


2

Before We Begin ...



- Our goal is to create a safe space where all participants are comfortable to learn, share, ask questions
 - Everyone brings knowledge and expertise
 - I am always learning too
 - We won't record discussions, but will share monthly education videos
- The coaching sessions will focus on practical pieces of working in diabetes. For details, it is always best to reference the Diabetes Canada Clinical Practice Guidelines (guidelines.diabetes.ca)

3

What We Plan to Cover Today



- Explaining pathophysiology of diabetes
 - Understanding digestion
 - Insulin resistance
 - Building on this for the “why” of making health changes
- Symptoms of hyperglycemia, guidelines for screening
- Type 1 labwork

4

Diabetes Mellitus



Hyperglycemia as a result of:

- Inadequate insulin production and/or secretion
- Inadequate insulin usage
- Combination of both

Types

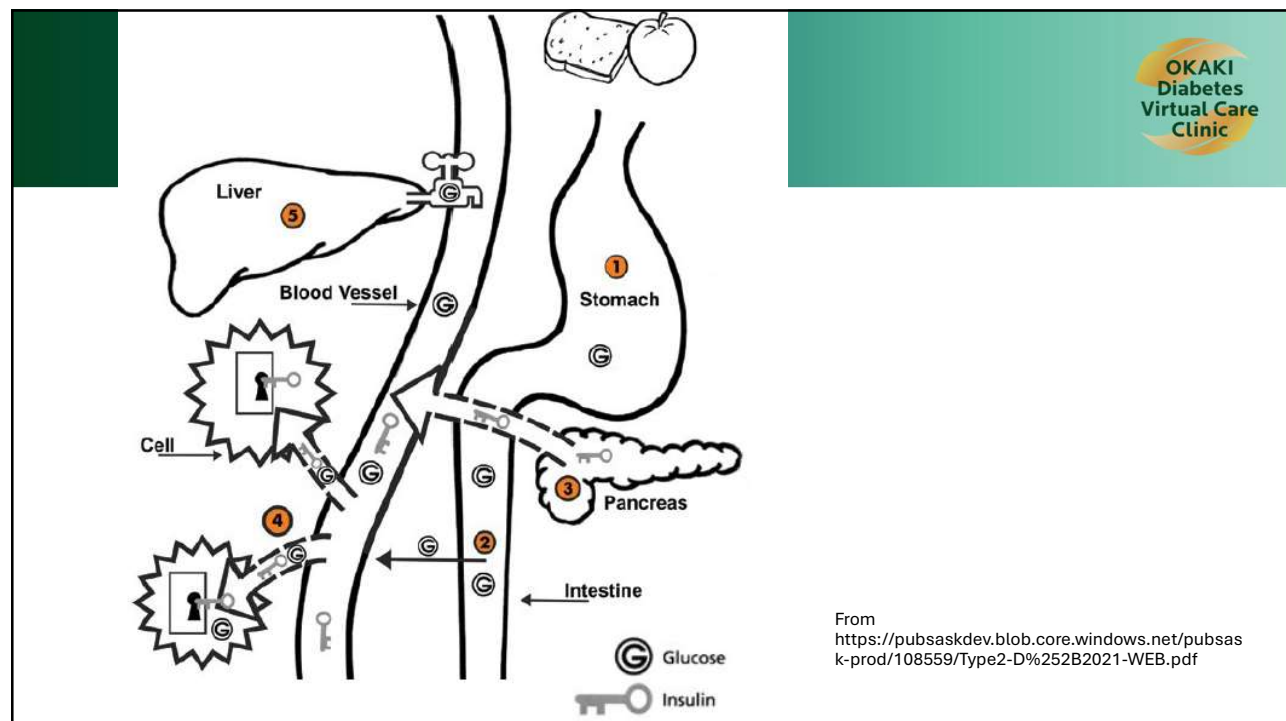
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|----------|------------------------|----------------------|---------------|
| • Type 1 | • LADA | • MODY | • Prediabetes |
| • Type 2 | • Gestational Diabetes | • Secondary Diabetes | |

