



MEDTOX[®] Journal

**Public Safety Substance Abuse
Newsletter**

September 2009

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In This Issue

Drug Testing Tutorial

Project GHB

Motives and Connections in Young Adult Marijuana Abuse

Hotline Case Study: Mad as a Hatter

Name that Drug: Is It Really Mother's Milk?

Quick Links

[Our Website](#)

[Products](#)

[Services](#)

[Contact Us](#)

[Past Journal Issues](#)

Drug Testing Tutorial

Are you a probation or parole officer, a custodial officer or a rehabilitation manager? If you are a member of one of these groups, you are undoubtedly doing drug testing as part of your work. Certain important questions arise when doing your job, questions that often go unanswered. Sometimes the answers that you do get are incorrect. The drug testing business has changed over the past decade. What was true twenty years ago about drug testing is not necessarily true today. From time to time, it's good to get back to basics.



Drug testing of probationers and parolees has been going on for many years. But what is it that we need to know or learn as a result of drug testing? More to the point, why do we drug test at all? We drug test for two reasons. One of those reasons is to determine whether a particular type of prohibited drug has been ingested at some point in the past. This information is important to those who supervise probationers; we know that breaking the rules of a probation contract in order to use drugs is bad. Illicit drug use by someone on probation is a strong indicator of a return to criminal conduct and/or relapse into a cycle of drug addiction and dependency. Knowing whether a probationer is using drugs lies at the heart of case management and supervision. Drug use is a principal as to whether things are going well. The second and lesser reason why we drug test is to determine the precise amount of impairment that is being caused by ingestion of a prohibited drug. This is a more nuanced sort of test, one that's involved mostly with special criminal filings for drunk/drugged driving and/or determinations that need to be made about someone's criminal intentions while high.

In either set of circumstances, there are several forensic testing options available: blood, urine, saliva, breath (alcohol only) and ocular. Each method has distinct applications and forensic advantages over the others. The method chosen must be capable of providing the type of forensic information that is needed.

1. **Blood**-superior method for testing for drug impairment. Somewhat cumbersome to use in the field because blood must be drawn and taken to a lab. Blood testing is the gold standard for determination of drug caused central nervous system impairment.
2. **Urine**-efficient and accurate method for determining drug caused impairment or to document recent drug use. Easy-to-use field kits are available. Extremely accurate, moderately priced.
2. **Saliva**-excellent for assessing drug caused impairment and to determine recent use. Somewhat easy to use field kits are available. The kits are accurate, but pricey. Instant tests are not FDA cleared.
3. **Ocular (eye)** -corroborative testing for drug caused impairment. Expensive office-based machinery. Drug Abuse Recognition (DAR) programs-Rapid Eye exams are affordable alternatives.

Community corrections professionals rarely drug test in order to determine drug impairment. Instead, they conduct forensic drug tests to make simple determinations as to whether a client is in conformance with sober living conditions of a probation or parole agreement. For the community corrections officer, drug impairment is an interesting, yet ultimately extraneous phenomenon. What's most important is a yes or no determination whether or not a client has illegally ingested a banned drug. There are several ways to do this. Testing methods differ in accuracy and price. Tests may also have different legal weight when it comes time to go to court or litigate an alleged drug use violation. Some methods are approved by the FDA. Some methods produce court admissible evidence. Understanding the differences between biological methods of testing is vital towards being accurate, efficient and responsible in drug testing.

Blood, saliva (oral fluid), and ocular testing are the testing methods most warranted when drug impairment determinations are needed. Urinalysis is the best method for drug testing designed for forensic examination of

recent drug use. Urinalysis is the most versatile method in drug testing because of its abilities at detecting the myriad metabolites that are created when a drug of abuse is broken down and eliminated from the bloodstream.

Impairment drug testing has a wide variety of costs. Blood may easily cost \$50 per test. Saliva and ocular tests may cost \$10-20. DAR exams are free except for the three minutes required for the exam.

