

ADVANCED TRACK

DIABETES AND OTHER HEALTH CONDITIONS



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EPIDIO DIABETES CONFERENCE

MAY 22, 2021 | WEBINAR

EMPOWERING PATIENTS
FOR
INDIVIDUALIZED CARE



CONFLICTS OF INTEREST: NONE



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DIABETES AND OTHER HEALTH CONDITIONS: AUTOIMMUNE CONDITIONS

Topics:

- Autoimmunity in Diabetes
- Thyroid dysfunction
- Celiac disease
- Other autoimmune conditions



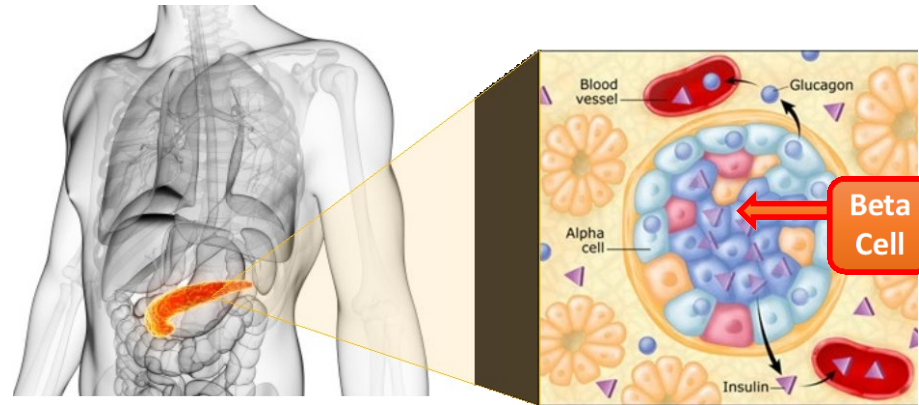
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AUTOIMMUNITY AND DIABETES

- Type 1 diabetes results from immune cell destruction of the insulin-producing beta cells in the islets of Langerhans
- This is called an autoimmune response. It is not known why this occurs but many are studying this.
- Environmental factors and exposure to certain viruses might trigger the autoimmune response.