5

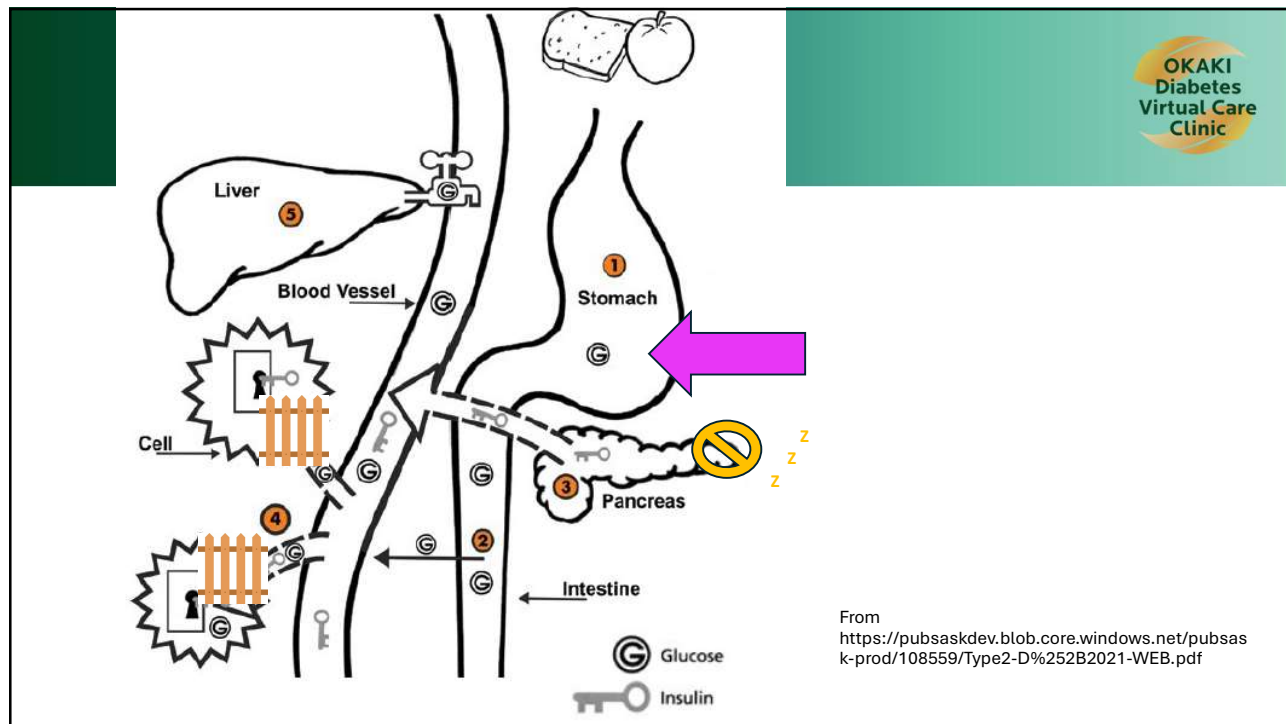


Explaining the Pathophysiology of Diabetes

6



7



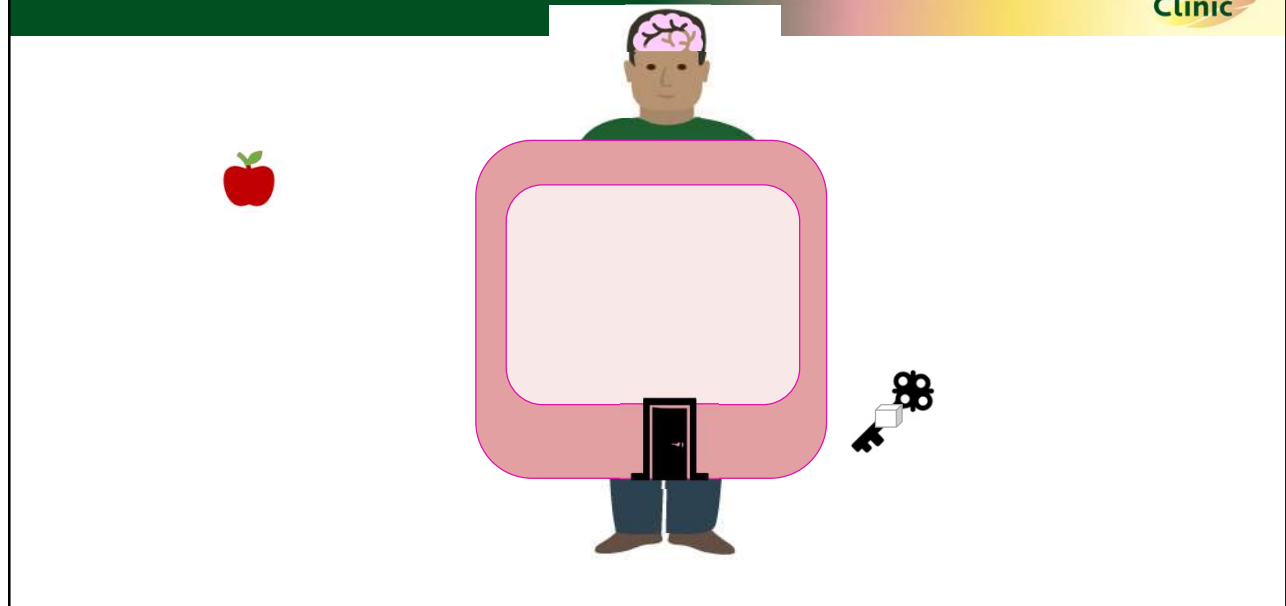
