

Substance Abuse Treatment

ADVISORY

Breaking News for the Treatment Field

GHB: A CLUB DRUG TO WATCH

Treatment Guidelines for GHB Withdrawal

Many clients who use GHB are not dependent on it and therefore can be educated about its risks and referred for outpatient therapy. However, clients with a history of frequent dosing may experience withdrawal symptoms and require supervised medical detoxification. In these situations, providers should note the following:

- GHB withdrawal and detoxification require close medical supervision. Most clients require hospitalization ranging from 7 to 14 days.
- Most people who become dependent on GHB find the withdrawal symptoms unbearable and may try to self-medicate or self-detoxify with other drugs, including benzodiazepines, or alcohol. Using other substances in this way appears to contribute to withdrawal severity and may lead to respiratory depression, coma, and death.
- Benzodiazepines can help ease some of the symptoms of GHB withdrawal, particularly psychotic agitation, if given in appropriate (and medically supervised) doses.
- Other medications (e.g., barbiturates, anticonvulsants, and antihypertensives) may be required to effectively manage GHB withdrawal and detoxification.
- Another result of GHB withdrawal is amnesia or memory loss, which greatly complicates a client's treatment at every stage and "may contribute to a revolving door of treatment episodes and relapse when the patient has little awareness of the consequences of his or her GHB addiction."^{*} Therefore, ongoing client education is critical.
- Although clinicians have gained some insight into GHB dependence and withdrawal, research on treatment is an important area to be further developed. ■

^{*}Miotto, K., and Roth, B. "GHB Withdrawal Syndrome." Austin: Texas Commission on Alcohol and Drug Abuse.

What is GHB?

Gamma hydroxybutyrate (GHB) is one of a group of club drugs that often are abused by people who attend a variety of all-night parties sometimes called "raves."¹ In addition to GHB, the five drugs commonly identified as club drugs are lysergic acid diethylamide (LSD), ketamine, methamphetamine, methylenedioxymethamphetamine (MDMA, or ecstasy), and rohypnol (flunitrazepam).²

GHB is a synthetically produced central nervous system depressant. On the street, it is usually sold as a liquid by the dose (a capful from a bottle or drops). In some cities, GHB is put into water guns, and users buy it by the squirt. In other instances, candy, such as a lollipop, is dipped in GHB and sold.³ In liquid form, GHB is colorless and odorless and has a salty or soapy taste.⁴ GHB is also sold in powder or capsule form. It is made of lye or drain cleaner mixed with GBL, a chemical cousin of GHB and an industrial solvent often used to strip floors. GBL itself is often abused and produces the same effects as GHB. GBL and another chemical cousin, 1,4 butanediol (1,4 BD), convert to GHB in the body. Recipes for GHB can easily be found on the Internet. Some GHB users brew the drug in bathtubs at home.⁵

Who uses GHB?

The majority of GHB users are young adults. Many of these users do not realize that GHB affects each person differently or that differences in the purity and strength of the dose can mean the difference between life and death. Misinformation on the Internet, a medium widely used by young adults, may also contribute to



the problem. According to a report titled “Drugs and the Internet,” by the National Drug Intelligence Center, GHB is described on many Web sites as a relatively benign drug.⁶ Addiction and the possibilities of overdose and death generally are downplayed. The use of GHB as a date-rape drug is often dismissed as media hype.

GHB use is most common among white, middle-class males between ages 13 and 30. GHB users are likely to use it with other drugs, particularly ecstasy.³ However, there are geographical and population variances in GHB use. [For instance, in New Orleans, there have been reports of GHB use among secondary school and college students, whereas, in other areas, it is reputed to be widely accessible at gay male party venues.⁷]

Bodybuilders have reported that they use GHB because it stimulates the release of growth hormones. People who are alcohol dependent may use it to try to eliminate alcohol cravings, even though there is no medical approval for this use in the United States.

Despite the belief of some users that GHB is a safe bodybuilding or sleep aid, or a party drug that poses no risk for addiction or overdose, the effects of GHB can be tragic.

