



Navy Drug Screening Laboratory Jacksonville

Screening News

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CO's Desk

Second to marijuana, prescription drug abuse is the most prevalent type of drug abuse in the United States. Prescription drug abuse can mean taking a drug not prescribed to you or taking it for reasons other than as prescribed. Individuals are prone to abuse common prescription medications meant for the legitimate treatment of pain, attention deficit disorder (ADD), anxiety, and sleep disorders. The U.S. Armed Forces is not immune to this problem. The Navy Drug Demand Reduction Program currently tests Service Members for the use of painkillers and ADD medications; however, no deterrent was in place to prevent abuse of sedatives, sleep aids, or muscle relaxants. This last class of medication drugs is referred to as benzodiazepines (BZDs).

The Department of Defense (DoD) will soon begin the routine screening of urine specimens for the presence of sedatives, tranquilizers, and muscle relaxants. The goal of the DoD is to screen 100% of Service Member samples submitted for these drugs in an effort to deter abuse of these medications among our shipmates.

C. J. LeBron
CAPT MSC USN

In Focus: Executive Officer



LCDR Erin Wilfong, MSC, USN, reported on board the Navy Drug Screening Laboratory Jacksonville (NDSL JAX) on 20 August 2012 as the Executive Officer (XO). Moving here with her husband and two children, she begins her fourth tour.

She is backed by a great deal of experience having served as Technical Director of the Environmental Health Effects Laboratory at Wright-Patterson Air Force Base, Assistant Professor of Chemistry at the Naval Academy, and most recently as the Chief of Quality Assurance and Technical Services, Certifying Scientist, and Expert Witness at the Armed Forces Medical Examiner System (AFMES).

Contact Us

NDSL Jacksonville
P.O. Box 113
Bldg H-2033
Adams Avenue
NAS Jacksonville, FL
32212-0113
Comm 904-542-7755
DSN 942-7755

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>

Did you know?
Correspondence templates for technical reviews; summary reports; documentation packages; and DD Form 2624s can be found at our website:
<http://www.med.navy.mil/sites/jaxdruglab/Pages/default.aspx>

LCDR Wilfong received her BS from the University of Pittsburgh and earned her PhD in Pharmacology and Toxicology from West Virginia University. Her background has served her well at AFMES where she worked on toxicology cases from air, ground, and sea mishaps; NCIS, AFOSI, and CID criminal investigations; and supported medical examiners in post mortem investigations. Her experience at AFMES allows her to bring an outside perspective to NDSL JAX. This is not LCDR Wilfong's first time at NDSL JAX; she was here as a technical inspector in 2011.

Not only does LCDR Wilfong bring an extensive depth of forensic toxicological and pharmacological knowledge to NDSL JAX, as the second in command, she also holds leadership tenets that perfectly complement NDSL JAX: integrity, teamwork, enthusiasm, and dedication. She is quick to point out, "This program was built on the basic principles of integrity and teamwork. Those principles, combined with the enthusiasm and dedication of this staff have made NDSL JAX a preeminent lab within the drug testing program."

On the lighter side, one might be surprised to discover that LCDR Wilfong was an avid rugby player in college. We are proud to welcome LCDR Wilfong to NDSL JAX and are confident the teamwork she learned on the rugby field will assist her as the XO in guiding our Command because she understands that "No one can whistle a symphony" – H.E. Luccack.

Discrepancy of the Month: LX = Label – SSN Discrepant

The word discrepant in DoD Drug Testing Program terms encompasses any of the following: incorrect, incomplete, illegible, missing, over-written, not original, or not forensically-corrected. It is applied to specific items on the DD Form 2624 or the bottle label. In this article, we will focus on how the social security number (SSN) on a specimen bottle label could be identified as discrepant.

The LX discrepancy code is not normally assigned for an SSN that is **incorrect**. NDSL JAX relies on each submitting unit to provide accurate data and has no way to determine whether an SSN is correct. In the event the bottle label has one SSN and the DD Form 2624 has another SSN, or the bottle label has two SSNs, NDSL JAX will assign another discrepancy code.

If the SSN on the bottle label does not have nine digits, it is considered **incomplete** and the LX discrepancy code will be assigned. This situation includes letters at the beginning of the SSN, provision of only the last four digits of the SSN, or any other instance where a valid nine-digit SSN is not present on the bottle label. To correct an SSN that is incomplete, you must either forensically add the missing digits or line out the entire SSN and write in the full SSN (either requires the initials of the individual making the addition/change and the date it was made).

The LX discrepancy code is most often applied because one or more of the numbers in the SSN are **illegible** (cannot be clearly read). This could be caused by misapplication of a label (folds, tears, etc.) or from leaking bottles that caused the print on the labels to smear. The LX discrepancy code will also be applied for labels

where the SSN is handwritten and the numbers are not clearly written or where an attempt was made to correct a digit(s) and the correction was illegible.