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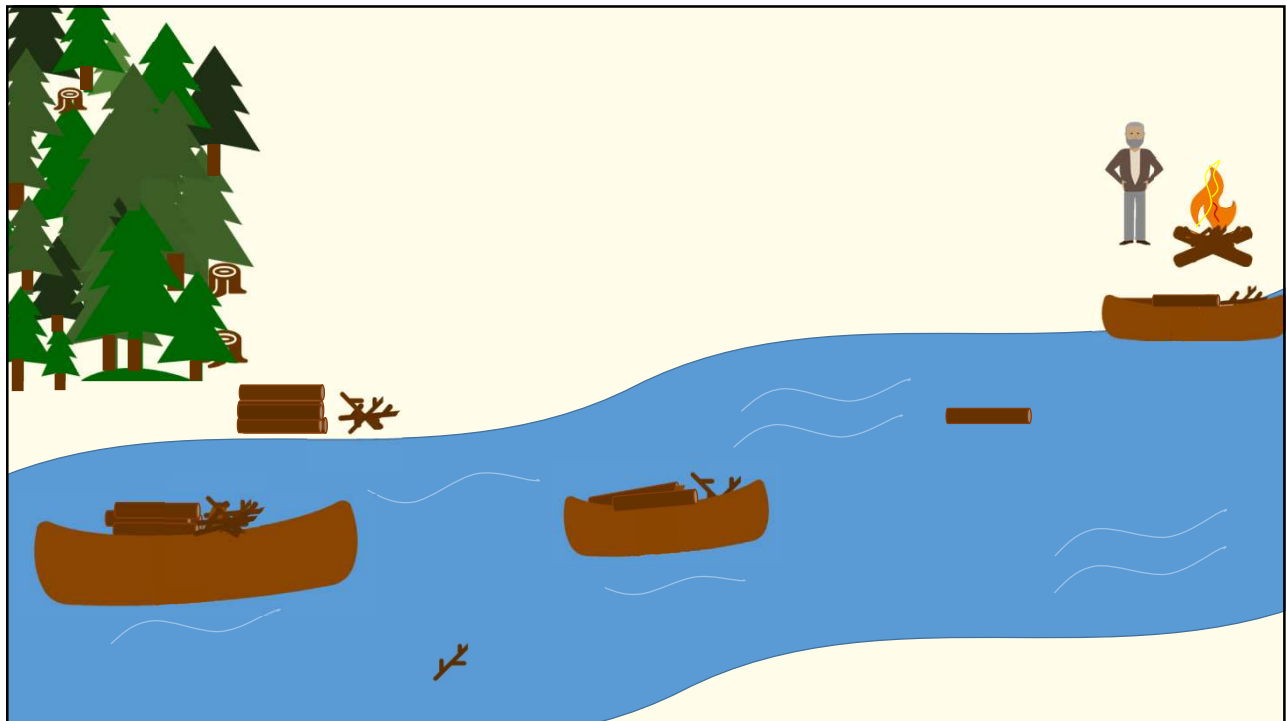
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How we use food

