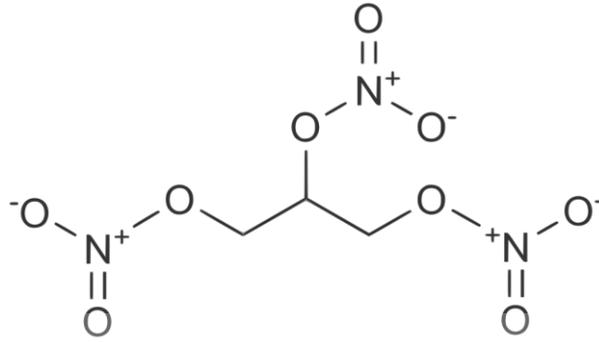


NITROGLYCERIN

Nitroglycerin belongs to a group of drugs called nitrates, which includes many other nitrates like isosorbide dinitrate (Isordil) and isosorbide mononitrate (Imdur, Ismo, Monoket). These agents all exert their effect by being converted to nitric oxide in the body by mitochondrial aldehyde dehydrogenase (ALDH2), and nitric oxide is a potent natural vasodilator.

In medicine, nitroglycerin is used for angina pectoris, a painful symptom of ischemic heart disease caused by inadequate flow of blood and oxygen to the heart and as a potent antihypertensive agent. Nitroglycerin corrects the imbalance between the flow of oxygen and blood to the heart. At low doses, nitroglycerin dilates veins more than arteries, thereby reducing preload (volume of blood in the heart after filling); this is thought to be its primary mechanism of action. By decreasing preload, the heart has less blood to pump, which decreases oxygen requirement since the heart does not have to work as hard. Additionally, having a smaller preload reduces the ventricular transmural pressure (pressure exerted on the walls of the heart), which decreases the compression of heart arteries to allow more blood to flow through the heart. At higher doses, it also dilates arteries, thereby reducing afterload (decreasing the pressure against which the heart must pump).^[23] Improved myocardial oxygen demand vs oxygen delivery ratio leads to the following therapeutic effects during episodes of angina pectoris: subsiding of chest pain, decrease of blood pressure, increase of heart rate, and orthostatic hypotension. Patients experiencing angina when doing certain physical activities can often prevent symptoms by taking nitroglycerin 5 to 10 minutes before the activity. Overdoses may generate methemoglobinemia.

Nitroglycerin is available in tablets, ointment, solution for intravenous use, transdermal patches, or sprays administered sublingually. Some forms of nitroglycerin last much longer in the body than others. Continuous exposure to nitrates has been shown to cause the body to stop responding normally to this medicine. Experts recommend that the patches be removed at night, allowing the body a few hours to restore its responsiveness to nitrates. Shorter-acting preparations of nitroglycerin can be used several times a day with less risk of developing tolerance. Nitroglycerin was first used by William Murrell to treat angina attacks in 1878, with the discovery published that same year.



NGfence[®]
Nitroglycerin-2.6 mg / 6.4 mg
Extended Release Tablets