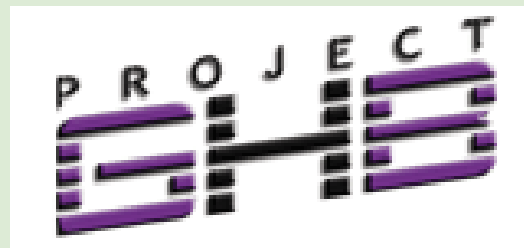
Detection Periods

| Drug | Urine | Ocular/Blood/Saliva/DAR |
|------------------------|---------------|-------------------------|
| Marijuana Single Use | up to 3 days | 1-2 days |
| Marijuana Multiple Use | up to 29 days | 1-2 days |
| Cocaine | up to 3 days | 1-2 days |
| Heroin | up to 5 days | 1-2 days |
| Morphine | up to 3 days | 1-2 days |
| Amphetamines | up to 10 days | 1-2 days |
| PCP | up to 8 days | 1-2 days |
| PCP Multiple Use | up to 28 days | 1-2 days |
| Barbiturates | up to 16 days | 1-2 days |
| Benzodiazepines | up to 12 days | 1-2 days |

When drug testing, are you trying to determine whether the person is under the influence, or did the person use drugs in violation of the law? These are two different questions. Different tools answer the questions. Ask yourself the following: "Do you want to know if the person is impaired, or if he has used drugs?" This will tell you exactly what you should use.

Project GHB

When Caleb Shortridge's parents were told that he had died from G-H-B (gamma hydroxybutyrate), they were stunned. They had never heard of GHB. Although all of their kids had gone through the DARE program, Caleb had a drug problem. Before Caleb's death, he had supposedly stopped using drugs. The parents first thought when they heard of his death was, "Who would do this to our son?" Sadly, they learned that Caleb made GHB himself. His overdose was an accident; he gulped from a water bottle he thought was water but was really GHB. It was too late to vomit out. He passed out and his friends watched him as he "slept." (in reality, a coma) Caleb never awoke. Rather than hide from reality, his parents started a tiny but powerful nonprofit, [Project GHB](#).



Project GHB has worked relentlessly to spread accurate information about GHB recreational abuse, overdose and death. GHB has been used as a weapon of rape/robbery, and is a drug of addiction with a life-endangering withdrawal syndrome (ballpark with alcohol and Benzo withdrawal but more severe and prolonged). Help requests to Project GHB are on the increase in 2009 around the world. Still, there is a sense of invisibility to GHB.

Few treatment centers and ERs recognize and know how to treat GHB addiction withdrawal. Yet Project

GHB's Addiction Helpline has worked with more than 2,500 GHB addicts in at least 20 countries. Project GHB links addicts to treatment facilities. Project GHB also provides information to facilities unfamiliar with GHB. Addiction histories range from a few months to 12 or more years. The addicts' stories are horrific. Many of these stories are documented in Project GHB's book, *G'd Up 24/7: The GHB Addiction Guide*, available through their website.

GHB is so difficult to catch in drug rape cases that many refuse to believe the drug is really a problem. Yet Project GHB hears from a steady stream of victims. Many have GHB symptoms, whether local medical and law enforcement were equipped to deal with the cases. And, of course, delayed reporting typically makes it too late to catch GHB in testing, but the indicators are evident. Many of these cases involve other drugs (more than 40 drugs have been identified in drug rape cases). Some cases involve husbands drugging their wives to permit others to have sex with them. Some involve attempted murder and/or murder with GHB as the domestic violence weapon of choice. Casino and strip club cases may involve use of GHB or other drugs for rape or robbery. GHB is a drugged driving risk as well.

It has become clear that many people turn to GHB specifically to sidetrack the drug testing system in courts and by employers. GHB isn't typically included in testing panels. If people are on probation for DUI alcohol or other drugs they can use GHB and test clean. It's a deadly game to play.

