Clinicians who treat patients with diabetes can expect a barrage of questions about inhaled insulin (Afrezza, MannKind), which was recently approved by the US Food and Drug Administration (FDA).

The rapid-acting insulin is taken before each meal, or soon after starting to eat, with no needles required. Afrezza won't replace the need for injected long-acting insulin for those who need it, though.

WebMD asked diabetes experts about this newest option:

**How is Afrezza different from other insulin?**

Because it's inhaled, it's absorbed more quickly and in a different way.

"Afrezza is rapidly absorbed from the cells in the lungs [to the bloodstream]," says R. Keith Campbell, RPh. He's a certified diabetes educator and distinguished professor emeritus in diabetes care and pharmacotherapy at Washington State University College of Pharmacy. He has studied the drug but has no ties to its developer.

"From the time you inhale it to the time it actually peaks [in the blood] is 15 to 20 minutes," Campbell says. Injected insulin taken before a meal, he says, takes about an hour to peak.

The body also clears Afrezza more quickly than insulin injected at mealtime, says Bruce Bode, MD. He's a diabetes specialist in Atlanta who did a clinical trial funded by MannKind.

Besides its rapid peak, the drug is "pretty much gone in 2 or 3 hours," Bode says. Rapid-acting injected insulins, he says, usually "hang around for about 4 hours. Afrezza is fast in, fast out. It is emulating, in essence, what the pancreas does."

**How is it taken?**

Users place a dose of Afrezza, in powder form, into a small, whistle-sized inhaler. Doses come in a cartridge, and each cartridge contains a single dose.

**How does Afrezza work compared with rapid-acting injected insulins?**
In a 24-week study, Bode compared Afrezza with a rapid-acting, injected insulin in more than 500 patients with type 1 diabetes. Afrezza and injected insulin controlled blood sugar equally well, he says. But he found that those using Afrezza were less likely to get very low blood sugar, a complication of insulin use.

With Afrezza, "there is also less weight gain," Bode says. He credits that to the shorter time Afrezza remains in the body.

In another study, researchers found that people with type 2 diabetes who weren't getting enough control of with oral medications did better when they added inhaled insulin before meals.

Both studies were presented at the American Diabetes Association (ADA) 2014 Scientific Sessions last month.

The FDA approved Afrezza's safety and effectiveness based on about 3000 people, including 1000 with type 1 diabetes and about 2000 with type 2.

**What about side effects?**

In the Afrezza clinical trials, the most commonly reported side effects were low blood sugar, cough, and throat pain or irritation, according to the FDA. The drug will carry a warning that it could cause sudden tightening of the chest, known as acute bronchospasm.

It is not recommended for people with asthma or COPD, or in smokers. It isn't recommended to treat diabetic ketoacidosis.

The FDA is also requiring further study to evaluate the potential risk of lung cancer.

**Is this a game-changer for people with diabetes?**

Some experts think so, but others are taking a wait-and-see approach.

"I think it is," Campbell says. He says the inhaler for Afrezza is better designed and easier to use than a more cumbersome one used with another inhaled insulin, Exubera, he says.

Exubera was approved by the FDA in 2006 but withdrawn from the market by its maker, Pfizer, in 2007, in part due to low sales.
Healthcare providers had to spend a half hour or so just to explain how to use the Exubera inhaler, Campbell says. The Afrezza inhaler, he says, "is really small, easy to use, and it takes less than a minute to train a patient how to use the insulin."

Marie McDonnell, MD, director of the Brigham Diabetes Program at Brigham and Women’s Hospital, says Afrezza has promise if "we can show there is no risk to the lung tissue and the mouth and esophagus.

"It works faster than both of the injected insulins we have now, the regular and the rapid-acting," she says. "This might mean you will need less insulin [overall] to get the same effects." And that may lessen the weight gain that often occurs in new users, she says.

She plans to prescribe it, but on a case-by-case basis.

George King, MD, chief scientific officer at Joslin Diabetes Center, Boston, Massachusetts, says it may be helpful for some. "I think inhaled insulin would be good for people who are really adverse to needles," he says. But he estimates only 10% or 15% of people on insulin fit that category.

**What will it cost?**

"Our expectation is it should be priced comparably to current fast-acting [injected] insulins delivered in pen form," says Matthew Pfeffer, a MannKind spokesperson.

Prices for the fast-acting insulin pens vary. One popular fast-acting pen insulin costs about $270 a month, without insurance coverage, for a person who needs 30 units a day, a common amount.

**When will it be available?**

That is not certain. MannKind is seeking to partner with a pharmaceutical company for distribution, Pfeffer says.