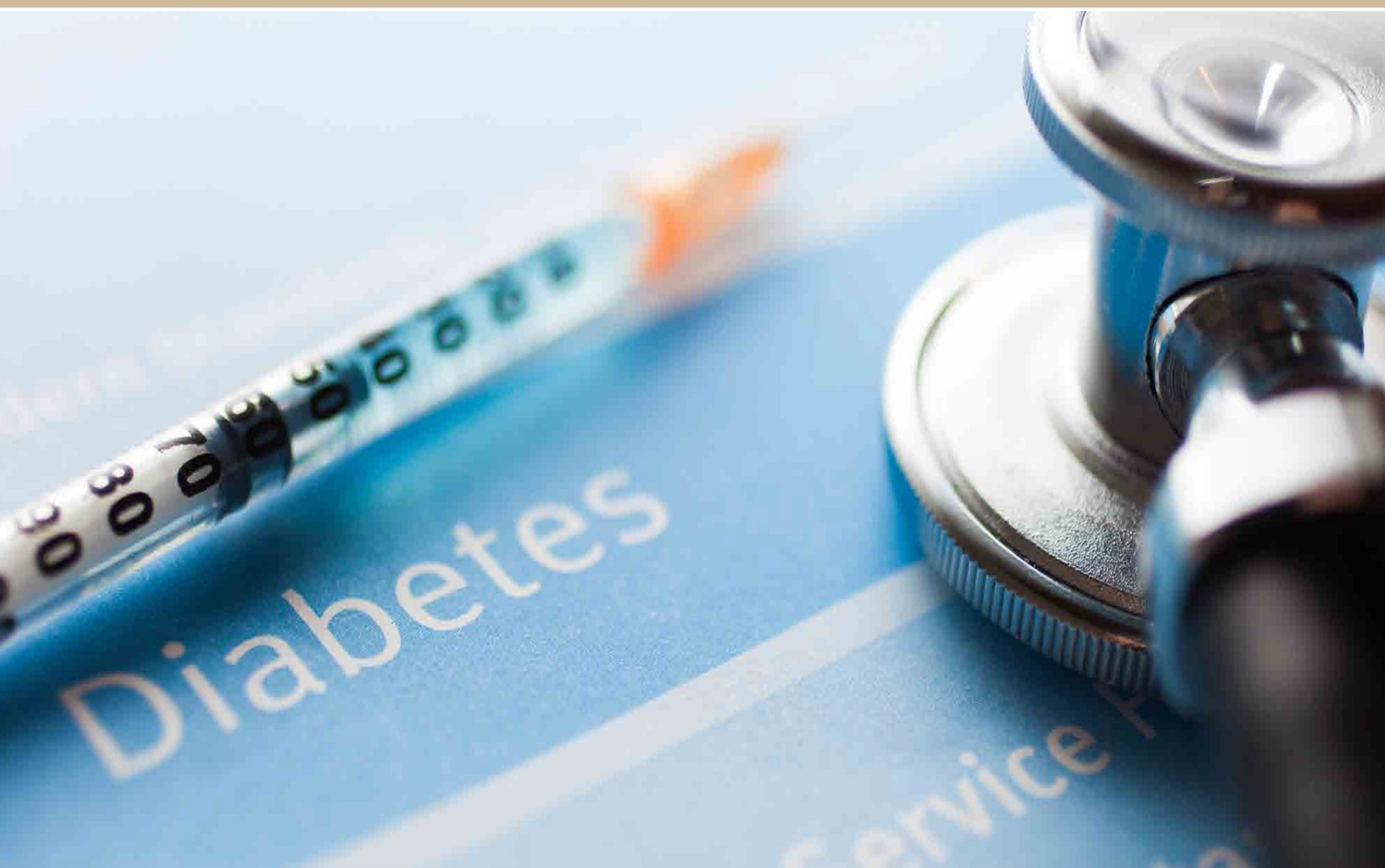




Diabetes Self-Management Education and Support



DIABETES DEMYSTIFIED



Disclaimers

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AI-enabled tools were used to assist in the development of select content within this presentation. All outputs were reviewed, validated and approved by the authors prior to use/dissemination.



Welcome to the DHA Diabetes Self-Management Education and Support (DSMES) Program

This program is a core of 8 modules that focus on Type 2 Diabetes with additional modules available for Type 1 and Gestational Diabetes. These are available in-person, virtually and recorded so they are available at your convenience at:

warfighterwellness.org/diabetes

All handbooks contain:

- Reading materials.
- Notetaking pages.
- Glossary.
- Additional resources.



