Targeting GLP-1 in the Management of Type 2 Diabetes

Promoting Patient Acceptance and Adherence to GLP-1 Receptor Agonists

Mrs. Jackson is a 53-year-old woman who was diagnosed with type 2 diabetes 2 years ago. She currently is maintained on metformin 1,000 mg twice daily. Mrs. Jackson visits the pharmacy today with a prescription for exenatide 5 µg twice daily. When you ask if her physician explained how to self-inject the medication, Mrs. Jackson appears visibly shaken. “I told my doctor that I don’t want to use insulin!” she says. “My brother has to use insulin and I see how much work it is, plus I hate needles. Isn’t there anything else I can take?”

The glucagon-like peptide-1 (GLP-1) receptor agonists exenatide (Byetta) and liraglutide (Victoza) are peptides that must be administered by subcutaneous injection in the upper arm, abdomen, or thigh. Injectable therapies pose distinct challenges in terms of both patient acceptance and treatment adherence. Pharmacists can use the following strategies to help overcome patient resistance and promote adherence to GLP-1 receptor agonist therapy.

Educate to Avoid Misunderstandings

Misunderstanding or poor comprehension of a medication regimen may contribute to poor adherence. For many patients with type 2 diabetes, “injectable therapy” means insulin. Insulin may conjure fears of a complex, intimidating, and inconvenient dosing regimen. Insulin also may be viewed as a punishment of sorts—a last resort used only for patients who fail to self-manage their diabetes effectively.

Patients need to understand first and foremost that GLP-1 receptor agonists are not a new type of insulin or a substitute for insulin. Rather, they are a new type of injectable medication that improves blood glucose control by mimicking the actions of a naturally occurring hormone. There are no vials, syringes, or long needles to deal with and no doses to measure; exenatide and liraglutide are supplied only in prefilled pen devices that use short, fine needles and deliver fixed doses. In contrast to insulin, doses do not need to be adjusted to account for changes in dietary intake or physical activity.

Fear of nausea is a common adherence concern with GLP-1 receptor agonists. When nausea occurred during clinical trials, it generally was mild to moderate and declined with continued treatment.

What Pharmacists Can Do: Take time to explain the unique mechanism of action and relatively simple injection procedures for GLP-1 receptor agonists. Emphasize dosing similarities to oral agents: a consistent amount of medication is administered only once or twice per day, and the dose is the same no matter what patients eat or how much they exercise. Reassure patients that any treatment-associated nausea is likely to be mild and transient. (Information about minimizing and managing treatment-related nausea will be presented in Module 4 of this series.)

Accentuate the Positive

In one recent study, patients with diabetes cited “Knowing that diabetes medications are effectively reducing my blood glucose” and “Having a better understanding of the benefits of each of my diabetes medications” as key motivating factors for increasing adherence. GLP-1 receptor agonists have been shown to reduce A1C by 0.5% to 1.5%, fasting plasma glucose by 11 to 61 mg/dL, and postprandial plasma glucose by 21 to 48 mg/dL. They also have demonstrated favorable effects on systolic blood pressure and the lipid profile.

Weight gain and hypoglycemia often serve as substantial barriers to treatment adherence among patients with type 2 diabetes. Highlighting the possible modest weight loss and minimal hypoglycemia risk associated with GLP-1 receptor agonists are important strategies for promoting and supporting adherence. (Pharmacists should be aware that the incidence of hypoglycemia increases when a GLP-1 receptor agonist is administered in combination with a sulfonylurea.)

What Pharmacists Can Do: Summarize the expected glycemic and likely nonglycemic benefits of GLP-1 receptor agonist therapy. Point out that rather than gaining weight, many patients actually lose some weight when taking a GLP-1 receptor agonist. Remind patients that even modest weight loss helps to control blood glucose, blood pressure, and cholesterol levels and can enhance general well-being. Stress that hypoglycemia is uncommon when GLP-1 receptor agonists are used alone or in combination with metformin.

Address Injection Phobia

Patients with type 2 diabetes may fear using any medication that requires an injection. Some patients may have experienced the discomfort of intramuscular injections that employed large-gauge needles and thus assume that all injections are painful. Others may lack self-confidence or worry about making errors. Allowing patients to handle the pen device and self-administer the medication with supervision is a valuable strategy for dispelling anxiety and boosting patient self-confidence when GLP-1 receptor agonist therapy is initiated. Patients often are surprised by how small and fine the needles are and how easy and painless it is to inject themselves.

What Pharmacists Can Do: Show the pen device and needle to the patient and provide assurance that the injection is rapid and simple. Mention that because the needle is so fine, many patients find these injections to be less painful than finger sticks for self-monitoring of blood glucose. Walk the patient through the procedure for administering a dose of exenatide or liraglutide. Demonstrate the one-time-only setup before a new pen is used for the first time. (Explain that priming during subsequent routine use is neither necessary nor desirable.) Verify that the patient understands how to attach a new needle to the pen device, “dial a dose” according to product labeling, and inject the dose by pressing down on a button and holding it down while slowly counting to 5 (exenatide) or for a full count of 6 seconds (liraglutide). If possible, have the patient inject the first dose as you watch and correct the patient’s technique as needed. (Patients who inject a practice dose of exenatide ideally should eat within the next 60 minutes.)

All of the modules in the Targeting GLP-1 in the Management of Type 2 Diabetes series are available at www.pharmacist.com/education in the Online CPE Quick List.
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Instructions: The assessment questions printed below allow you to preview the online CPE exam. Please review all of your answers to be sure you have marked the proper letter on the online CPE exam. There is only one correct answer to each question.

1. Which of the following is most likely to pose adherence challenges for patients treated with glucagon-like peptide-1 (GLP-1) receptor agonists?
   a. Complex and potentially inconvenient dosing requirements.
   b. Concern about weight gain associated with GLP-1 receptor agonists.
   c. Fear of serious hypoglycemia associated with GLP-1 receptor agonists.
   d. Patient aversion to injectable medications.

2. Explaining the unique mechanism of action and relatively simple injection procedures for GLP-1 receptor agonists is a strategy most likely to be helpful for a patient who:
   a. Confuses a GLP-1 receptor agonist with insulin.
   b. Is concerned about gaining weight.
   c. Is afraid of experiencing nausea.
   d. Lacks confidence about measuring the correct dose with the pen device.

3. Which of the following strategies is most likely to alleviate a patient’s fears about administering a GLP-1 receptor agonist incorrectly?
   a. Emphasize dosing similarities to oral antihyperglycemic agents.
   b. Have the patient inject the first dose as you watch and provide feedback as needed.
   c. Mention that many patients find the injection to be less painful than finger sticks for blood glucose monitoring.
   d. Teach the patient how to adjust the dose of a GLP-1 receptor agonist to account for changes in dietary intake or physical activity.

CPE Instructions

Completing a posttest at www.pharmacist.com/education is as easy as 1-2-3...

1. Go to Online CPE Quick List and click on the title of this activity.
2. Log in. APhA members enter your user name and password. Not an APhA member? Just click “Create one now” to open an account. No fee is required to register.
3. Successfully complete the CPE exam and evaluation form to gain immediate access to your Statement of Credit.

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