

## Saxagliptin: A New Option for Type 2 Diabetes

For nearly 24 million Americans who have type 2 diabetes, maintaining control of blood sugar can be tough. For best results, recommendations indicate that most of these individuals should be exercising, eating a healthy diet, and using medications.

Although injectable medicines like insulin could be helpful, most people with type 2 diabetes would rather take oral medicines. Five different types of oral medicines could be used. The oldest group of these drugs works by stimulating insulin release from the pancreas. There are also drugs that block absorption of sugar in the intestines, a drug that interrupts sugar manufacture by the liver, drugs that help the body respond better to insulin, and the newest group of drugs that assist the activities of a protein called glucagon-like peptide-1 (GLP1).

GLP1 is a hormone that helps the body regulate blood sugar in several ways. It is released from cells in the digestive tract in response to food. Once secreted, GLP1 helps the pancreas release insulin, slows absorption of sugar from



the digestive tract after a meal, blocks sugar manufacture in the liver, and helps people feel “full” after they have eaten.

Two drugs, sitagliptin (Januvia) and saxagliptin (Onglyza), boost the actions of GLP1. They do this by inhibiting the enzyme that normally breaks GLP1 down to terminate its actions (dipeptidyl peptidase-4 or DPP4). As a result, these drugs allow the body’s own GLP1 to work longer.

In human studies with saxagliptin, the newest of these DPP4 inhibitors, it was studied as a single agent as well as in combination with other diabetes medicines. Most studies followed people for 3 to 6 months. In general, saxagliptin reduced hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>) levels, a marker used to assess blood sugar levels. In addition, the drug helped people lower their blood sugar levels after meals as well as their fasting sugar levels. Overall, saxagliptin helped people reach their target HbA<sub>1c</sub> level.

### FOR MORE INFORMATION

American Diabetes Association  
<http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/oral-medications/what-are-my-options.html>

Medline Plus  
[www.nlm.nih.gov/medlineplus/druginfo/meds/a610003.html](http://www.nlm.nih.gov/medlineplus/druginfo/meds/a610003.html)

National Institutes of Health  
[www.nih.gov/about/researchresultsforthepublic/Type2Diabetes.pdf](http://www.nih.gov/about/researchresultsforthepublic/Type2Diabetes.pdf)

Based on “Saxagliptin: A New DPP-4 Inhibitor for Type 2 Diabetes” by Nancy Borja-Hart and Karen Whalen, *The Annals of Pharmacotherapy*, June 2010, <http://dx.doi.org/10.1345/aph.1P003> For Our Patients is provided by *The Annals* to help explain the latest research and information relating to your medications. These summaries are for informational purposes only and are not a substitute for professional advice from your personal medical provider. If you have questions about this material, you should discuss it with your physician or pharmacist. This summary may be reproduced without permission for not-for-profit educational purposes only. Any other use must be approved by the publisher. © Copyright 2010, Harvey Whitney Books Company, hwbooks.com.

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Generally, the recommended dose of saxagliptin is 2.5 mg or 5 mg taken once a day. People with serious kidney disease should use the lower dose. Headache, runny nose or sore throat, as well as respiratory and urinary infections were the most common side effects experienced by people taking saxagliptin. White blood cells, which fight infections, were lower in people taking the drug. There is also a risk of serious rashes associated with skin peeling off the body in people who use saxagliptin. Other concerns with saxagliptin include low blood sugar and inflammation of the pancreas. Some people have expressed concern that this drug could increase the likelihood of certain types of cancers. This is because the DPP4 enzyme has other non-diabetes actions in the body. The DPP4 enzyme is also a tumor suppressing protein. It helps to fight cancers. During the short studies that have been conducted, increases in cancer rates could not be evaluated.

Keep in mind, although saxagliptin lowers HbA1c levels more than using an inactive pill, the actual lowering of HbA1c that you can expect with this drug is only 0.4 to 0.9%. This means the drug is about half as effective as metformin, the drug of first choice for most people with diabetes. Metformin lowers HbA1c by 1 to 2%. If your HbA1c levels are high and require a larger drop than what saxagliptin can provide, insulin may be a better choice for you. In clinical studies with saxagliptin, many people dropped out of the trial early because the drug was not effective for them. Saxagliptin costs approximately \$205 per month, which also makes it more expensive than most other diabetes treatment options.

If you are close to reaching your target blood sugar goals, then adding saxagliptin to your drug regimen might be an option for you to discuss with your doctor. The medication is most ideal for people who have not quite reached their blood sugar goal or cannot tolerate other standard diabetes medicines.