The only legitimate use of GHB in the United States is for the treatment of cataplexy, a symptom of the sleep disorder narcolepsy in which muscles lose strength. The U.S. Food and Drug Administration approved GHB, under the brand name Xyrem, on July 17, 2002, but mandated some of the most severe restrictions ever imposed on a medicine.⁸

Why has there been so much media attention focused on GHB lately?

During the past decade, the use of GHB and GBL has increased. According to the Substance Abuse and Mental Health Services Administration’s (SAMHSA’s) Drug Abuse Warning Network (DAWN), the number of emergency department (ED) visits in which GHB is mentioned, including those in which GBL is mentioned, increased from 56 in 1994 to 4,969 in 2000.⁹ In 2000,

GHB—again, including GBL—ranked 34th among 50 most mentioned drugs in ED drug-related episodes.

Why is GHB so dangerous?

GHB, usually in combination with alcohol, was linked to more than 60 deaths from January 1992 to May 2001. Almost 60 percent of these deaths were people between ages 20 and 29. However, the number of GHB-related deaths may be underestimated because GHB does not remain in the body long and is usually not tested for at autopsy.¹ GHB may be missed by many conventional urine drug screens.⁴

The effects of GHB vary each time a person takes it, and it affects each person differently.⁴ A small increase in dose can increase the drug’s sedative effects to a lethal level. High doses of GHB may overwhelm the body’s ability to eliminate the drug; therefore, the effects are greater and last longer than expected.¹

The adverse effects of GHB include vomiting, seizure-like activity, loss of consciousness, respiratory arrest, coma, and death. GHB often is produced in clandestine laboratories; therefore, the purity and strength of doses vary. This situation makes it difficult for emergency personnel to obtain useful information on the amount of GHB that a person took.

How is GHB used in date rape?

GHB has been slipped into unsuspecting victims’ drinks. GHB’s taste can be masked by adding it to a flavored beverage. Because it is hard to detect GHB in a beverage, and because only small amounts are needed to achieve the desired effect, GHB has been used to facilitate rapes. Victims given GHB become unconscious and cannot defend themselves from these sexual assaults. They cannot serve as witnesses in court because amnesia is another effect of consuming GHB.⁴

GHB has been implicated in deaths as well. For instance, in January 1999, 15-year-old Samantha Reid was

ADVISORY

“scooped” (the street term for slipping GHB into someone’s drink). Reid lost consciousness and died the next day.⁵ The teenage boys who scooped her drink were sentenced to prison for manslaughter.¹⁰ Hillary J. Farias was raped after being slipped GHB. On February 18, 2000, the Hillary J. Farias and Samantha Reid Date-Rape Drug Prohibition Act of 2000 became law, making GHB a Schedule 1 drug.

Do people on GHB develop dependence and experience withdrawal symptoms?

Severe GHB dependence was found to follow daily use of varying amounts of GHB over a period ranging from 2 months to 3 years according to the findings in a retrospective study of eight patients with prolonged withdrawal symptoms after discontinuing chronic use of GHB.¹¹

Researchers found that withdrawal symptoms started between 1 and 6 hours after the last dose and lasted between 5 and 15 days. One person died from cardiac complications on the 13th day in the hospital. Reported withdrawal symptoms included:

- Psychosis and severe agitation requiring self-protection procedures and sedation
- Mild tachycardia (increased heart rate) and hypertension
- Neurologic effects, including prolonged delirium
- Hallucinations
- Diaphoresis (profuse sweating), nausea, and vomiting.

What are the symptoms of a GHB overdose?

Symptoms of GHB overdose include nausea, bradycardia (slow heart rate), and a decreased level of consciousness. Alcohol, opioids, barbiturates, and benzodiazepines potentiate the effects of GHB.¹² In GHB overdoses, it is imperative to keep patients’ airways open, with assisted ventilation if necessary, and provide supportive care. GHB

use should be considered when any patient presents with a coma of unknown origin.⁴

What can treatment providers do to help?

Providers should learn all they can about GHB—including regional trends related to its use—because client education about the dangers of GHB is critical, particularly as reports of its euphoric effects may cause an increase in experimentation.

Substance abuse treatment professionals should assess a client’s lifestyle and drug use habits before the client experiences adverse effects and requires medical intervention.

