



## **INJECTABLE MEDICATIONS FOR DIABETES (NON-INSULIN)**

### **PATIENT/FAMILY INFORMATION SHEET**

#### **In addition to insulin, what injectable medications are available to treat diabetes?**

There are 2 classes or types of medication used to treat diabetes that do not come in oral or pill form and are not insulin. These include:

- Exanotide (Byetta) and liraglutide (Victoza)
- Pramlintide (Symlin)

#### **How do these medications work?**

Exanotide and liraglutide are medications that imitate the action of a hormone called glucagon-like peptide 1 (GLP1) that is made by the intestinal tract. They may be prescribed by your doctor if you have type 2 diabetes. These medications help control blood glucose by:

- increasing the amount of insulin the pancreas makes at mealtime
- decreasing the amount of the hormone, glucagon, which is made by the pancreas and directs the liver to make glucose, raising blood glucose levels
- slowing down the movement of food from the stomach to the intestinal tract
- increasing the feeling of fullness or satiety at mealtime

All of these actions help to improve blood glucose control. They need to be injected either once or twice each day. These medications also help with weight loss.

Pramlintide is a medication that acts like a protein the pancreas normally makes and secretes with insulin. It may be prescribed by your doctor if you use insulin at mealtime if you have type 1 or type 2 diabetes. It helps to control blood glucose by:



- decreasing the amount of the hormone, glucagon, which is made by the pancreas and directs the liver to make glucose, raising blood levels
- slowing down the movement of food from the stomach to the intestinal tract
- increasing the feeling of fullness or satiety at mealtime

This medication is injected before meals just like insulin. However, it cannot be mixed with insulin so 2 injections before eating are necessary.

### **Are there any side effects from these medications?**

As with all medications, side effects may occur. These may include:

- Nausea, especially when first starting the medication or when the dose is increased
- Low blood glucose or hypoglycemia.
  - For exanotide and liraglutide, the risk of low blood glucose is higher if other diabetes medications, such as the sulfonylureas glimepiride, glipizide or glyburide, are used with these medications. Your doctor may decrease the dose of the sulfonylurea to prevent hypoglycemia.
  - For pramlintide, your doctor will most likely lower your pre-meal insulin dose to prevent hypoglycemia. Pramlintide should not be used before a meal that has less than 250 calories or less than 30 grams of carbohydrate.

### **Are there any other considerations?**

If you currently have or are at risk for pancreatitis or kidney disease, your physician may not recommend exanotide and liraglutide.

If you or family members have had thyroid tumors, your physician may not recommend Pramlintide.

*For more Patient Fact Sheets, see the Greenwich Hospital web site at [www.greenwichhospital.org](http://www.greenwichhospital.org) and Click on Patient Education*