



# Navy Drug Screening Laboratory Jacksonville

## Screening News

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### CO's Desk

Presently, more than 50 million people in the United States suffer from chronic pain. Healthcare providers are faced with a serious dilemma when it comes to treating individuals with chronic pain: How does one provide adequate pain relief for a chronic condition using addictive pain-killing medications without turning patients into drug-seeking addicts? Certain pain-killing medications are available over-the-counter; these medications, including Tylenol® and Advil®, are useful for minor to moderate pain and have little to no addictive potential.

Unfortunately for many people with chronic pain, these over-the-counter pain-killers are insufficiently powerful. In these cases, people turn to their physicians for symptomatic relief which usually comes in the form of drugs from the Opiate class including Morphine, Codeine, Percocet®/OxyContin® and Vicodin®. These drugs are scheduled, controlled materials because of their moderate to high addictive potential and abuse liability.

Along with these prescription pain-killing medications, people across the United States are looking to other over-the-counter and prescription medications to “get high” and/or “chill out”: medications such as Valium®, Soma®, Dexedrine®, Ritalin®, and Robitussin® - medications available and/or prescribed for a variety of conditions to include anxiety, insomnia, muscle pains, obesity, *etc.* Presently, healthcare providers, pharmacists, and patients have a role in limiting and/or preventing prescription drug abuse.

As we move into FY 2012, the NDSL Jacksonville team will take a greater role in attacking this prescription drug abuse problem as we add Hydrocodone, Hydro-morphone and five Benzodiazepines to the group of drugs for which we already test our Sailors, Marines, Soldiers, and Airmen. We are expanding our commitment to a healthy and ready total Force, and as CO, I remain committed to providing you with the safe and healthy environment and tools necessary to complete our mission. We will continue to be a great team with a commitment to our customers and striving to exceed their expectations every time!

*C. J. LeBron*  
*CAPT MSC USN*

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## In Focus: Quality Assurance (QA) Department



**FIGURE 1. QA DEPARTMENT STAFF**  
(From left to right: Ms. Jayasree Nayar, Ms. Karen Wojcik, Mr. John Dubay)

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>

The QA Department is comprised of a QA Officer (Supervisory Chemist) who also serves as the Collateral Duty Safety Officer, and two QA Technicians. The Department brings together 76 years of combined Federal Government service. These individuals are well-trained and exhibit unmatched attention-to-detail. The Department plays a critical role in the Laboratory's ability to provide accurate and reliable drug testing and is responsible for ensuring Command compliance with the QA Program and all Federal, state, and local safety and occupational health requirements.

The QA Officer/Safety Officer serves as a conduit for information between our internal and external customers. The QA Officer develops and coordinates special programs and projects related to quality assurance, and reviews laboratory practices and procedures to ensure regulatory compliance with quality assurance and safety standards.

The QA Technicians conduct extensive work product audits of initial screening folders, rescreen and confirmation batches, Documentation Packages, Summary Reports, Technical Reviews, Discovery Responses, and Technical Statements. These technicians also perform QA work process audits of each laboratory technical section on a quarterly basis. The technicians consolidate discrepancies identified and proposed or completed corrective actions, and provide the information to the Command in monthly QA reports and QA meetings. They also track employee work certifications and ensure that senior technical staff and operational section supervisors receive timely and accurate information about work certifications.

With an eye for detail and extensive technical knowledge and experience, the QA Department is key to NDSL JAX maintaining certification and implementing practices and procedures which conform to regulatory QA and safety standards for drug screening laboratories.

## Discrepancies of the Month: BD = Bottle – Broken Seal / BF = Bottle – Two Seals, No Explanation

These two discrepancy codes concern the red tamper-proof seal that is placed on all specimen bottles submitted for testing. The BD discrepancy code will be applied when a specimen bottle is received with a broken red tamper-proof seal. The BF discrepancy code will be applied when a specimen bottle is received with two or more seals and there is no explanation why the additional seal(s) was (were) applied to the bottle. This is most likely a result of the submitting units “fixing” or “correcting” the tamper-proof seal that broke during application. Should this occur during your collection process, make an entry in Block 13 of the DD Form 2624 that the first seal broke and the second seal was applied. Specify which specimen you are referring to, then initial and date the Block 13 entry. Upon arrival at NDSL JAX, an Accessioning Physical Science Technician will evaluate the entry in Block 13. As long as the entry is specific and initialed and dated, no discrepancy code will be applied to the specimen. The BD and BF discrepancy codes can be seen in conjunction with each other. In FY 2011, 1,433 specimens were assigned the BD discrepancy code and 1,552 specimens were assigned the BF discrepancy code.



