

Gamma-hydroxy butyric acid (gamma or GHB) and GHL

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Gamma-hydroxy butyric acid (gamma hydroxybutyrate, GHB) has a paralysing effect on the central nervous system. Gamma-hydroxy butyric acid is used as an anaesthetic in some European countries, but in Finland it has not been registered as a medicine. In some countries, in addition to the legal medical uses, gamma-hydroxy butyric acid is also misused e.g. as an intoxicant and in body building, and called gamma for short. Gamma-hydroxy butyric acid has been classified as a drug in Finland since 1 December 2001 (Ministry of Social Affairs and Health Decree 983/2001). Its possession, sale and distribution is prohibited under s. 3 of the Narcotics Act.

The misuse of gamma-hydroxy butyric acid as an intoxicant has increased over the past few years in Finland. It can be taken as granules, capsules, powder or liquid, usually orally. Gamma-hydroxy butyric acid that is sold on the street is often impure and the amount of 'gamma' in the doses may vary considerably. Gamma-hydroxy butyric acid is misused e.g. because of its intoxicating, relaxing and euphoria-inducing effects. In body building it is used because it is assumed to have anabolic effects: there is, however, no evidence of such effects.

Gamma-hydroxy butyric acid lowers the degree of consciousness depending on how much is taken. The substance has many harmful side-effects. These include lowered blood pressure, forgetfulness, drowsiness, dizziness, nausea, vomiting, convulsions, lowered heart and respiratory rate, respiratory failure, hallucinations, unconsciousness and coma. Also side-effects that effect the nervous functions are possible, like headaches, states of confusion, paramnesia, problems with co-ordination and compulsive movements.

When the substance is taken orally, it usually takes 15-30 minutes for the effects to develop. If the user has taken a high enough dose, this will induce a state of poisoning and unconsciousness. The unconsciousness usually lasts for a few hours. If gamma-hydroxy butyric acid is taken together with other substances that affect the central nervous system, like with alcohol or pharmaceuticals, the joint effect cannot be predicted.

A patient suffering from gamma poisoning should be put on his side so that he can breathe freely. Mouth-to-mouth resuscitation should be administered and the patient hospitalized if necessary. There is no antidote for gamma-hydroxy butyric acid, so only the symptoms can be treated and vital functions maintained. GHB poisonings have caused deaths, also in Finland.

A full recovery may take several hours, and in some cases the dizziness caused by gamma-hydroxy butyric acid may last for several days. Long-term use leads to physical dependence. Withdrawal symptoms, like insomnia, anxiety and trembling, may last from several days to a couple of weeks. The long-term effects of gamma-hydroxy butyric acid are not yet known.

The Helsinki first aid unit has compiled statistics on severe GHB and GHL overdoses for several years. They seem to be on the rise. In 2005, there were 44 severe overdose cases, whereas in 2008, the total was 143. By the end of May 2009, there had been 23 severe gamma overdose cases.

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