

Multijurisdictional Counterdrug Task Force Training

GHB: A Killer Drug

MCTFT Telecourse
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MCTFT

1-800-243-5550
www.mctft.com



A partnership between The Florida National Guard and St. Petersburg College

GHB: gamma hydroxybutyrate

- GHB is a rapidly acting, strong CNS depressant
- Used as an anesthetic in Europe and investigated in the U.S. for sleep disorders
- Sold as a nutrient or supplement in health food stores or by mail order

GHB: gamma hydroxybutyrate

- Promoted to improve physical performance, reduce stress and induce sleep, enhance sex, and as a muscle builder



GHB: gamma hydroxybutyrate

- Body builders use it to stimulate muscle growth:
 - touted as an amino acid that acts like a diuretic to reduce anabolic steroid water gain and raise levels of growth hormone

GHB – CNS Depressant

- Abused on the street for its intoxicating, euphoric, and sedative effects

GHB: gamma hydroxybutyrate

- Banned in 1990 by FDA after several ER cases of respiratory depression, seizures and comas
- Street chemists/clan labs rushed to fill the void

Gamma Hydroxy Butyrate

AKA: GHB, G, Jib, Scoop, Liquid E, Liquid X, Woman's Viagra, Grievous Bodily Harm, Easy Lay, Gamma 10, Salty Water, GH Buddy, Aminos, Blue Nitro, Blue Thunder, Thunder Nectar, Renewtrient, Revivarant, Remforce, Firewater, Invigorate, Xyrem (research product), sodium oxybate, Fantasy & One4B (NZ)



Typical Drinks To Hide GHB

Goldschlager, Jagermeister, Long Island Ice Tea, Hot Damn and other shots, fruity drinks, odd concoctions, all designed to hide the salty taste.



Typical GHB Containers

Typical bottles for hiding GHB-- film canisters, purse-size hair spray, liquid candy containers, food coloring, breathe mint containers (may be liquid LSD or G), vanilla bottles, Gatorade, pump hand lotion bottles (\$10 a pump in midwest).



The Club Drug Scene

- MDMA --Ecstasy----MOST PREVALANT
- Gamma Hydroxy Butyrate--GHB
- Ketamine
- LSD
- Nitrous Oxide
- Mushrooms
- The Old Standbys
- Prescription Drugs



Club Drugs: An Emerging Epidemic

- Use of Club Drugs has skyrocketed in the last few years



Club Drugs: An Emerging Epidemic

- Raves and club parties are extremely popular with our young people across the country
- Club Drugs seem to fit the needs of youth
 - “a whole mentality/feelings issue”



So, What's a RAVE Anyway?

Raves characterized by:

- Loud techno/electronic music
- Dark environment with laser lighting
- Pro drug paraphernalia
- Illicit drugs: "Club Drugs"
- Massage parlors
- Cool down/misting rooms

Club Drugs

- Club drugs have been extremely popular with groups that attend Raves, the techno music crowd, and the club scene groups
- DEA estimates that about 70 to 80% of the kids at raves are using drugs
- Parents are told no alcohol at Raves

Club Drugs

- Parents aren't aware and law enforcement isn't up on the problem
- Police had not been trained and didn't consider Raves a big problem until recently
- Typical police approach was:
 - ignore if possible
 - respond when called
 - handle as traffic or crowd control issue

Club Drugs - Who Is Using?

- Use has spread to a wide variety of age groups and settings
- We are now seeing club drugs at single bars, private parties, college parties, in dorm rooms, ...
- High schools students are also using club drugs at social gatherings, even in the classroom

Polydrug Use

- A lot of combinations of drugs are being used:
 - "Candy Flippers", "X's and L's" - doing both Ecstasy and LSD
 - "Speedballing" - Ecstasy and heroin
 - Ecstasy and methamphetamine

Adulterants

- Illicit manufacture in Clandestine labs
 - No quality control, impurities, dose unknown,...
- When supply low or for a fast buck dealers mix other drugs:
 - methamphetamine/LSD
 - meth/Ketamine or meth/GHB powder

“Every day, you tell us about marijuana and cocaine.....WHY didn't you warn us about GHB?”

