Mason Health
Mason General Hospital • Mason Clinic

Diabetes Wellness Newsletter

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HAPPY FALL, EVERYONE!

As the weather changes, we wanted to share some information on a couple of topics which may provide a better understanding of diabetes as you work toward goals to help improve your personal self-management of diabetes. We have also included a delicious Fall recipe. As always, please reach out to us or to other members of your health care team with any questions. ~ Sarah Fulkerson, RD, CDCES, at Mason Health

WHAT IS INSULIN RESISTANCE...AND WHAT CAN I DO ABOUT IT?

Contributed by Zachary Chomicki, MS, RDN at Mason Health

Controlling blood sugar is a key part of diabetes management. But what happens when it is difficult to keep it under control? Elevated blood sugar can occur before someone gets diabetes. Insulin resistance is a condition that can not only occur in diabetes but also before developing Type 2 diabetes. Insulin resistance happens when the tissues in your body do not properly respond to insulin.

As a refresher, insulin is a hormone produced by an organ called the pancreas. Many different tissues in the body respond to insulin; however, the main tissues involved in insulin resistance are inside the liver, skeletal muscles (the muscles you use to move and exercise), and body fat. Insulin helps to pull sugar from your blood into the cells to be used as energy.

When someone becomes insulin resistant, the tissues in these cells do not respond as well to insulin, and it becomes difficult for them to take glucose from the blood to be used for energy. When this happens, it can cause the cells in the pancreas to begin making more insulin to manage the sugars.

This can cause the cells in the pancreas to eventually “tire out” and slow down insulin production. Over time, this can lead to chronically elevated blood sugars and eventually type 2 diabetes.
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WHAT IS INSULIN RESISTANCE...AND WHAT CAN I DO ABOUT IT?

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Insulin resistance can be a result of genetics but other factors - such as excess body fat, physical inactivity, aging, and other diseases such as heart disease, non-alcoholic fatty liver disease, metabolic syndrome, and polycystic ovary syndrome (PCOS) - can also contribute to insulin resistance. Insulin resistance, and reducing the risk of diabetes as a result, can be improved in several ways:

1. **Improving eating patterns** by choosing more whole, nutrient-dense foods such as vegetables, healthy fats, lean proteins, fruits, and whole grains, and limiting highly processed foods that are high in sodium, saturated fat, added sugars, and calories.
2. **Engaging in regular physical activity**. Exercise helps your muscles utilize sugar for energy and become less resistant to insulin to help with this.
3. **Reaching and maintaining a healthy weight.** Only 7% weight loss can reduce the onset of type 2 diabetes by 58%. For example, if you weigh 200 lbs, 7% would be a loss of 14 lbs.
4. **Changing lifestyle factors**. Becoming more physically active, improving diet quality, and maintaining a healthy weight can help improve insulin sensitivity and reduce the risk of developing diabetes, or aid in managing diabetes if you already have it. Ask your doctor if it is safe for you to engage in these activities or to receive a referral to a Registered Dietitian to work on improving your nutrition, weight, and lifestyle goals.

Reference: Freeman AM, Acevedo LA, Pennings N. Insulin resistance. In: StatPearls. StatPearls Publishing; 2024.

TELL ME MORE ABOUT THOSE GLP-1 MEDICATIONS!

There is a class of type 2 diabetes drugs that not only improves blood sugar control but may also lead to weight loss. This class of drugs is commonly called glucagon-like peptide 1 (GLP-1) agonists. Weight loss can vary depending on which GLP-1 drug you use and your dose.

Studies have found that all GLP-1 drugs can lead to a weight loss of about 10.5 to 15.8 pounds (4.8 to 7.2 kilograms, or kg) when using liraglutide. Studies found that people using semaglutide and making lifestyle changes lost about 33.7 pounds (15.3 kilograms) versus 5.7 pounds (2.6 kilograms) in those who didn't use the drug. Diabetes drugs in the GLP-1 agonists class are generally taken by a shot (injection) given daily or weekly.

