



Tadalafil (Cialis®)

General:

Tadalafil is a selective phosphodiesterase-5 (PDE-5) enzyme inhibitor similar to its older sibling Sildenafil. PDE-5 is distributed throughout the body and this class of medications was initially designed for the treatment of ischemic cardiovascular disease by decreasing vascular resistance, relaxing smooth muscle, and increasing blood flow. The largest distribution of PDE-5 is actually in the corpus cavernosum of the penis and one of the initial unintended consequences of this class of medications was the improvement of erectile dysfunction (ED) in men. Tadalafil is much more selective for PDE-5 than for PDE-6 (located in the retina) so the visual disturbances that have been reported with Sildenafil use have not been reported with Tadalafil. Tadalafil has a longer half-life than Sildenafil and in 2008 received FDA approval for once daily use for erectile dysfunction without regard for timing of sexual activity. Tadalafil has also demonstrated efficacy in reducing the lower urinary tract symptoms of benign prostatic hypertrophy (BPH) and in 2011 received FDA approval for concurrent treatment of ED and BPH.

Mechanism:

Selective inhibitor of cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase type 5 (PDE-5). This action delays the breakdown of cGMP by PDE-5 thereby raising concentrations in the corpus cavernosum allowing for increased smooth muscle relaxation and blood flow.

Dosing:

PRN: 5-20mg by mouth with effects lasting up to 36 hours

Daily: 2.5-5mg by mouth daily

Contraindications/Cautions:

This medication works for erectile dysfunction by decreasing the resistance to blood flow. While the largest concentration of PDE-5 is in the corpus cavernosum it still exists all over the body as do other PDE enzymes. If you have a medical condition that is particularly sensitive to changes in blood pressure or take medications to control blood pressure make sure your healthcare provider is aware. Specifically, if you take a class of medications known as nitrates (nitroglycerin, isosorbide mononitrate, etc.) then you should NOT use this medication. Notify your healthcare provider if you have a history of bleeding disorders, priapism, ischemic heart disease, or an abnormal heart rhythm. This medication will not protect you against sexually transmitted infections, including HIV. Remember, sexual intercourse has an inherent degree of aerobic stress so be honest about your cardiovascular status with your healthcare provider before taking this medication.

Adverse Reactions:

Serious Reactions: hypersensitivity reaction or anaphylaxis, ventricular arrhythmia, heart attack, stroke, severe hypotension, priapism

Common Reactions: headache, flushing, myalgia, rhinitis, dyspepsia, extremity pain

Storage:

Store at room temperature between 68° and 77°F. Keep away from moisture, heat, and light. Keep out of reach of children. Do not flush unused medications down the toilet or pour down a sink or drain.