
American Diabetes Association.

Legal Obligations

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Americans with Disabilities Act

- Whom does it apply to?
- What does it require?
- What does it mean for me?

ADA: Whom Does It Apply To?

- Title III of the ADA applies to “places of public accommodation”
- All programs that are open to the public
- All ___’s programs are subject to the requirements of title III

ADA: What Does It Require?

- Prohibits discrimination on the basis of disability
- Requires entities to make “reasonable modifications” in policies, practices, or procedures to ensure access by the person with a disability

Legal Obligations

ADA: What Does It Require?

Common reasonable modifications for children with diabetes

- Checking a child's blood glucose levels and responding to those that are too low or too high
- Helping a child administer his or her insulin and administering insulin for a child who cannot do it independently
- Counting carbohydrates
- Administering lifesaving glucagon in an emergency

ADA: What Does It Mean For Me?

- Duty to ensure your center is following all ___ policies with regard to diabetes and the ADA
- Train your staff to understand diabetes and be comfortable with the new policies
- Elevate concerns to Inclusion Services

Diabetes Care

American Diabetes Association.

Diabetes Care: What Is Diabetes?

In diabetes:

- The body does not make or properly use insulin

Insulin is needed to:

- Move glucose from blood into cells for energy

If insulin isn't working, high blood glucose results in:

- Low energy levels
- Dehydration
- Complications

Diabetes Care: Type 1 Diabetes

Autoimmune disorder

Insulin-producing cells are destroyed

Daily insulin replacement is necessary for survival

Age of onset: usually childhood, young adulthood

Most common type of diabetes in children and adolescents

Diabetes Care: Type 2 Diabetes

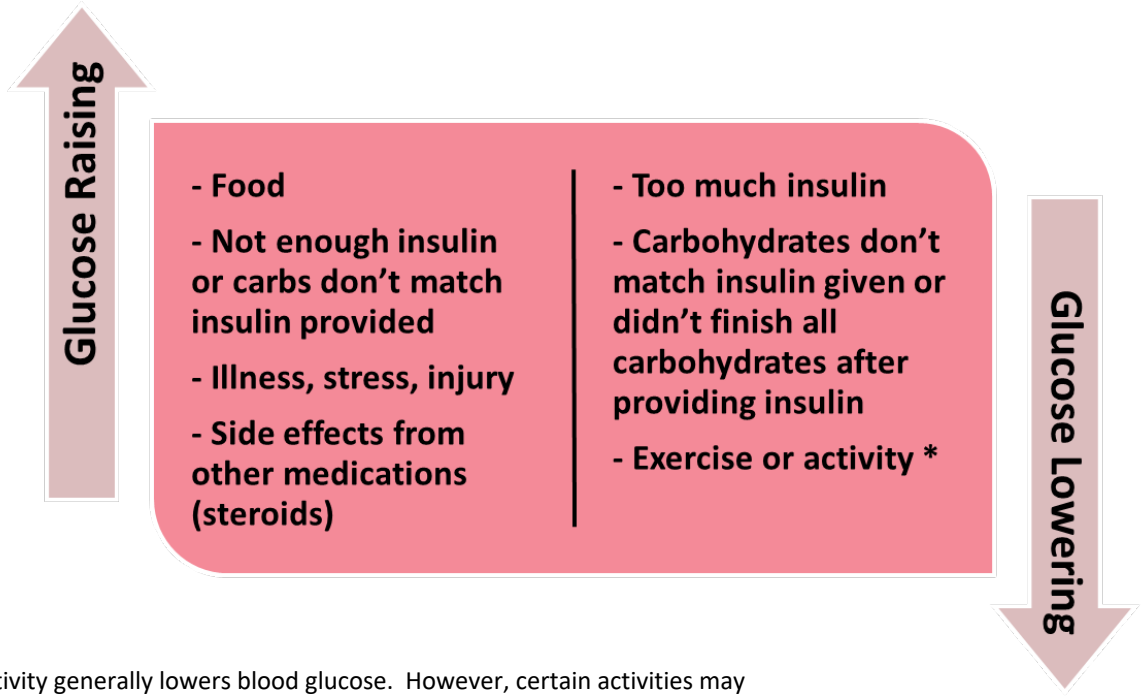
Insulin resistance – first step

Insulin or other injectable medications may or may not be required for treatment

Age of onset: most common in adults but increasingly common in youth

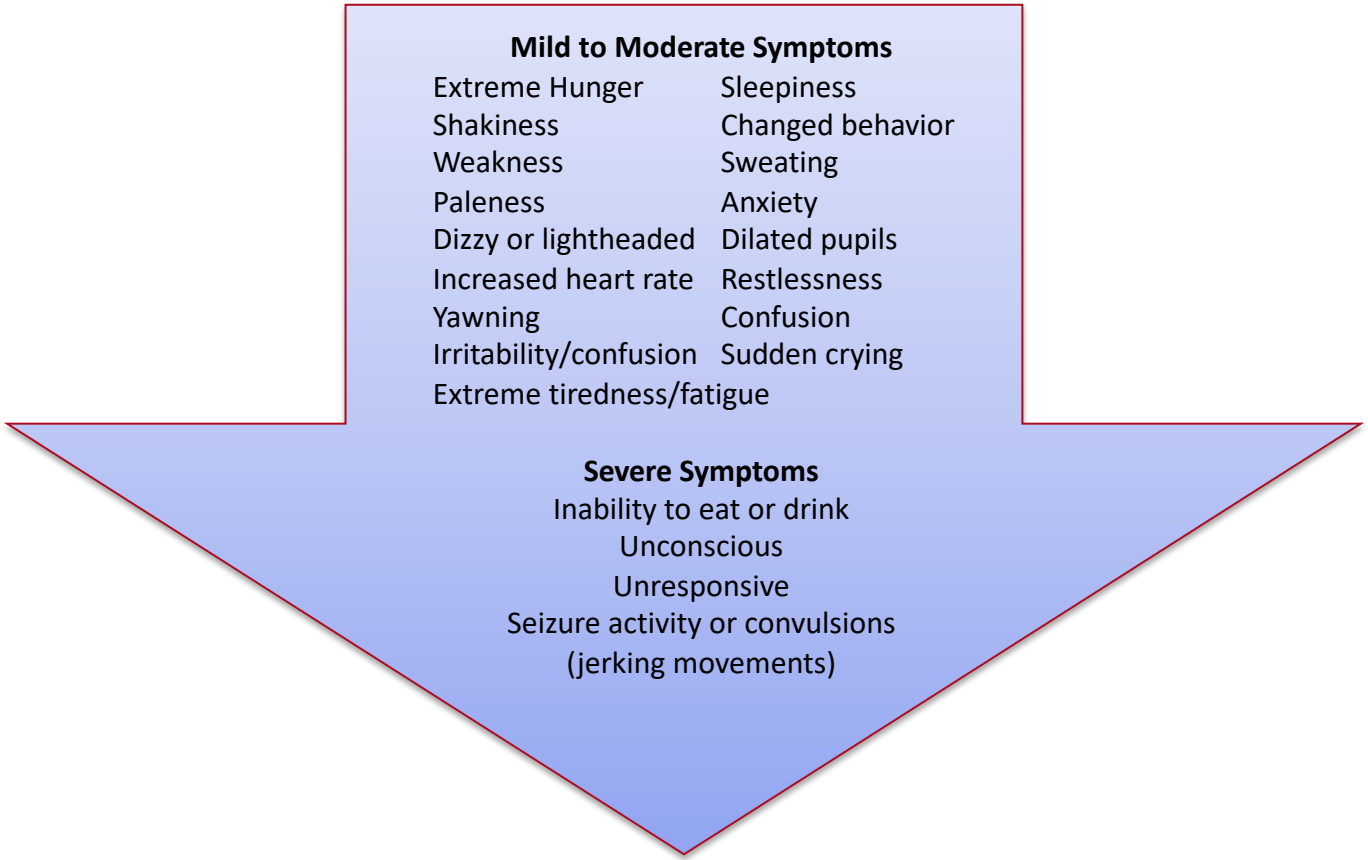
Risk factors include:
- Genes
- Ethnicity
- Overweight
- Inactivity

