
Diabetes Life Lines



A newsletter from your county Extension office
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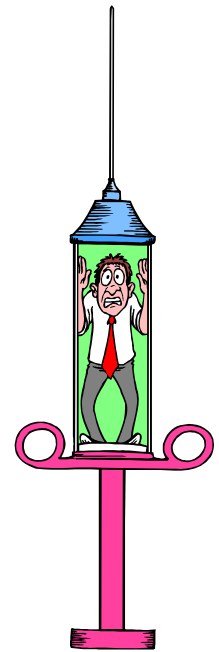
Fitting Insulin into Your Lifestyle

If you feel like someone is trying to fit you into an insulin regimen and eating pattern instead of the other way around, maybe it's time to revisit your healthcare team. Gone are the days when people with type 1 or type 2 diabetes who require insulin are given a standard "1500 calorie exchange diet" and insulin that works with the mealplan. At least those days should be gone. Today there are so many insulin options available that can work with the way you choose to eat. They are designed to be more flexible to fit with when and how much you eat.

Years ago people with insulin-

requiring diabetes were given a mealplan, usually divided into 3 meals and 2-3 snacks. Regardless of the person's schedule, every attempt was made to change the person's eating habits to fit into the mealplan provided. Insulin was often given once or twice a day. Eating at set times was designed to prevent the highs and lows based on when the insulin worked.

Today with many insulin choices available from fast-acting to long-acting, an insulin regimen can usually be designed to fit your preferred food and activity pattern. If you would like to achieve tight blood glucose control, taking short or rapid-acting insulin before meals and longer-acting insulin at night may be a good option for you. Longer-acting insulins like glargine (Lantus) or NPH are used as basal or background insulin to keep blood glucose levels in control between meals and at night. Basal insulin may be given only once a day, usually in the evening, as in the case of insulin glargine that lasts 24 hours. Or it may



need to be given twice a day with the intermediate-acting insulins like NPH.

Bolus insulin is used to cover a meal or large snack. Fast-acting insulins like lispro (Humalog) or aspart (Novolog) are being used now more often for mealtime coverage as they begin working faster and do not last as long as Regular, thus avoiding hypoglycemia between meals.

Using mealtime insulin allows you more flexibility in the timing of meals and the amount of food you eat. The major consideration is the total amount of carbohydrate eaten at a meal or snack. This will determine the premeal insulin dosage and how much the glucose rises after the meal. Carbohydrate counting and frequent blood glucose monitoring are therefore important in achieving optimal blood glucose control. If you would like to learn more about carbohydrate counting, ask your health care provider to refer you to a registered dietitian. The American Diabetes Association also has a very helpful book entitled "Complete Guide to Carb Counting." Contact the American Diabetes Association at 1-800-232-6733 or <http://store.diabetes.org>.

If you take insulin, there is no reason to stay "stuck" in a restrictive pattern of eating to control your diabetes. If you're willing to take insulin more frequently, count the carbohydrate in the foods you eat, and check your blood glucose

regularly, you can take more control of your diabetes. The freedom to choose what, when, and how much you eat is a decision you should be able to make for yourself.

GlucoWatch Monitor Now Available

Frequent blood glucose measurements without numerous finger sticks? A new watch-like device that measures your blood glucose levels every 20 minutes is now available for adults by prescription.



GlucoWatch® monitor

The GlucoWatch biographer, worn like a watch, measures the glucose in the fluid beneath your skin throughout the day and night without sticking your finger. The device sends a small electric current through the skin, collects fluid from under the skin, then measures the glucose in the fluid and displays it every 20 minutes. It will also sound an alarm for high or low readings.

The GlucoWatch does not eliminate the need for blood glucose monitoring. Instead, it provides you additional information during times when you may

not be testing - such as overnight or between meals. It can be used to observe trends in blood glucose and notify you when the glucose is too high or too low. This information may help you make better decisions on how to manage your diabetes.

Readings by the GlucoWatch are delayed by up to 20 minutes compared with a typical blood glucose monitor. Results may also vary due to factors such as temperature and excessive sweating.

The cost of the device is initially \$595 through direct mail plus about \$9 per day of use for the disposable sensors. The GlucoWatch Analyzer software, which downloads the data into a personal computer, is available for an additional \$35. It is not yet covered by insurance, but may be in the future. For more information, visit www.glucowatch.com or call 866-459-2824.

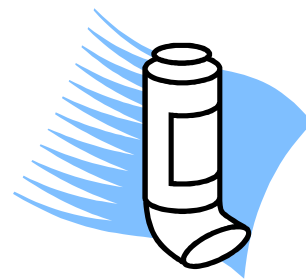
A Breath of Insulin Instead of an Injection?

Instead of taking an insulin syringe or pen along with you to lunch, you may soon be taking an inhaler to take a puff of insulin before your meal.