Diabetes Demystified



Healthy Coping



Healthy Eating



Being Active



Taking Medications



Monitoring



Reducing Risk



Tools & Solutions

In This Module You Will:

- Explain basic information about diabetes (types and effects on body).
- Recognize the self-care behaviors to manage your diabetes.
- Recall treatments for high and low glucose levels.
- Identify steps to solve problems.
- Make one SMART goal.





Guideline Recommended Self-Management Health Behavior Topics

This core series follows all 8 recommended topics from the VA/DOD Clinical Practice Guidelines and nearly all diabetes organizations. Starting with this “Diabetes Explained” module on what diabetes is and what it is doing inside the body and then moving on to 7 health behaviors that can be used to better manage this condition.

What is one health behavior you are already improving?

Is there a health behavior you had not considered yet?

What would your gears look like?





You Can Live a Balanced Life with Diabetes!

You are taking this course because you have diabetes or have someone you care about with diabetes. Diabetes is a lifelong condition, that without treatment can result in serious health problems.

You can learn to manage diabetes, and you don't have to do it alone. This Diabetes Self-Management Education and Support program provides tools, information and social support to help you change behaviors and successfully manage your diabetes.



You Are Not Alone!

As of 2023, there are 40.1 million estimated people with diagnosed or undiagnosed diabetes. This is 12%! There are another 115.2 million adults older than 18 with prediabetes.

As of 2024, there are almost 200,000 people with diabetes or prediabetes that are beneficiaries of DHA. With about 9.5 million total beneficiaries, that is almost 5% of a typically much younger population.



Glossary:

Amino Acids: Fundamental building blocks of proteins.

Autoimmune Diseases: Often incurable disease where the immune system mistakenly attacks healthy body cells. Examples are Rheumatoid Arthritis, Crohn's, Lupus, Celiac, etc.

Fatty Acids: Essential building blocks of fats, cell membranes and energy storage.

Glucagon: A hormone produced in the alpha cells of the pancreas that prompts the liver to initiate the rapid release of glucose into the bloodstream.

Glucose: A simple form of sugar that fuels your body's cells. This is the correct term for the form of sugar used by the body.

Insulin: A vital hormone produced in the beta cells of the pancreas that allows glucose to enter the cells for energy.

Health Literacy

Health literacy is the ability to understand and use information to make informed health decisions. The aim of this program is to increase diabetes health literacy for our people with diabetes and families. This will help guide questions and better understand answers received.