.....teenage friend of Samantha Reid, 15-year-old GHB victim.

Who's Using GHB

- Rave/club crowd
- Gay community
- Exotic dancers/ strippers
- Bodybuilders
- Rapists
- Anyone on random or mandatory drug testing (to evade testing +)
- Too many cops/firemen



Unique to GHB

- Vomiting
- Seizures (clonic movements)
- Out of body experience
- Rapid, high intoxication
- “Capful” is like 5-6 beers
- Sexually oriented behavior

BD--analog product



Unique to GHB

- Aggression possible (PCP type behavior)
- “Chainsaw” type snoring common
- Nystagmus-no (low dose) yes (high dose)
 - Eyes not considered diagnostic as varies greatly

Unique to GHB

- Respiration very depressed (6 per min)
- Pulse--probably slow, but may be fast
- Comatose (deep, unarousable coma)



Illegal analog product

Unique to GHB

- No gag reflex
- 3-5 hours of effects
- Sudden resolution of symptoms
- No antidote—advanced life support measures taken

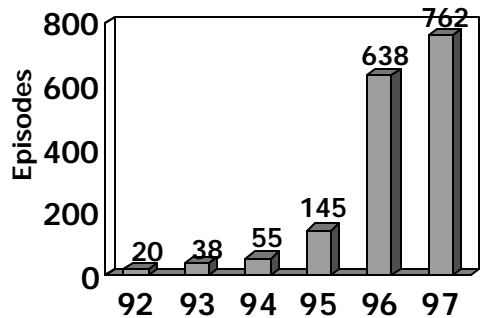


Illegal analog product

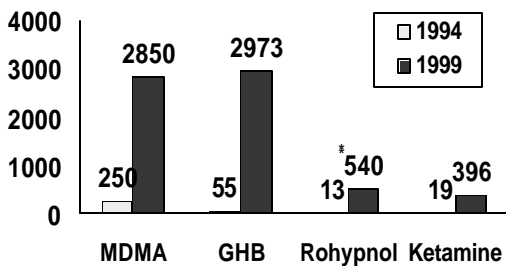
GHB: gamma hydroxybutyrate

- Huge resurgence of use in the late 90's
- Made national news with several stories of overdoses and deaths

GHB Related Emergency Episodes



Drug Abuse Warning Network* (DAWN)



*Drug-related episodes from hospital ER's in 21 metropolitan areas

GHB - gamma hydroxybutyrate

- Feds placed GHB in Schedule 1 in March, 2000 (high abuse potential, no approved medical use)

Dangers of Ingesting Street GHB

- You never know what you are getting:
 - After drinking a batch of GHB four men were hospitalized with severe burns of mouth and esophagus

GHB - gamma hydroxybutyrate

- Internet full of very inaccurate descriptions:
 - Advertised as an aphrodisiac and easy high and as a safe "natural" non-addictive drug:
 - "the safest and most beneficial compound known to man (next to water)"
 - www.ashesonthesea.com/ghb/; "GHB - The Stone Cold Truth"

Analogs of GHB

- The increased legal actions on GHB resulted in the abuse of the GHB analogs: GBL and BD
 - GBL - gamma butyrolactone
 - BD - 1,4 butanediol

GBL & DB

- Both are chemically related to GHB
- They rapidly metabolize to GHB when ingested
- Both have the same serious health hazards as GHB

GBL & BD Analogs

- Manufacturers quickly reformulated GHB products into a multitude of other products containing GBL & BD
- Advertised as sports and nutrition supplements, sleep aids, dietary aids and sexual stimulants