Project GHB has accumulated more than 350 GHB-related deaths. No official national agency is tracking them. Based on Project GHB's work with coroners and researchers, it is apparent that many more cases exist but are undocumented, unrecognized, or impossible to trace (i.e., a GHB addict whose body was burned beyond testing capabilities, yet was known to be on GHB). Dr. Deborah Zvosec et al has published analysis of 226 GHB-related deaths, destroying the myths that you can't die from GHB alone (38 percent involved no co-ingestants) and that it's okay to just let people "sleep it off" (when help is sought while awake, chances of recovery are good, but many cases involved friends "watching them sleep" and having them go into full arrest).

Project GHB's board is made of three parents who have lost a child to GHB, an addiction counselor and a retired narcotics detective. President Trinka Porrata spent 25 years with LAPD and is widely recognized for her expertise regarding GHB and drug rape. She works with the top doctors researching GHB issues, and doctors who treat GHB addiction withdrawal. She also provides expert witness testimony. Many of the top researchers turn to Project GHB for data and contacts to subjects.

There is still a lot of work to be done to make GHB awareness a reality.

--Zvosec D, Dyer J, Porrata T, Smith S, Strobl A.Q. Preventable deaths associated with Gamma hydroxybutyrate (GHB) ingestion: 226 fatalities (Abstract 49). *Eur J Emerg Med* 2008;15(5):304.

--Zvosec D, Smith S, Porrata T, Strobl A, Dyer J. Fatal motor vehicle collisions while Gamma hydroxybutyrate (GHB)-intoxicated. Proceedings of the Joint Annual Meeting of the International Council on Alcohol, Drugs, and Traffic Safety (ICADTS) and the International Association of Forensic Toxicologists (TIAFT), Seattle, WA, August 29, 2007.

--Zvosec DL, Smith SW, Porrata T, Strobl AQ, Dyer J. Preventable deaths from Gamma hydroxybutyrate ingestion. Abstract 247. *Annals of Emergency Medicine* 2006;48(4):S75.

--Zvosec DL, Smith SW, Porrata T, Quinn AQ, Dyer JE. 226 Gamma hydroxybutyrate (GHB)-associated fatalities: Overlap of postmortem GHB levels with endogenous, therapeutic, and non-fatal GHB toxicity cases and factors supporting exogenous origin. Presentation at the Annual Meeting of the National Association of Medical Examiners, Savannah GA, October 13, 2007.

Motives and Connections in Young Adult Marijuana Abuse

Over the last 12 months, the DARS Newsletter has reported studies that explored the complex psychological and pharmacological dynamics of marijuana (THC) use and abuse. Marijuana users are far from that of the monolithic "stoner." They are a diverse population (male and female) that spans all 50 states and involves users in age from 12 to 90. The potency of marijuana and the manner in which it is ingested can vary a great deal according to age group, gender, and socioeconomic status. It is hypothesized that over the years, gradual increases in the potency of marijuana (THC concentration) have led to greater numbers of users who identify themselves as being marijuana dependent. For those abusers, abstinence from the drug results in a predictable set of uncomfortable withdrawal symptoms. The total numbers of marijuana users meeting the definition of being physically dependent continues to grow. Recent studies indicate that 35% of current adult marijuana users (3.14 million people) meet criteria as marijuana abusers or marijuana dependent. This number is up by nearly 30% from levels (2.28 million people) witnessed just 10 years ago. [1] Of those who abuse marijuana, young adults exhibit the greatest overall levels of use and abuse. In self-reporting surveys, nearly 28% of persons between the ages of 18 and 25 report using marijuana at least once in the past year, over 4% report daily use[2]. It stands to reason that a majority of those who report daily use are physically dependent on marijuana. As large as these numbers are, there is little information that sheds light on the real motives and inspirations for those who choose to use and abuse marijuana. A recently concluded investigation by researchers at the Center for Health Care Evaluation in Menlo Park (CA) sheds light on marijuana use motivations amongst this critical age group of 18-25 year old young adults[3].