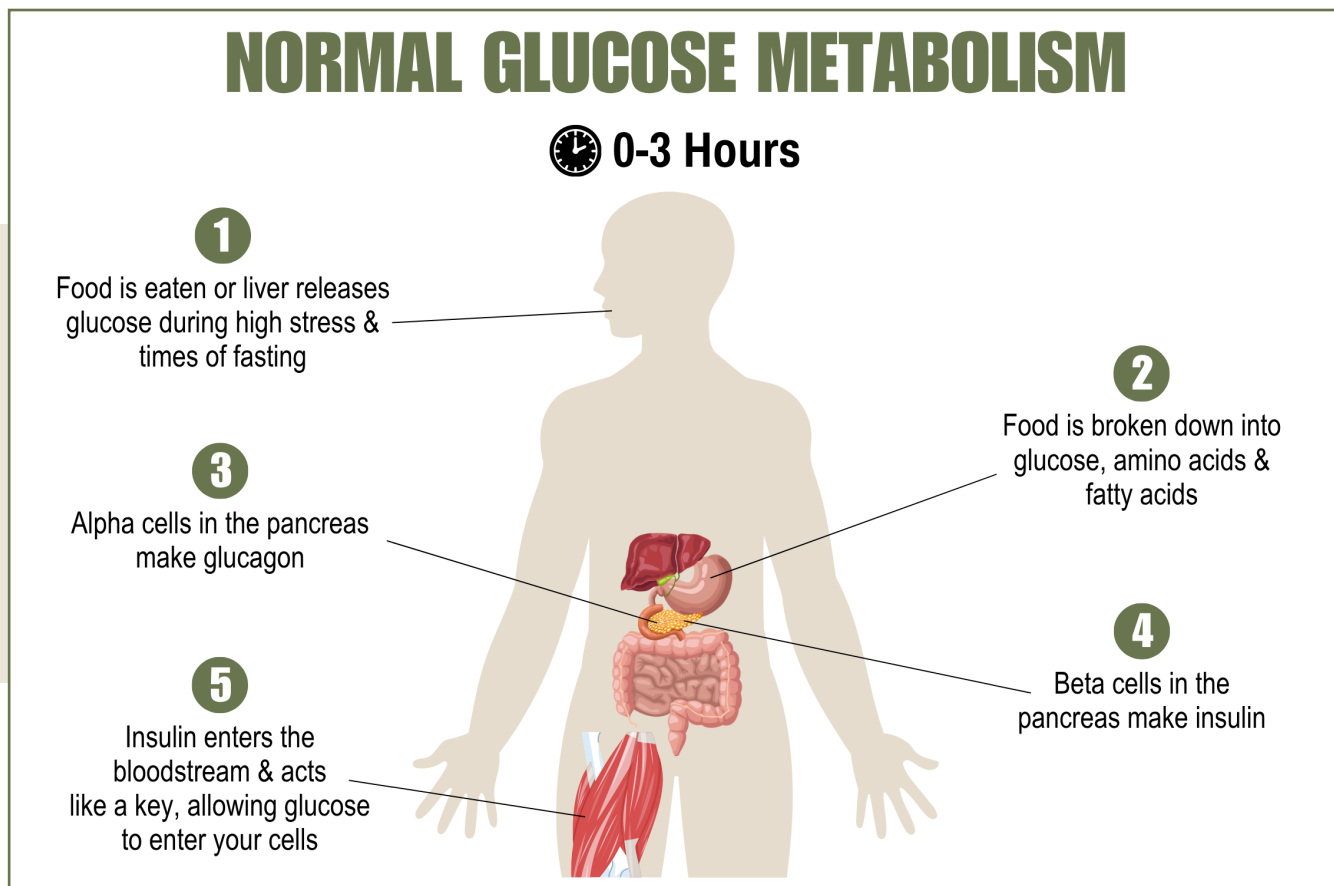
Language Matters

Using a diagnoses to describe a person (e.g. "diabetic") does not actually define who they are. Diabetes is simply something that they need to deal with.



Normal Glucose Metabolism

Glucose is vital for brain and muscle tissues to create energy for their important work, and it gets into the blood stream from two actions. Either food is eaten and the stomach breaks it down into needed nutrients, or the alpha cells in the pancreas make glucagon, which tells the liver to make glucose. Insulin made by the beta cells in the pancreas are the only “key” to allow glucose into those cells.

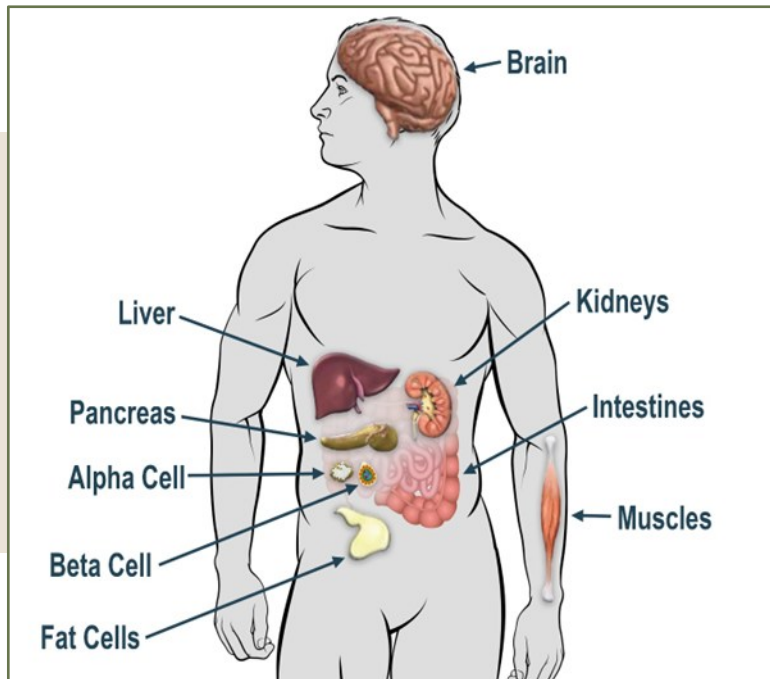


Notes:



Impaired Glucose Metabolism

Diabetes is a complex disease. There are many organs in your body that play a role in diabetes:



- **Brain:** Does not trigger the sensation of feeling full (appetite).
- **Kidneys:** Increased glucose reabsorption.
- **Intestines:** Gut hormones (incretins) are less effective in starting insulin release in response to food.
- **Muscles:** Decreased glucose uptake (insulin resistance).
- **Fat Cells:** Increased breakdown leading to inflammation and increased insulin resistance.
- **Pancreas:**
 - Alpha cells: Increases glucagon release.
 - Beta cells: not releasing enough insulin.
- **Liver:** Increased release of glucose.

Notes:



What Is Diabetes?

A chronic condition where the body cannot produce or use insulin properly.

Type 2: 90-95% of patients with diabetes have Type 2. It is caused by the loss of beta cells to make insulin and your body not using insulin well. You can develop Type 2 diabetes at any age, even during childhood.



Type 2 Risks: There are several risks for diabetes. Some you can change, and some you cannot. Those that cannot be changed are: age, family history of diabetes, ethnicity and (for women) history of gestational diabetes.

Risks You Can Change Are:

- Inactive lifestyle: Get out and play!
- Higher body weight: Work with health promotion and military gyms.
- Tobacco use: Stop any use of tobacco and nicotine.
- Metabolic syndrome: Can be corrected by healthy lifestyle behaviors.
 - High blood pressure.
 - Abdominal girth (>40 for men, >35 for women).
 - High triglycerides.
 - Low HDL.
 - Elevated fasting glucose.





Type 2 Natural Progression: 10 to 15 years before a diagnosis of diabetes, insulin resistance occurs. No one is sure why, but there is plenty of insulin as the beta cells work hard to provide. During this time, screening labs of fasting plasma glucose and A1C do not change. At some point, the beta cells will start to die off and decrease insulin production.

A short time after that, roughly 5 years before diagnosis, insulin resistance levels off and the beta cells continue to decline. The screening labs start to show hints that all is not as it should be. Symptoms may start to show.

Type 1: This is an autoimmune disease that is usually diagnosed in childhood but can occur at any age. The pancreas is attacked and the beta cells are destroyed. We don't know why this happens. Insulin will be required.

Latent Autoimmune Diabetes in Adults (LADA): A form of Type 1 diabetes that starts in adulthood and affects insulin function over time.

Type 1 Risks: Risk factors such as family history of an autoimmune disease, a personal history of an autoimmune disease, exposure to viruses and certain environmental factors of unknown origin are all risk factors that cannot be changed.





Gestational (GDM): Diabetes diagnosed during the second or third trimester of pregnancy. Most of the time it goes away after the baby is born, however, there is a 60% chance of developing type 2 within 5-10 years after delivery.

GDM Risks: Maintaining a healthy weight will help avoid the risk of developing GDM. Women who are overweight or obese will be at higher risk. All other risks are non-changeable:

- Had GDM during a previous pregnancy.
- Gave birth to a baby who weighed more than 9 pounds.
- Family history of Type 2 diabetes.
- Have a diagnosis of Polyendocrine Metabolic Ovarian Syndrome (PMOS), a hormonal disorder.

After Delivery: Women should be screened for type 2 diabetes every three years. Practicing healthy behaviors will help reduce the risk of developing type 2.



