



Integrated Health Collaborative

The Area's Leading Clinically Integrated Network

A Member of Aultman Health Foundation

Diabetic Resource Manual

*Please reference the IHC Portal at www.ihcoho.com for more **patient resources** and hyperlinks found in this document*

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What is diabetes?

Type 1: The body makes little or no insulin due to an overactive autoimmune system (an autoimmune disease means that the body attacks its own healthy cells by mistake). People with type 1 diabetes must take insulin every day. Type 1 diabetes typically occurs in children and young adults, but it can occur in older adults.

Type 2: The body prevents the insulin it does make from working or it may not make enough insulin. People with diabetes often have type 2. Some risk factors include older age, being overweight or obese, family history and having certain ethnic backgrounds.

What occurs in diabetes?

The body does not make or use insulin correctly.

How is diabetes diagnosed?

Your doctor will order blood work that evaluates your fasting blood sugar (no food or drink for at least eight hours) or your Hemoglobin A1C level. Other tests are available but less commonly used except during pregnancy.

Fasting Blood Sugar levels greater than 126mg/dl indicates diabetes.

Hemoglobin A1C greater than 6.5% also indicates diabetes.

Difference between A1C and blood sugar levels?

A1C measures the attachment of glucose to the hemoglobin (Red Blood Cell) in your blood. The life span of a red blood cell is 120 days. Thus, A1C levels reflect a summary of the blood sugar levels over the prior 3 months. A fasting blood glucose is blood work completed after 8 hours without food or drink. This is a single value and it can be falsely high if fasting guidelines are not followed for 8 hours prior to the blood draw.

Why do we treat diabetes?

To avoid short-term and long-term complications.

What are the complications?

Short-Term

Diabetic ketoacidosis (DKA) is a serious condition caused by high blood sugar levels that can lead to diabetic coma or even death.

Long-term

Heart disease This is the leading complication and cause of death in people with diabetes.

Eye complications Diabetes increases the risk of eye concerns that may lead to blindness.

Foot problems Diabetes can cause nerve damage, also called neuropathy, in the feet and other areas of the body. Nerve damage causes both pain and loss of feeling. Foot problems also occur due to poor blood flow when too much sugar damages the blood vessels. These problems can lead to foot ulcers (break in the skin) and to amputation (loss of the toes/foot).

Chronic kidney disease Diabetes can damage the blood vessels within the kidney system. This can lead to kidney damage and the need for dialysis or kidney transplant.

How do we prevent complications?

Regularly scheduled appointments with your doctor help to monitor your health status and avoid complications. Your doctor will help to educate you and will perform exams and blood tests to monitor things. They will work with you to control your sugar levels and other health concerns to prevent complications.

Exams and testing include:

- monitoring your A1C
- diabetic eye exams
- checking urine for protein
- foot exams
- monitoring your cholesterol
- monitoring your blood pressure

Your doctor will tell you how often these exams and tests should be done. Blood work may be ordered every 3 months until your A1C is controlled.



Understanding Sugar (Glucose) Levels

Keeping your blood sugar level in a target range will help prevent long-term health problems and complications. Your care team will teach you how to check your sugar at home and give you instructions on how often to check. Typical targets are:

- Before a meal: 80 to 130 mg/dL
- Two hours after a meal: Less than 180 mg/dL

Blood Sugar Log

Start logging your blood sugars and blood pressures as ordered by your doctor. The diabetic record can be found on page 14.

Expectations for Monitoring your Blood Sugars

Follow your doctor's recommendations for the time of day and/or frequency.

When to check your blood sugar? (Circle the appropriate times)	Why are you checking your blood sugar?
When you wake up	To see if your blood sugar is staying under control
Before Meals (AC)	To know what your blood sugar is before you eat
1 or 2 hours after meals	To know how the food you eat and insulin dose impact your sugar
Before, During or after exercise	To see how activity affects your blood sugar
At bedtime (HS)	May be needed to see how the medicine you take affects your blood sugar

Managing Low Blood Sugars

Please see the detailed summary of managing low blood sugars on Page 10.