Diabetes Care: The 24/7 Juggling Act

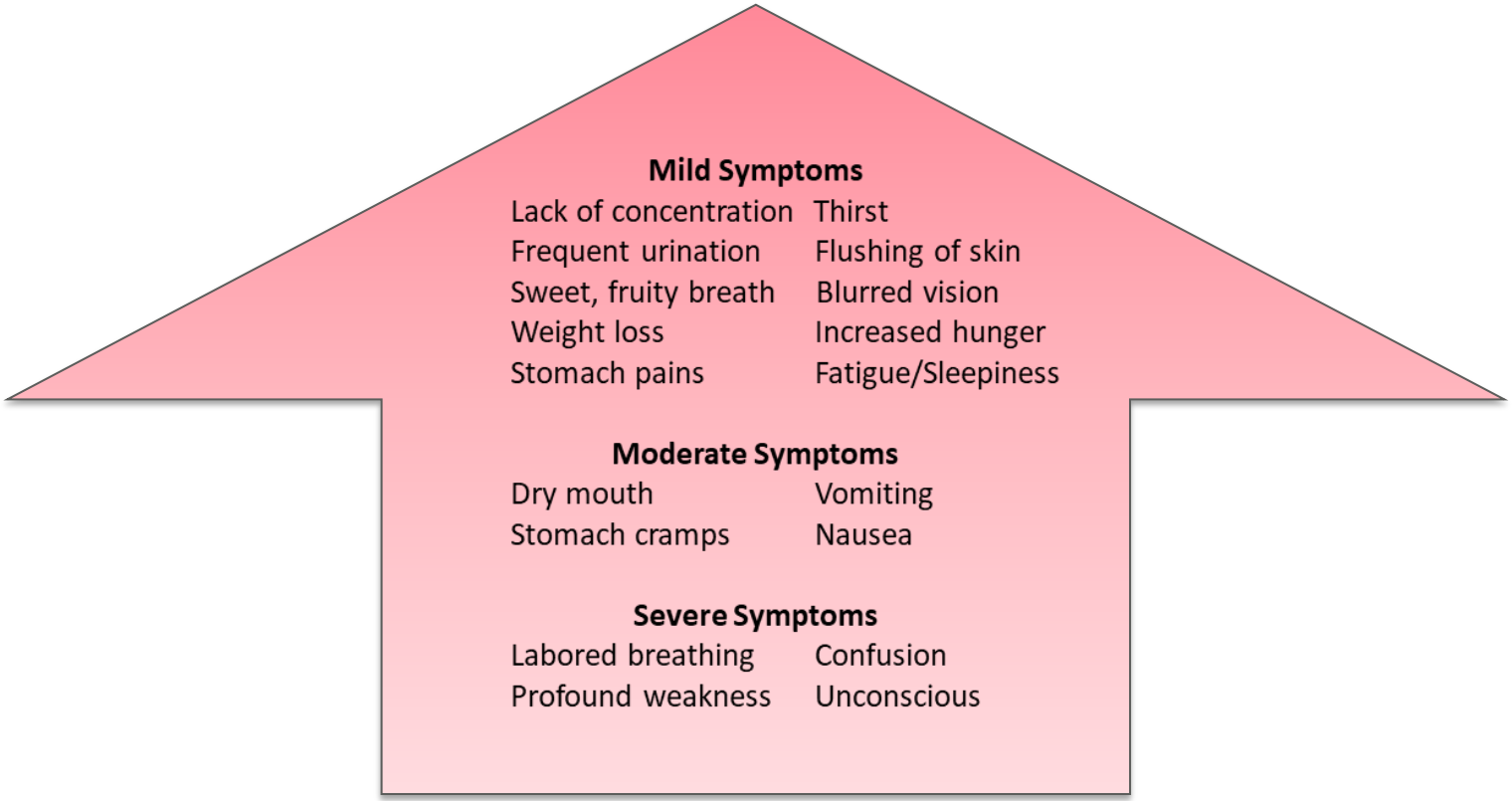


* Physical activity generally lowers blood glucose. However, certain activities may raise blood glucose for some students.