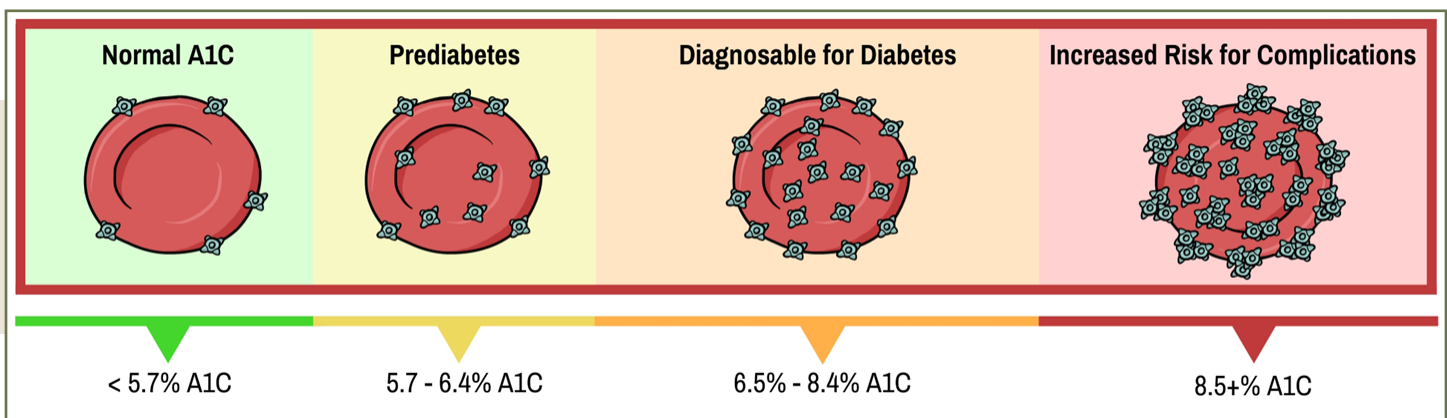
Notes:



Other Types: Diabetes is complicated and can take many forms. There are rare forms that require genetic testing and/or specialized treatment approaches. These include monogenic diabetes: e.g. Maturity Onset of Diabetes of the Young (MODY); Type 3c, which results from diseases of the pancreas, such as pancreatitis, cystic fibrosis or pancreatic cancer; neonatal diabetes; secondary diabetes, caused by medications like steroids; and more.

Common Causes for “Other” Types:

- Genetic defects.
- Disease or injury of the pancreas.
- Hormonal diseases.
- Drug or chemical induced.

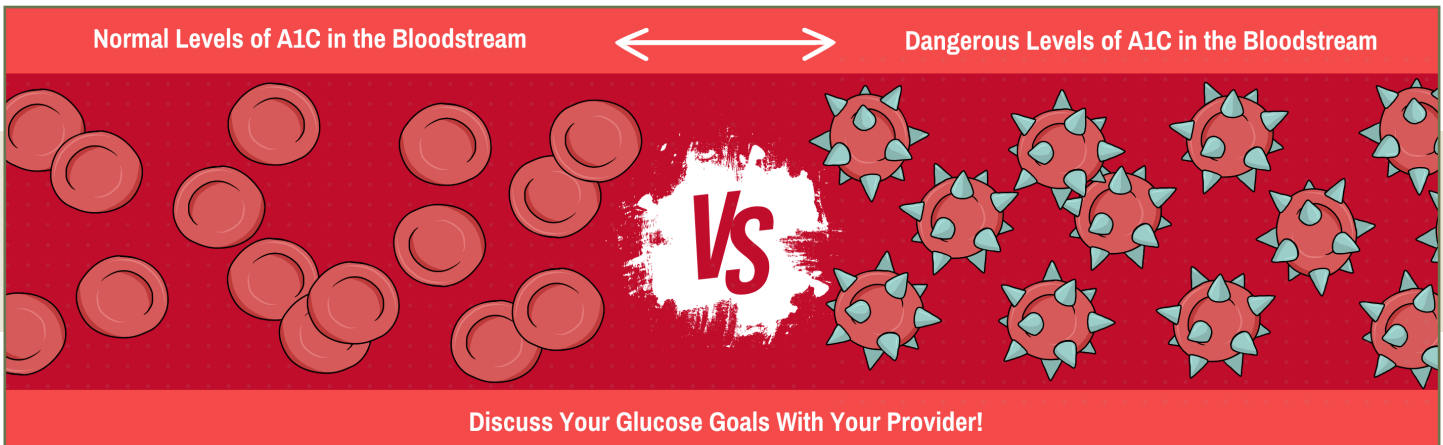


What Is a Hemoglobin A1c?

When glucose enters your bloodstream, it binds to hemoglobin, a protein in your red blood cells. Blood glucose normally goes up and down, changing every minute of the day.

The Hemoglobin A1C or A1C represents your average blood glucose levels over the past 2-3 months. This test gives your health care team an idea of how well diabetes is being managed.

Higher A1C levels are linked to diabetes complications.



As discussed with clinician, my A1c target is:

_____ %

Higher A1C levels are linked to diabetes complications. We will discuss more about reducing risks for complications in the **Reducing Risks** module.

Reaching and maintaining your individual A1C target is very important.

What type of diabetes do you have?

What is your number one question so far?



