

Type 1 Diabetes Mellitus

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What is Type 1 Diabetes Mellitus?

- Type 1 diabetes is chronic condition in which the pancreas produces very little or no insulin
- Insulin is a hormone that is produced by the body that moves sugar from the bloodstream into the cells to be utilized as energy
- People with type 1 diabetes **require** insulin administration to control blood sugar

Prevalence



Diabetes Mellitus: Type 1 vs. Type 2

Type 1

- Often diagnosed in childhood & adolescence
- Insulin dependent
- Risk factors: genetics
- Managed with insulin

Type 2

- Often diagnosed in adulthood
- Insulin resistant
- Risk factors: family history, diet, weight, lifestyle choices
- Managed with diet, exercise, oral medication, and insulin

Type 1 Diabetes Mellitus

Risk Factors

- Family history
- Genetics

Signs and Symptoms

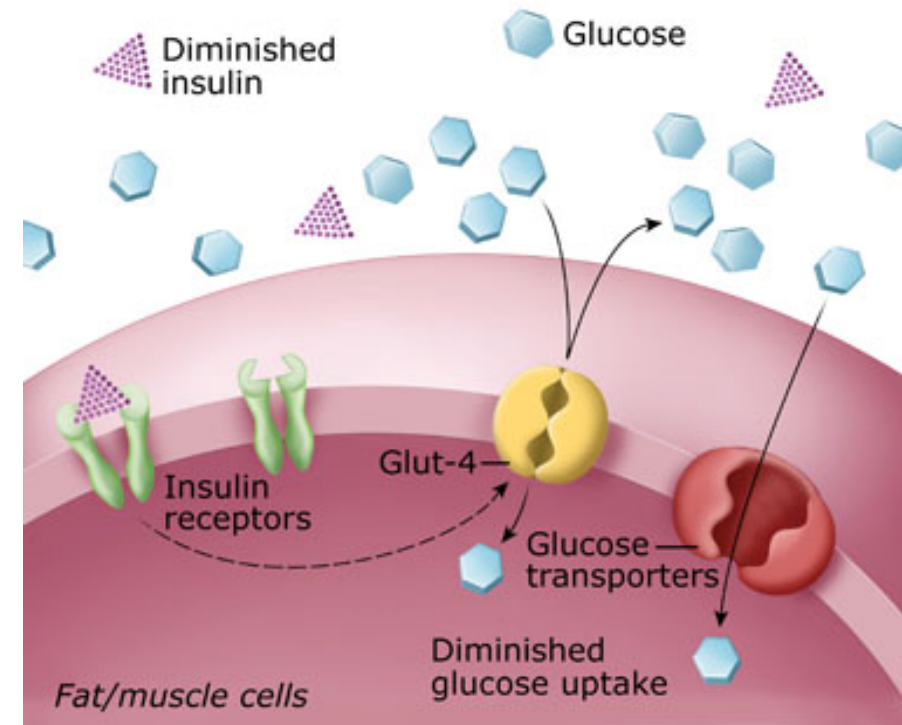
- Increased thirst, hunger, and urination
- Fatigue
- Blurred vision
- Delayed wound healing
- Weight loss