Hemoglobin A1C - Know Your Value

The Hemoglobin A1C measures your average blood sugar level over 3 months. It is a "summary" of your blood sugar levels. It allows your doctor and you to see how well you are controlling your blood sugar levels.

Understanding Hemoglobin A1C levels versus an average blood sugar level

A1C levels	Average blood sugar
6%	126 mg/dL
7%	154 mg/dL
8%	183 mg/dL
9%	212 mg/dL
10%	240 mg/dL
11%	269 mg/dL
12%	298 mg/dL

American Diabetes Association (2016). Standards of Medical Care in Diabetes. Diabetes Care, 39



How is Diabetes Treated?

- Weight Loss (If you are overweight)
 - Diabetes can be cured in many people when they get to a normal weight.
 - Help is available and small changes over time will lead to successful and long-term weight loss.
- Exercise
 - Improve circulation, increase muscle mass, and increase calories burned
 - Increase weight loss
- Medications
 - Pills, Insulin or other medications to treat your blood sugar levels
 - Taking as prescribed daily
- Diet and Lifestyle Changes
 - Eating healthy
 - Quit Smoking (if you are currently a smoker)

Medications Matter

Diabetes can affect many parts of your body. It is not uncommon for you to need several medications to help you reach your target and prevent heart or kidney-related problems.

A lot goes into deciding if a medication is right for you and managing your diabetes. Your doctor will talk to you about cost, side effects, and other health conditions before starting a medicine.

Tips to make you successful in managing your diabetes:

1. Keep an updated list of all your medications
 - Your list should have prescriptions medications, over-the-counter medications, herbals, vitamins, and supplements
2. Take your medication **exactly** as prescribed
 - Fill your prescription immediately after your appointment
 - Create a routine for taking your medications
 - Use a pillbox to help keep medications organized
 - Fill your medication when you have one week left
3. Talk about your concerns with your care team
 - Understand possible side effects
 - Is your medication too expensive?
 - Are you taking too many medications every day?

Starting a new medication?

Here is what to ask:

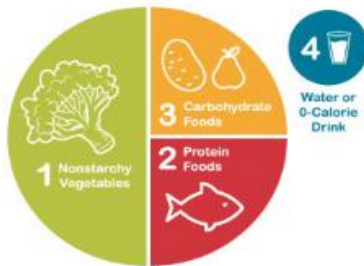
- What is the name of the medication?
- How does the medication work?
- How should I take it, and should I take it with food?
- What side effects should I know about?
- How much does the medication cost?
- Will it affect my weight?
- What should I do if I miss a dose?
- How will we know if the medication is working?



If you do not understand or forget how your medication works, ask your care team!



Nutrition: Diabetes Meal Planning and Grocery Shopping



American Diabetes Association (nine-inch plate method) ²

- 50% nonstarchy vegetables (asparagus, broccoli, carrots, celery, cucumber, kale, mushrooms, green beans, peas, peppers, lettuce, spinach, tomatoes).
- 25% lean protein (chicken, turkey, eggs, fish, shellfish, lean beef, lean pork, cheese, hummus, tofu, nuts)
- 25% carbohydrates (brown rice, oats, quinoa, whole grain pasta, fruits, beans, dairy products).

<https://www.diabetesfoodhub.org/articles/what-is-the-diabetes-plate-method.html>

American Diabetes Association SHOPPING LIST

Use the list below as a guide on your next trip to the grocery store.
(Depending on your preferences and the amount of people you are feeding, you may not need all of the items on this list.)

