



Medtox Journal on Drug Abuse Recognition

January 2012

[Our Homepage](#) | [Criminal Justice Brochure](#) | [New 2012 DARS Catalog](#) | [Archived Journals](#) | [Test Catalog](#)

Happy New Year!

Thank you for subscribing to the MEDTOX Journal. We hope you find this newsletter interesting and educational. In addition to this month's mystery drug article, this issue focuses on the Russian phenomenon known as krokodil, the latest research on the correlation between a DUI conviction and long-term substance abuse, and the latest trends of the substance abuse by teens. Also, make sure to look for the special savings opportunity at the end of the Journal.

[EZ-SCREEN Coupon](#)

[Forward to a Friend](#)

[View our profile on LinkedIn](#)

[Follow us on Twitter](#)

[Click to Request Info on New Parent Home Drug Kits](#)

IN THIS ISSUE

- Emerging European Drug Problem Has the Attention of U.S. Drug Experts
- MEDTOX Drug Abuse Recognition (DAR) Training Opportunity Announcement
- Trends in Teen Drug Use Habits: Vodka-Laced Gummi Bears
- More Research Suggests that a DUI Conviction Is Strong Evidence of an Underlying Substance Abuse Disorder
- Do Soft Drinks Play a Role in Teen Aggression?
- January 2012 Mystery Drug: A Current Events Quiz



CONTACT US

MEDTOX Laboratories
402 West County Road D
St. Paul, MN 55112
1-800-832-3244

[E-mail](#)
[Website](#)

Emerging European Drug Problem Has the Attention of U.S. Drug Experts

And if *Oxycontin* abuse was not bad enough, U.S. drug experts are now keeping a keen eye on a European black market drug called "krokodil." This drug is a creation of Russian drug provocateurs that have utilized American methamphetamine (aka: *speed*, *crank*) manufacturing techniques to help them convert over-the-counter codeine tablets into a semi-synthetic form of morphine, a narcotic called *desomorphine*. In many European countries, low dose codeine tablets are available to buyers as over-the-counter products. It is easy for "krokodil" makers to quickly acquire large sums of codeine tablets and to convert them into *desomorphine*, the active ingredient of krokodil.



The potency of *desomorphine* is 6 to 10 times more powerful than heroin (diacetylmorphine).

In a modus operandi similar to American "bath tub" and "kitchen sink" makers of methamphetamine, "krokodil" cooks use a variety of kitchen cabinet and tool shed chemicals to transform codeine tablets into *desomorphine*. These chemicals help create a noxious final product, a contaminated compound that causes

near immediate caustic effects to the skin and organs. Numbed by its euphoria and analgesic effects, "krokodil" users experience ulcerations and delaminating of the skin near the site of injections. The skin often turns scaly and green, hence the street name given to it. In rather short order, "krokodil" users experience tissue death and gangrene in areas of the body where injection sites are located. This means that users exhibit serious tissue decay in their arms, legs, feet, and hands. In many cases, the damage done by "krokodil" injection has led to amputations, sepsis, and even death. Apart from the tissue and skeletal damage caused by the drug, it has proven itself to be uniquely capable of causing addiction, dependency, and misery. Many a "krokodil" user has asserted that he or she became addicted the very second that the drug hit the bloodstream. And like any opiate dependency, the pain of withdrawals is a powerful impetus towards maintaining a pattern of chronic narcotic consumption.

Desomorphine is not available as a prescription drug anywhere in the free world. Because its potency exceeds that of heroin and other narcotics such as oxycodone and hydrocodone, the drug poses a unique danger. In the United States, codeine tablets needed to make "krokodil" are not available as over-the-counter medications. The controls in place for codeine distribution in the U.S. make it more difficult for the drug to get a foothold. But as is the case with substance abuse, addiction, and dependency, there is a very powerful energy to the old maxim, "that where there is a will, there is a way." With the power of the Internet and social media, public safety agencies must remain vigilant and attentive to emerging trends and events that might suggest the arrival of "krokodil" into the North American drug market. With a large population of pre-existing prescription opiate drug abusers in the United States, there is fertile ground for a drug like "krokodil" to take hold. And of particular concern is the fact that the drug has become immensely popular with adolescents and young adult groups, populations most susceptible to its allure. It is estimated that there are up to two million "krokodil" users in Russia and other parts of Europe where "krokodil" is cheaper and more readily available than heroin.