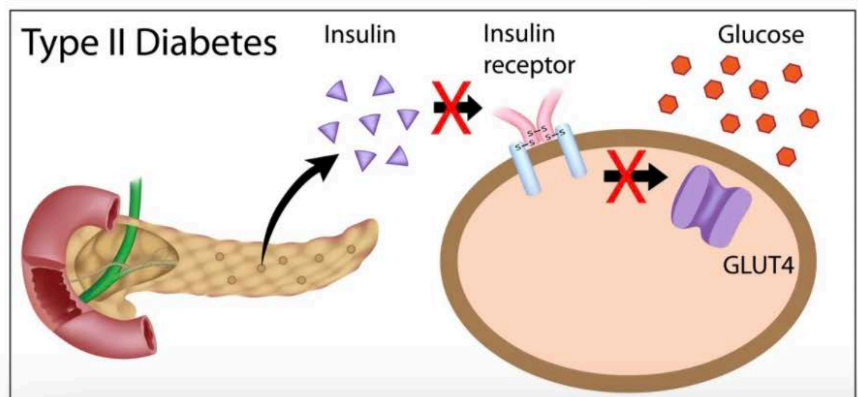
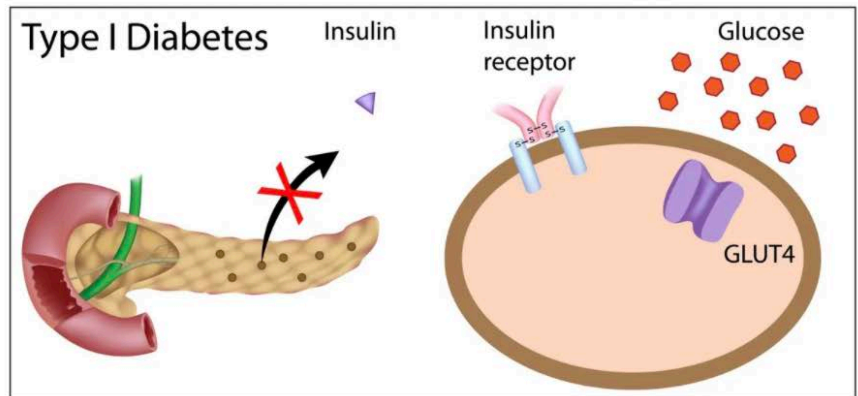
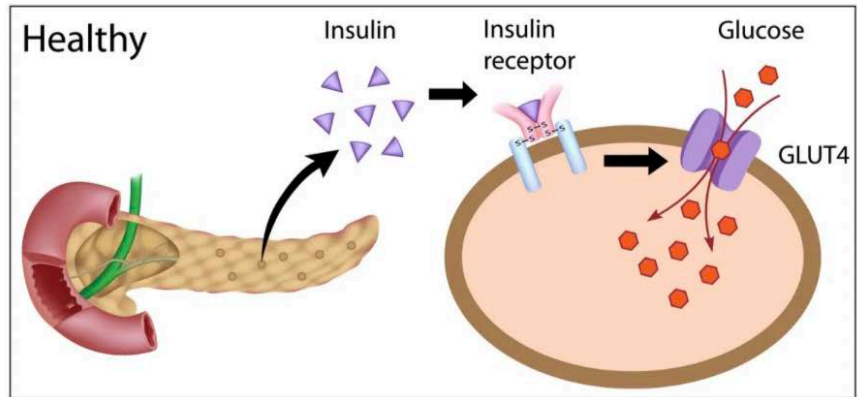
Pathophysiology

Type 1 diabetes mellitus is characterized by:

- Pancreatic islet beta cell destruction
 - Immune mediated
 - Idiopathic

Type 1 Diabetes: Insufficient Insulin





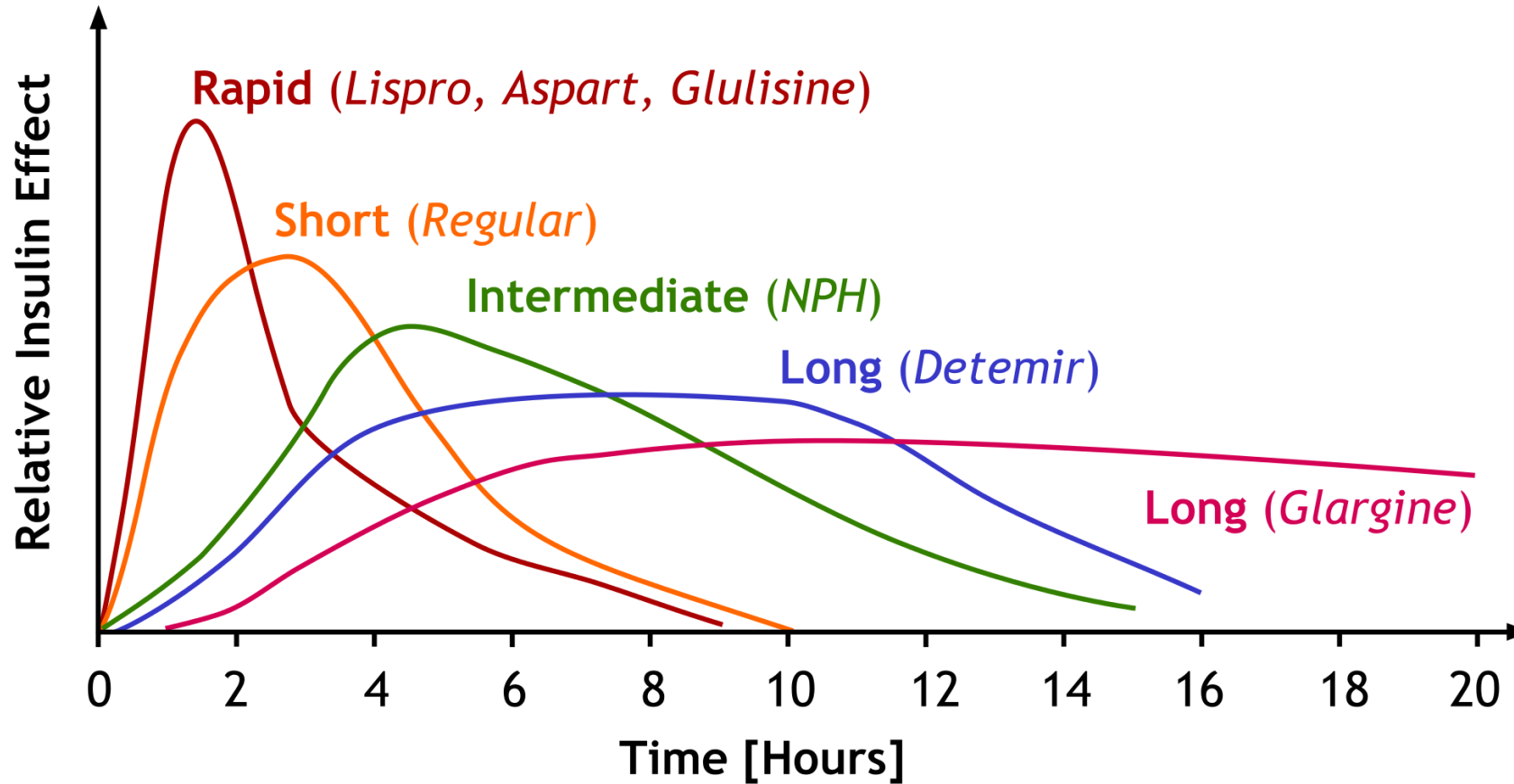
Diabetic Ketoacidosis (DKA)

- Serious complication, life–threatening complication of diabetes
 - Most common in type 1 diabetes
- DKA occurs when your body doesn't have enough insulin to allow blood sugar into your cells for use as energy
- Signs and symptoms
 - Thirst, urination
 - Fast, deep breathing
 - Headache
 - Fruity smelling breath
 - Muscle stiffness or aches
 - Nausea and vomiting
 - Stomach pain

Treatment

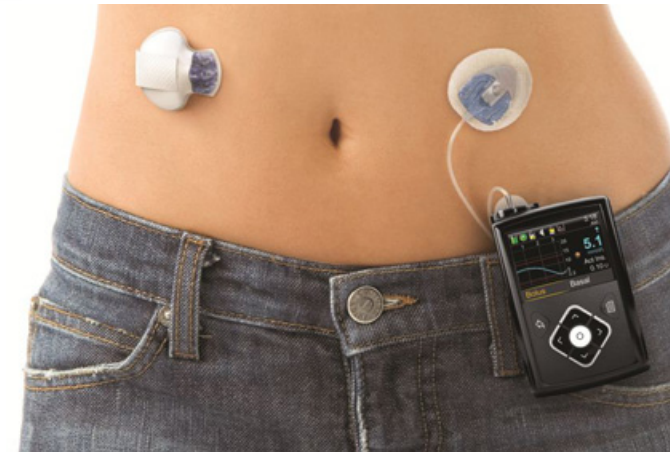
- Monitor blood glucose often (prevent episodes of hypoglycemia and hyperglycemia)
- Insulin
 - Rapid – acting
 - Short – acting
 - Intermediate – acting
 - Concentrated human regular insulin
 - Long – acting
 - Premixed insulin

Treatment



New and Emerging Technologies in Type 1 Diabetes Mellitus

- Smart insulin pen
- Continuous glucose monitoring devices
- Automated insulin delivery system
- Insulin pumps



Citations

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