

Understanding Diabetes

Millions are affected by high blood glucose, but many cases remain undiagnosed

In 2011 it was estimated that 25.8 million people in the United States were diabetic, with nearly one-third remaining undiagnosed.

The overall incidence of diabetes increases with age to more than 1 in 4 of patients age 65 years and older. So if you feel all alone with your condition

remember this disease affects millions of people and, if needed, support groups are available.

This *In The Know* newsletter will be highlighting the differences in type 1 and type 2 diabetes, common treatment regimens, helpful reminders to remain compliant on therapy and a diabetic friendly recipe.



Not alone » 25% of patients 65 or older have diabetes.

Type 1 and type 2: What is the difference?

Type 1 and type 2 diabetes comprise the largest population of diabetic patients in the United States. Type 1 patients are characterized by a lack of insulin secretion, while type 2 diabetics generally have insulin resistance.

Other ways to distinguish between type 1 and type 2 diabetes include: family history and age of onset.

Type 1 diabetics are generally younger with a large majority being diagnosed before age 10 compared to an average age of onset of 40 years old in type 2 diabetes.

Only 10% of patients with type 1 diabetes have a family history of the disease, but up to 90% of patients with type 2 diabetes have a close relative with the same condition.

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Distinct Diseases

Type 1: Fewer cases, insulin dependence

Because type 1 diabetics have little to no insulin secretion, they are treated with replacement insulin. Multiple insulin products are available and include short acting insulin (e.g., Novolog) which is generally considered mealtime insulin and long-acting insulin (e.g., Lantus).

These products, when used in combination, mimic the normal action of the pancreas. Unfortunately, shots must be given 3-4 times daily for short-acting insulin and 1-2 times daily for long-acting insulin.

Despite giving multiple shots per day some patients still have high blood sugar values or experience substantial side effects from the insulin, resulting in dramatic swings of their blood glucose values. These patients may qualify for additional support of their diabetes management in the form of an insulin pump or continuous glucose monitor. PEHP covers many different insulin pumps and continuous glucose monitors, but offers an enhanced benefit for the t:slim and Omnipod insulin pumps and the Dexcom G4 continuous glucose monitor. For more information, contact the PEHP Pharmacy Department at 801-366-7555 option number 3.

Type 2: Three classes of oral meds

Depending on your baseline HbA1c your provider may start you out on a variety of oral medications.

Most patients starting oral medication are treated with metformin. It works by helping to move sugar into cells and out of the blood and to prevent the release of stored sugar in the liver.

Patients unable to take metformin often take another group of medications that increase the amount of insulin released from the pancreas. This

group of medications is called sulfonylureas and includes glyburide, glipizide, and glimepiride.

These medications rapidly work to reduce your HbA1c but have been associated with low blood sugars and a small increase in weight.

The third medication is called pioglitazone, which works very similar to metformin and provides slightly less reduction in HbA1cs but offers some other beneficial effects on cholesterol levels.

Type 2 medications

Medication	A1c reduction	Advantages	Disadvantages	Formulary placement
Metformin	1-2	No weight gain, highly recommended	Requires slow adjustments because of stomach complaints	Tier 1 (generic)
Pioglitazone	0.5-1.5	Decreases cholesterol	Small weight gain	Tier 1 (generic)
Glimepiride	1-2	Work quickly	Small weight gain	Tier 1 (generic)
Glipizide	1-2	Work quickly	Small weight gain	Tier 1 (generic)
Glyburide	1-2	Work quickly	Small weight gain	Tier 1 (generic)
Tradjenta/Onglyza	0.5	No weight gain, minimal side effects	Not very effective	Tier 2 (preferred)

Decreasing blood glucose values

Target HbA1c for most patients is 7%

Because type 1 and type 2 diabetes are distinct diseases, they will also be treated with medications differently.

Type 1 diabetics require insulin early in their disease whereas patients with type 2 diabetes are generally treated with oral medications first. But because it is a progressive disease, many patients with type 2 diabetes will ultimately be treated with insulin.

The goals for managing diabetes are to minimize long-term complications by decreasing blood glucose



Be aware » Are you testing blood glucose often enough?

values. An average of your blood glucose value for the past 3 months is known as a hemoglobin A1c (HbA1c).

A blood sugar tested at home with your glucometer is your level at a particular moment, but an HbA1c indicates your blood sugar level over the course of 3 months.

To minimize long-term complications, the American Diabetes Association recommends most patients target an HbA1c of less than 7%, but HbA1c goals are individualized – some are slightly more or less than the 7% target recommendation.

Treatment adherence decreases complications

Compliance to a medication seems easy enough, but studies have shown only 60% of patients remain compliant on their diabetic medications.

Adherence to the prescribed treatment decreases overall costs and could prevent long-term complications. Every 25% increase in

compliance improves HbA1c by nearly 0.4 points.

The number 1 reason for non-compliance is forgetfulness. Here are a few helpful hints some patients have used to remember to take their medication:

- » Set an alarm
- » Place the medication where

you know you will see it and take it

- » Ask family members to help
- » Use a pillbox (for a free pill box contact the PEHP Pharmacy Department 801-366-7555 option #3)
- » Apps on smart phones (such as RXmindme and medcoach)

Make a routine of taking your medicine.



Blood sugar testing

In order to safely and effectively manage your diabetes, it's important to understand your blood glucose levels.

Testing recommendations from the American Diabetes Association range from testing 8-12 times daily in patients on complicated insulin regimens, to only occasionally in some type 2 diabetics on medications that are not associated with low blood glucose values (e.g., metformin, Onglyza, pioglitazone).

Discuss with your provider how often you should be testing your blood sugar.

Enhanced Pharmacy Benefit

Beginning in 2014 PEHP has expanded our Enhanced Pharmacy Benefit to include long-acting insulin (i.e. Lantus).

With this expansion the Enhanced Pharmacy Benefit now includes insulin vials, both short- and long-acting, and diabetic test strips for a Tier 1 copayment through the retail pharmacy after applicable deductible.

For more information and how to enroll in the program, please visit www.pehp.org under the members tab and Integrated Care or contact Integrated Care at 801-366-7400.

Medications	Cost
Freestyle test strips	\$10*
Novolog vials	\$10*
Lantus vials	\$10*
Novolin vials	\$10*

*Limited to vials, enrollment in Integrated Care and retail pharmacies. Costs are based on tier 1 copayments and after applicable deductible.

Grilled Mango Chicken

Watching blood sugar? Here's a recipe for you

INGREDIENTS

- » 4 (4-ounce) boneless, skinless chicken breast cutlets (1 pound total)
- » 2 tablespoons mango chutney or mango salsa
- » 2 tablespoons fresh lime juice
- » 2 teaspoons grated fresh ginger, or ½ teaspoon ground ginger
- » 1 tablespoon olive oil
- » ¼ cup orange juice
- » 1 teaspoon minced fresh oregano or ¼ to ½ teaspoon dried oregano
- » ½ teaspoon hot pepper sauce
- » 2 garlic cloves, minced

DIRECTIONS

- » In a large resealable plastic storage bag, combine chicken with remaining ingredients. Place in refrigerator and marinate 8 hours or overnight, turning halfway during marinating time.
- » Preheat grill to medium-high heat. Place chicken on grill, discarding excess marinade. Grill chicken 4 to 6 minutes per side, or until cooked through.

From Hello Taste, Goodbye Guilt! by Mr. Food Test Kitchen

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