

#### Home

Tyvaso

# **Tyvaso Inhalation**

Pronunciation: TEE-vass-oh Generic name: treprostinil

**Brand names:** Tyvaso Inhalation Solution, Tyvaso DPI **Dosage forms:** inhalation solution, dry powder inhalation

Drug class: Agents for pulmonary hypertension

Medically reviewed by Carmen Pope, BPharm. Last updated on Mar 26, 2024.

Uses Warnings Before taking Dosage Side effects Interactions

### What is Tyvaso?

Tyvaso (treprostinil) may be used to improve the ability to exercise in people with pulmonary arterial hypertension (PAH; WHO Group 1) and pulmonary hypertension associated with interstitial lung disease (PH-ILD; WHO Group 3). It works by relaxing the blood vessels, including those in the lungs, and improving blood flow. Tyvaso is available as Tyvaso Inhalation solution and Tyvaso DPI Inhalation powder.

Pulmonary arterial hypertension is a type of high blood pressure that affects the arteries in the lungs and the right side of the heart. Symptoms include shortness of breath, dizziness, swelling in the ankles and legs, and tiredness. There are several different types of PAH.

The effects of Tyvaso are reasonably short-lasting (around 4 hours) but treatment timing can be adjusted for planned activities.

## What is the Tyvaso Inhalation solution?

The Tyvaso Inhalation solution is a medium-sized electronic device that is used with a power source (battery or AC wall plug) that is used to deliver vapourised Tyvaso. It requires assembly and consists of a mouthpiece, inhalation piece, dome assembly, medicine cup, filters, and the device. Each day, one ampoule of Tyvaso is mixed with 45 ml of distilled water to provide a day's worth of Tyvaso dosing (equates to 4 individual doses per day).

## What is Tyvaso DPI?

Tyvaso DPI (dry powder inhalant) is a small and portable version of Tyvaso that uses cartridges containing treprostinil powder. It is much easier to carry and transport than the Tyvaso Inhalation device and much more discrete. Each cartridge represents a single dose of Tyvaso. One Tyvaso DPI device lasts for one week before it needs replacing.

## Warnings

Before using Tyvaso, tell your doctor if you have a breathing disorder such as asthma or COPD (chronic obstructive

pulmonary disease), an infection in your lungs (including pneumonia), low blood pressure, liver or kidney disease, or a bleeding or blood clotting disorder.

Tyvaso inhalation should be used only with the inhalation system. The inhalation system comes with patient instructions for safe and effective use. Do not use the medication at home if you do not fully understand how to use the inhalation system and properly clean it daily. Ask your doctor or pharmacist if you have any questions.

Tyvaso DPI should only be used with the DPI cartridges. The device should not be submerged in water and needs to be replaced every week. It should be wiped with a clean dry cloth to remove any powder residue. Ask your doctor or pharmacist if you have any questions.

Do not swallow Tyvaso Inhalation or the powder in the cartridges. If Tyvaso solution or powder gets on your skin or in your eyes, rinse your skin or eyes with water right away.

### Before taking this medicine

You should not use Tyvaso Inhalation or DPI if you are allergic to treprostinil.

To make sure Tyvaso is safe for you, tell your doctor if you have or have ever had:

- bronchospasm (wheezing, chest tightness, trouble breathing);
- · low blood pressure;
- asthma, COPD, sleep apnea, or other breathing disorder;
- · bleeding problems; or
- liver disease.

Tell your doctor if you are pregnant or breastfeeding.

Tyvaso pregnancy and breastfeeding warnings (more detail)

## How should I use Tyvaso?

Take Tyvaso exactly as prescribed by your doctor. Follow all directions on your prescription label and read all medication guides or instruction sheets. Your doctor may occasionally change your dose.

Do not swallow this medicine. The medicine should be inhaled only using the inhalation system or DPI device provided with the medication.

Do not use or mix other medicines with Tyvaso.