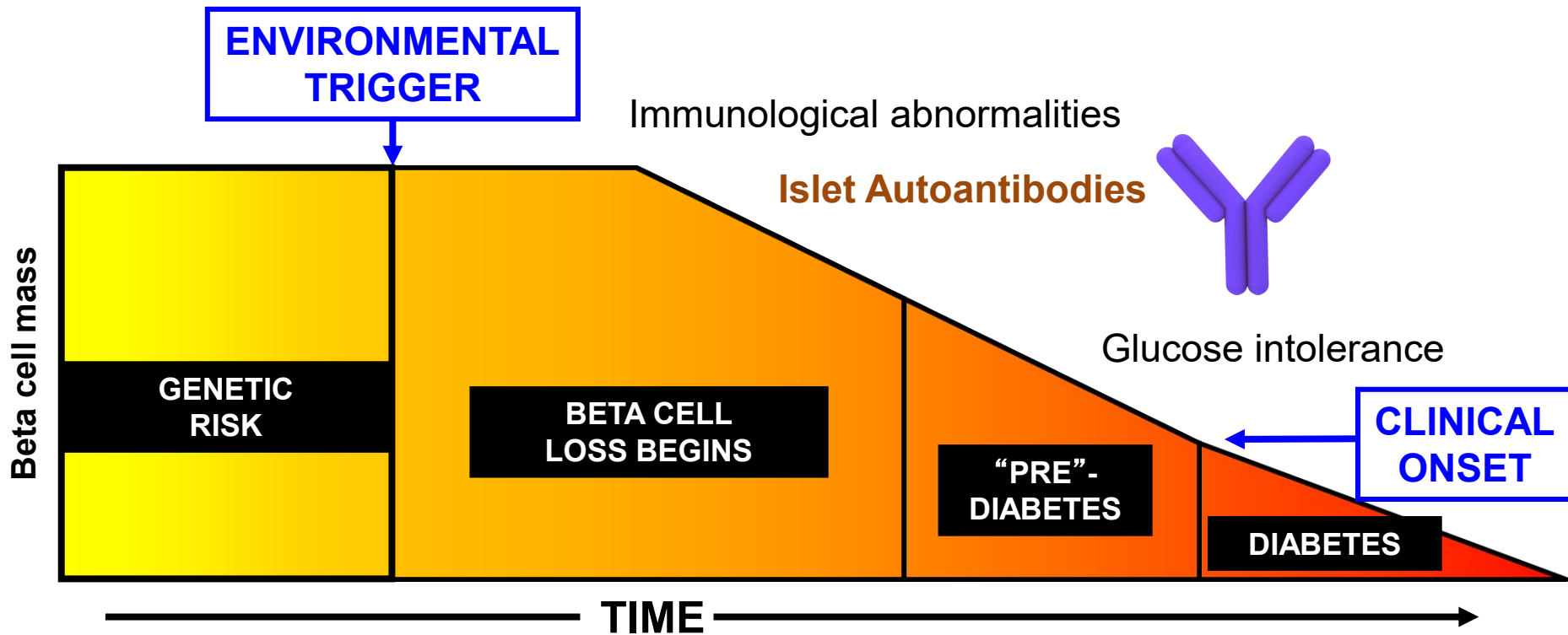


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THE PROGRESSION TO T1D INVOLVES SEVERAL STEPS.



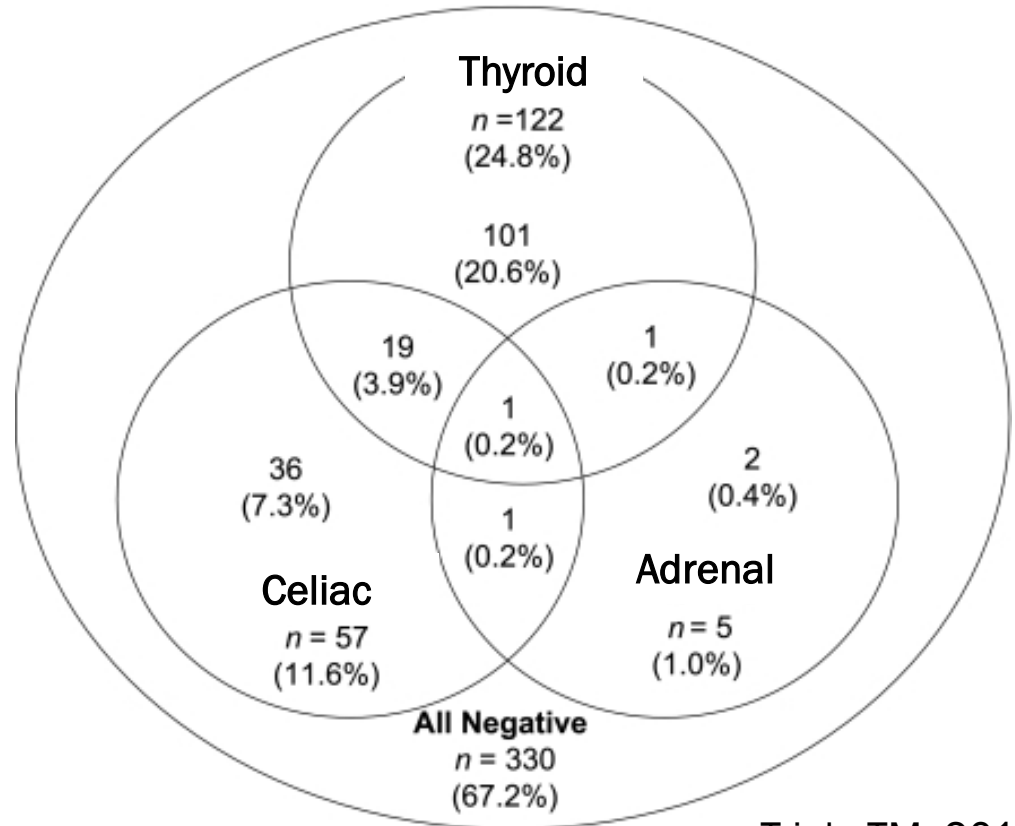
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AUTOIMMUNITY AND DIABETES

