

PDE Inhibitors (Theophylline and Roflumilast)

Theophylline and roflumilast are PDE inhibitors. That means they belong to the *phosphodiesterase inhibitor* family. Medicines like these have been used as bronchodilators for over 100 years. (Bronchodilators help you breathe better by opening up your airways. Using them makes it easier to get air in and out of your lungs. That can help you feel less short of breath.)

How PDE inhibitors work

These pills block the production of an enzyme called *phosphodiesterase*. Blocking this enzyme causes changes at the cellular level. And these changes relax your airways.

High levels of theophylline can produce severe side effects, including seizures and death. Therefore, doctors don't prescribe it as often as they used to. They can prescribe roflumilast, a newer, safer drug that decreases [flare-ups](#).

Possible side effects of theophylline:

- Nausea
- Vomiting
- Shakiness
- Sleeplessness

Possible side effects of roflumilast:

- GI distress
- Weight loss
- Depression
- Anxiety
- Trouble sleeping



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Learn more and live better with Alpha-1

Would you like to learn more about medicines for Alpha-1 lung disease? Then, check out the [BFRG](#) for a complete list of drugs. You'll also find information about lifestyle changes you can make to improve breathing.

For more in-depth information on this topic, please visit the [Big Fat Reference Guide \(BFRG\)](#). If you are enrolled in AlphaNet's Subscriber Portal, you can access the BFRG [here](#).

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