Having already experienced the havoc and destruction caused by methamphetamine in the United States, the prospect of a drug like "krokodil" hitting our shores is disconcerting. Considering the ease of manufacture, the potency of the high, and the anatomical damage caused by its injection, "krokodil" could be a uniquely destructive phenomenon.

For DAR and DRE trained readers, "krokodil" will prompt the appearance of classic opiate intoxication symptoms. The span of desomorphine effects is four to six hours, a pattern that is quite similar to heroin. What will differentiate "krokodil" use from other forms of potent opiates will be the physical evidence of drug use at the site of injections. Evaluators will discover profound damage and disease in the areas adjacent to where users inject the drugs. It is likely that users will be hiding their wounds behind bandages and long-sleeved clothing. But ultimately, the wounds turn to gangrene and tissue destruction that eviscerates tendon and muscle. It is not unusual for "krokodil" patients to present at emergency rooms with exposed skeletal anatomy and desiccated muscle, ligaments, and tendons. As outrageous as these observations are, they are not at all unusual. Drug-testing protocols for desomorphine are currently in development. Contact your local law enforcement crime lab or SAMHSA laboratory for further information on "krokodil." The MEDTOX DAR Program and law enforcement network will monitor the development of this situation for the Journal and report on any significant updates that warrant comment.

MEDTOX Drug Abuse Recognition (DAR) Training Opportunity Announcement



On February 6, 2012, MEDTOX will offer the first in a series of DAR web-based training courses to readers of the DAR Journal. Registration will be limited and handled on a *first come first served* basis. The February webinar focuses on "*Trends in Prescription and Over-the-Counter Drug Abuse*," The presenter is Mr. Donald Mac Neil. Mr. Mac Neil is a retired police commander from California and former drug enforcement officer. Mr. Mac Neil is the California Narcotic Officer's Association's "Al Stewart Memorial Award" winner and state narcotic officer of the year. Mr. Mac Neil has been a lecturer at California State University Los Angeles and California State University Long Beach campuses where he taught a variety of courses dealing with substance abuse and criminology. In 1990, Mr. Mac Neil led the development of the Drug Abuse Recognition (DAR) program; DAR is a 7-step diagnostic procedure that can be used by trained personnel to screen drug users for the purpose of determining the identity of an abused drug(s) and to gauge the extent to which that drug use has caused psychophysical impairment. Mr. Mac Neil is also a graduate of the California P.O.S.T. Command College and the U.S.C. Delinquency Control Institute. Mr. Mac Neil has published over 100 papers on various subjects related to substance abuse and addiction.

This course offered by MEDTOX's DAR Program will address current issues and events surrounding the diversion and abuse of prescription drugs such as Vicodin, Oxycontin, Percocet, and Xanax. Mr. Mac Neil will also discuss the fast growing trend in the abuse of over-the-counter drugs. Adolescents and young adults who are looking for quick highs from drugs that are legally accessible frequently abuse substances such as dextromethorphan and diphenhydramine. These drugs can be cheaply acquired at supermarkets and neighborhood pharmacies. Prescription drug abuse and/or misuse now eclipses drunken driving automobile accidents as the leading cause of emergency room deaths in the United States. Most of these DUI cases involve the use and/or misuse of prescription opiate drugs. Prescription drug abusers will frequently combine an array of drugs for the purpose of creating special drug cocktails that feature paradoxical or counteracting effects for the purpose of achieving unique states of euphoria. Mr. Mac Neil will address this issue and will provide students with information that can be put to work immediately.

For the first time in the company's history, MEDTOX will open up access of its DAR Hotline to outside users. Registrants of this course will become instantly eligible to utilize the MEDTOX DAR Hotline. This hotline offers a round-the-clock consultancy system that links registered callers with subject matter experts who can answer substance abuse questions and provide vital guidance to help resolve complex matters involving drug and alcohol abuse at work, on school campuses, or in diverse situations out in the field. The DAR Hotline is a prominent feature of the MEDTOX Drug Abuse Recognition (DAR) Program.

Trends in Teen Drug Use Habits: Vodka-Laced Gummi Bears are the Latest Innovation



Teen drug use trends are tough to anticipate and harder yet to validate. But social media claims about the efficacy of vodka-infused Gummi Bears as a means of getting high surreptitiously in the classroom seems to be legitimate. Throughout the summer and fall of 2011, the MEDTOX DAR Hotline and CADRE school-based testing programs received repeated inquiries about middle and high school students smuggling vodka-filled Gummi Bears into classrooms. The matter got the attention of Internet sites and social media groups. Soon, our Hotline personnel were receiving inquiries asking for validation of the central claim that Gummi bears can be infused with enough alcohol to warrant surveillance and interdiction by security personnel and teachers. Gummi bears? Really?