FDA-approved GLP-1 receptor agonists for blood sugar control include:

- **Dulaglutide (Trulicity)** (weekly injection)
- **Exenatide extended release (Bydureon bcise)** (weekly injection)
- **Exenatide (Byetta)** (twice daily injection)
- **Semaglutide (Ozempic)** (weekly injection)
- **Liraglutide (Victoza, Saxenda)** (daily injection)
- **Lixisenatide (Adlyxin)** (daily injection)
- **Semaglutide (Rybelsus)** (taken by mouth once daily)
- **Tirzepatide (Mounjaro)** (weekly injection)

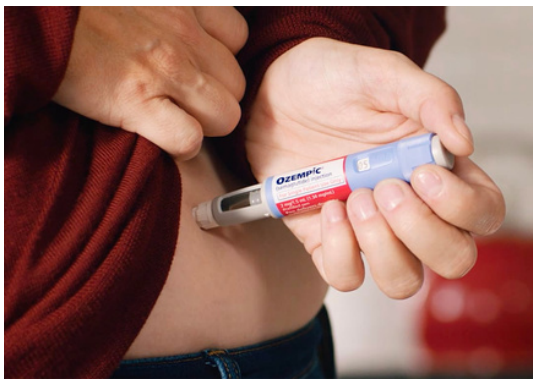

Photo Credit: NBC News

FSA-approved GLP-1 agonists for weight loss include:

- **Semaglutide** (weekly injection)
- **Liraglutide** (weekly injection)
- **Tirzepatide** (weekly injection)

These drugs mimic the action of a hormone called glucagon-like peptide 1. When blood sugar levels start to rise after someone eats, these drugs stimulate the body to produce more insulin. The extra insulin helps lower blood sugar levels. When medications are used with a reduced-calorie meal plan and increased physical activity, you may see higher levels of weight loss improving your goals. *(Continued next page)*

TELL ME MORE ABOUT THOSE GLP-1 MEDICATIONS

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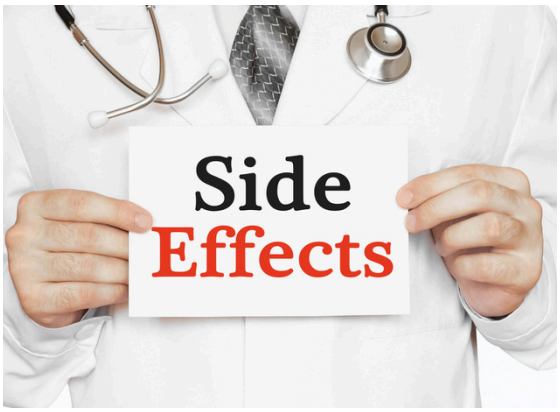
Lower blood sugar levels help control type 2 diabetes, but it's not clear how the GLP-1 drugs lead to weight loss. Doctors do know that GLP-1s appear to help curb hunger. These drugs also slow the movement of food from the stomach into the small intestine. As a result, you may feel full faster and longer, so you eat less.

Along with helping to control blood sugar and boost weight loss, GLP-1s seem to have other major benefits. Research has found that these drugs may lower the risk of heart disease - such as heart failure, stroke, and kidney disease. People taking these drugs have seen their blood pressure and cholesterol levels improve but it's unclear whether it is from the drug or the weight loss.

The downside to GLP-1 drugs is that all but one has to be taken by a shot. And, like any drug, there is a risk of side effects, some serious. More common side effects often improve as you continue to take the drug for a while.

Some more common side effects include:

- Nausea
- Vomiting
- Diarrhea
- Constipation
- Abdominal (stomach) pain



Secondary symptoms:

- Pancreatitis
- Gastroparesis
- Bowel Obstruction
- Gallstone attacks and bile duct blockage

Low blood sugar levels (hypoglycemia) are a more serious risk linked to the GLP-1 class of drugs, if you are taking other diabetes medications. However, the risk of low blood sugar levels often only increases if you're also taking another drug known to lower blood sugar at the same time - such as sulfonylureas or insulin.

The GLP-1 class of drugs isn't recommended if you have a personal or family history of medullary thyroid cancer or multiple endocrine neoplasia. Lab studies have linked these drugs with thyroid tumors in rats. Until more long-term studies are done, the risk to humans isn't known. They're also not recommended if you've had pancreatitis.

The drugs already discussed are indicated in people living with type 2 diabetes, but are in research to be used with type 1 diabetes individuals. There is also a drug that has a higher dose of liraglutide (Saxenda) that's approved for the treatment of obesity in people who don't have diabetes.

If you have diabetes and wonder if one of these drugs may be helpful for you, talk to your diabetes doctor or health care provider.