## How do I use the Tyvaso inhalation solution?

Tyvaso Inhalation is usually given 4 times per day at evenly spaced treatment sessions during waking hours. During each treatment session, you will take a series of breaths, called a "cycle" through the mouthpiece. Each cycle usually equals 3 breaths of medicine (corresponding to 18 mcg of Treprostinil) but you can talk to your doctor about reducing these to 2 breaths if you are having difficulty tolerating 3 breaths. Use exactly as directed on the label, or as prescribed by your doctor.

Read and carefully follow any instructions for setting up and using the medicine before preparing your first dose. Ask

your doctor or pharmacist if you do not understand these instructions.

The effects of Tyvaso Inhalation are reasonably short-lasting (around 4 hours). Talk with your doctor if you need to time your dosing around any planned activities.

Follow all storage and cleaning instructions provided with Tyvaso Inhalation. Your pharmacist can provide more information about how to store this medicine.

Make sure you have a backup inhalation system available in case one of the systems stops working.

### How do you use a Tyvaso DPI inhaler?

Only use Tyvaso DPI cartridges with the Tyvaso DPI inhaler.

Tyvaso DPI is usually given 4 times per day at evenly spaced treatment sessions (every 4 hours) during waking hours. Take one breath for each dose.

- Tyvaso DPI blister cards contain 7 strips per blister card. Each strip contains 4 cartridges.
- Tear off one strip of cartridges from the blister cards. If the cartridges or the inhaler have been refrigerated, leave them at room temperature for 10 minutes before use to remove condensation.
- Remove cartridges from the strip by pushing on the white plastic to push the cartridge out. Store any remaining unused cartridges in the strip at room temperature (do not put them back into the refrigerator).
- Place the inhaler on a flat surface and open the inhaler by lifting the mouthpiece to an upright vertical position. Hold
  the cartridge with the cup facing down and line up the pointed end of the cartridge with the pointed end of the inhaler
  opening. Place the cartridge into the inhaler so it lies flat.
- Close the inhaler. This will open the cartridge and you should feel a snap. Keep the inhaler level so you don't lose any powder. Do not turn it upside down, point the mouthpiece down, shake or drop the inhaler.
- Keeping the inhaler level, remove the blue mouthpiece cover and bring it up near your cheek, but away from your
  mouth. Exhale (blow out) fully before placing the mouthpiece in your mouth and forming a seal around the
  mouthpiece with your lips. Tilt the inhaler slightly downward then inhale deeply through the inhaler. Remove the
  inhaler from your mouth and hold your breath for as long as you comfortably can.
- Exhale gently and then continue to breathe as normal.
- Place the mouthpiece cover back on and open the inhaler by lifting the mouthpiece to a vertical position. Remove the used cartridge and throw it in the household trash. If you get any powder on your hands, wash them right away.
- Repeat if needed if your dosage requires multiple cartridges.

Be careful not to mix old cartridges with used cartridges. The cup moves to the middle of the cartridge when used.

#### How to care for your inhaler

Never wash your inhaler. If powder residue collects in the mouthpiece, wipe it off with a clean dry cloth.

Only use 1 inhaler at a time. Your inhaler can take different strengths of cartridges.

Throw away your inhaler after 7 days. You can mark the days off on a calendar.

Detailed Tyvaso dosage information

## What happens if I miss a dose?

The effects of Tyvaso wear off within 4 hours and it is used to help improve exercise tolerance. If you have missed a dose and are exercising, then take the dose. But allow 4 hours to pass before taking the next dose. Do not use two doses at one time.

## What happens if I overdose?

Seek emergency medical attention or call the Poison Help line at 1-800-222-1222.

Overdose symptoms may include headache, warmth or tingling, vomiting, diarrhea, or feeling light-headed.

## What should I avoid while using Tyvaso?

- · Avoid getting this medicine in your eyes. Rinse with water if this medicine gets in your eyes.
- Do not shake or drop the inhalation inhaler. Keep inhalation inhaler upright with mouthpiece pointing up.
- Do not shake or drop the DPI device. Keep it level once you have loaded it with a cartridge.
- Avoid getting this medicine on your skin. If this medication gets on your skin, wash the area quickly with soap and water.
- Avoid getting up too fast from a sitting or lying position, or you may feel dizzy.