The study mentioned above separated marijuana abusing participants into three groups or types: those who were marijuana dependent, those who abused marijuana (chronic) and those who were simple users of the drug. Not surprisingly to some, the study revealed that marijuana dependent persons use marijuana more frequently and in higher doses or quantities than those users who are not dependent. Those considered not dependent, but who are abusive of marijuana, used marijuana in greater quantity and more frequently than those who were not abusive or dependent. Curiously, those marijuana users identified as being dependent on the drug, identified as having initiated their marijuana drug use later in life compared to those users who are not dependent. Marijuana dependent participants were cited as having made more serious efforts to quit the drug than the other groups identified as marijuana users and abusers. This finding may have importance for rehabilitation professionals who work with marijuana "addicts" in younger adult populations. They seem to start later in life but are more interested in quitting their habits. Comparing some of the study results for those participants described as either marijuana dependent or marijuana abusing, it seems that each group cites similar marijuana motives of "enhancement" and "expansion" for their drug use. It appears that participants in these two groups are motivated by beliefs that marijuana smoking is still exciting and capable of creating special social opportunities and experiences.

Further along in this study is data that highlights the troubling connections and interrelations between marijuana use and cigarette smoking. The tendency for marijuana smokers to also smoke cigarettes seems to be independent of the severity of marijuana use (dependent, abuse or use). Rehabilitation programs that deal with marijuana abusing clients might take note of this relationship and develop therapeutic plans to deal with it.

Even more alarming might be the light that this study sheds on the connections between marijuana smoking and alcohol abuse[4]. Over 80% of all (dependent, abusing or using) participants indicated that they engaged in drinking behaviors that could be characterized as troublesome or risky. The problems were greater for the participants classified as being marijuana dependent. It seems that more egregious the marijuana abuse, the

more likely that there will be serious problems with drinking. Overlay these findings with other well-founded assessments of young adult drinking behaviors, it appears that co-occurring marijuana use with alcohol consumption could lead to serious health and safety complications.

Marijuana use has been pushed front and center into the modern health care debate. It is unclear which way the Obama Administration is heading on marijuana enforcement. Veteran law enforcement officials are inclined to believe that marijuana enforcement will be de-prioritized and that the medical marijuana movement will begin to cement the drug's de facto acceptance as a medicinal folk remedy. If this does occur, it's reasonable to expect increased illicit use of the drug within the ranks of young adults. The importance of the studies takes on new meaning with shifts in public policies and attitudes that tone down the historically critical view of marijuana.

Screening for marijuana abuse is a requirement of any legitimate modern drug-testing system. Despite shifting political winds on the decriminalizing or medicalization of marijuana, the facts on marijuana remain the same. Marijuana is an addictive drug that has the potential to create great mental and physical harm to those who use and abuse it.

[1] Compton WM, Grant BF, Colliver JD, Glantz MD, Stinson FS. Prevalence of marijuana use disorders in the United States 1991-1992 and 2001-2002. *JAMA* 2004; 291:2114-2121.

[2] Substance Abuse and Mental Health Services Administration (SAMHSA). Results from the 2004 National Survey on Drug Use and Health: National Findings. NSDUH Series H-28. DHHS Pub No. (SMA) 05-4062. Rockville MD: SAMHSA; 2005

[3] Bonn-Miller MO, Zvolensky MJ. An evaluation of the nature of marijuana use and its motives among young adult active users. *The American Journal on Addictions*, 18: 409-416 2009.

[4] Ibid.

Hotline Case Study: Mad as a Hatter

Early in July, the DAR Hotline received a call from a client in search of someone to help with an unusual situation involving the strange behavior of several men assigned to work on a community corrections agency managed road maintenance crew. These men were working as conditions of grants of probation. Working in a rural area, these men were not closely supervised. A maintenance supervisor had reported that he thought that the workers were very energized and focused on their work on the day in question. He indicated that sort of behavior was unusual for a work crew. He said that everyone was talkative and that they'd taken to shouting at one another. Two of the men were repeating themselves over and over again. One man ranted for over an hour about how he'd been slighted by an ex-fiancé who'd gone off and married his half-brother. After awhile, what seemed to be amusing behavior turned into conflict. The crew began to argue and their work suffered. Two men sat down and claimed that their legs were too heavy to move. One of the men remained in a trailer for 45 minutes before being coaxed back out onto the shoulder of the highway. This particular man appeared to be confused and "out of it." The supervisor claimed that the man's eyes were "bulging out of his head."



