

# 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

# Diabetes Mellitus: Type 1 vs. Type 2

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# Type 1 Diabetes Mellitus

## Risk Factors

- Family history
- Genetics

## Signs and Symptoms

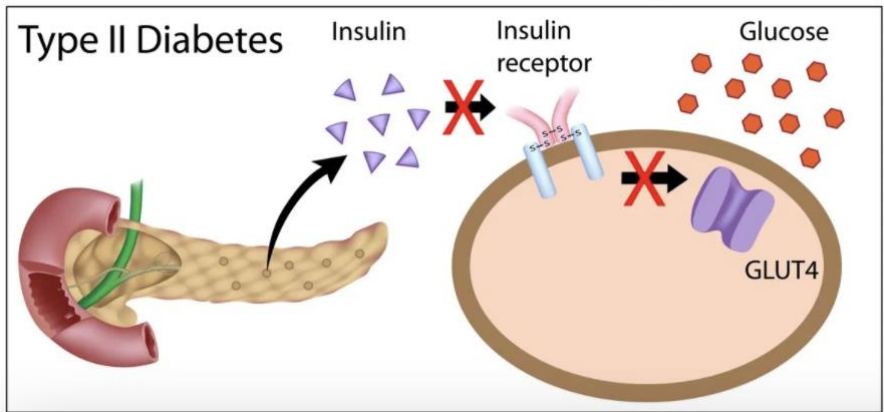
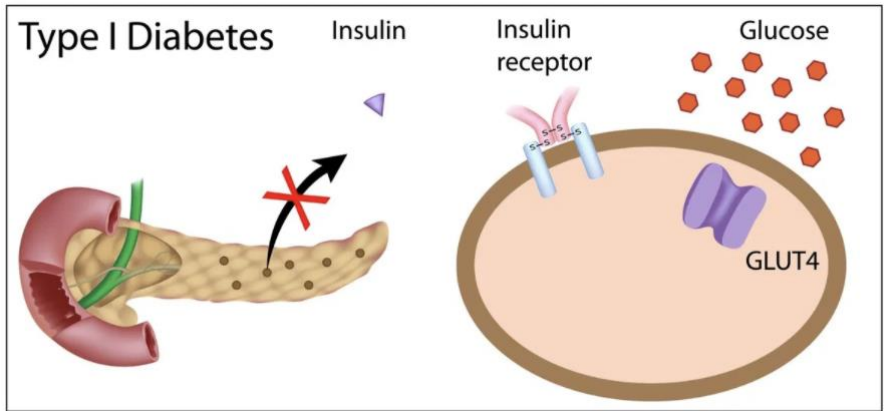
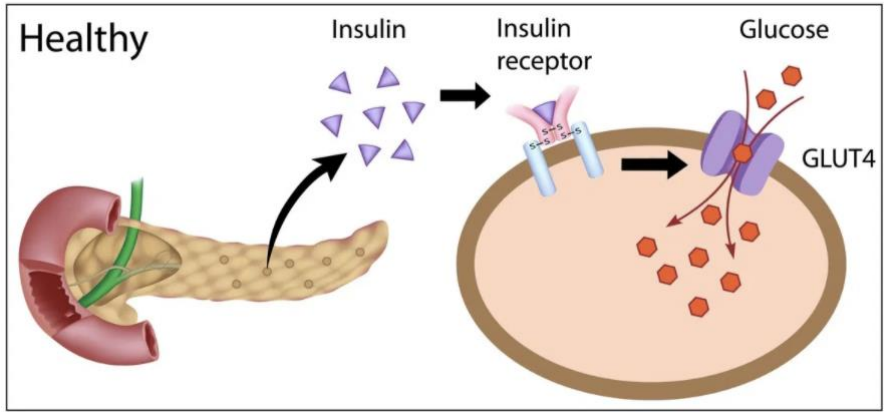
- Increased thirst, hunger, and urination
- Fatigue
- Blurred vision
- Delayed wound healing
- Weight loss

# Pathophysiology

Type 1 diabetes mellitus is characterized by:

- Pancreatic islet beta cell destruction
  - Immune mediated
  - Idiopathic







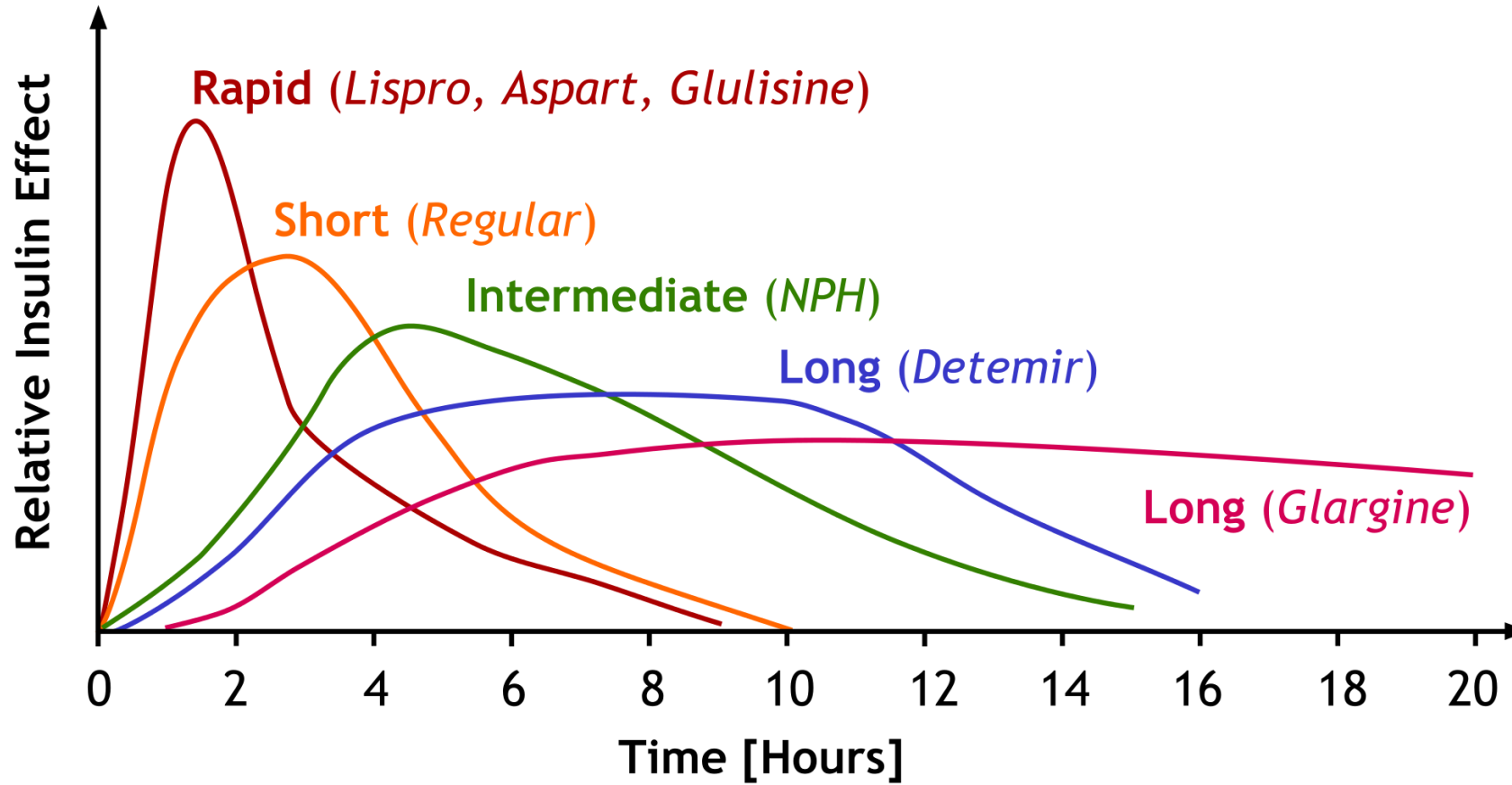
# Diabetic Ketoacidosis (DKA)

- 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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