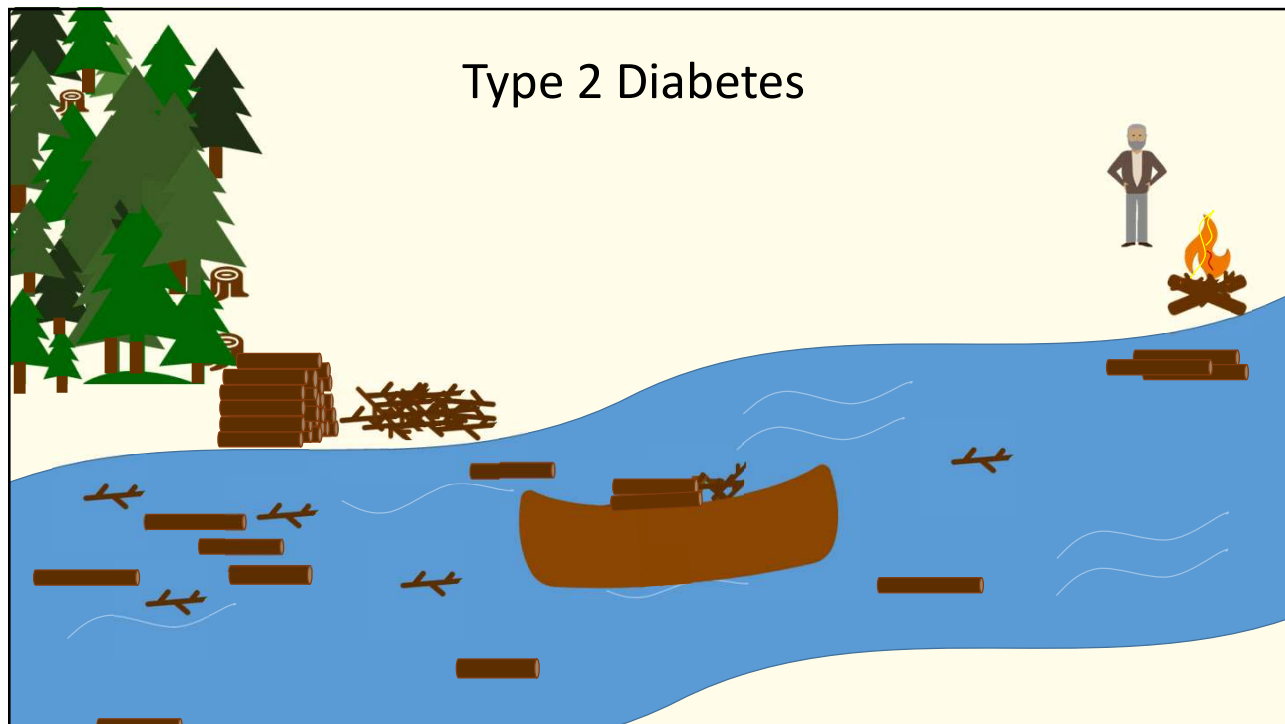
OKAKI
Diabetes
Virtual Care
Clinic



10




11




12

Counterregulatory Hormones



- Hormones that work “against” insulin
- Cause blood glucose to rise
 - Glucagon
 - Release of glucose from liver/muscle
 - Epinephrine
 - Causes release of glucose from liver
 - “fight or flight”
 - Growth Hormone
 - Produced in puberty, pregnancy
 - Catecholamines
 - Ex. Cortisol



Contribute to “Dawn Phenomenon”