MEDTOX Drug Abuse Recognition (DAR) staff undertook a field experiment to assess the potential for Gummi bears as a vessel for absorbing alcohol. Two senior DAR instructors conducted the field analysis. Both are retired law enforcement personnel with backgrounds in drug enforcement and drug recognition expert (DRE) training. Both MEDTOX personnel are veteran DUI enforcement officers who have spent years training police and public safety personnel in the techniques of field evaluation. Both personnel were dubious of the claim that Gummi bears had the constituency needed to absorb, retain, and to convey alcohol. Nevertheless, the DAR personnel were dispatched to a St. Paul (MN) area candy store where they purchased several forms of Gummi bear and Gummi worm candy. The candies were then separated and assigned to three separate vessels that

had been partially filled with vodka. The evaluators chose vodka because most of the Hotline calls received directly alluded to student claims that that vodka was the drug of choice. It was assumed that vodka's more affordable price and its reduced odor profile made it the preferable intoxicant for soaking the bears.

The Gummi bears and Gummi worms were dispatched to one of three experimental groups: overnight soak, two-day soak, and three-day soak. The gummies were covered up during the absorption period to help prevent evaporation of the alcohol. The candies were then removed from the alcohol absorption bowls, rinsed, dried, and then reassessed. Our DAR staff noticed that both types of candy appeared to have swollen and were now out-sized compared to non-treated candies. And even though the candies had not been cleaned and dried, they exhibited a detectable odor of alcohol. When allowed to sit and dry further, the odor of alcohol became more pronounced. When sampled later that evening, instructors all confirmed that alcohol was released when they bit into the candies. Whether or not the candies contained remarkable amounts of alcohol could not be determined. The DAR staff members were all middle-aged adults who were each not naïve to alcohol. None of the staff claimed to feel any intoxicating effects from the treated candies. But extrapolating that observation to situations involving adolescent, alcohol-naïve middle school or high school students probably does not compare that well. Further, the DAR instructors did not ingest more than a small handful of the candies. It is unclear what a baggie of alcohol impregnated Gummi bears might do when quaffed at one sitting by a teenager. But despite these differences in comparisons, some general observations can be made about the central allegations and suggestions.

In the estimation of our DAR personnel, it appears that Gummi bears and similarly constituted candies are capable of absorbing alcohol when subjected to lengthy soaking in a distilled spirit. It appears that vodka would be a likely "go-to" beverage for this purpose. Subjected (soaked) candies will take on an unusual appearance afterwards though. They will swell and they will begin to display cracks in their surfaces; worms soaked in the three day bowl began to fall apart. If subjected to the sniff test, these candies will exhibit an odor of alcohol. No doubt, if a student were to have ingested alcohol-infused Gummi bears or Gummi worms, an odor of alcohol would probably be detectable on their breath. Depending on the number of candies eaten, an imbiber may exhibit overt signs of alcohol intoxication and may register detectable levels of ethanol on a breath alcohol analyzer. Further ETG/ETS testing may also be capable of corroborating alcohol intoxication in cases like those described here.

(The observations made here by DAR staff were the result of an unscientific, casual analysis of the factors involved with rumors posed by callers to the DAR Hotline staff. These results cannot be interpreted as *truth of the matter asserted* and reflect only the observations and opinions of DAR staff that participated in the analysis cited here.)

More Research Suggests That a DUI Conviction Is Strong Evidence of an Underlying Substance Abuse Disorder

A recent study of cases involving people convicted for driving under the influence (DUI) shows that the offense is a strong indicator of an underlying substance abuse disorder^[1]. This research solidifies the growing body of evidence that people who are arrested for DUI are not just folks who drank a little too much at the office party and got nabbed by the police. Instead, the research suggests that DUI suspects are at a very high risk for alcohol and/or other substance use disorders. People arrested for DUI represent a diverse background of people who have complex stories that serve as background to their arrests. But research published in the Archives of General Psychiatry tends to indicate that a majority of those arrested of DUI exhibit a common profile. The research evaluated 716 people convicted of DUI, most of them first offenders who were referred to a primary level substance abuse screening program. The research population was evaluated for substance abuse disorders 15 years after their initial referral. The profiles of the DUI offenders were then compared to a population study from a National Comorbidity Survey. The research was demographically weighted and gender stratified. This research to some extent replicated prior studies that had found that as many as half of all DUI offenders have arrest records for another DUI and that these individuals drive drunk some 50 to 200 times before they ever get arrested. These numbers are certainly not comforting.