REFRIGERATOR

- Fruit (a few of your favorites)
- Vegetables (a few of your favorites – focus on non-starchy vegetables)
- Skim, 1% low-fat milk, or unsweetened soy milk
- Non-fat or low-fat yogurt
- Eggs or egg substitute
- Cottage cheese
- Reduced-fat cheese
- Fresh meat, poultry or fish that you'll use in the next few days
- Trans-free margarine or margarine with plant sterols or stanols

FREEZER

- Frozen fruit
- Frozen vegetables
- Frozen fish fillets or shellfish
- Frozen chicken breast (boneless, skinless)
- Frozen meals (lower-sodium, lean options for days when time is tight)

SPICE CABINET

- Balsamic vinegar or other vinegars that you cook with (white wine, rice, or cider vinegar)
- Pepper
- Salt-free spices—your favorites
- Salt-free dried herb or spice blends
- Cooking sprays
- Vegetable oil
- Olive oil

PANTRY

- Canned vegetables
- Canned fruit (canned in juice)
- Canned beans (low-sodium if available)
- Fat-free refried beans
- Canned tuna or salmon
- Instant oatmeal or quick oats
- Whole grain cereal (unsweetened)
- Brown rice or other whole grains (for example, quinoa, bulgur, or whole grain barley)
- Pasta (try whole wheat)
- 100% whole wheat bread or pita bread
- Dried fruit
- Unsalted nuts
- Peanut butter or another nut butter
- Seeds (sunflower, flax)
- Popcorn (light, microwave)
- Potatoes (white or sweet)
- Spaghetti sauce

Visit diabetes.org/quickmealideas or call 1-800-DIABETES for more information.



Finding Healthy Food Choices

GIANT EAGLE:

<https://www.gianteagle.com/recipes/diabetes-appropriate>

- Online list of diabetic friendly recipes and tips for diabetics.



MOM'S MEALS: Diabetes Friendly Meal Delivery

- A wide variety of dietitian-designed meal options for diabetics.

Hours of Operation:

Monday – Friday: 8 a.m. – 6 p.m. CT

Phone: 1-877-508-6667

To fulfill the nutritional needs of diabetics, Mom's Meals offers fully prepared meals that are low in carbohydrates, which is essential to maintaining good blood sugar control.

<https://www.momsmeals.com/our-food/nutrition/diabetes-friendly/>

Financial and Community Food Resources

<https://integratedhealthcollaborative.org/assets/Uploads/2020-08-04-IHC-Social-Service-Manual2.pdf>

Commodity Supplemental Food Program (CSFP)

<http://www.fns.usda.gov/csfp>

Ohio Financial Assistance:



You may qualify for help with groceries if your monthly household income is less than:

\$1,307 for 1 person, \$1,760 for 2 people,
\$2,212 for 3 people, \$2,665 for 4 people,
add \$452 for each additional person.

To apply visit benefits.ohio.gov

Simply EZ: Home Delivered Meals:

<https://www.simplyez.net/>

THREE REASONS SIMPLY EZ WILL WORK FOR YOU

- **HEALTHY, DIABETIC FRIENDLY**
 - Low sodium. Licensed dietician approved.
- **QUICK**
 - Individual portions freshly sealed for EZ heat and serve.
- **RELIABLE**
 - Consistent once-a-week delivery.

Supplemental Nutrition Assistance Program (SNAP)

<http://www.fns.usda.gov/snap>

Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

<https://www.fns.usda.gov/wic>



Vaccinations: Staying Well With Diabetes- Get Your Vaccines Up to Date^{5,6}

Diabetes can make it harder for your body to fight off some infections and put you at higher risk for more serious problems from vaccine-preventable diseases.

Influenza vaccine

- People with diabetes are at a high risk of complications from the flu, such as pneumonia, sinus infections, and bronchitis. Complications may cause hospitalizations and even death. The best way to protect yourself is to get a flu shot every year.

Pneumococcal vaccine

- People with diabetes have a larger risk for death from pneumococcal infections, such as pneumonia, blood infections, and meningitis.
- Not sure which vaccine you need, ask your doctor or pharmacist what series is right for you.

Tdap vaccine

- Get protected against three bacteria causing diseases: tetanus, diphtheria, and pertussis. All adults should get the Tdap vaccine once and a Td vaccine booster every 10 years. Medicare does not cover the cost of this vaccine.

