



[Home](#)

2. Afrezza

# Afrezza

**Generic name:** [insulin human](#)

**Dosage form:** inhalation powder

**Drug class:** [Insulin](#)

Medically reviewed by [Judith Stewart, BPharm](#). Last updated on Sep 27, 2024.

[Uses](#) [Warnings](#) [Before taking](#) [Interactions](#) [Dosage](#) [Side effects](#)

## What is Afrezza?

- Afrezza is a man-made insulin that is breathed-in through your lungs (inhaled) and is used to control high blood sugar in adults with diabetes mellitus.
- Afrezza is not for use in place of long-acting insulin. Afrezza must be used with long-acting insulin in people who have type 1 diabetes mellitus.
- Afrezza is not for use to treat diabetic ketoacidosis.
- It is not known if Afrezza is safe and effective for use in people who smoke. Afrezza is not for use in people who smoke or have recently stopped smoking (less than 6 months).

## Important information

Afrezza can cause serious side effects, including:

- **Sudden lung problems (bronchospasms).** Do not use Afrezza if you have long-term (chronic) lung problems such as asthma or chronic obstructive pulmonary disease (COPD). Before starting this medicine, your healthcare provider will give you a breathing test to check how your lungs are working.

## Who should not use Afrezza?

Do not use Afrezza if you:

- Have chronic lung problems such as asthma or COPD.
- Are allergic to regular human insulin or any of the ingredients in Afrezza. See the end of this Medication Guide for a complete list of ingredients.

 [Afrezza pregnancy and breastfeeding warnings](#) (more detail)

## Before using this medicine

Before using Afrezza, tell your healthcare provider about all your medical conditions, including if you:

- Have lung problems such as asthma or COPD
- Have or have had lung cancer
- Are using any inhaled medications
- Smoke or have recently stopped smoking
- Have kidney or liver problems
- Are pregnant, planning to become pregnant, or are breastfeeding. Afrezza may harm your unborn or breastfeeding baby.

## What other drugs will affect Afrezza?

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins or herbal supplements.

Before you start using Afrezza, talk to your healthcare provider about low blood sugar and how to manage it.

 [Afrezza drug interactions](#) (more detail)

## Does Afrezza interact with my other drugs?

Enter medications to view a detailed interaction report using our [Drug Interaction Checker](#).

Afrezza

+

Enter a drug name

Add

## How should I use Afrezza?

- Read the detailed Instructions for Use that comes with your Afrezza.
- Take Afrezza exactly as your healthcare provider tells you to. Your healthcare provider should tell you how much of this medicine to use and when to use it.
- Know the strength of Afrezza you use. Do not change the amount of Afrezza you use unless your healthcare provider tells you to.
- Take Afrezza at the beginning of your meal.
- Check your blood sugar levels. Ask your healthcare provider what your blood sugar should be and when you should check your blood sugar levels.
- Keep Afrezza and all medicines out of the reach of children.

Your dose may need to change because of:

- Change in level of physical activity or exercise, weight gain or loss, increased stress, illness, change in diet, or because of other medicines you take.

## Dosing information

### Usual Adult Dose for Diabetes Type 2:

Insulin-naïve:

Initial dose: 4 units via oral inhalation at the beginning of each meal

Maintenance dose: Adjust dose based on individual's metabolic needs, glucose monitoring results, and glycemic goals

Switching from Subcutaneous Mealtime Insulin:

Dose conversion as follows:

4 units inhaled insulin replaces up to 4 units of subcutaneous mealtime insulin

8 units inhaled insulin replaces 5 to 8 units of subcutaneous mealtime insulin

12 units inhaled insulin replaces 9 to 12 units of subcutaneous mealtime insulin

16 units inhaled insulin replaces 13 to 16 units of subcutaneous mealtime insulin

20 units inhaled insulin replaces 17 to 20 units of subcutaneous mealtime insulin

24 units inhaled insulin replaces 21 to 24 units of subcutaneous mealtime insulin

Switching from Subcutaneous Pre-mixed insulin:

-Estimate mealtime injected dose by dividing the total daily injected pre-mixed insulin dose by one-half (half will be the total daily mealtime dose; half will be the daily basal dose)

-Divide the total daily mealtime dose equally among the 3 meals of the day; use dose conversion table above

-Give the other half the total daily injected dose as injected basal insulin

Comments:

-Dose adjustments may be needed with changes in physical activity, meal patterns, or during acute illness.

-Use a single inhalation per cartridge; doses exceeding 8 units will require multiple cartridges.