The research here revealed that alcohol-diagnosed drug dependence was significantly higher in the male group of offenders. However, drug-diagnosed drug dependence was higher in female offender groups. Of those arrested, 10% admitted to having driven drunk once in the preceding three

months. More revealing might be that 42% of the sample group had been involved in an automobile accident *after* their conviction for the DUI offense.

For our readers who work in DUI or drug court settings, this information is nothing new. They know that a DUI offense is usually direct evidence of an underlying substance use disorder. But what can be done about it? How should public policy be crafted to appropriately deal with this information? For starters, DUI offenders should be professionally evaluated for substance use disorders as a requirement of probation. In many jurisdictions, first-time offenders undergo little scrutiny before shunting into the community corrections system. It does not matter much the identity of the drug or drugs involved in a DUI; there are myriad substances available to people to abuse and develop dependencies. Any DUI offense should qualify a defendant for this professional substance use evaluation.

Driving under the influence of alcohol and/or drugs can be a challenging offense for frontline public safety officers to assess and act upon. From "bath salts" to "plant food" to prescription drugs and over-the-counter medications, modern DUI offenses can be the result of many different drug use scenarios. The MEDTOX DAR program is designed to provide customers with reliable tools for diagnosing a given DUI situation towards identifying the drug(s) responsible for a DUI offense. DAR *Seven Step* or *Rapid Eye* training is a potent tool for professionals. From frontline law enforcement duty to supervision of employees in a small workplace, DAR empowers its users in identifying and responding to situations where drug or alcohol is abused. For readers working in drug courts, probation, and rehabilitation settings, DAR is an invaluable tool for exerting control and discipline for those who have begun matriculating treatment and rehabilitation programs.

DAR training and certification is available to our readers at various times and places throughout the course of the year. MEDTOX customers have special privileges and access to DAR training and DAR Hotline systems. Interested readers are encouraged to contact Mr. Andrew Gilberts at agilberts@medtox.com for more information regarding the availability of MEDTOX DAR training programs.

[1] Lapham SC et al. *Persistence of addictive disorders in a first-offender driving while impaired population*. Archives of General Psychiatry 2011 Nov; 68:1151.

Do Soft Drinks Play a Role in Teen Aggression?

Parents and teachers have opined for years now that the sugar and caffeine in soft drinks act as stimulant drugs to middle-school and high-school students. Because of this belief, caffeinated beverages and high sugar content drinks have been significantly curtailed in American schools. Nevertheless, teenagers consume sugary, caffeinated beverages in large numbers. Parents will validate this observation, but so will the kids themselves.



There are anecdotal stories about how consumption of hyper-caffeinated drinks by teenagers can lead to loud, boisterous, and sometimes aggressive behavior. A good number of these commercially available energy drinks contain a host of more obscure stimulants and herbs which add to the excitatory effects of caffeine. Consumption of these drinks often revolves around the concurrent smoking of cigarettes as well. In some circles, alcohol is added to the mix to take a little harshness out of the edginess caused by excessive caffeine.

A recent report in the Journal of Injury Prevention [1] reported on the results of a Boston area survey into the soft drink drinking habits of area high school students. The survey involved enrollment of more than 2,700 students of whom 1878 actually responded and participated. Students were selected randomly and parents provided passive consent. Survey questions included inquiries about the number of cans of non-diet carbonated soft drinks consumed in the past seven days and respondents weapon use. The questions also focused on issues related to aggressive behavior directed at siblings and at classmates. Other analyses included examination of respondent body mass index, sleeping habits, age, and gender.