Hepatitis B vaccine

- Hepatitis B is a virus that infects the liver. It is spread through body fluid and blood – never share diabetes equipment such as finger stick devices, insulin pens, or meters. People with diabetes have a higher risk of Hepatitis B infection. Hepatitis B vaccination is recommended adults younger than 60 years of age – you may have had the vaccine as a child. If you are over 60 years of age, talk to your doctor to see if you qualify.

Zoster vaccine

- Did you know, 1 out of 3 people in the United States develop shingles from the herpes zoster virus? Shingles is a painful rash caused by the virus that causes chickenpox. The herpes zoster vaccine, also known as the shingles vaccine, is approved for people 50 years and older.

COVID-19 vaccine

- If you are over 60 years of age, talk to your doctor to see if you should receive a COVID-19 vaccine. COVID-19 can cause severe breathing issues and other life-threatening complications. Like other vaccines, the COVID-19 vaccines trigger an immune response inside your body. There are various types of vaccines available, though they work differently within the body, each is designed to help your body create an immune response to make antibodies and protect you from the COVID-19 infection.



References:

1. *Aultman Hospital*. <https://aultman.org/home/services/support-services/diabetes-education/#/>
2. *American Diabetic Association*. <https://www.diabetes.org/>
3. *Integrated Health Collaborative*. <https://integratedhealthcollaborative.org/assets/Uploads/2020-08-04-IHC-Social-Service-Manual2.pdf>
4. *USDA*. <http://www.fns.usda.gov>
5. *Centers for Disease Control*. <https://www.cdc.gov/vaccines/hcp/adults/downloads/fs-diabetes-vaccines.pdf>
6. *Centers for Disease Control*. <https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/diabetes.html>
7. Becton, Dickinson and Company. Living with Diabetes: Site Rotation. Livingwithdiabetes.bd.com. <https://livingwithdiabetes.bd.com/successful-injections/site-rotation>. Published 2021. Accessed June 2, 2021.
8. What to Do with Used Sharps in Ohio. SafeNeedleDisposal.org <https://safeneedledisposal.org/states/ohio/>. Published September 14, 2020. Accessed June 2, 2021.



Managing Hypoglycemia (Low Blood Sugar)

Low blood sugar is when your blood sugar levels have fallen low enough that you need to take action to bring them up to your target range. This is usually when your blood sugar is less than 70 mg/dL. However, talk to your doctor about your blood sugar targets, and what level is too low for you. Low blood sugar may also be referred to as an insulin reaction, or insulin shock.

Signs and symptoms of low blood sugar (This can occur quickly)²

Each person's reaction to low blood sugar is different. Learn your signs and symptoms when your blood sugar is low. Taking time to write these symptoms down may help you learn your symptoms. From mild, to the most severe, signs and symptoms of low blood sugar include:

Feeling Shaky	Being nervous or anxious	Sweating, chills & clamminess	Irritability or impatience	Confusion
Fast heartbeat	Feeling lightheaded or dizzy	Hunger	Nausea	Color draining from the skin (pale)
Feeling tired	Feeling weak or no energy	Blurred/impaired vision	Tingling or numbness in the lips, tongue or cheeks	Headaches
Coordination problems	Clumsiness	Nightmares	Seizures	Crying out during sleep

The only way to know whether you are experiencing low blood sugar is to check your blood sugar, if possible. If you are experiencing symptoms and you are unable to check your blood sugar for any reason, treat the hypoglycemia. If the blood sugar level continues to drop, the brain does not get enough glucose and stops functioning as it should. If blood sugar stays low for too long, starving the brain of glucose, it may lead to seizures, coma and very rarely death.

Treatment

The 15-15 rule—have 15 grams of carbohydrate to raise your blood sugar and check it after 15 minutes. If it's still below 70 mg/dL, have another serving. Repeat these steps until your blood sugar is at least 70 mg/dL. Once your blood sugar is back to normal, eat a meal or snack to make sure it doesn't lower again. If you are having frequent occurrences of low blood sugars, please notify your doctor office.