- The body makes antibodies that can be detected in the blood when this autoimmune process occurs
- Individuals with one autoimmune disease are at risk for additional autoimmune diseases.
- In a study of ~500 children with new onset type 1 diabetes ~33% had evidence of additional non-diabetes autoimmunity



Triolo TM, 2011



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THYROID DISEASE

- Autoimmune thyroid disease is the most common autoimmune disorder associated with diabetes
- Patients should be screened for the presence of thyroid autoantibodies which can predict risk
- At the time of diagnosis about 25% of children with type 1 diabetes have thyroid autoantibodies.
- The most common thyroid dysfunction in patients with diabetes is hypothyroidism or low thyroid function
- Hyperthyroidism can occur in about 0.5% of patients with type 1 diabetes
- Patients should be screened periodically every 1-2 years or sooner if patients develop signs or symptoms of high or low thyroid.



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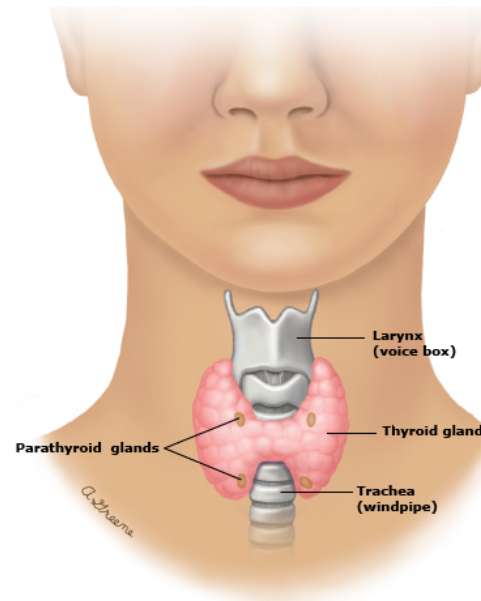
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THYROID DISEASE

- Hypothyroidism: Hashimoto's
- "underactive metabolism"
- Non-specific symptoms
 - fatigue
 - weight gain
 - dry skin
 - constipation
 - cold intolerance
- Testing: routine blood tests
- Treatment: levothyroxine
- Monitoring: pregnancy and puberty

Thyroid and parathyroid glands



The thyroid is a butterfly-shaped gland in the middle of the neck. It sits just below the larynx (voice box). The thyroid makes two hormones, called T3 and T4, which control how the body uses and stores energy. The parathyroid glands are four small glands behind the thyroid. They make a hormone called parathyroid hormone, which helps control the amount of calcium in the blood.

T3: triiodothyronine; T4: thyroxine.

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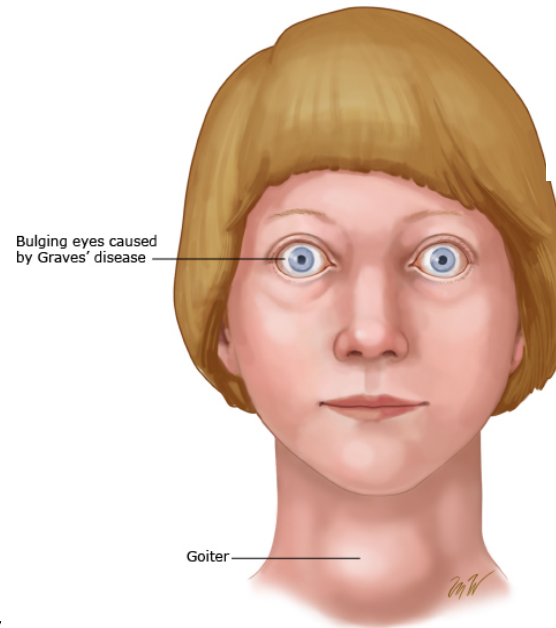
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THYROID DISEASE

- Hyperthyroidism: Graves Disease
- “overactive metabolism”
- Symptoms
 - Swelling of the neck “goiter”
 - Eye bulging
 - Weight loss
 - Anxiety, jitteriness, palpitations
 - Diarrhea
 - Heat intolerance
- Testing: routine blood tests
- Treatment: medication, radioiodine, or surgery
- Monitoring: pregnancy

Hyperthyroidism



Hyperthyroidism is when the thyroid gland in the neck is "overactive" and makes too much thyroid hormone. This can cause a swelling in the neck, called a "goiter." If hyperthyroidism is caused by a medical condition called Graves' disease, it can also make the eyes bulge out.