Results of the survey indicated participants who were high or low consumers of soft drinks differed

very little in terms of general characteristics. Mean age was 16, 54% were female, and the body mass index was 24. Differences were reported for respondents that were "high consumption" (30%) users of soft drinks. Participants who identified themselves as high consumers exhibited greater aggression towards their siblings, classmates, and their "dates." The high consumers also reported more alcohol and tobacco use. They were also more likely to carry weapons. Incidentally, Asian students has noticeably lower levels of soft drink consumption

This study sheds some interesting light on behaviors of high school students who drink soft drinks. One of the limitations in this survey is that caffeine consumption was not detailed. With the tendency for caffeine to be an additive in popularly consumed soft drinks, it is likely that caffeine is a confounding force in the behaviors that were revealed. And although this survey relied on self-reporting, it does suggest that it may be a wise policy for parents and kids to limit their consumption of these beverages as a means of preventing or mitigating aggression.

[1] Solnick SJ, Hemenway D. *The "Twinkie Defense:" The relationship between carbonated non-diet soft drinks and violence perpetration among Boston area high school students*. Journal of Injury Prevention 2011 Oct 24: [e pub ahead of print]. (<http://dx.doi.org/10.1136/injuryprev-2011-040117>)

January 2012 Mystery Drug: A Current Events Quiz

The subject of this month's mystery drug is a medication that has not yet been released and approved for sale in the United States. But it appears that FDA clearance for this drug is just around the corner. In fact, media outlets and drug treatment websites have been abuzz with the news that this month's drug is about to clear its last regulatory hurdle. There is a great deal of hyperbole associated with this drug. Some folks in the drug rehabilitation community claim that it is society's next drug epidemic and that it will rapidly expand the ranks of substance abusers that have been drawn to drugs such as Oxycontin and Vicodin. This drug has also been described as a perfect storm; it enters the marketplace at a time where drug users are seeking new highs from new drugs. Just take a look at America's recent experiences with esoteric substances such as *Spice*, *Kratom*, *bath salts*, and *plant food*. These phenomena have quickly gained market share and popularity in recreational drug user circles. These drugs have so alarmed elected officials that emergency bans were enacted to slow their growth. This month's drug is a more conventional medication, but it will also plow new territory that up to now has been the domain of oxycodone products.

This month's drug is a derivative of an already widely used semi-synthetic narcotic analgesic. It is unclear as to which federal schedule this product will be assigned. The drug company that has taken this drug to market is proposing that it be released sometime in early 2013. Between now and then, there will undoubtedly be a spirited public discourse about the medical necessity of this drug. This drug is a semi-synthetic opioid; it is a narcotic that has been studied assiduously. This drug has a well-known track record as an ingredient in one of the most widely recognized prescribed opiates in the world. In a newly proposed iteration, the drug will instantly become a frontline drug for the purpose of treating chronic pain and/or intractable pain. Proponents testify to the fact that this new application of the drug will meet a vital need in the armamentarium of physicians who treat chronic pain. To that end, physicians and other medical experts agree that the drug is an appropriate fit for the treatment of chronic pain and for treatment of moderate to severe pain. And compared to other drugs in this class, it is a relatively less risky option for patients who need round-the-clock pain management, especially when compared to *Oxycontin* and *MS Contin*, two powerful "sustained release" medications that utilize oxycodone and morphine respectively as their means of controlling moderate to moderately severe pain. Oxycodone also has the dubious distinction of being the most abused medicine in the United States. Nevertheless, in the format that this month's drug is proposed to the FDA, the drug will be transformed into a unique time-released formula that could pose a special risk for diversion and abuse in communities that are susceptible to these kinds of drugs.



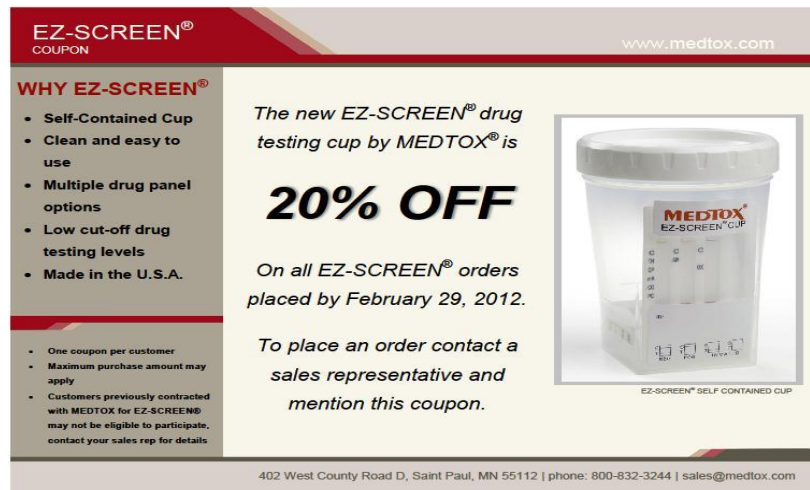
This month's drug is a narcotic that traces its bloodline back to opium. It is manufactured in a time-release format designed to provide 12-hour relief from pain. In its current prescription drug form, the drug's usual span of effects are four to six hours; but in reality, the drugs analgesic potency peaks at about three hours and is pretty much exhausted by hour four. Of great importance is that this new format will basically ensure that patients will be getting a pure dose of the drug. The drug will