## What are the side effects of Tyvaso?

Get emergency medical help if you have signs of an allergic reaction to Tyvaso: hives; difficulty breathing; swelling of your face, lips, tongue, or throat.

Tyvaso may cause serious side effects. Call your doctor at once if you have:

• easy bruising or bleeding (nosebleeds, bleeding gums).

Common Tyvaso side effects may include:

- cough, pain, or irritation in your throat after use;
- · dizziness or feeling light-headed;
- nausea, diarrhea;
- headache; or
- flushing (sudden warmth, redness, or tingly feeling).

This is not a complete list of side effects and others may occur. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

<u>Tyvaso side effects</u> (more detail)

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## What other drugs will affect Tyvaso?

Sometimes it is not safe to use certain medicines at the same time. Some drugs can affect your blood levels of other drugs you use, which may increase side effects or make the medicines less effective.

Tyvaso may interact with several medications, such as:

- Anticoagulants, such as apixaban or rivaroxaban
- Blood pressure-lowering medicines such as atenolol
- Inhibitors or inducers of CYP2C8 such as gemfibrozil or clopidogrel
- Other medications that increase the risk of bleeding such as escitalopram
- Targeted medications for cancer, such as avapritinib or cabozantinib.

Many other drugs may interact with treprostinil, including prescription and over-the-counter medicines, vitamins, and herbal products. Tell your doctor about all other medicines you use.

i Tyvaso drug interactions (more detail)

### Does Tyvaso interact with my other drugs?

Enter medications to view a detailed interaction report using our Drug Interaction Checker.



## **Storage**

#### Tyvaso Inhalation solution

Store ampules in the foil pouch at room temperature (68°F to 77°F [20°C to 25°C]). Once the foil pouch is opened the ampules should be used within 7 days. Tyvaso is light sensitive so keep ampules in the foil pouch until they need to be used.

Once an ampule is in the Inhalation system, it should be used within 24 hours or discarded.

#### Tyvaso DPI

Empty Tyvaso DPI inhalers may be stored at room temperature (68°F to 77°F [20°C to 25°C]), in a clean dry place or the refrigerator between 36°F to 46°F (2°C to 8°C), but if stored in the refrigerator they should be left out at room temperature for 10 minutes before use.

The blister cartridges should not be left in the inhaler nor stored in the inhaler.

When outside of your home or traveling you can store the Tyvaso DPI inhaler and the blister strips in the carrying case provided.

## Ingredients

#### Tyvaso Inhalation solution

Supplied in 2.9 ml clear ampules packaged as 4 ampules in a foil pouch. Each ampule contains 1.74 mg of Treprostinil at a concentration of 0.6 mg/ml.

#### Tyvaso DPI

Tyvaso DPI cartridges come in 4 strengths:

- 16 mcg (purple cartridges)
- 32 mcg (dark blue cartridges)
- 48 mcg (light blue cartridges)
- 64 mcg (light green cartridges).

If you a prescribed more than 64 mcg, then you will need more than 1 cartridge. These can be used in any order. Always check the expiry date of the strip of cartridges printed on the foil strip label before using.

### **Manufacturer**

United Therapeutics Corporation.

## More about Tyvaso (treprostinil)

- Check interactions
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#### **Patient resources**

#### Other brands

Remodulin, Tyvaso DPI, Orenitram

### **Professional resources**

- Tyvaso prescribing information
- Treprostinil (AHFS Monograph)

#### Other brands

Remodulin, Tyvaso DPI, Orenitram

### Related treatment guides

• Pulmonary Arterial Hypertension

### **Further information**

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

Medical Disclaimer

#### **DRUG STATUS**

#### **Availability**

Rx Prescription only

#### **Pregnancy & Lactation**

ন্প Risk data available

**CSA Schedule\*** 

N/A Not a controlled drug

**Approval History** 

The Drug history at FDA

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