GHB Analogs are in OTC Products

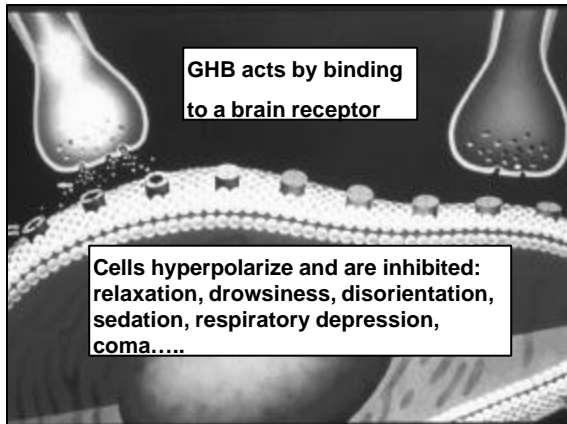
- GBL is also an active ingredient in:
 - liquid paint stripper, polishing products, circuit board cleaner, pre-glue cleaner, degreaser
- BD is used in manufacturing:
 - plastics, fibers, and cosmetic coverings for floor coverings

Why are they using GHB?

- Abused for its intoxicating, euphoric, and sedating properties and as a substance to intensify the effects of other drugs

Mechanism of Action in the Brain

- GHB is a metabolite of GABA, the major inhibitory neurotransmitter



GHB - gamma hydroxybutyrate

- Clear, odorless, nearly tasteless (salty) liquid
- May also be seen in powder form or in capsules

The images show two white capsules, a pile of white powder, and a clear glass bottle containing a clear liquid.

GHB - gamma hydroxybutyrate

- Dose can be a few drops, a cap full, or a premixed solution
- Costs is about \$5 to \$10 a dose

The image shows a hand holding a white capsule while pouring a clear liquid from a bottle into it.

GHB - gamma hydroxybutyrate

- Sold in a variety of containers:

The image shows several different containers for GHB, including bottles, vials, and jars of various sizes and shapes.

Health and Impairment Effects

- GHB's popularity as a recreational drug is very disturbing because of its extremely dangerous characteristics

The image shows a hand holding a white capsule while pouring a clear liquid from a bottle into it.

GHB - Health and Impairment Effects

- Intoxicating effects begin in 5 to 20 min
- Effects may last 3 to 6 hrs. depending on dose
- GHB is cleared from the body rapidly and difficult to detect in ER's and Tx centers
 - Toxic screens just being set up to detect GHB

GHB – CNS Depressant

- At low doses:
 - Produces relaxation and mild euphoria (relieves anxiety)
 - Decreases inhibitions:
 - Increase sociability
 - Increases libido and sexual activity

GHB – CNS Depressant

- At higher doses:
 - Drowsiness, weakness, confusion
 - Dizziness, disorientation
 - Loss of coordination and balance
 - Heart rate and respiration slow
 - Probably impaired learning and memory

GHB – CNS Depressant

- Overdose:
 - Headache, nausea, vomiting
 - Hallucinations, amnesia, possible seizures
 - Bradycardia, respiratory depression and arrest
 - Loss of consciousness, coma and even death



Overdose – Immediate Medical Attention

- Watch for Signs & Symptoms:
 - Dizzy, lightheaded, mentally confused after a drink that shouldn't produce such feelings
 - Nausea, vomiting, respiratory depression, unusual snoring sound, loss of consciousness

Overdose – Immediate Medical Attention

- Get medical help:
 - No antagonist available
 - Immediate medical support can prevent most of the problems (intubation)

Case Study

- A Los Angeles man made a mint-flavored elixir out of the industrial solvent (BD) and distributed small vials at a New Year's Eve concert:
 - Over 100 people became ill and several were hospitalized
 - One 17 year-old boy suffered a heart attack
 - Symptoms were dizziness, nausea, shortness of breath, and respiratory arrests

GHB – as a Sex Enhancer

- GHB like many sedative-hypnotics has been touted as a sexual enhancer:
 - At low doses it lowers inhibitions and causes relaxation
- “Disinhibition Response” - increased sexual activity, health risks, impairment risks

GHB – as a “Date-rape drug”

- GHB has been used by sexual predators to lower the inhibitions and defenses of women
 - Clear, odorless, nearly tasteless (salty) liquid
 - Easily slipped into a drink w/o detection



GHB – as a “Date-rape drug”

At higher dose the victim becomes:

- Sleepy and lethargic
- Disorientated
- Experiences extensive muscle relaxation
- Less able to resist or ward off unwanted sexual advances or assaults

GHB – as a “Date-rape drug”

- The impaired judgment and amnesic effects is another reason the the attacker or sexual predator uses the drug

1 in 4 women in the U.S. will be raped

- 136 million women in the U.S.
 - 34 million women will be raped during their lifetimes (Anglin 1997)
 - 1.3 adult women are forcibly raped every minute

1 in 4 women in the U.S. will be raped

- Only 1/3 to 1/10 of all sexual assaults are reported to law enforcement
- 1997 AMA rating of evaluation and tx. of sexual assault victims gave the U.S. a "D-" (Slaughter 2000)

"Date" or acquaintance rape

- Approximately 75% of sexual assaults are "date (or acquaintance) rapes"
 - Significantly underreported due to victim's feelings of guilt and "responsibility"

Attitudes towards rape

- 1987 survey found that:
 - Up to 35% of college men admitted that they would rape if they thought they could get away with it (Koss 1987)
 - This increased to 37% in 2000

Attitudes towards rape

- High school survey in Louisiana, 1993:
 - 60% of boys felt it was okay to force sex on a girl in one or more situations (Davis 1993)

Drug-facilitated sexual assault

- "Mickey Finn" -- bartender in 1870's who served "cocktails" with chloral hydrate
- At least 20 drugs used to facilitate rape
- Alcohol most commonly used
- Newer "memory erasing" drugs include gamma hydroxybutyrate (GHB), flunitrazepam (FN) (Rohypnol), and ketamine

Alcohol-facilitated sexual assault

- Alcohol is the most readily available and commonly used drug for assault
- 33-38% of survivors used alcohol before being raped
- 50% of assailants have used alcohol before they have committed rape

Study findings on drugs present in victims of sexual assault

- 1,179 specimens collected nationwide:
 - 38% + alcohol
 - 18% + tetrahydrocannabinol (THC)
 - 8% + benzodiazepines
 - 4% + GHB(EISohly 1999)

Study findings on drugs present in victims of sexual assault

- 1077 assays of urine samples of victims nationwide
 - 4% + GHB
 - 0.6% + FN (Mullins 1999)

Study findings on drugs present in victims of sexual assault

- GHB is likely significantly underestimated because:
 - Samples up to 72 hours out
 - GHB is detectable only up to 12 hours, maximum

GHB More Prevalent Than FN

- 2,003 specimens collected nationwide over 2 years
- 72% collected within 24 hours
 - GHB in 5.4%;
 - FN in 0.5% (Slaughter 2000)
- 3rd year: incomplete data, but 22 specimens + GHB, 1 + FN

GHB More Prevalent Than FN

- Author notes that although FN has attracted far more media attention, GHB use was nine times more likely
- Short half-life of GHB (6-12 hours) suggests actual use is likely much higher

Case Study--Female, Age 17

- Paramedics respond to a call from a resort/club called LaVela, in Florida; young female found floating face down in the pool
- Paramedics arrived to find 17 yo female, unconscious, surrounded by club personnel who have removed her bathing suit top and are "rubbing her chest"
- HR=50; apneic
- Paramedics assisted ventilation with bag valve mask

Clinical course

- In transport, P = 50, BP = 80/palp; paramedics continued BVM
- In the ED, patient was intubated and mechanically ventilated and given IV fluids
- Hemodynamically stabilized
- Patient awoke 3 hours later, was extubated, and discharged with full recovery

History

- Patient reported going to club with 6 girlfriends to celebrate graduation; they knew of the risk of date rape drugs ("ruffies") in the area, so they took precautions
- Patient accepted a drink from a resort employee
 - reports that she took a few sips; 10-15 minutes later she felt hot, heart pounding; entered the pool to cool off

Background

- LaVela club had been busted; owners in jail
 - Kegs of GHB manufactured in the basement, with a delivery system piping it up to bartenders
 - Local hospital staff reported several GHB overdoses presenting each day

Background

- Employee who gave pt. the drink had a criminal record
- Police noted difficulties with prosecution because GHB hard to identify and difficult to prove who provided the drug