-Monitor blood glucose, especially in patients requiring high doses; if blood glucose control is not achieved with increasing doses, consider subcutaneous mealtime insulin.

Use: Inhaled insulin is a rapid acting insulin for use in adult patients with diabetes mellitus to improve glycemic control.

### Usual Adult Dose for Diabetes Type 1:

Insulin-naïve:

Initial dose: 4 units via oral inhalation at the beginning of each meal

Maintenance dose: Adjust dose based on individual's metabolic needs, glucose monitoring results, and glycemic goals

Switching from Subcutaneous Mealtime Insulin:

Dose conversion as follows:

4 units inhaled insulin replaces up to 4 units of subcutaneous mealtime insulin

8 units inhaled insulin replaces 5 to 8 units of subcutaneous mealtime insulin

12 units inhaled insulin replaces 9 to 12 units of subcutaneous mealtime insulin

16 units inhaled insulin replaces 13 to 16 units of subcutaneous mealtime insulin

20 units inhaled insulin replaces 17 to 20 units of subcutaneous mealtime insulin

24 units inhaled insulin replaces 21 to 24 units of subcutaneous mealtime insulin

Switching from Subcutaneous Pre-mixed insulin:

- Estimate mealtime injected dose by dividing the total daily injected pre-mixed insulin dose by one-half (half will be the total daily mealtime dose; half will be the daily basal dose)
- Divide the total daily mealtime dose equally among the 3 meals of the day; use dose conversion table above
- Give the other half the total daily injected dose as injected basal insulin

Comments:

- Dose adjustments may be needed with changes in physical activity, meal patterns, or during acute illness.
- Use a single inhalation per cartridge; doses exceeding 8 units will require multiple cartridges.
- Monitor blood glucose, especially in patients requiring high doses; if blood glucose control is not achieved with increasing doses, consider subcutaneous mealtime insulin.

Use: Inhaled insulin is a rapid acting insulin for use in adult patients with diabetes mellitus to improve glycemic control.

 [Detailed Afrezza dosage information](#)

## What should I avoid while using Afrezza?

While using Afrezza do not:

- Drive or operate heavy machinery, until you know how Afrezza affects you
- Drink alcohol or use over-the-counter medicines that contain alcohol
- Smoke

## Afrezza side effects

Afrezza may cause serious side effects that can lead to death, including:

See Important information

- **Low blood sugar (hypoglycemia).** Signs and symptoms that may indicate low blood sugar include:
  - dizziness or light-headedness, sweating, confusion, headache, blurred vision, slurred speech, shakiness, fast heartbeat, anxiety, irritability or mood change, hunger.
- **Decreased lung function.** Your healthcare provider should check how your lungs are working before you start using Afrezza, 6 months after you start using it and yearly after that.
- **Lung cancer.** In studies in people with diabetes, lung cancer occurred in a few more people who were taking Afrezza than in people who were taking other diabetes medications. There were too few cases to know if lung cancer was related to Afrezza. If you have lung cancer, you and your healthcare provider should decide if you should use this medicine.
- **Diabetic ketoacidosis.** Talk to your healthcare provider if you have an illness. Your Afrezza dose or how often you check your blood sugar may need to be changed.
- **Severe allergic reaction (whole body reaction).** Get medical help right away if you have any of these signs or symptoms of a severe allergic reaction:
  - A rash over your whole body, trouble breathing, a fast heartbeat, or sweating.
- **Low potassium in your blood (hypokalemia).**

- **Heart failure.** Taking certain diabetes pills called thiazolidinediones or “TZDs” with Afrezza may cause heart failure in some people. This can happen even if you have never had heart failure or heart problems before. If you already have heart failure it may get worse while you take TZDs with Afrezza. Your healthcare provider should monitor you closely while you are taking TZDs with this medicine. Tell your healthcare provider if you have any new or worse symptoms of heart failure including:

- Shortness of breath, swelling of your ankles or feet, sudden weight gain.

Treatment with TZDs and Afrezza may need to be changed or stopped by your healthcare provider if you have new or worse heart failure.

Get emergency medical help if you have:

- Trouble breathing, shortness of breath, fast heartbeat, swelling of your face, tongue, or throat, sweating, extreme drowsiness, dizziness, confusion.

The most common side effects include:

- Low blood sugar (hypoglycemia), cough, sore throat

These are not all the possible side effects of Afrezza. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088 (1-800-332-1088).