Diabetes Care: Hypoglycemia



Diabetes Care: Hyperglycemia



Diabetes Care: What Is Insulin?

Insulin is a hormone that is necessary:

- Moves glucose from blood into cells for energy

Children with type 1 diabetes do not produce insulin

Without enough insulin, high blood glucose results:

- Energy levels are low
- Dehydration
- Complications

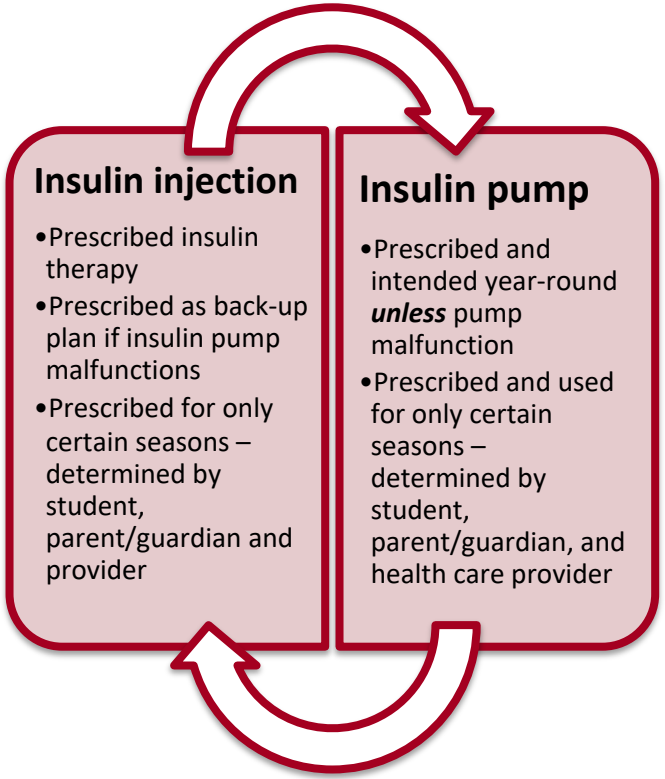
Diabetes Care: Administering Insulin

- Many children require rapid acting insulin before meals and snacks; timing should be included in the Diabetes Care Plan
  - Note, hypoglycemia can occur if meal or snack is delayed for more than 15 minutes after insulin injection or insulin pump bolus
- The carbohydrate amounts need to be calculated or the child will need help in choosing foods that fit their meal plan
- It is important that the child eats all the food they said they were going to eat to prevent a low blood sugar since the insulin dose is determined by the food intake anticipated for that meal/snack

