



Navy Drug Screening Laboratory Jacksonville

Screening News

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CO's Desk

It is no secret that for the past few years South American drug cartels have been using semi-submersible vessels to transport illicit drugs (mostly Cocaine) into Mexico and the United States. The conditions on first generation semi-submersible vessels were described by captured drug traffickers as "hellish" with temperatures reaching 100° F, no toilet, and a horrendous diesel, cocaine, and feces stench. Well, that was old technology; 2 years ago, Colombian and U.S. anti-drug forces noticed a dramatic drop in semi-submersible vessels captured. The answer was the discovery of a new generation of completely capable submersible vessels able to hide by going completely under water by at least a few meters. These new generation submarines have conning towers outfitted with night vision cameras, 350 HP diesel engines and fuel tanks capable of holding 1,700 gallons of fuel, enough to last for a 2-week drop-off run to Mexico or Central America all the way from South America. In addition, they contain compressed-air tanks for ballast, bunk beds, GPS equipment, touch screen controls, air conditioner, and yes, a working flush toilet! It is very possible that this will not be the last technological innovation we see from the inventive narco-traffickers.

As CO of this lab, I can assure you that we are doing everything possible to always be a few steps ahead in the war against illegal drugs by developing and improving new state-of-the-art methodologies and technologies capable of fingerprinting illegal use of drugs with 100% accuracy. This is attributable to a Command-wide effort, from the very hard-working employees in Accessioning to our valuable chemists, to our Resources Department and expert witnesses; everyone is responsible for the impeccable reputation of this Navy-unique asset here in Jacksonville, Florida.

Bravo Zulu to all as we enter a new fiscal year full of great opportunities and technological challenges!

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In Focus: Information Management (IM) Department



FIGURE 1. IM DEPARTMENT STAFF
(From left to right: Mr. Robert Cronan, Mr. Brian Fisher)

Did you know? Information about the laboratory, including fact sheets and past newsletters, may be found at our website:

<http://www.med.navy.mil/sites/jaxdruglab/Pages/default.aspx>

With nearly 1 million urine specimens tested annually, the Navy Drug Screening Laboratory (NDSL) Jacksonville generates a significant amount of data. As such, a highly secure and reliable computer network is required to record, store, retrieve, and transmit drug testing results. To manage this information, the NDSL uses a specially-designed system called the Forensic Toxicology Drug Testing Laboratory Information System; however, in addition to its scientific mission, the laboratory must also maintain a second, totally separate administrative computer network to support its non-drug testing business operations.

Managing this unique and critical operation is a team of two highly-skilled Information Technology (IT) Specialists. As with other smaller organizations, these computer specialists provide the full spectrum of services ranging from the more sophisticated duties of network design and maintenance and information security, to the more routine duties of setting up new computers and assisting staff with routine trouble calls. These two IT Specialists maintain 13 servers, over 100 desktop and laptop computers, handle over 400 trouble tickets, and apply nearly 20,000 security updates annually. In addition to maintaining the network and computers, the IT staff works closely with the chemists to develop IT-related solutions such as automated refrigerator/freezer monitoring systems, automated battery back-up systems for scientific equipment, digitized archives of paper records, and electronic document management systems.

Because NDSL Jacksonville is part of a network connecting it to other Navy Medicine commands, our IT Specialists partner with IT staff at Naval Hospital Jacksonville and the Navy Medicine Support Command to ensure a secure and functional computer

network is maintained for all commands. The services provided by these technical experts allow NDSL Jacksonville to execute its mission in a highly efficient and reliable manner.

Discrepancy of the Month: FT = Form - SSN Discrepant

The word “discrepant” in drug lab terms encompasses any of the following: Incorrect, Incomplete, Illegible, Missing, Overwritten, Not Original, or Not Forensically Corrected. The discrepancy code FT is only applied to specific items on the DD Form 2624 or specific items on the bottle label. For now, we will focus on how a social security number (SSN) on the DD Form 2624 could be annotated as discrepant.

The FT discrepancy code is not normally assigned for an SSN that is **incorrect**. The NDSL relies on each submitting unit to provide accurate data and has no way to determine whether an SSN is correct or not. If the SSN on the DD Form 2624 does not have nine numbers, the SSN is **incomplete** and will therefore be assigned the FT discrepancy code. To correct an SSN that is incomplete on the DD Form 2624, you must either forensically (line out the error, initial and date) add the missing numbers or line out the entire entry, write in the full SSN, and initial and date the correction.

The FT discrepancy code is mostly applied because the SSN has been changed without the entry being initialed and dated.

It is never acceptable to correct an SSN by writing over the incorrect number. **Overwritten** numbers could call into question the integrity of the collection process. The proper way to correct numbers in an SSN is to line out the incorrect numbers, legibly write in the correct numbers, and then initial and date that entry. It is also acceptable to line out the entire SSN and re-write it, as long as the entry is initialed and dated. The important thing to remember is that the entry must be legible, and must be initialed and dated.

Not Forensically Corrected is the most frequent reason this code is applied with respect to the SSN. The NDSL receives submissions daily where a change has been made to the SSN and the entry has no date or initials of the person making the change. The SSN is what ties that specimen to a Service member and extreme care must be taken to ensure that when changes are needed, the change is legibly made and clearly shows by whom the change was made, and when that change was made. Due diligence now will save you much grief and aggravation later if you ever have to defend a positive result with an SSN that was changed and not documented properly.