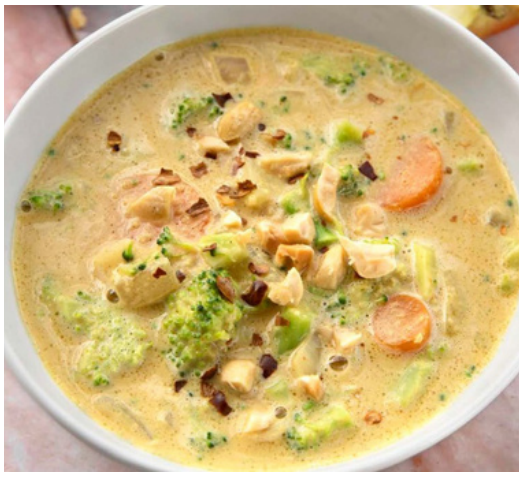
Resources

https://www.mayoclinic.org/diseases-conditions/type-2-diabetes/expert-answers/byetta/faq-20057955

https://www.ncbi.nlm.nih.gov/books/NBK572151/#:~:text=Glucagon%2Dlike%20peptide%2D1%20receptor%20agonists%20(GLP%2D1RA,for%20the%20management%20of%20diabetes

Savings https://mounjaro.lilly.com/savings-resources

BROCCOLI PEANUT SOUP



This delicious soup is one of many recipes in Vegan Soups and Stews for All Seasons (5th edition) by Nava Atlas, TheVeganAtlas.com. ©2024

Ingredients

- 1 1/2 tablespoons olive oil
- 2 large onions, chopped
- 2 cloves garlic, minced
- 3 medium carrots, peeled and sliced
- 32-ounce carton vegetable broth, or 4 cups water with 2 vegetable bouillon cubes
- 2 medium apples, peeled, cored, and diced
- 1 teaspoon good quality curry powder
- 2/3 cup creamy peanut butter
- 6 heaping cups finely chopped broccoli (mainly florets; some
- tender stems are fine)
- Juice of 1/2 lemon
- Salt and freshly ground pepper to taste
- Pinch of dried hot red pepper flakes, plus more to pass around
- Chopped roasted peanuts for garnish, optional

Directions

Heat the oil in a soup pot. Add the onions and sauté over medium-low heat until translucent. Add the garlic and carrots and continue to sauté until all are golden.

Add the broth along with the apples and curry powder. Bring to a slow boil, then lower the heat. Simmer gently over low heat with the cover ajar for 10 to 15 minutes, or until the carrots and apple are tender. Remove from the heat.

Transfer the solid ingredients from the soup pot to a food processor with a slotted spoon. Process until just coarsely pureed, leaving some chunkiness. Stir back into the soup pot. You can also skip the food processor and insert an immersion blender into the pot, and process until coarsely pureed.

Add the peanut butter to the soup, about half at a time, whisking it in until completely blended. Return to very low heat.

Steam the broccoli in a saucepan with about ¼ cup water, covered, for 5 minutes, or until brightly green and tender-crisp to your liking. Stir into the soup. If the soup is too thick, add enough water to give it a medium-thick consistency.

Stir in the lemon juice, then season with salt, pepper, and red pepper flakes.

Serve at once. Pass around more red pepper flakes and chopped peanuts for topping individual servings, if desired.

Enjoy!

STRESS AND BLOOD SUGAR

Did you know that stress (emotional or physical) can raise blood sugar levels?

Stress causes the body to release certain hormones, including cortisol and adrenaline. This is often referred to as the "fight-or-flight" response. The release of these hormones affects how insulin works in the body, and causes insulin resistance. Over time, prolonged stress can keep blood sugar levels high.

Stress may also relate to certain lifestyle habits, such as unhealthy diet or lifestyle patterns, which may cause weight gain and raise blood sugar levels.

To help manage blood sugar levels when feeling stressed or anxious, a person may try:

- ☑ **Getting regular exercise** which can improve insulin sensitivity
- ☑ **Keeping track of blood sugar** to identify any triggers that may cause levels to rise
- ☑ **Eating at regular times** throughout the day and avoiding skipping meals
- ☑ **Eating healthy foods** that are lower in saturated and trans fats, sugar, and salt
- ☑ **Eating healthy food portions**, such as filling half a plate with non-starchy vegetables, a quarter of the plate with lean protein, and the last quarter with a grain or starch
- ☑ **Keeping notes of food, drink, and physical activity** to help stay on track
- ☑ **Drinking plenty of water and limiting (or avoiding) fruit juices, sodas, and alcohol**
- ☑ **Limiting sweet or sugary foods** and choosing fruit instead
- ☑ **Including stress-management techniques** such as deep breathing, meditation, listening to music, or playing with a pet
- ☑ **Getting enough quality sleep**

How many boxes can you check off your list?

To sign up for the Diabetes Wellness Newsletter via email or by mail, email foundation@masongeneral.com or call the Diabetes Wellness Center at 360-427-9543.

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