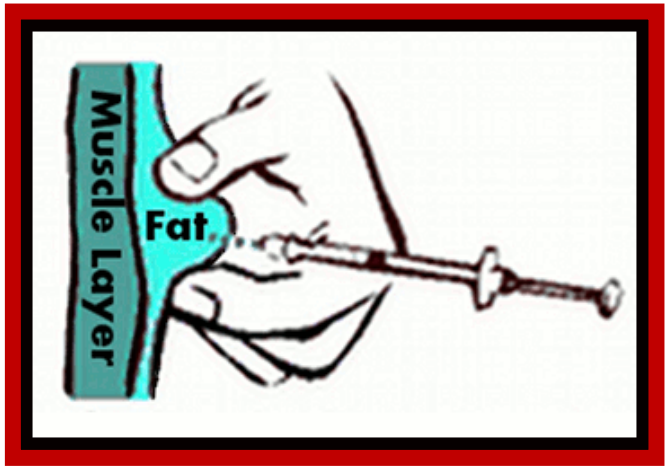
Diabetes Care: Insulin Delivery Methods

Diabetes Care: Method of Insulin Delivery

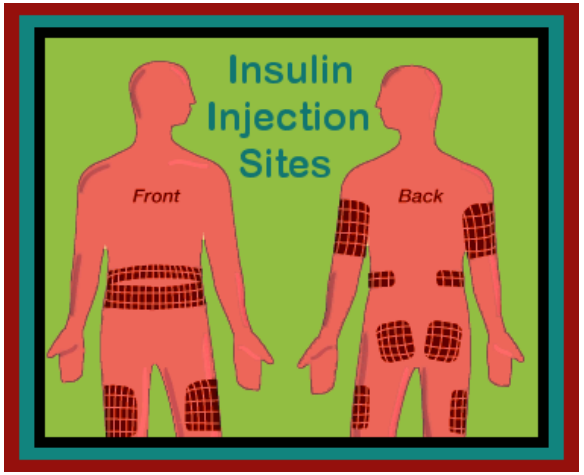
Syringe and vial or insulin pens may be used for those on injections **but also** for those on insulin pump therapy during times of pump malfunction



Diabetes Care: Insulin Injections



- Inject into fat layer under skin
- Rotate sites
- Child should help choose site

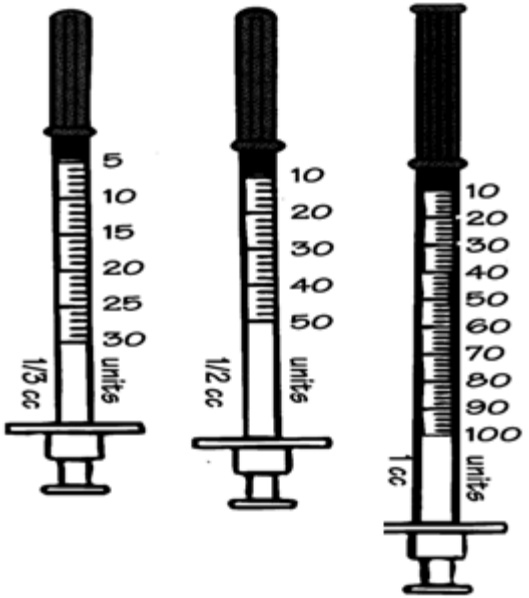


Common sites: abdomen, thigh buttocks, upper arms

Diabetes Care: Insulin Syringes

Sizes: 30, 50, 100 units

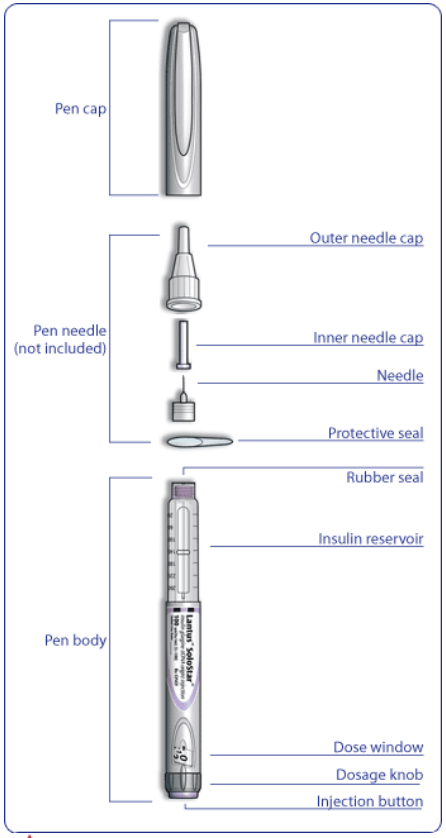
- Whole unit markings
- Half unit syringes often preferred in very young children