Drug Facts: Benzodiazepine (BZD)

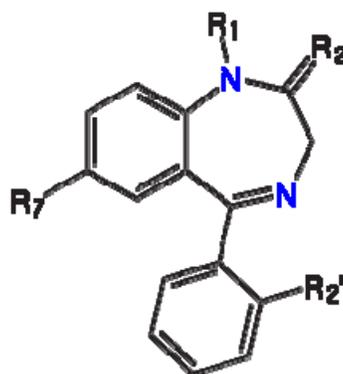


FIGURE 2. BENZODIAZEPINE CHEMICAL STRUCTURE

Did you know?

Benzodiazepines are associated with amnesia, hostility, irritability, and vivid or disturbing dreams.

Description: The benzodiazepine (BZD) family of central nervous system depressants contains multiple drugs that are marketed as anxiolytics (anti-anxiety) and sedatives for the treatment of anxiety disorders and insomnia. This class of substances is one of the most commonly prescribed drugs in the world (1). They have replaced barbiturates as a safer alternative when used for sedation, hypnosis, anesthesia, and to prevent convulsions and muscle spasms. Due to their prevalence, they are among the most commonly abused prescription drugs, second only to pain relievers (2).

Commonly marketed benzodiazepines in the United States include: Alprazolam (Xanax®), Chlordiazepoxide (Librium®), Clonazepam (Clonopin®), Clorazepate (Tranxene®), Diazepam (Valium®), Flurazepam (Dalmane®), Halazepam (Paxipam®), Lorazepam (Ativan®), Oxazepam (Serax®), Prazepam (Centrax®), Temazepam (Restoril®), and Triazolam (Halcion®). While the margin of safety with these drugs is considerable, overdoses can occur and continuous use for several months can result in psychological and/or physical dependence.

Benzodiazepines such as Librium® and Valium® have a relatively slow onset, but long duration of action and prolonged use of excessive doses may result in dependence. Withdrawal symptoms develop in about a week to 10 days after continual high doses are abruptly discontinued. The delay in withdrawal symptoms is caused by the slow elimination of these drugs from the body. Withdrawal symptoms can occur more rapidly with discontinued use of some of the shorter duration benzodiazepines such as Xanax®.

When Benzodiazepines are abused they are usually taken in conjunction with another drug such as alcohol.

Common Names: Benzos, Downers, Nerve Pills, Tranqs or Tranks, Vals, Vallies, Xanies, Eggs, Rugby Balls, Liquid X, Phennies, R2, Reds, Roofies, Rophies, and Yellows.

Did you know?

Signs and symptoms of benzodiazepines overdose: extreme sedation, anxiety, confusion, impaired coordination, diminished reflexes, difficulty breathing, and/or coma.

Effects: Benzodiazepines enhance the effect of the major inhibitory neurotransmitter, gamma-aminobutyric acid (GABA); hence their effects on calming brain functions. If taken in overdose, they can cause severe respiratory depression; however, they are less toxic than their predecessors, the barbiturates, and death rarely results when a benzodiazepine is the only drug taken. If they are combined with other CNS depressants, such as alcohol, prescription opiates, or over-the-counter cold and allergy medications (Benadryl®), the potential for toxicity increases. In general, benzodiazepines are safe and effective in the short term. Long-term use is controversial due to concerns about adverse psychological and physical effects including physical dependence, and, upon cessation of use, withdrawal.

Trend: As of 2009, approximately 7 million people were current users of non-medically issued psychotherapeutic drugs (2.8% of the U.S. population). Of these, over 2 million were using tranquilizers and over 400,000 were using sedatives (3). The Monitoring the Future survey has identified non-medical use of tranquilizers among 8th, 10th, and 12th grade students to have a prevalence of 4.4%, 7.3%, and 8.5%, respectively (4).

References:

1. *Results from the 2003 National Survey on Drug Use and Health: National Findings*. DHHS Pub. No. (SMA) 04-3964. SAMHSA. 2004.
2. *Levine, B., Principles of Forensic Toxicology, second edition. Chapter 11, Central Nervous System Depressants*. AACCPress. January 2006.
3. National Institute of Drug Abuse. *Topics in brief. Prescription drug abuse*. May 2011.
4. National Institute on Drug Abuse. *NIDA InfoFacts: High School and Youth Trends*. March 2011.

Ask the Expert

1. Are the so-called “ZZZ” sleep drugs considered benzodiazepines?

Answer: The so-called “ZZZ” sleep drugs [zolpidem (Ambien®), zaleplon (Sonata®), and eszopiclone (Lunesta®)] are not benzodiazepines. However, these drugs exert their effects at a subset of the benzodiazepine receptors. While these drugs appear to have a lower risk for addiction, several individuals have reported very unusual side-effects while using these drugs.

2. What does it mean to be physically dependent on a drug?

Answer: Physical dependence relates to the chronic (long-term) use of a drug giving rise to drug tolerance which in turn can cause negative physical effects (withdrawal symptoms) when a person stops using the drug.

3. What does it mean to be psychologically dependent on a drug?

Answer: Psychological dependence relates to the continued use of a drug for the positive effects (reinforcement or reward) it provides to the person using the drug.