How Is Diabetes Diagnosed?

Status	Fasting Plasma Glucose or HbA1c (A1C)
Diabetes Mellitus	FPG ≥126 mg/dL: (7.0 mmol/L) on two occasions OR HbA1c ≥6.5% with a confirmatory FPG ≥126 mg/dL (7.0 mmol/L) OR HbA1c ≥7.0% OR Two-hour plasma glucose on 75g OGTT of >200 mg/dL
Prediabetes	FPG ≥100 mg/dL and <126 mg/dL on two occasions OR HbA1c ≥5.7%-6.4% and FPG ≥100mg/dL (5.5 mmol/L) and <126 mg/dL (7.0 mmol/L) OR Two-hour plasma glucose on 75g OGTT of 140-199 mg/dL (7.8-11.0 mmol/L) (IGT)
Normal	FPG <100 mg/dL (<5.5 mmol/L) HbA1c <5.7%

Factors Affecting A1C

There are some health conditions and substances that can make your A1C appear higher or lower than your actual glucose levels. These include:

Health Conditions:

- Blood disorders.
 - Sickle cell anemia.
 - Other anemias.
- Chronic kidney disease.
- HIV.

Other Health Related Factors:

- Excessive hypoglycemia (low blood glucose).
- Blood loss or recent blood transfusions.
- Very high triglycerides.
- Dialysis.
- Certain medicines.
- Excessive niacin dosing.



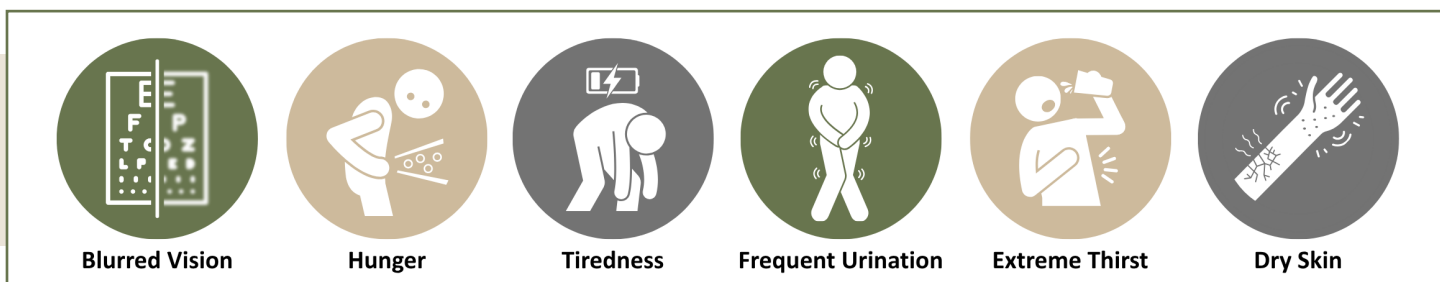
High Blood Glucose “Hyperglycemia”

When your blood glucose is higher than 180, you have hyperglycemia. High blood glucose can happen suddenly (because of illness or food intake), or it may develop over time.

Common Causes:

- Newly diagnosed Type 2, your body may be producing a lot of insulin, but it is not as effective as it should be (insulin resistance).
- When diabetes progresses, beta cells are not producing enough insulin.
- You may not be taking enough medication.
- You have stress or an illness, such as a cold or flu.
- You ate more than planned or exercised less than planned.

Symptoms:



What to Do:

- Test your glucose every 4 hours. We will discuss more in the module **Monitoring**.
- Drink plenty of water or sugar-free fluids to prevent dehydration.
- Exercise. We will cover this in more detail in the module **Being Active**.
- Take your diabetes medications as prescribed. We will discuss more in the module **Taking Medications**.
- Call your health care team if you experience these symptoms for more than 3 days and you don't know why.
- Cut back on the amount of food (carbohydrates) you eat. We will discuss this more in the module **Healthy Eating**.

If you have type 1 diabetes, also consider:

- Not exercising if glucose is above 240 mg/dL.
- Check ketones.



Low Blood Glucose “Hypoglycemia”

When your glucose drops below 70, this is hypoglycemia. If unaddressed, it can become a medical emergency.