Disposal

- Do not reuse
- Do not recap

Diabetes Care: Insulin Pens



Types of pens

- Pre-filled pens
- Reusable (cartridge) pens

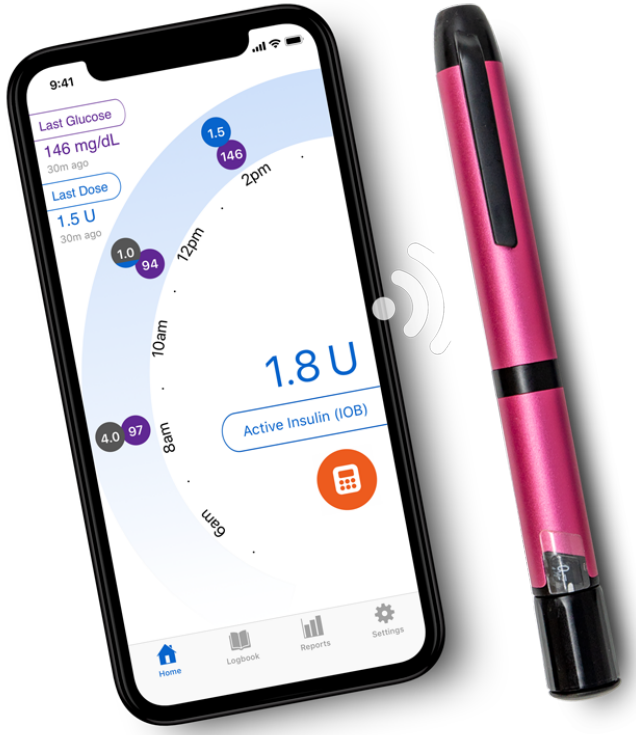
Types of insulin in pens

- Basal or long-acting insulin
- Bolus or rapid-acting insulin

Most children will only take rapid-acting or bolus insulin while at school/in a child care program

Diabetes Care: InPen Smart Pen

- Reusable insulin pen for patients 12 years and older
- Delivers up to 30 units of insulin dialed in half unit increments
- Works with specific blood glucose meters
- Needle-free and does not require mixing
- Calculates insulin dose based on dose history, blood glucose levels, and carbohydrate intake
- Uses target blood glucose, insulin-to-carbohydrate ratio, and sensitivity factor determined by diabetes provider
- Compatible with Apple and Android smart phones
- www.companionmedical.com/inpen



Diabetes Care: Insulin Pumps

- Battery operated device about the size of a pager
- Reservoir filled with insulin
- Insulin is delivered by tubing or from a “patch”
- Worn 24 hours per day
- Delivers only rapid-acting insulin

Diabetes Care: Blood Glucose Monitoring

- Simply, easy to use
- Small meters
- Reliable results (with smaller samples)
- Options for alternate (to finger poke) site testing
- Enhanced electronic functions to record, share, and analyze data
- Limitation – unknown blood glucose between checks

Diabetes Care: Continuous Glucose Monitors (CGM)

CGM have three parts: A **sensor, transmitter, and receiver**:

- A tiny glucose-sensing device called a "**sensor**" is inserted just under the skin and remains for 7-10 days
- A transmitter is attached to the sensor and sends the information to a receiver
- The receiver can be a manufacturer-issued display device, smart device or insulin pump
- The system automatically records a glucose value every 1-5 minutes
- Some CGM provide alarms to signal when glucose is out of target range
- Some CGM devices are FDA-approved for insulin dosing and treatment decisions

Diabetes Care: Examples of CGMs

Diabetes Care: Hybrid Closed-Loop Insulin Pumps

More advanced hybrid closed loop systems self-adjust insulin delivery based on sensor data

- The Medtronic 670G System and the Tandem X2 Control-IQ (a pump + a sensor) partially automates insulin delivery to help students stay in a target glucose range
- Can be used in Auto-Mode (hybrid closed loop) or Manual-Mode (basic pump and sensor therapy without automated delivery)
- Paired with CGM technology enabling automated basal insulin adjustments
- Important to address alerts
- Children who cannot self-manage independently will require assistance

What is Glucagon?

- Naturally occurring hormone made in the pancreas
- Life-saving, hormone that raises blood glucose level by stimulating the liver to release stored glucose
- Injectable (Glucagon/GlucaGen)
- Treatment for severe hypoglycemia
- Life-saving, cannot harm a student – cannot overdose

Nasal Glucagon

Baqsimi

- A dry nasal glucagon powder spray given to treat severe hypoglycemia in patients 4 years and older
- Given in a single 3mg dose
- Inhalation is not required
- Needle-free and does not require mixing
- Administration requires 3 steps:
  - Removal of device from tub
  - Insertion of device tip into one nostril
  - Push plunger all the way in

www.baqsimi.com

Keep tube sealed until ready to use.