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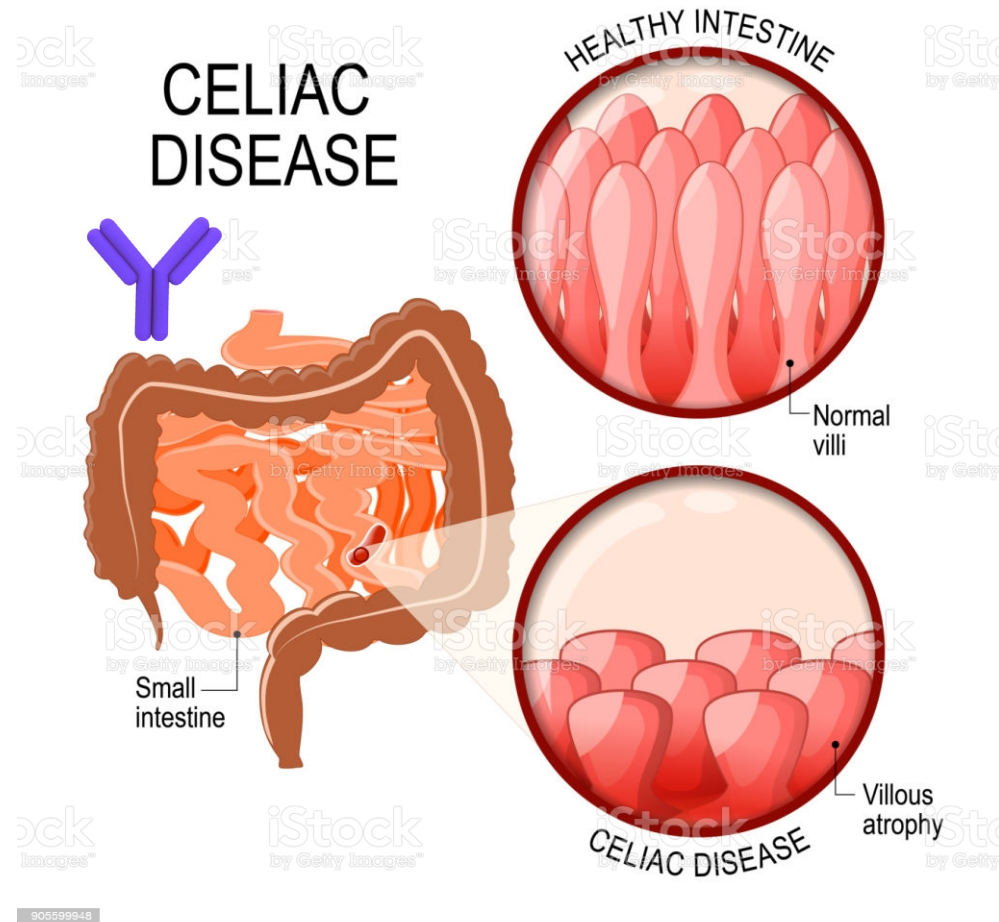
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CELIAC DISEASE

- Celiac disease is an immune-mediated disorder that occurs with increased frequency in patients with type 1 diabetes
 - (1.6–16.4% of individuals compared with 0.3–1% in the general population)
- The immune system reacts abnormally to gluten which is a protein found in certain foods, like wheat, rye, barley, and prepared foods.
- Celiac disease is also known as gluten-sensitive enteropathy, celiac sprue, and nontropical sprue