Level 1: <70 mg/dL



Shakiness



Sweating



Confusion



Dizziness



Coma



Combative Behavior



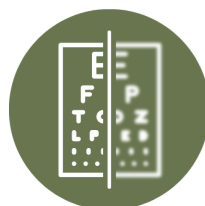
Headache



Hunger



Anxiety



Blurred Vision



Seizures



Fast Heartbeat



Tiredness



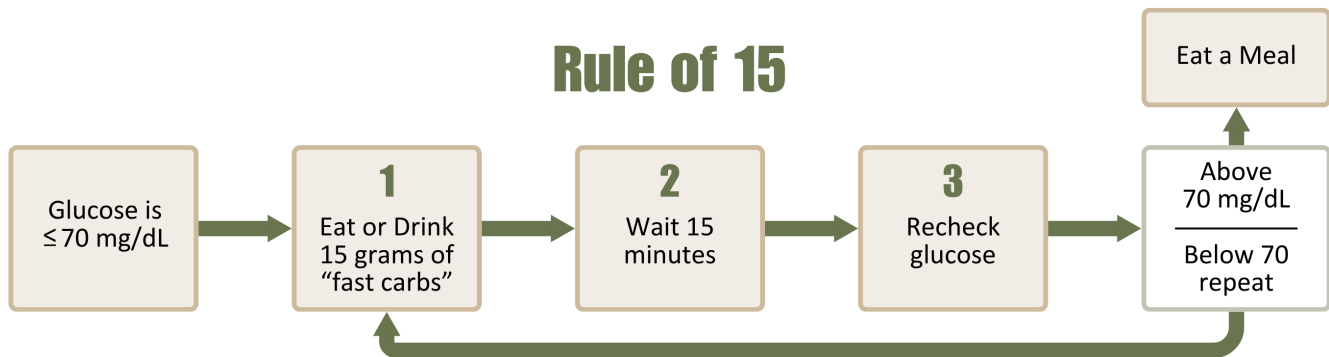
Weakness

Common Causes:

- Skipped or delayed meal or eating less carbohydrates than usual.
- Being more active than usual. Increased focus on lifestyle may result in needing less medication.
- Some medications like insulin can lead to hypoglycemia .
- Timing related to eating, physical activity and taking medications.
- Drinking alcohol, especially on an empty stomach.
- Extreme hot and humid weather exposure.
- Spending time at high altitudes when not used to it.
- Lack of food (food insecurity).



Rule of 15



Extreme Hypoglycemia:

- Do NOT attempt to give anything by mouth.
- Use glucagon injection or nasal spray, if available. Train friends and family ahead of time.
- Call 911 if you do not have glucagon or if person does not respond to glucagon.
- Tell your health care team if you have ever had a glucose so low that you needed someone to help you.

Remember:

- Wear a medical identification bracelet or necklace.
- Always carry a "fast carb" with you.
- Check your glucose before driving. Never drive if glucose is low.
- Call your clinician or health care team if you have repeated low blood glucose.

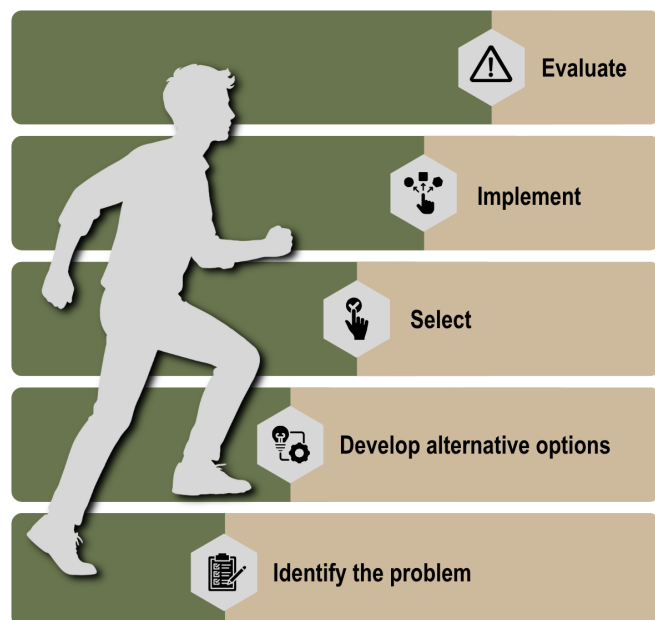
Fast Carb List

Fast Carb List
3-4 glucose tablets
$\frac{1}{2}$ - 1 tube glucose gel
3 rolls Smarties candy
3 packets sugar or 1 Tbsp. sugar
1 Tbsp. honey
$\frac{1}{2}$ cup fruit juice or regular soda