not be a compound. And that is an important facet of this drug's usefulness. At present, physicians can prescribe this drug in a wide array of compounded formulas, all of which contain a combination of acetaminophen products. At present, there is no FDA approved product that delivers the drug in a non-compounded form. Acetaminophen is the active ingredient in Tylenol. It is a drug that in concentrated doses can be toxic and noxious to organs like the liver and kidneys. When combined with acetaminophen, this month's drug is a reliable capable pain reliever, but it does so with a cost, especially if it is used by a patient who is taking an acetaminophen-laced product for chronic, long-term pain. By plying the body with continuous, concentrated amounts of acetaminophen over extended periods of time, it is likely that liver damage will ensue. Paradoxically, when compounded with acetaminophen, the drug is more dangerous than it is when offered as a pure, concentrated product. But such is the nature of opiates when they are combined with aspirin or acetaminophen. Oxycontin, for instance, is manufactured as a pure, non-compounded product. However, oxycodone is combined with acetaminophen to create Percocet. It is also compounded with aspirin to create Percodan. In the form proposed by its manufacturer, this drug will provide 12-hour pain coverage; patients will have to take the drug only twice a day. In its contemporary form, a patient in pain may take the drug five to seven times a day depending on the condition being treated. This new drug will more closely resemble Oxycontin than anything else on the market.

It remains to be seen how easy the formula for this month's drug can be defeated by drug users. In a concentrated time released formula, drug users will be immediately drawn to it. It is unclear as to whether or not the drug's continual release format can be defeated to free up the drug for instant absorption. Despite all the machinations and permutations that Oxycontin has gone through to reduce its susceptibility to diversion and abuse, it still shows up on the street as a drug that can be smoked or ingested intravenously for a potent immediate high.

Treatment of chronic pain is a complex medical challenge. Physicians and patients should have all reasonable options to them to meet that challenge. The question here is whether or not the addition of a new sustained release drug, this month's drug, is a productive addition to physicians' pharmaceutical options. If the drug turns out to be easily manipulated and converted into a drug that can be smoked or injected, there may be a considerable problem. Hopefully the lesson of Oxycontin will guide patients and physicians in the appropriate use of this month's drug.

**Due to popular demand, the EZ-SCREEN
Coupon offer has been extended until
February 29, 2012.**



The graphic is a coupon for EZ-SCREEN drug testing cups. It features a red header with the text 'EZ-SCREEN® COUPON' and 'www.medtox.com'. The main body is white with a red border. On the left, under 'WHY EZ-SCREEN®', there is a list of benefits: 'Self-Contained Cup', 'Clean and easy to use', 'Multiple drug panel options', 'Low cut-off drug testing levels', and 'Made in the U.S.A.'. Below this is a smaller list of terms: 'One coupon per customer', 'Maximum purchase amount may apply', and 'Customers previously contracted with MEDTOX for EZ-SCREEN® may not be eligible to participate, contact your sales rep for details'. The center text reads: 'The new EZ-SCREEN® drug testing cup by MEDTOX® is **20% OFF** On all EZ-SCREEN® orders placed by February 29, 2012. To place an order contact a sales representative and mention this coupon.' To the right is an image of a white plastic cup with a grey lid, labeled 'MEDTOX EZ-SCREEN® CUP'. Below the image is the text 'EZ-SCREEN® SELF CONTAINED CUP'. At the bottom, it says '402 West County Road D, Saint Paul, MN 55112 | phone: 800-832-3244 | sales@medtox.com'.

Offer Expires: 2/29/12

Thank you subscribers. We appreciate your dedicated readership. At MEDTOX we are committed to providing clients with the service and solutions you need to run successful drug testing

programs. Our Journal is just one way that we show that commitment. We always encourage feedback from our Journal. Please send your thoughts to medtoxjournal@medtox.com.

Sincerely,

MEDTOX Journal

MEDTOX Scientific, Inc.