13



Hyperglycemia Symptoms & Screening for Type 2 Diabetes

14

Hyperglycemia: Signs & Symptoms



WEIGHT CHANGE



FREQUENT URINATION



THIRST



FATIGUE



BLURRED VISION



INFECTIONS



DIFFICULTY HEALING

TINGLING/NUMBNESS
IN HANDS OR FEET

15

Screening



- No recommendations for screening for T1D
- T2D
 - assess risk annually, screen every 3 years for those > 40 or with ≥ 1 risk factor
 - Screen every 6-12 months for those who have additional risk factors

16

Risk Factors for Type 2



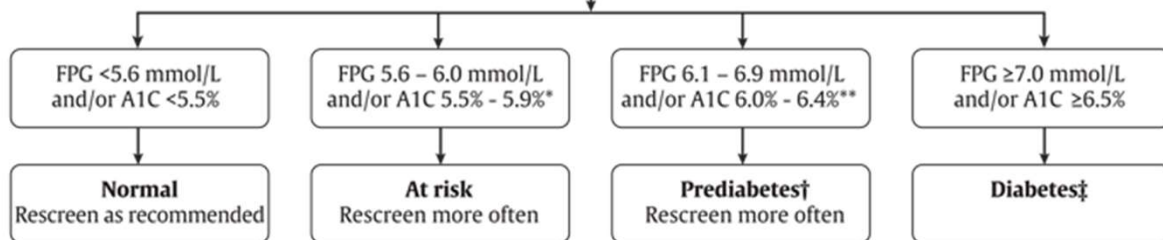
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|--|---|
| • Age ≥ 40 years | • Presence of end-stage organ damage associated with diabetes |
| • First-degree relative with type 2 diabetes | • Presence of vascular risk factors |
| • Member of high-risk population | • Presence of associated diseases |
| • History of prediabetes | • Use of drugs associated with diabetes |
| • History of GDM | |
| • History of delivery of LGA infant | |

17

Screening



Screen every 3 years in individuals ≥ 40 years of age or in individuals at high risk using a risk calculator.
Screen earlier and/or more frequently (every 6 to 12 months) in people with additional risk factors for diabetes (see Table 1) or for those at very high risk using a risk calculator.



18



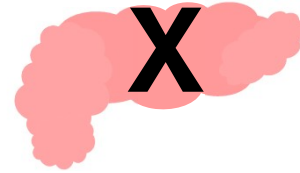
Type 1 Diabetes

19

Type 1 Diabetes



- Autoimmune condition
 - Destruction of beta cells in the pancreas
 - Inadequate insulin leads to hyperglycemia
 - Requires external insulin
- Primarily diagnosed in people < 25 years of age, however can be diagnosed at any stage of life

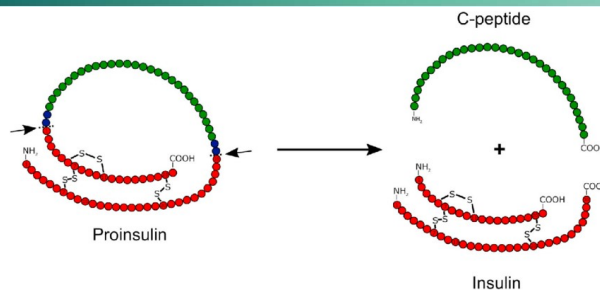


20

Labwork



- C-Peptide
 - Marker of insulin production
 - Normal or high = T2D
 - Low or undetectable = T1D



- Anti-GAD (Anti-Glutamic Acid Decarboxylase)
 - Marker of auto-immunity
 - High = T1D

21

Who should have the testing done?



- Younger age of diagnosis (though not always the case)
- Personal or family history of auto-immune disease
- Medications don't seem to be managing BG
- Weight?

22

Case Study Example



- 26 year old female
- Diagnosed with A1C of 12.1, asymptomatic. Had gestational diabetes 3 years ago.
- Made some changes to eating and activity. Takes metformin consistently. A1C now at 6.1.
- Personal history of hypothyroidism and family history of auto-immune diseases in her mom's family
- BMI = 30
- Lab work done: Anti-GAD high, C-peptide normal

23

Wrapping Up...



- Questions?
- Next Session: May 21st at 9:00 AM on complications/screening