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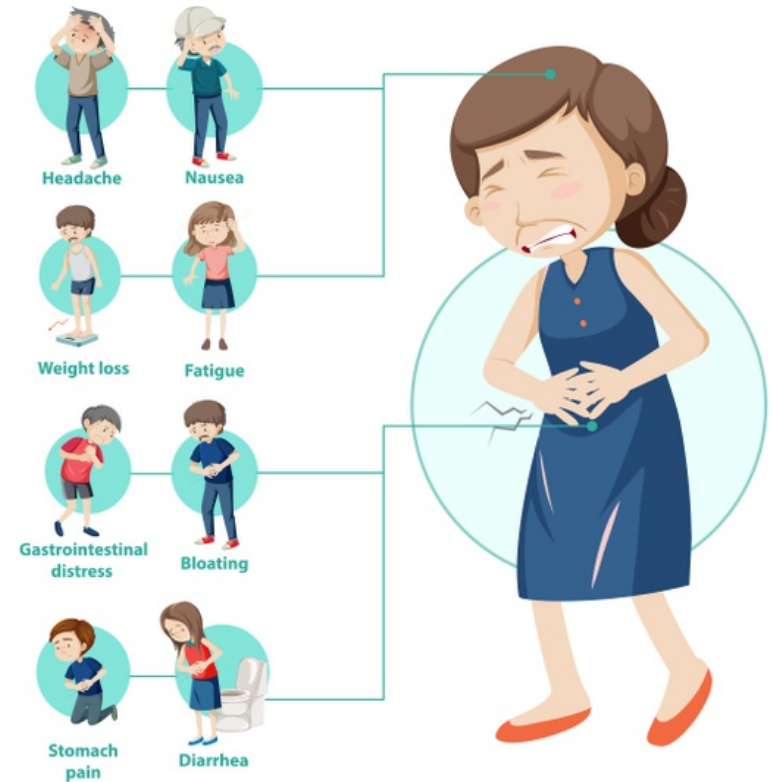
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CELIAC DISEASE

- Signs and symptoms of celiac disease
 - diarrhea
 - weight loss
 - bloating
 - Stomach pain
 - lack of appetite
- Some have nondigestive symptoms
 - slowed growth
 - headaches
 - joint pain
 - fatigue

CELIAC DISEASE – SYMPTOMS



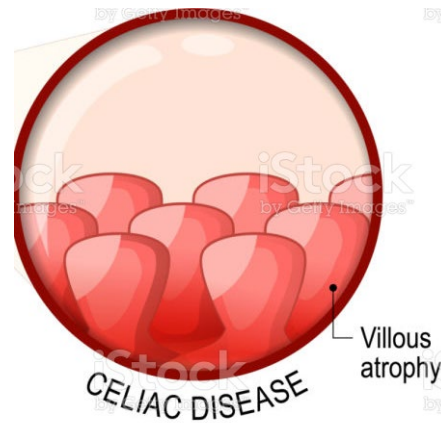
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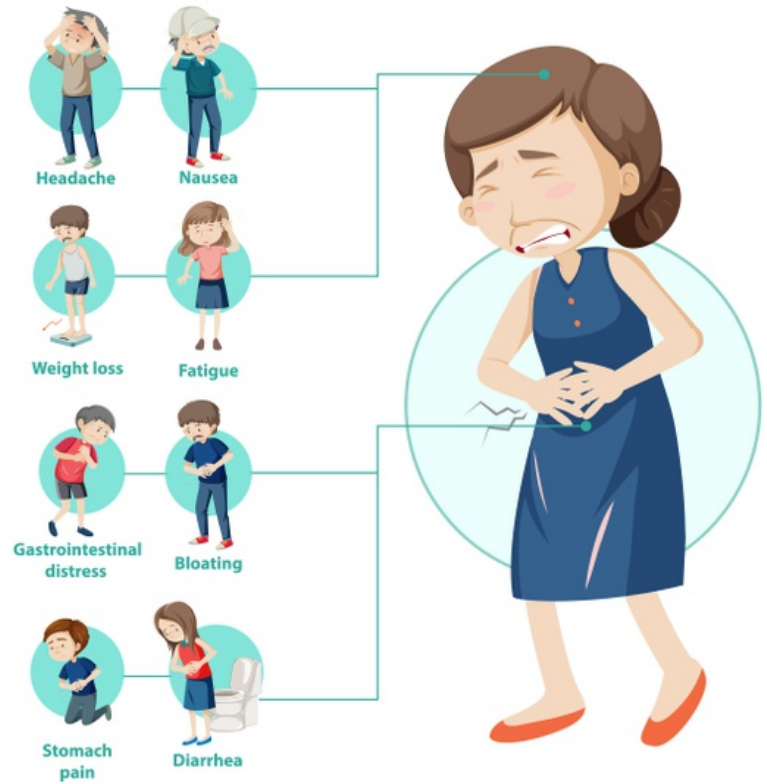