Gamma hydroxybutyrate (GHB)

- CNS depressant; occurs endogenously in trace amounts
- Developed in France in 1960 as an anesthetic
- Clinical use in US: narcolepsy trials, fibromyalgia

Popular use of GHB

- Marketed to bodybuilders in the 1980's for purported effects of increased muscle mass and fat loss
- Soporific, euphoric and sexual effects
- "G," "Georgia Home Boy," "Grievous Bodily Harm," "Great Hormones at Bedtime," "Liquid Ecstasy"

Clinical effects of GHB

- Onset: 15-20 minutes; peak 60-90 minutes
- Vomiting, incontinence, hypothermia, bradycardia, hypotonia, tremor, myoclonus, seizure-like activity, aggression, combativeness, lethargy, somnolence, amnesia, coma, apnea, respiratory depression, and death

Clinical effects of GHB

- Notable: may be abrupt alternation between somnolence and acute agitation
- Management: supportive care
- FDA ban 1990; additional warnings 1997

Gamma butyrolactone (GBL) and 1,4 butanediol (BD)

- GBL and 1,4 BD are industrial solvents, used to produce polyurethanes, pesticides, nail polish remover
- GBL and 1,4 BD are GHB precursors--rapidly absorbed and metabolized to GHB, with similar toxic and recreational effects

Gamma butyrolactone (GBL) and 1,4 butanediol (BD)

- 1994 Dietary Supplement and Health Education Act -- no pre-market proof of safety or efficacy of dietary supplements

GBL "dietary supplements"

- Renewtrient, Revivarant, Verve
- Bodybuilding, fat loss; combat aging, depression, drug addiction, insomnia
- Active ingredient listed as "lactone," "furanone"
- \$59-\$139 for 32 fl. oz
- FDA warning and voluntary recall 1/99

1,4 butanediol "supplements"

- Serenity, Zen, Enliven
- "Tetramethylene glycol," "Sucol B"
- Same health claims as GBL; also reversal of baldness, improved eyesight, elimination of cellulite
- FDA warning 5/99

Health risks of GHB-related compounds

- **Lethality:** 71 GHB-related fatalities documented by the DEA
 - 15 fatalities due to GHB/GBL or 1,4 BD as the sole intoxicant
- **Addiction:** GHB-related compounds are psychologically and physically addictive, with a potentially lethal withdrawal syndrome
- GHB-intoxicated driving

GHB-facilitated Sexual Assault

- “Scoop” and “Easy Lay”
- Dance clubs, parties, bars and anywhere a drink might be left unattended in public
- “Prosexual effects:” decrease inhibitions, impair judgment, increase passivity and suggestibility, induce amnesia; higher doses sedate, cause loss of consciousness, amnesia

GHB-facilitated Sexual Assault

- GHB is colorless, odorless, slightly salty; GBL and 1,4 BD may be colored liquids, chemical smell and taste

Local Cases

- Woman left an open Diet Coke in car while she entered a convenience store to pay for gas; found later, a few blocks away, nude and serially raped
- Woman brought to HCMC, found unconscious in car, motor running, in gear; believed to have been drugged in a bar

Local Cases

- Several women have gotten DUI charges: police found them slumped over in their vehicles; women realized their clothes were undone, with no memory of drinking excessively or of assault

Local Cases

- 13 yo boy sexually assaulted by an older man
- Ingested 2 glasses of “orange juice with tequila;” blood ethanol (-)
- Described nausea, vomiting, feeling light-headed, possible LOC; feeling of powerlessness during assault
- Orange juice with 2,3 BD found in refrigerator--2,3 BD toxic, but lacks “high”

Local Assault and Robbery

- Local man at a bar offered a ride to a woman and her friends
- Accepted an opened beer from the woman
- Awoke hours later on the street, with watch, wallet, car keys and car gone

Legal Status

- GHB is a Schedule I drug when used illicitly
- If approved, clinical use of GHB for narcolepsy will be Schedule III
- Possession, manufacture, or sale of GBL or 1,4 BD for consumption is illicit