Notes:



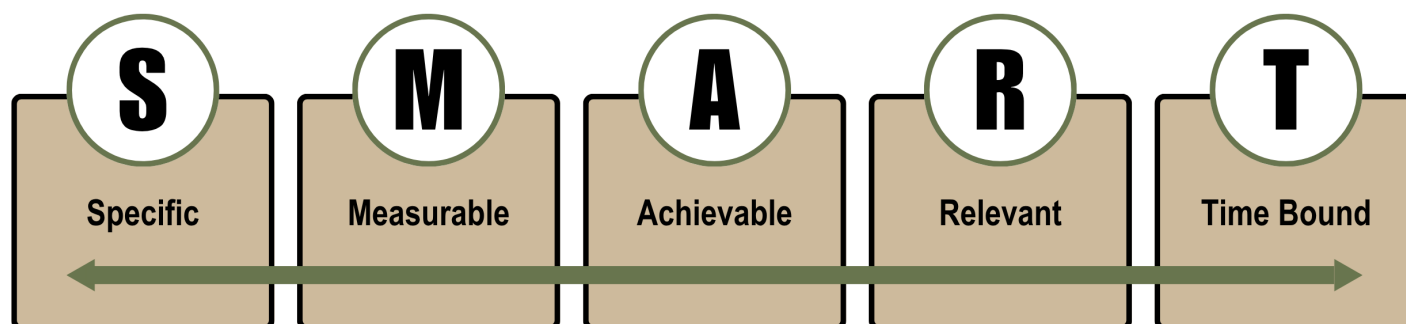
PROBLEM SOLVING



Using the steps to problem solving will help you brainstorm actions and activate your diabetes support team to plan potential solutions.

Many challenges and barriers can impact efforts to manage diabetes.

- Identify a specific problem.
- Determine causes or factors.
- Consider several options.
- Select and put plan into action.
- Did it work?
- If not, try a different option.



S.M.A.R.T. Goals Are the Foundation of Building A Strong Healthy Behavior

- The more specific the better, avoid being overwhelmed: e.g. Need to walk more.
- Think what would be measurable: e.g. 30 minutes 5 times per week.
- Make this fit lifestyle: e.g. Walk either at lunch or when get home.
- Consider limitations or readiness: e.g. Walk slow to not stress bad knee.
- List time frame you want to follow this goal: e.g. Start next week and go for 12 weeks.



What Will I Need to Do?

There are many things you can do to live better with diabetes. Most people succeed when working on one small goal or behavior at a time. For example, “limiting 1 sugary drink per day” versus “eating healthy.” We suggest you choose one goal you’d like to work on first. You can work on other goals later.

Each person with diabetes will have different details to what works as every BODY is different. What works for one person will not work exactly the same for the next person. You WILL find out what works for you!

Managing diabetes is not easy but it is well worth it.

Diabetes can be a progressive disease, but using the tips in this DSMES series will build your toolbox to slow, stop or sometimes even reverse the progress.

There are seven areas where you could set a goal to manage your diabetes: monitoring, healthy coping, taking medications, healthy eating, being active, reducing risks and problem solving.

Where are you starting?

My S.M.A.R.T. Goal s:



Summary

This session introduced the 7 self-care behaviors, provided basic information about diabetes and discussed how diabetes affects the body. Diabetes Demystified also explained causes, symptoms and treatment of hyperglycemia (high blood glucose) and hypoglycemia (low blood glucose) and identified emergencies related to blood glucose.

Key Points

- Diabetes is a chronic health condition that affects how your body turns food into energy.
- There are 7 self-care behaviors that can help manage your diabetes.
- With diabetes, the body doesn't make enough insulin or can't use it as well as it should.
- Use the Rule of 15 to treat low blood glucose.
- Identify the steps for problem solving.

Before Next Class

- Review next session: Monitoring.
- Write down your questions.
- Work on your health care goal or changing a habit/behavior.





Notes:



The American Diabetes Association Recognizes this education service as meeting the National Standards for Diabetes Self-Management Education and Support.

If you have any concerns about the diabetes education you receive:

Please call
1-888-232-0822

or

Write
American Diabetes Association
Director, Education Recognition Program
2451 Crystal Drive, Suite 900
Arlington, VA 22202

Refer to 006585