 [Afrezza side effects](#) (more detail)

## Related/similar drugs

### Ozempic

Learn about Ozempic (semaglutide) for type 2 diabetes treatment, weight management, cardiovascular ...

#### Reviews & ratings

6.6 / 10

[1,504 Reviews](#)

[View more](#)

### Rybelsus

Rybelsus tablets are used to improve blood sugar control in adults with type 2 diabetes, and may ...

#### Reviews & ratings

6.4 / 10

[282 Reviews](#)

[View more](#)

FEATURED

-- .

## Mounjaro

Mounjaro (tirzepatide) is FDA-approved to manage type 2 diabetes in adults. It lowers blood sugar ...

### Reviews & ratings

8.5 / 10

[1,278 Reviews](#)

[View more](#)

## Trulicity

Trulicity is an injectable diabetes medicine that is used together with diet and exercise to ...

### Reviews & ratings

5.3 / 10

[970 Reviews](#)

[View more](#)

## Lantus

Lantus is a long acting form of insulin used to treat type 1 or type 2 diabetes. Learn about side ...

### Reviews & ratings

6.5 / 10

[41 Reviews](#)

[View more](#)

## Tresiba

Tresiba (insulin degludec) is used to treat diabetes mellitus. Includes Tresiba side effects ...

### Reviews & ratings

4.3 / 10

[152 Reviews](#)

[View more](#)

## Victoza

Victoza helps control blood sugar levels and reduce the risk of serious

heart problems in people ...

### Reviews & ratings

7.6 / 10

[766 Reviews](#)

[View more](#)

## Metformin

Metformin is an oral diabetes medicine used together with diet and exercise to improve blood sugar ...

### Reviews & ratings

6.8 / 10

[654 Reviews](#)

[View more](#)

## Humalog

Humalog (insulin lispro) is used to treat type 1 (insulin-dependent) diabetes in adults. Includes ...

### Reviews & ratings

6.8 / 10

[22 Reviews](#)

[View more](#)

## Basaglar

Basaglar (insulin glargine) is a long-acting insulin that is used to improve blood sugar control in ...

### Reviews & ratings

2.7 / 10

[148 Reviews](#)

[View more](#)

## General information about the safe and effective use of Afrezza.

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use Afrezza for a condition for which it was not prescribed. Do not give it to other people, even if they have the same symptoms that you have. It may harm them. This Medication Guide summarizes the most important information. If you would like more

information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for information that is written for health professionals.

## What are the ingredients in Afrezza?

**Active ingredient:** human insulin

**Inactive ingredients:** fumaryl diketopiperazine, polysorbate 80

## Instructions for Use

Read this Instructions for Use before you start using Afrezza and each time you get a new inhaler. There may be new information. This information does not take the place of talking to your healthcare provider about your medical condition or your treatment.

Your healthcare provider should show you how to use your Afrezza inhaler the right way before you use it for the first time.

### Important information about Afrezza:

- Afrezza comes in 3 strengths:
  - 4 units (blue cartridge)
  - 8 units (green cartridge)
  - 12 units (yellow cartridge)
- If your prescribed Afrezza dose is higher than 12 units, you will need to use more than 1 cartridge.
- If you need to use more than 1 cartridge for your dose, throw away the used cartridge before getting a new one. You can tell when a cartridge has been used, because the cup has moved to the center.
- Do not try to open the cartridges. The Inhaler opens the cartridge automatically during use.
- Afrezza cartridges should only be used with the Afrezza Inhaler. Do not try to breathe in the insulin powder in any other way. Do not put cartridges in your mouth and do not swallow cartridges.
- Use only 1 Inhaler at a time. The same inhaler should be used for the 4 unit, 8 unit or 12 unit cartridges.
- Store the inhaler in a clean, dry place with the mouthpiece cover on until your next dose.
- Throw away your Inhaler after 15 days and get a new one.

If you are having problems with your Afrezza inhaler or if it breaks and you need a new one, call 1-877-323-8505.

### How to take your dose of Afrezza:

Always be sure you have the right number of cartridges for your dose available before you start. Afrezza cartridges must only be used with the Afrezza Inhaler.

#### Step 1: Select the cartridges for your dose

If your prescribed dose is more than 12 units you will need to use more than 1 cartridge to get your right dose.

Remove a blister card from the foil package. Tear along perforation to remove one strip. Remove a cartridge from the strip by pressing on the clear side to push the cartridge out. Remove the right number of cartridges for your dose.

Pushing on the cup will not damage the cartridge.



