

Phenibut—Wonder Drug or Unsafe Supplement?

The Maryland Poison Center received a call from an emergency department (ED) about a patient who purchased phenibut on the internet as a supplement for anxiety. His family summoned EMS when he developed erratic behavior. He presented to the ED with nausea, vomiting, agitation and anxiety. He was treated with intravenous fluids and lorazepam, and symptoms resolved during a 7 hour ED stay.

Phenibut, also known as Fenibut, Phenigam, PHG, PhGABA and Noofen, can be purchased on-line as a dietary supplement for anxiety and sedation, stress reduction, mood enhancement, cognition enhancement, insomnia, alcoholism, and more. Developed in Russia in the 1960s, it was used for its calming and mentally stimulating effects by soviet cosmonauts and remains an approved drug in that country. Phenibut is also used recreationally to achieve euphoria. It is an analog of GABA (gamma-aminobutyric acid), an inhibitory neurotransmitter in the central nervous system, and acts primarily on GABA_B receptors. Phenibut is chemically and pharmacologically similar to the prescription skeletal muscle relaxant baclofen.

Sold as a powder (40-98% purity) or capsules (200-500 mg) on the internet, cost varies but is around \$0.30 to \$1.00 or more per gram. Dosage recommendations usually range from 500 to 2000 mg. A beginner's guide to phenibut posted on the internet by a user (www.reddit.com) suggests: 250-750 mg = therapeutic dosage; 1000-1500 mg = low to medium recreational dosage; 1500-2000 mg = medium to high recreational dosage; 2000-3000 mg = high dosage (higher risk of negative effects); >3000 mg = "will most likely give you a bad time".

There is minimal information regarding phenibut's pharmacokinetics and interactions. After oral administration, users report onset usually within 2-4 hours with full effect at 4-6 hours and duration as long as 15-24 hours. Concomitant use of phenibut with other sedating drugs may potentiate sedation.

The usual clinical effects of acute phenibut toxicity include sedation and lethargy, but agitation, delirium, confusion and rarely tonic-clonic seizures have been reported. Other effects include nausea, vomiting and bradycardia. Tolerance, physical dependence and withdrawal can occur after chronic use. Withdrawal symptoms, which can last two weeks or longer, may include anxiety, agitation, fatigue, hallucinations, insomnia, psychosis, tremors, tachycardia, nausea and vomiting. In addition, symptoms for which phenibut was taken will return.

Treatment includes supportive care and benzodiazepines for agitation. There are cases in which baclofen tapered slowly over several weeks helped curb withdrawal (*J Clin Psychopharmacol* 2017;37:478-80).



Did you know?

Phenibut is considered a nootropic agent.

Nootropics, sometimes called smart drugs, are psychoactive substances that augment or improve cognitive function. They are purported to enhance memory, mental stimulation, improve learning capabilities and 'give your mind an extra boost'. Their availability on the internet is increasing. Examples of other nootropics include: 5-HTP, piracetam, hyperzine A, choline bitartrate, phenylpiracetam, noopept.

Wendy Klein-Schwartz, PharmD, MPH, FAAC
Professor Emeritus
University of Maryland School of Pharmacy



@MPCToxTidbits