Provisions were made to end the workday early and to transport the crewmembers to a nearby community corrections facility. Supervisors suspected that the bizarre behavior was attributable to the use of a drug or narcotic. Rounding up the men for the ride home was described as trying to "herd cats." The men were incapable of carrying out orders or following directions. After finally loading all the men into a transportation van, they were driven back to the local community corrections office. At the office, each of the six men

provided urine samples that were run through onsite screening devices. Except for one positive marijuana screen, all results were negative. The community corrections officers were sure that every member of the crew had taken or eaten some type of drug; they just weren't sure what it was.

The DAR duty-office had an immediate opinion in this incident. The DAR officer asked the community corrections personnel to the types of shrubs and plants that were alongside the roads that were being maintained. The DAR officer thought that the crew had ingested some sort of hallucinogenic drug that was part of a plant that grew wildly alongside the highway. Although the corrections officer was not yet DAR trained, he was able to describe very dilated pupils exhibited by two of the six men. One of the men claimed to be very queasy. All of them were hyperactive and were sweating profusely in a very cool, air-conditioned holding area. After several phone calls, the DAR officer rendered an opinion that the crew had somehow gotten hooked up with a wild growth of Morning Glory plant and that they'd all ingested a handful of seeds from the plant. The physical symptoms described by the officers were consistent with intoxication by a hallucinogen. In particular, dilation of the pupils accompanied and hyperactivity are hallmarks of a hallucinogen "high."

As it turned out, stories about Morning Glory seeds and their role as hallucinogens had run on local television stations in the months preceding this incident. Although it was late in the season for the Morning Glory plant, it was clear that it could be found growing wildly in areas up and down a stretch of state highway. The corrections officer went back to the road crew workers and asked them questions about Morning Glory. After a few minutes of denial, they broke into laughter and admitted that they'd grazed some Morning Glory seeds almost immediately after they'd disembarked from their transportation vehicle. A couple of the men had ingested a second dose of the seeds at a subsequent stop about two hours later. No special preparation was made for these seeds; they were literally chewed up and swallowed by each man.

Morning Glory is a hardy plant that grows all over the continental United States and Hawaiian Islands. It presents as a light blue flower with a white border; the flowers dot large batches of green leafy vegetation. The plant produces many seeds. It's the seeds that contain lysergic acid, the active hallucinogenic compound. Lysergic acid is the chemical core of LSD. (Lysergic acid diethylamide) The ingredient in Morning Glory is approximately ¼ the strength of LSD. A profound hallucinogenic high can be obtained from the ingestion of well-harvested Morning Glory seeds. Like all powerful hallucinogens, lysergic acid distorts and contorts the chemical pathways that route sensory messages in and around the brain. The net effects of this chemical chaos are changes in the systems of touch, sight and sound. The physical and psychological effects can persist for 2-4 hours following ingestion of the drug. The drug is popular with adolescents and young adults. Morning Glory is typically most plentiful in the late winter and spring. High schools experience yearly Morning Glory "seasons" near prom and graduation. YouTube and other Internet sites frequently post videos of people under the influence of drugs like lysergic acid. Techniques for harvesting and preparation of the seeds can also be found on the Internet.

Lysergic Acid presents difficulties in forensic drug testing. There are no commercial screening devices that can test for lysergic acid or LSD. Only special lab-based testing equipment is capable of testing for lysergic acid. If you need more information about lysergic acid, Morning Glory and LSD, please contact the DARS Hotline at darsprogram@mac.com.

Name that Drug: Is It Really Mother's Milk?