If a client is known to be experimenting with GHB or other club drugs, treatment providers should alert him or her to the adverse effects and provide emergency medical information from a poison control center or appropriate healthcare facility. Some experts suggest that clients with a history of bodybuilding be assessed for GHB abuse because this drug is commonly used in this patient population.⁴ Providers should also warn clients that misinformation about GHB is available on the Internet. Many people who take the drug do not know of its dangers. For instance, only 9 GHB users in a study of 42 regular GHB users were aware that it could produce a withdrawal reaction.¹² (See the box on the back page for more information about regular GHB users.)

Knowing when patients need medical attention and referring them to appropriate care are key. ■

Notes

¹Whitten, L. “Conference Highlights Increasing GHB Abuse.” *NIDA Notes*. Bethesda, MD: National Institute on Drug Abuse. Retrieved April 5, 2002, from the World Wide Web, www.drugabuse.gov/NIDA_Notes/NNVol16N2/Conference.html.

²Office of Applied Studies. “Club Drugs.” *The DAWN Report*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 10 pp., December 2000.

³Executive Office of the President, Office of National Drug Control Policy. *Pulse Check: Trends in Drug Abuse*. ONDCP Pub. No. (NCJ) 191248. Washington, DC: Office of National Drug Control Policy, pp. 75–88, November 2001.

Survey of 42 Self-Reporting Regular GHB Users¹²

Positive Effects of GHB Use—Euphoria, increased sex drive, and tranquility.

Adverse Effects—Sweating and loss of consciousness (reported by 69 percent), nausea, auditory and visual hallucinations, headaches, vomiting, exhaustion, sluggishness, amnesia, confusion, and clumsiness.

Rate of Use—18 participants used GHB 2 or 3 times daily, 12 participants 4 or more times daily, and 12 participants once daily.

Positive effects of GHB use, as compared with adverse experiences, were emphasized by participants. However, family members reported a “change in personality,” including increased aggression, irritability, and memory problems. Participants who used GHB with other substances reported more severe adverse events than those who used GHB alone. ■

Notes (continued)

⁴Teter, C.J., and Guthrie, S.K. “A Comprehensive Review of MDMA and GHB: Two Common Club Drugs.” *Pharmacotherapy* 21(12):1486–1513, 2001.

⁵Cannon, A. “Sex, Drugs, and Common Death.” *U.S. News and World Report*, May 24, 1999.

⁶National Drug Intelligence Center. “Drugs and the Internet—An Overview of the Threat to America’s Youth.” Retrieved April 30, 2002, from the World Wide Web, www.usdoj.gov/ndic/pubs/682.

⁷Community Epidemiology Work Group. *Epidemiologic Trends in Drug Abuse, Advanced Report*. Bethesda, MD: National Institute on Drug Abuse, June 1999. Retrieved September 13, 2002, from the World Wide Web, 165.112.78.61/CEWG/AdvancedRep/699ADV/699adv.html.

⁸Center for Drug Evaluation. “FDA Drug Approvals List.” U.S. Food and Drug Administration. Retrieved July 31, 2002, from the World Wide Web, www.fda.gov/cder/whatsnew-date.htm.

⁹Office of Applied Studies. *Emergency Department Trends From the Drug Abuse Warning Network, Preliminary Estimates January–June 2001 With Revised Estimates 1994–2000*. DAWN Series D-20. DHHS Pub. No. (SMA) 02–3634. Rockville, MD: Substance Abuse and Mental Health Services Administration, p. 104, 2002.

¹⁰Associated Press. “Three Convicted in Date-Rape Drug Trial.” March 14, 2000. Retrieved September 13, 2002, from the World Wide Web, abcnews.go.com/sections/us/DailyNews/daterape000314.html.

¹¹Dyer, J.E.; Roth, B.; and Hyma, B.A. “Gamma-hydroxybutyrate Withdrawal Syndrome.” *Annals of Emergency Medicine* 37(2):147–53, 2001.

¹²Miotto, K.; Darakjian, J.; Basch, J.; Murray, S.; Zogg, J.; and Rawson, R. “Gamma-hydroxybutyric Acid: Patterns of Use, Effects, and Withdrawal.” *American Journal on Addictions* 10(3):232–41, 2001.

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