**FIGURE 2-1. BOTTLE – BROKEN SEAL (BD) (INCORRECT)**



**FIGURE 2-2. BOTTLE – TWO SEALS, NO EXPLANATION (BF) (INCORRECT)**

## Drug Facts: Dimethylamylamine (DMAA)

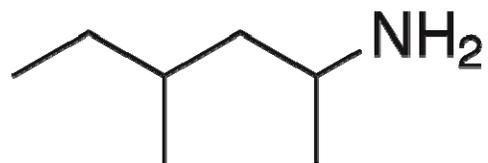


FIGURE 3. DMAA CHEMICAL STRUCTURE

### Did you know?

DMAA has been banned by the World Anti-Doping Agency (WADA) and Major League Baseball (5.6).

### Did you know?

Several dozen athletes around the world have been suspended for testing positive for DMAA since WADA placed it on its banned substance list in 2010 (1).

**Description:** DMAA is a chemical found naturally in geranium flowers. DMAA may also be referred to as methylhexaneamine, 1, 3-dimethylpentylamine, or geranamine (1). Eli Lilly originally proposed the use of DMAA as a nasal decongestant under the brand name Forthane in 1944 (2). Most recently, it has been used in combination with caffeine in nutritional and bodybuilding energy supplements such as Neurocore™, Jack3d™, and OxyELITE Pro™. Its popularity strongly increased after the U.S. ban on ephedra went into effect in 2006 (1). DMAA may be listed in the ingredients in any of the aforementioned supplements, geranium oil extract, or a proprietary blend. DMAA is also available in a more concentrated form of over-the-counter “party pill” products such as Phat Freddy’s Tripsta, Supasonic, etc. (1).

An Armed Forces Medical Examiner System (AFMES) study revealed that DMAA was causing presumptive positive immunoassay screening test results for amphetamines in the Department of Defense (DoD) drug testing laboratories (3). Because DMAA has some structural similarities to amphetamine-type drugs, the positive immunoassay was probably caused by the cross-reaction of the antibodies in the amphetamines immunoassay kit employed by the DoD laboratories. Service Members who ingest products containing DMAA may screen presumptively positive on the initial immunoassay tests for amphetamines. However, in the DoD Drug Testing Program, in order for a positive result to be reported, a presumptive positive immunoassay screen must be followed by a confirmed positive result using a different method of analysis, such as Gas Chromatography/Mass Spectrometry (GC-MS). In the confirmation test by the GC-MS, DMAA does not cause a positive result for methamphetamine/amphetamine. However, DMAA did cause more specimens to be sent to the Confirmation Department for further testing and hence caused an increase in workload for the DoD laboratories (3). The DoD drug testing laboratories are now using at least two different amphetamine immunoassay reagent kits to screen urine specimens. The implementation of multiple amphetamines immunoassays has dramatically improved the DoD’s amphetamines testing efficiency.

**Common Names:** Forthane, methylhexaneamine, geranamine, and geranium oil extract (1).

**Effects:** DMAA is believed to have Central Nervous System (CNS) stimulating properties due to its structural similarity to amphetamines and reports from users (1, 4). The stimulant effects on the CNS are said to be less than amphetamine and

ephedra (2, 4). DMAA can induce euphoria, elevated mood, intense energy, adrenaline rush, mental clarity, and increased confidence (1). Side effects include headache, nausea, and stroke, and have been reported in recreational users of these products. A case study has been published on a 21-year-old male who suffered a cerebral hemorrhage shortly after ingesting two capsules of DMAA and a caffeine capsule (4). The individual was immediately disoriented and had difficulty performing common tasks such as speaking and dressing. The following day, the condition did not improve and he had to be taken to the emergency room.

### References:

1. <http://www.geranamine.org/>
2. Shonle HA and Rohrmann E. Aminoalkanes, US 2,350,318. United States Patent Office, issued 1944.
3. Vorce S.P, Holler JM, Cawrse BB, and Magluilo J. Dimethylamylamine: A Drug Causing Positive Immunoassay Results for Amphetamines. *Journal of Analytical Toxicology*. **35** (3): 183-187, 2011.
4. Gee P, Jackson S, and Easton J. Another bitter pill: a case of toxicity from DMAA party pills. *The New Zealand Medical Journal*. **123** (1327): 124-127, 2010.
5. World Anti-Doping Agency, Prohibited List, 2011.
6. Major League Baseball, Joint Drug Prevention and Treatment Program, 2011.

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## Ask the Expert

### **1. Is it true that Jack3d™ causes urine specimens to test positive for amphetamines?**

Answer: No.

While Jack3d™ may produce a presumptive positive on the initial specimen's screen, Jack3d™ will not produce a confirmed specimen's screen positive result for amphetamine or methamphetamine (negative report).

### **2. I have been taking many different types of nutritional supplements (protein powder, post-recovery workout drinks, vitamin supplements, creatine, and nitric oxide) from General Nutrition Center (GNC). Can any of these supplements cause a positive drug test result?**

Answer: No.

The GC-MS confirmation testing methods are 100% accurate and can differentiate between the aforementioned products and illicit drugs.