If a bottle is submitted with a **missing** SSN, the LX discrepancy code will be assigned. If the SSN does not print out on the bottle label, it is acceptable to legibly write the SSN; you are not required to initial and date the SSN entry in this case, but it would be helpful to do so.

It is never acceptable to correct an SSN by writing over the incorrect digit(s).

Over-written digits could call into question the integrity of the specimen collection. The proper way to correct digits in an SSN is to draw a line through the incorrect digit(s), legibly write the correct digit(s) and then initial and date that entry (a complete forensic correction). The important thing to remember is that the entry must be legible and must be initialed and dated.

SSN **Not Original** is not often applicable to the bottle label; however, **Not Forensically-Corrected** is the second most frequent reason this code is applied. NDSL JAX receives specimen submissions daily where a change has been made to the SSN and the entry has no date and/or initials for the person making the change(s). The SSN is the primary identifier linking each urine specimen to a particular Service Member and extreme care must be taken to ensure that, when changes are made, they are legible, complete, and forensically-appropriate. Due diligence will save one difficulty later if a positive result must be defended in court for a specimen where the SSN was changed without the appropriate forensic annotations.

Did you know?
BZDs are associated with amnesia, hostility, irritability, and vivid or disturbing dreams.

Drug Facts: BZDs

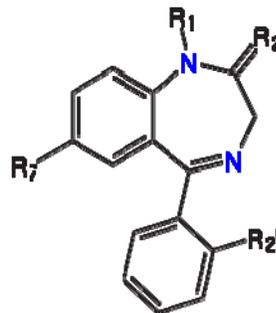


FIGURE 1. BENZODIAZEPINE CHEMICAL STRUCTURE

Description: BZDs are a group of drugs which have a similar chemical structure. BZDs have various amnesic (loss of memory), anxiolytic (anti-anxiety), anticonvulsant, hypnotic, muscle relaxant, and sedative properties (1). All BZDs appear to be effective in treating anxiety and insomnia. BZDs are widely available in the prescription market and as such, they are commonly misused or abused (2). However, because BZDs generally do not produce euphoric effects, they tend to be used as a secondary agent.

Commonly marketed BZDs 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.

BZDs 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 BZDs such as Xanax®.

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

Effects: BZDs enhance the effects of the major inhibitory neurotransmitter, gamma-aminobutyric acid (GABA) which results in calming brain functions. In an overdose, BZDs can cause severe respiratory depression. If BZDs are combined with other CNS depressants, such as alcohol, opiates, or over-the-counter allergy medications (Benadryl®), the potential for toxicity increases. In general, BZDs are safe and effective for short-term use. Long-term usage is controversial due to possible adverse psychological and physical effects including physical dependence, and, upon cessation of use, leading to withdrawal symptoms.

Trends: In 2010, alprazolam was listed as the 8th most prescribed drug in the USA while lorazepam was listed as the 28th most prescribed drug (3). 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 (4). 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 (5).

Testing: The DoD will expand the scope of its drug deterrence program by testing for the BZD class of drugs. Military drug screening laboratories will test for BZDs on submitted specimens once notified to do so by the Under Secretary of Defense (Personnel and Readiness), which is expected by the end of this year or the beginning of next year. Urine samples will be screened for BZDs by targeting the identification of five BZDs and BZD metabolites which can account for the majority of available BZD medications.

Technical Reviews: A technical review conducted by chemists at NDSL JAX can be requested by the Servicemember's command to evaluate whether any valid prescription medication the member is taking can produce the reported BZD result. This is the same type of technical review currently used to evaluate opiate results that may be caused by prescribed drugs.

Did you know?

A few of the signs and symptoms of BZDs are overdose, extreme sedation, anxiety, confusion, diminished reflexes, difficulty breathing, and/or coma.

References:

1. *Shannon: Haddad and Winchester's Clinical Management of Poisoning and Drug Overdose, 4th edition; Chapter 35 – Benzodiazepines.* 2007 Saunders, an imprint of Elsevier Inc.
2. *Levine, B., Principles of Forensic Toxicology, second edition. Chapter 11, Central Nervous System Depressants.* AACCC press. January 2006.
3. “2010 Top 200 Generic Drugs by Total Prescriptions,” Drug Topics®, June 2011.
4. National Institute of Drug Abuse. *Topics in brief. Prescription drug abuse.* May 2011.
5. National Institute on Drug Abuse. *NIDA InfoFacts: High School and Youth Trends.* March 2011.

Ask the Expert

1. Why should a person not consume alcohol with BZDs?

Answer: Both alcohol and BZDs are central nervous system depressants. When one mixes alcohol with BZDs, a synergistic effect takes place where each drug potentiates the effects of the other drug.

2. What does it mean to be physically or psychologically 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. Psychological dependence relates to the continued use of a drug for the positive effect (reinforcement or reward) it provides using the drug.