[FAQ](#) | [Events](#) | [New Diabetes Families](#) | [Books](#) | [Gadgets and Apps](#) | [Diabetes Quiz](#)

FAQ
Sick or ketones present? Financial needs for diabetes care? What's an insulin pump? Go to our Type 1 Diabetes Frequently Asked Questions page to answer your questions about diabetes.

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