Regular readers of this column have come to appreciate how fame and notoriety interrelates to American drug use trends. Over the course of this decade, the Internet has become a potent force in stirring interest in the use and abuse of drugs. Facebook has been a powerful vehicle of late for stirring interest and excitement in the use of hallucinogenic drugs such as salvia divinorum and the over-the-counter cough suppressant dextromethorphan. The Internet has reached drug abusers of all sizes, types and proclivities. Sadly, the Internet has been particularly adept in communicating trendy drug use information to adolescents and young adults. A website search can generate hundreds of video records of boys and girls caught "high" on drugs. In some cases on Facebook, boys and girls appear incoherent or unconscious all the while being cheered on by friends (ostensibly) and onlookers. This situation is a grave one for any community with a growing population of adolescents and young adults.



Drugs that are abused by the rich and famous fascinate young people. A number of interesting but short-lived substance abuse trends evolved out of associations that actors or actresses had with particular types of drugs. This month's mystery drug is a substance that may or may not be a short-lived "one hit" sensation. One thing for certain, this drug is an unusual one with a profoundly powerful set of effects. It is a drug that has limited appeal but can be an inordinately powerful way to get "high."

Like most drugs of abuse, this month's drug came to market as a pharmaceutical product. Originally launched in the mid-70s, the drug bounced around pharmaceutical laboratories for many years. In its original formula, the drug was connected to rather serious reactions exhibited by patients who were treated with it. Life-threatening side effects slowed the further release and development of the drug until the mid-80s. At that time, the drug was re-released with important modifications and improvements. Immediately, the drug was recognized for its swift central nervous system action and reliability. This new product, although still potentially dangerous if it were to be misused or carelessly handled, was viewed as being relatively safe and effective. This month's drug was and still is found almost always in the operating room. The drug is also used in veterinary medicine as an anesthetic. Rarely can it be found in a doctor's office or a local pharmacy.

This month's drug was developed as an alternative medication to an older class of substances, the barbiturates. As with other drugs highlighted in "name that drug" essays, this month's drug was the product of an effort to create a more effective and less dangerous drug(s) for the preoperative sedation and anesthesia. This drug acts faster but not as long as older barbiturate-based anesthetic agents. This month's drug's actions are widespread and predictable. The drug has a particularly speedy onset and it is rapidly metabolized by the liver and other related systems. The drug is a sedative-hypnotic; it is not a narcotic-analgesic (opioids). The principal use of this drug is as an agent for the induction of anesthesia. It is likely that readers of this article have undergone surgical procedures where this month's drug was administered. The drug is used in surgeries of all types and durations; it is very commonly used in endoscopic and other outpatient surgical procedures. The fast soluble drug is a great fit for same-day surgery. The sedating effects of the drug can quickly wear off and then allow for the timely release of a patient to go home.

This month's drug, like alcohol, exerts its principal effects at GABA (a) receptors; it also has profound effects in slowing or blocking electrical activity at sodium fast channels. The next effect of these properties is to cause a state of anesthesia. Following the initiation of anesthesia, small amounts of this drug will be administered intermittently to maintain unconsciousness. Use of this drug sometimes leads to a retrograde amnesia. When waking from surgery where this drug was administered, anterograde amnesia may wipe away most memory of

the procedure. Some patients have reported feeling refreshed afterwards, their anxieties and worries wiped away. This drug is not a controlled substance like other anti-anxiety and sedative-hypnotic medications. Drugs like Valium, Xanax and Ativan are all members of a different class of medications called the benzodiazepines. These drugs are controlled substances (Schedule IV) and they each have lengthy histories as drugs of abuse and addiction. But this month's drug is much more limited in its potential as a drug of abuse. It is nearly impossible to use it as a frontline medication to treat anxiety or insomnia. This month's drug is produced only as a liquid for intravenous injection. There is no oral (tablet or pill) form of this drug available in America. Complexities in the use of this drug require that whoever administers it must be professionally trained and experienced. Abuse of this drug is complicated and requires very unique tools, monitoring equipment and procedures.