Gvoke Glucagon Injection

- A pre-filled liquid glucagon injection that does not require mixing
- Approved for patients 2 years and older
- Available in 2 dosages for kids (0.5 mg and adults/adolescents (1.0 mg)
- Administration requires 2 steps:
  - Remove the cap
  - Press the pen against the skin

  Automatic injector will deliver glucagon upon contact with skin and then retract the needle

  www.gvokeglucagon.com

Conventional Glucagon Injection Kit

- Kit contains a pre-filled liquid injection that is mixed with the vial of powder
- Given in 2 dosages for kids (0.5 mg) and adults/adolescents (1.0 mg)
- Administration requires multiple steps:
  - Remove the cap
  - Inject syringe with liquid into powder vial and mix
  - Inject syringe into tissue as per physician's orders
  - Place child on side and call 911
  - Consciousness regained in 10-20 minutes

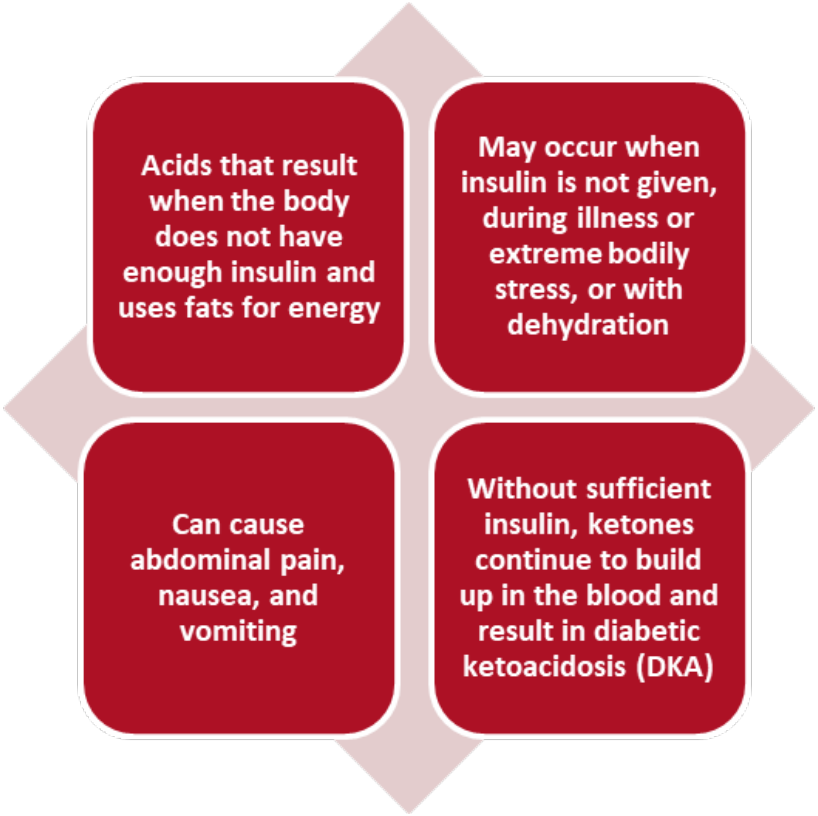
www.lillyglucagon.com
www.glucagenhypokit.com

Diabetes Care: High Alert Situations

Parent/Guardian should be called if a child has:

- Severe low blood glucose
- Vomiting, positive ketones
- Refusing to eat
- Refusing to check blood glucose
- Low blood glucose has been treated but is not coming up
- High blood glucose has been treated but is not coming down

What are Ketones?



Why Check For Ketones?

- DKA is a critical emergency state
- Early detection and treatment of ketones prevents diabetic ketoacidosis (DKA) and hospitalizations due to DKA
- Untreated, progression to DKA may lead to severe dehydration, coma, permanent brain damage, or death
- DKA is the number one reason for hospitalizing children with diabetes

Checking for Ketones

Urine	• Most widely used
Blood	• Requires a special meter and strip • Procedure similar to blood glucose checks

Diabetes Care: Where To Learn More

www.diabetes.org/SafeatSchool

- Child Care Diabetes Medical Management Plan
- Tips for Managing Diabetes in the Child Care Setting
- Care of Young Children with Diabetes in the Child Care Setting (Position Statement)