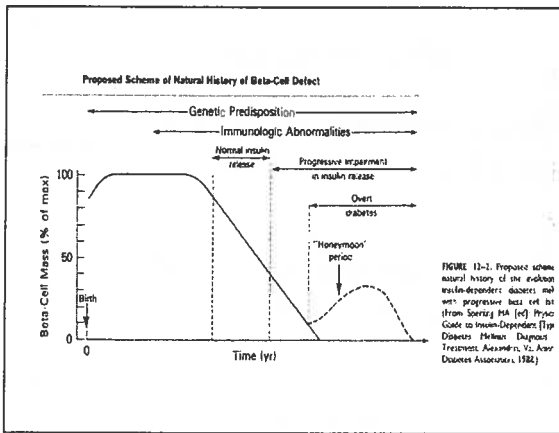


Children with Type 1 Diabetes

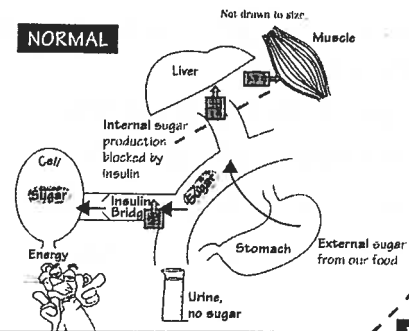
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 Assistant Professor of Pediatrics
 Division of Pediatric Diabetes and Endocrinology
 American Family Children's Hospital

Type 1 Diabetes Mellitus

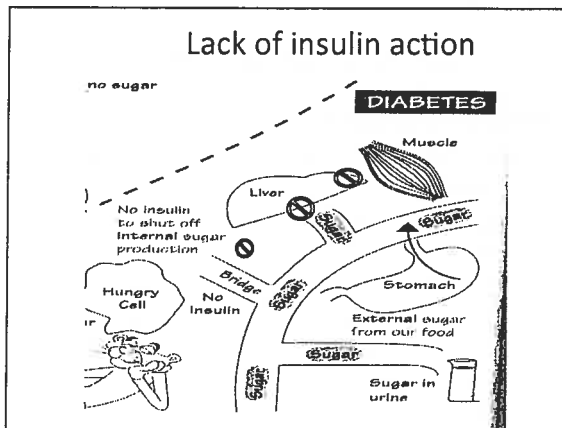
- 1 in 2500 children by the age of 5 years
- 1 in 300 by the age of 18 years
- Due to destruction of the Beta cells in the pancreas that are responsible for making insulin.
- Need to replace insulin via injections on a daily basis.



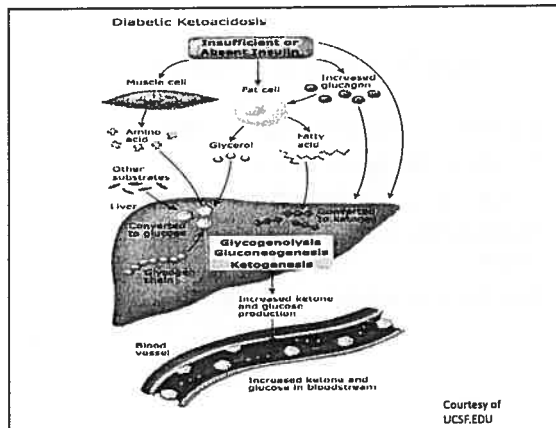
What does insulin do?



Lack of insulin action



Diabetic Ketoacidosis



Why important to recognize in children?

- In the US, rates of DKA at diagnosis of type 1 diabetes have remained at 25%.
- Prevalence at diagnosis is higher in younger children (36%) than adolescence (16%).
- DKA is the most common cause of death in children with type 1 diabetes

Diabetes Care, 2006, Pediatrics in Review, 2008

- Children are at higher risk of cerebral edema (CE).
- CE occurs in 1% of cases of DKA.
- Risk of mortality with CE is 20-25%.
- Risk of morbidity with CE is 10-25%. (permanent neurologic damage)

What are the risks?

- Risk of mortality due to DKA 0.1 to 0.5%
- Risk of mortality due to motor vehicle accident: 1%

What are risks for DKA?

- Omission of insulin
- Illness
- Chronic poor control (high A1C)
- Poor pump management

How to recognize DKA

- Check for urine ketones
 - When ill—even if blood sugars are running in range
 - When blood sugars have been consistently high
- If ketones are present—more insulin and fluids are needed

- If on a pump, check blood sugars frequently, if not responding to boluses, give injection of insulin and change site
- Do not change pump site right before going to bed

Hypoglycemia

- Risks—
 - Increased activity
 - Increase in insulin
 - Tight diabetes control
 - Hypoglycemic unawareness
 - Recent severe low blood sugar
 - Alcohol use/intoxication

Preventing Hypoglycemia

- Proactive—on active days, check blood sugars more frequently (extra snack at bedtime)
- Proactive—when increasing/adjusting insulin, check blood sugars more frequently
- If on severe hypoglycemic event, back off on insulin
- If hypoglycemic unawareness, back off on insulin
- Be cautious and responsible when drinking