Abuse of this drug is rare. Most medical professionals shake their heads because the drug's effects are anesthetic; the drug renders its users unconscious. But, in substance abuse and addiction, drug abusers frequently take to using strange drugs that non-addicts don't get or understand. This month's drug is one of those. In cases where this month's drug has been abused, they've all occurred within the ranks of healthcare professionals. Anesthesiologists and the physicians who have most contact with this drug seem to be the most affected by it. An abusing physician or healthcare professional must prepare a dose of this drug and then administer it by an intravenous line. This is an extremely dangerous procedure. Administration of a dose of an anesthetic most often leads to a state of unconsciousness. If not already lying down, use of the drug will lead to falling down. But what most users try to do is to inject small amounts of the drug, amounts shy of what is necessary to induce sleep. Walking this fine line, a user may be able to achieve a state of sedation and tranquility that lies somewhere between full consciousness and sleep. Similarly, this is what is often found in cases where someone has taken up abusing Ambien, (zolpidem) a much less powerful sedative hypnotic (sleep aid) drug. In many cases of Ambien abuse, a user will take 25%-50% of a low dose of the drug in order to reach a state of intoxication that is sedating and calming, but not anesthetizing or leading to sleep.

This month's drug appears as a white milky substance that has a bit of an oily consistency to it. Direct effects of an anesthetic like this require that patients be closely monitored; doctors and nurses must be prepared for patient intubation or other interventions should heart or respiratory rates suddenly change. This drug is not one easily used in social drug abuse circles.

The death of Michael Jackson is alleged to be a consequence of overdose from this month's drug. Jackson is said to have been addicted to it. From the facts currently circulating in the news, some claim that the singer was physically dependent on the drug as well. Because of the complexities of this medication, Jackson was forced to arrange for a medical professional to administer the drug. In his case, it appears that a medical doctor had been tapped for that purpose. The exact facts and circumstances of Jackson's death are still fuzzy; undoubtedly, more will be learned as legal action moves forward. But at a minimum, it is known that Jackson had an unusual set of physiological problems that motivated him to seek out this drug. Called Diprivan (product name), this drug is made of the phenol anesthetic, propofol. According to the limited information available to date, Jackson found that by using the drug, he could overcome insomnia and eliminate grinding fatigue and anxiety. From studies of a limited number of propofol abuse histories, it appears that these effects are what most abusers seek from the drug. Cravings for the drug can be powerful, not unlike those that result from chronic use of other sedative-hypnotic drugs. It has been reported that Jackson had detectable levels of midazolam (Versed) and lorazepam (Ativan) in his system as well. These drugs are sedative-hypnotic drugs belonging to the benzodiazepine family of medications.

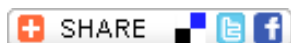
Lorazepam is widely abused and can be found on the street. It is popularly used in combinations with opiates (methadone, hydrocodone and oxycodone) and stimulants (methamphetamine, cocaine). Versed (a benzodiazepine derivative) unlike lorazepam, is rarely found on the streets or as a socially used and abused drug. Like propofol, Versed is a medication mostly restricted to use in hospitals and surgery centers. It is a

common preoperative medication that has powerful anxiolytic effects. In America, Versed is found as an injectable solution only.

In a hospital setting, propofol is jocularly referred to as "mother's milk," the name stemming from its white color and properties as a liquid. But outside of the hospital, there seems to be little potential for use and abuse of it. Within the ranks of healthcare professionals, doctors, nurses and medical technicians, there needs to be an increased level of awareness for abuse of this drug. Cases of propofol drug abuse, as a practical matter, do not pose a threat as a drug of abuse in our communities, households or schools.

Propofol can be forensically determined in biological fluids by gas and liquid chromatography. Acid hydrolysis facilitates the detection of propofol in urinalysis.

This month's drug: Propofol (2, 6-diisopropylphenol, Diprivan).



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