Glucose tablets (see instructions)	Gel tube (see instructions)	4 ounces (1/2 cup) of juice or regular soda (no diet soda)
1 tablespoon of sugar, honey, or corn syrup	Hard candies, jellybeans or gumdrops (see food label)	

Don't hesitate to call 911. If someone is unconscious and glucagon is not available or someone does not know how to use it, call 911 immediately.

Do NOT:

- Inject insulin (This will lower the blood sugar more)
- Provide food or fluids if they are unconscious or unresponsive (increases risk of choking).



Patient Reminders and To-Do's Prior to your Next Appointment

- Bring Blood Sugar Record
 - Bring Medication List
 - Have lab work drawn prior to appointment (example: A1C, LDL)
 - A1C
 - Your doctor may request this be rechecked every three months if not less than 9%.
 - Cholesterol, LDL at least once per year
 - Urine checked for protein at least once per year
 - Annual Wellness Visit
 - Chronic Condition Visits (At least two per calendar year-may require every 3 months until condition is well managed)
 - Next appointment with _____ Date/Time: _____
 - Diabetic eye exam with Dr. _____ Date/Time: _____
- *Please request a copy of your Eye Exam results and bring to your next appointment with your doctor.**
- Other: _____
-

Treatment and Care Plan Goals:

- Lifestyle Modifications: _____
 - Nutrition/Diabetic Diet: _____
 - Exercise: _____
 - Diabetic Education: _____
 - Aultman Diabetic Education: <https://aultman.org/home/services/support-services/diabetes-education/#/>
-



Types of Insulin ²	How long it takes to reduce blood sugar levels?	Patient Tips
Rapid-Acting	<ul style="list-style-type: none"> • Begins to work approximately 15 minutes after injection • Peaks 1-2 hours after injection • Lasts between 2-4 hours 	
Regular or Short-acting	<ul style="list-style-type: none"> • Reaches the bloodstream within 30 minutes after injection • Peaks 2-3 after injection • Lasts approximately 3-6 hours 	
Intermediate-acting	<ul style="list-style-type: none"> • Reaches the bloodstream 2-4 hours after injection • peaks 4-12 hours after injection • Effective for 12-18 hours 	
Long-acting	<ul style="list-style-type: none"> • Reaches the bloodstream several hours after injection • Lowers blood sugar levels up to 24 hours 	
Ultra long-acting	<ul style="list-style-type: none"> • Reaches the blood stream in 6 hours • Does not peak • Lasts about 36 hours or longer 	

Premixed Insulin can be helpful for people who have trouble drawing up insulin out of two bottles, seeing the insulin syringe markings and/or reading the correct directions and dosages.

Insulin Pens

- There are many different types of insulin pens. Pens are more convenient and easier to use than syringes and vials.
- Different insulin pens may have different features. Please speak with your health care doctor before using your insulin pen.

Supplies you will need: (See insulin pen facts handout for further instructions)

- Your prescribed insulin pen.
- Pen needles and alcohol wipes.
- Container for used supplies, such as a hard-plastic container with a lid or a “sharps” container.



Your Diabetic Health Goals and Medication Review:

	Goal	Your Plan	Patient Tips
Blood Sugar			When to check your blood sugar: _____
Hemoglobin A1C			Complete by: _____
Cholestrol, LDL			Complete by: _____
Diabetic Eye Exam			Complete by: _____
Urine for Protein			Complete by: _____
Foot Care			How often : _____
Blood Pressure			How often : _____

Medication changes today:

Medication Name	Dose (mg, units, puffs, drops)	How Often When do you take it? How many times per day?	Route How do you take it?	Reason Why do you take it?



Blood Glucose Log

Week of _____



DAY	BREAKFAST			LUNCH			DINNER			SNACK/ OTHER	BED	
Mon												
TIME												
Notes:												
Tues												
TIME												
Notes:												
Wed												
TIME												
Notes:												
Thurs												
TIME												
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Fri												
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Sat												
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Sun												
TIME												
Notes:												

Please bring to your Doctor Visit