Afrezza cartridges left over in an opened strip must be used within 3 days.  
Before Proceeding: Check that you have the right Afrezza cartridge(s) for your dose.  
Use only 1 inhaler for multiple cartridges. Throw away your inhaler after 15 days and get a new one.

## **Step 2: Loading a cartridge**

Hold the inhaler level in one hand with the white mouthpiece on the top and purple base on the bottom.  
Open the inhaler by lifting the white mouthpiece to a vertical position.  
Before you put the cartridge in your inhaler, make sure it has been at room temperature for 10 minutes.  
Hold the cartridge with the cup facing down.  
Line up the cartridge with the opening in the inhaler. The pointed end of the cartridge should line up with the pointed end in the inhaler.  
Place the cartridge into the inhaler. Be sure that the cartridge lies flat in the inhaler.  
Lower the mouthpiece to close the inhaler (this will open the drug cartridge).  
You should feel a snap when the inhaler is closed.

## **Step 3: Inhaling Afrezza**

Remove the Mouthpiece Cover  
Important: Keep the inhaler level during and after removal of the purple mouthpiece cover.  
Hold the inhaler away from your mouth and fully blow out (exhale).  
Keeping your head level, place the mouthpiece in your mouth and tilt the inhaler down towards your chin.  
Close your lips around the mouthpiece to form a seal.  
Tilt the inhaler downward while keeping your head level.  
With your mouth closed around the mouthpiece, inhale deeply through the inhaler.  
Hold your breath for as long as comfortable and at the same time remove the inhaler from your mouth. After holding your breath, exhale and continue to breathe normally.

## **Step 4: Removing a used cartridge**

Place the purple mouthpiece cover back onto the inhaler.  
Open the inhaler by lifting up the white mouthpiece.  
Remove the cartridge from the purple base.  
Throw away the used cartridge in your regular household trash.

## **How should I store Afrezza?**

Not in Use: Refrigerated Storage 2-8°C (36-46°F)

Sealed (Unopened) Foil Package	May be stored until the Expiration Date*
Sealed (Unopened) Blister Cards + Strips	Must be used within 1 month*

\* If a foil package, blister card or strip is not refrigerated, the contents must be used within 10 days.

In Use: Room Temperature Storage 25°C (77°F), excursions permitted 15-30°C (59-86°F)

Sealed (Unopened) Blister Cards + Strips	Must be used within 10 days
Opened Strips	Must be used within 3 days

Do not put a blister card or strip back into the refrigerator after being stored at room temperature.

**Inhaler Storage:**

Store at 2-25°C (36-77°F); excursions permitted. Inhaler may be stored refrigerated, but should be at room temperature before use.

**Handling:**

Before use, cartridges should be at room temperature for 10 minutes.

## More about Afrezza (insulin inhalation, rapid acting)

- [Check interactions](#)
- [Compare alternatives](#)
- [Pricing & coupons](#)
- [Reviews \(38\)](#)
- [Side effects](#)
- [Dosage information](#)
- [During pregnancy](#)
- [FDA approval history](#)
- [Drug class: insulin](#)
- [En español](#)

## Patient resources

### Other brands

[Exubera](#)

## Professional resources

- [Afrezza prescribing information](#)

## Related treatment guides

- [Type 2 Diabetes](#)
- [Diabetes, Type 1](#)

## Further information


Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.

[Medical Disclaimer](#)

#### Availability

**Rx** Prescription only

#### Pregnancy & Lactation

 Risk data available

#### CSA Schedule\*

**N/A** Not a controlled drug



## User Reviews & Ratings

6.1 / 10

[38 Reviews](#)

## Drugs.com Mobile App

Access drug & treatment information, identify pills, check interactions and set up personal medication records.



### About

[About Drugs.com](#)

[Advertising policy](#)

[Attribution & citations](#)

### Terms & privacy

[Terms of use](#)

[Editorial policy](#)

[Privacy policy](#)

### Support

[Help center](#)

[Sitemap](#)

[Contact us](#)



[Subscribe to our newsletter](#) for the latest medication news, new drug approvals and FDA alerts.

**Drugs.com** provides accurate and independent information on more than 24,000 prescription drugs, over-the-counter medicines and natural products. This material is provided for educational purposes only and is not intended for medical advice, diagnosis or treatment. Data sources include Micromedex (updated 7 Apr 2025), Cerner Multum™ (updated 13 Apr 2025), ASHP (updated 10 Apr 2025) and others.



Ad Choices

ADVERTISEMENT

Copyright © 2000-2025 Drugs.com. All rights reserved.