Access to GHB-related compounds

- Recreational drug information sites (Erowid, Lycaeum) provide access to supplies, kits ("G-WiZzZz" \$200), and "recipes" for home synthesis of GHB (made with GBL + NaOH)
- GBL and 1,4 BD "dietary supplements" still available through the Internet

Access to GHB-related compounds

- Highly concentrated products explicitly marketed as packaged in small, unmarked bottles (pocket-sized, eyedropper)
- Products still sold under the table at some gyms

GBL/1,4 BD "all natural solvents"

- GBL and 1,4 BD marketed as "all natural solvents," "chemical samples," cleaning products, ink jet cartridge cleaners sold as "Great Household Bargains" (GHB)
 - BlueRaine, Organic Thunder, Miracle Cloth
- Some have the same names, logos, sites, and prices as earlier "supplements"

"Solvent" safety warnings

- Products are sold with disclaimers that they are "not for human consumption"
- "Warning: Accidental ingestion may cause...euphoria... increased tactile sensitivity..."
- "Warning! Accidental ingestion of Pro-G will produce GHB in your body. If you ingest some by mistake, don't take alcohol or any other drug!"

Additional Suspect Supplements

- Replacement products"
- New 4 Sleep, Midnight Blue,
- TranquiliG
- Sublimiss-- "similar to Blue Nitro, Zen, RenewTrient,"
 - contains 'honokiol, magnolol, magnoflorine, magnocurarine"
- Humatropil--bovine colostrum, valerian
- Gamma valerolactone : newest precursor

Difficulties With Diagnosis, Prosecution of Ghb-facilitated Rape

- GHB intoxication may be masked by or confused with co-intoxicants; amnesia; bruising and abrasions typical of sexual assault may be absent
- Short half-life of GHB; 4-8 hours in blood, 6-12 hours in urine

Difficulties With Diagnosis, Prosecution of Ghb-facilitated Rape

- Routine tox screens do not detect GHB; requires targeted analysis at a lab with gas chromatography/mass spectrometry (GC/MS)
- GHB/GBL/1,4 BD remain readily available

Summary

- Know the drugs: GHB, GBL, 1,4 BD, valeric acid; flunitrazepam, ketamine (and Ecstasy)
- Role of the Internet: access to kits, recipes, supplies, supplements, "solvents," information, "instructions," "how-to" sites

Summary

- Look for it: be suspicious in identified cases of sexual assault; look beyond "date rape" contexts to cases of injuries due to MVC and/or DUI, unexplained alteration of mental status, suspicious overdose

More G Containers

- ANY container that will hold a liquid.
- Don't overlook anything in the bathroom, garage, kitchen, so-called nutritional supplements, etc.
- GHB addicts have hidden it in engine compartments, attics, etc.



The Not-So-Obvious

- Consider every liquid container under the sink & in the garage. Chicago officers found it disguised as car window wash fluid! But don't forget the ice cube trays!!!



GHB & analogs
do freeze

Websites for Reference

- www.projectghb.org
 - (aka www.ashesonthesea.com/ghb)
 - Death report & addiction help request form
- www.trendydrugs.org--Trinka's website
 - Mostly GHB, but soon all club drugs

Websites for Reference

- www.ghbkills.com Samantha Reid Foundation
- www.clubdrugs.org (NIDA government site)
- www.911rape.org--Great brochures/posters
- www.RAINN.org (National rape hotline)

More references

- For video tape "The Truth About Drugs" Call AIMS Multimedia at 877-256-2467 or check www.teenissues.com.
- "Flipped" coming to MTV early August.
- www.TheBackUp.com re police newsletter on CD & upcoming interactive training CDs including one on club drugs

PMA Substitution

- Para-methoxy-amphetamine
- Another powerful stimulant
- Cheaper and easier to manufacture than E and far more dangerous
- Multiple confirmed deaths in U.S., Australia, England



Mitsubishi Emblem

All courses provided by MCTFT have a bond, link and/or direct correlation to the actual business of interdicting, identifying, seizing and stopping the availability and/or use of illegal drugs.

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