CELIAC DISEASE

- **Diagnosis**
 - Important to continue to gluten containing diet while investigating for celiac disease
 - Antibody blood tests
 - Small intestine biopsy by a Gastroenterologist



CELIAC DISEASE – SYMPTOMS

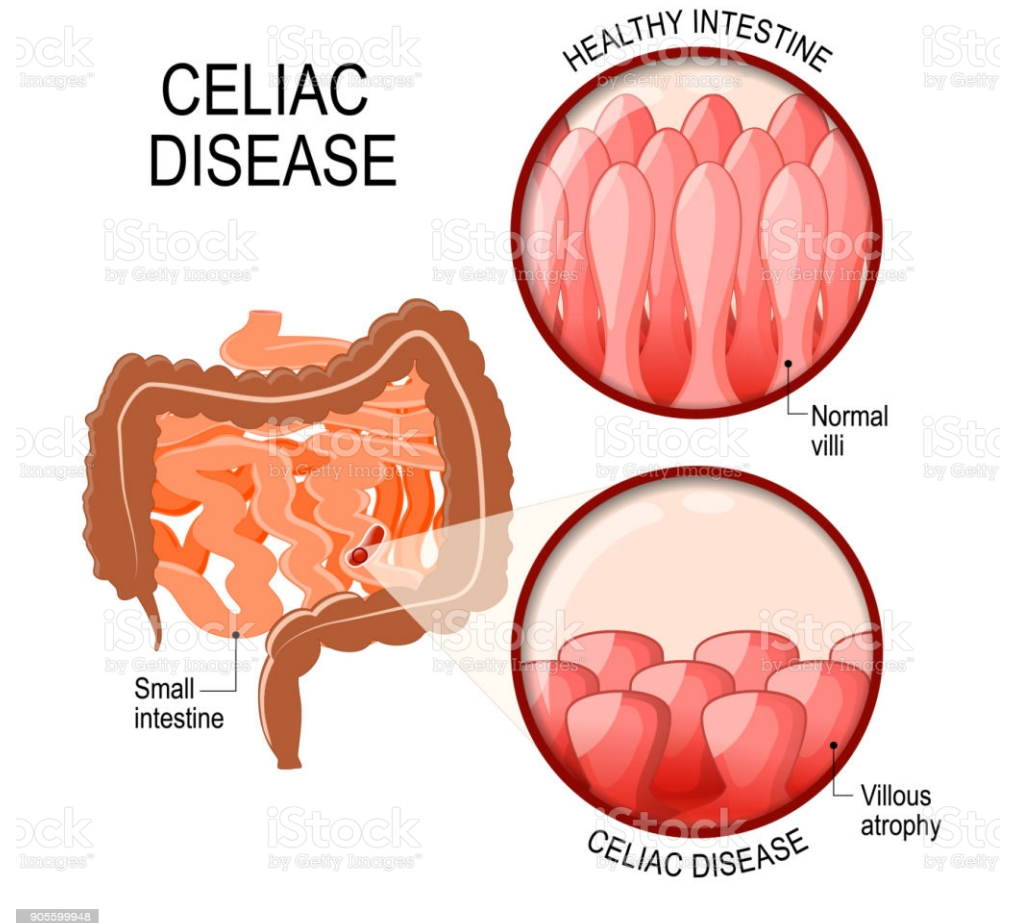


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CELIAC DISEASE

- Treatment
 - Gluten free diet
- Important to screen for as it can be associated with:
 - osteoporosis
 - iron deficiency
 - growth failure
 - potential increased risk of retinopathy and albuminuria



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ADDITIONAL AUTOIMMUNE DISEASES

- Although much less common than thyroid dysfunction and celiac disease, other autoimmune conditions occur more commonly in the population with type 1 diabetes than in the general population and should be assessed and monitored as clinically indicated.
- Other conditions to consider:
 - Addison disease (primary adrenal insufficiency)
 - autoimmune hepatitis
 - autoimmune gastritis
 - dermatomyositis
 - myasthenia gravis



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QUESTIONS



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