For years scientists have been working to find a less painful and more convenient way to deliver insulin than the traditional syringes. At last, a possible

solution may soon be available. Inhaled or pulmonary insulin is being developed by several different companies for patients with type 1 and type 2 diabetes.

Exubera, co-developed by Pfizer and Aventis Pharmaceuticals, will likely be the first on the market. An



inhaler, about the size of a flashlight, delivers a dose of insulin in a dry powder form through the mouth directly to the lungs. The insulin then passes quickly into the bloodstream. The insulin works faster than injected insulin, so the inhaled insulin works more like the fast-acting insulins, lispro and aspart.

Studies have shown that people with both type 1 and type 2 diabetes can control their blood glucose levels as well with inhaled insulin as with injected insulin. People with type 1 diabetes were studied using a long-acting insulin at bedtime with inhaled insulin before each meal. Not only did they maintain good blood glucose control, but these patients also had fewer insulin reactions in the study. Studies with type 2 diabetes included their usual oral diabetes medication plus inhaled insulin before meals. Overall, people preferred inhaled insulin to injected insulin.



While most of the inhaled insulin systems now being developed use rapid-acting insulin, systems are also being developed that may allow for the use of longer-acting insulins in the future.

Studies are still being done to evaluate the safety of inhaled insulin. Since the lungs will be in constant contact with insulin, it is important to determine if inhaled insulin has any effect on breathing ability. The cost is likely to be two to four times the cost of injected insulin. But if and when the insulin inhaler becomes available, there are many people out there very eager to forego the injections for the ease of the inhaler. This in turn may lead more people to accept the idea of insulin therapy and therefore improve blood glucose control.

Does Your Meter Read Plasma or Whole Blood?

What's the difference, you say? Years ago all blood glucose meters read the same. Since the blood sample you take is whole blood, the meter would read it as whole blood. The only problem was that if you compared your meter readings to lab values, the lab values were higher. The blood that is drawn in the laboratory from your vein is spun down, leaving only plasma. Glucose is more concentrated in plasma than whole blood. Thus, the glucose in plasma is about 10-12% higher

than in whole blood. This often caused people to question the accuracy of their meter. A meter manufacturer then developed a meter that converted the whole blood values to plasma values. In other words, it added about 12% to the whole blood values. That made it easier to compare the results to lab values. Today most new meters give plasma-equivalent values. Check your meter instruction booklet or contact the manufacturer to determine if it reads the blood sample as plasma. A few meters can be set for either whole blood or plasma.

Many people with diabetes are unaware of this change. If your meter reads the blood samples as plasma values, you should be using goals for plasma. The American Diabetes Association's general goals are:

Before meals: 80-120 mg/dl (whole blood) 90-130 mg/dl (plasma)
Before bed: 100-140 (whole blood) 110-150 (plasma)

If you have goals set for after meals, they should also be adjusted. First, check to see how your meter reads and use the goals that match. If you have questions, discuss with your health care team.



Orange Chicken and Feta Caesar Salad

4 boneless skinless chicken breast halves, grilled or broiled, cut into 1/4 inch strips
6 cups torn romaine lettuce
4 ounces feta cheese, crumbled
1/2 cup thinly slice red onion
1/2 orange bell pepper, cut into rings
3 tablespoons olive oil
3 tablespoons orange juice concentrate
1 tablespoon white wine vinegar

1. Toss chicken, lettuce, cheese, onion and orange pepper in serving bowl.
2. Mix remaining ingredients. Pour over salad; toss lightly.

Serves 6

Exchanges: 3 lean meat, 1 vegetable, 1 fat

Calories: 234

Carbohydrate: 7 grams

Fat: 13 grams

Sodium: 259 milligrams

Cholesterol: 65 milligrams

Fiber: 1.5 grams

Suggested Menu

<u>Menu Item</u>	<u>Exchanges</u>	<u>Carbohydrate</u>
1 whole wheat roll	1 starch	15 grams
<i>Orange Chicken and Feta Caesar Salad*</i>	3 lean meat, 1 vegetable 1 fat	7 grams
1/2 cup mixed fresh fruit	1 fruit	15 grams
1 cup lite, nonfat fruit-flavored yogurt	1 milk, 1/2 fruit	23 grams

* *This month's featured recipe*

Note: Portions may need to be adjusted for your meal plan.

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Dear Friend,

Diabetes Life Lines is a bi-monthly publication sent to you by your local county Extension agent.

It is written by Food and Nutrition Specialists at the University of Georgia, College of Family and Consumer Sciences. This newsletter brings you the latest information on diabetes, nutrition, the diabetic exchange system, recipes, and important events.

If you would like more information, please contact your local county Extension office.

Yours truly,

County Extension Agent

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