



Virginia DUI Drug Treatment Courts Training Conference  
“Come to Learn, Go to Serve”  
September 18-19, 2012

Williamsburg Hotel & Conference Center, Williamsburg, VA

Partially funded with grant funds from the DMV: Highway Safety Office  
and NDCI training funds

**AGENDA**

**Tuesday, September 18, 2012**

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|--------------------------------|--|
| <b>9:00 a.m. – 10:30 a.m.</b>  | <b>Registration</b>  |
| <b>10:00 a.m. – 10:15 a.m.</b> | <b>Welcome/Introductions</b>   |
| <b>10:15 a.m. – 10:30 a.m.</b> | <b>Virginia Drug Courts</b><br>Hon. Jerrauld Jones, Judge<br>Norfolk Circuit Court   |
| <b>10:30 a.m. – 10:40 a.m.</b> | <b>The Hon. Charles Sharp Drug Court Award Presentation</b><br>Virginia Drug Court Association   |
| <b>10:40 a.m. – 12:00 p.m.</b> | <b>“Did You Hear What I Said?” Effective Communication in the Public Sector</b><br>Helivi Holland, Esq.<br>City Attorney City of Suffolk |
| <b>12:00 p.m. – 1:00 p.m.</b>  | <b>Lunch</b>   |
| <b>1:00 p.m. – 2:00 p.m.</b>   | <b>Ethics of Social Networking</b><br>Dr. Michael Gillette, Ph.D.<br>Bioethical Services of Virginia, Inc.                               |
| <b>2:00 p.m. – 2:15 p.m.</b>   | <b>Break</b>   |
| <b>2:15 p.m. – 3:30 p.m.</b>   | <b>Sanctions and Incentives: An Update</b><br>Dr. Douglas Marlowe, J.D., Ph.D.<br>NADCP  |
| <b>3:30 p.m. – 4:45 p.m.</b>   | <b>Recognizing the Signs of DUID Impairment</b><br>Dr. Jason Hudson, Ph.D.<br>Virginia Dept. of Forensic Science                         |
| <b>4:45 p.m. – 5:15 p.m.</b>   | <b>Virginia Drug Court Association Open Meeting</b>  |
| <b>5:15 p.m.</b>               | <b>Adjourn</b>   |

**Wednesday, September 19, 2012**

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|--------------------------------|---|
| <b>8:00 a.m. – 8:30 a.m.</b>   | <b>Continental Breakfast/Registration</b>   |
| <b>8:30 a.m. – 9:45 a.m.</b>   | <b>DUID Investigation and Prosecution</b><br>Emily Wigner, Esq.<br>Henrico Commonwealth's Attorneys Office<br>Sean Broomell<br>Henrico County Police Department |
| <b>9:45 a.m. – 10:30 a.m.</b>  | <b>Adult/Juvenile Drug Court Discussion Panel</b><br>Staff from Rappahannock Regional, NN & Chesterfield<br>Adult & Juvenile Drug Courts                        |
| <b>10:30 a.m. – 10:45 a.m.</b> | <b>Break</b>  |
| <b>10:45 a.m. – 11:45 p.m.</b> | <b>Ethics and Confidentiality</b><br>Jim McCauley, Esq.<br>Virginia State Bar   |
| <b>11:45 p.m. – 12:45 p.m.</b> | <b>Lunch</b>  |
| <b>12:45 p.m. – 1:45 p.m.</b>  | <b>Drug Testing</b><br>Helen Harberts, Esq.<br>NDCI   |
| <b>1:45 p.m. – 2:45 p.m.</b>   | <b>Designer Drugs</b><br>Helen Harberts, Esq.<br>NDCI   |
| <b>2:45 p.m. – 3:00 p.m.</b>   | <b>Break</b>  |
| <b>3:00 p.m. – 4:00 p.m.</b>   | <b>Drug Trends in Virginia</b><br>Lt. Jason Robinson<br>Virginia State Police   |
| <b>4:00 p.m.</b>               | <b>Adjourn</b>  |

# The Ethical Duty of Confidentiality vs. Attorney-Client Privilege (ACP)

James M. McCauley

Ethics Counsel

Virginia State Bar



# Attorney Client Privilege (ACP)

- An evidentiary doctrine
- Info protected under ACP not subject to discovery nor admissible in evidence
- Court commits legal error if orders disclosure of privileged info
- Privilege can be waived by disclosure to third parties, even if inadvertent.
- *Walton v. Mid-Atlantic Spine Specialists*, 280 Va. 113, 694 S.E.2d 545 (2010)(five-factor test)
- Rule 4:1(b)(6)(ii)—post production claim of privilege—recipient must destroy or sequester if notice is given

# Ethical Duty of Confidentiality

- Fiduciary/ethical duty of lawyer
- Court can require disclosure of info protected under Rule 1.6 *that is not protected under ACP.*
- Rule 1.6 protects info even if disclosed to or known by others, even info that is a “matter of public record.” LEO 1643 (lawyer could not disclose former client’s assets listed in PSA incorporated into final divorce order).
- *Turner v. Commonwealth* (June 2012)(concurring op. J. Lemons, holding lawyer violated Rule 1.9 (c) by testifying against former client w/info that was the subject of prior testimony in an earlier proceeding)

# Ethical Duty of Confidentiality

- LEO 1400--Attorney represents Defendant on criminal charges. Defendant is indicted by a grand jury for a felony, tried, found guilty, and sentenced in open court by the judge, orally, to incarceration for several months in jail. The sentencing document later signed by the judge, however, erroneously states that Defendant was sentenced for a misdemeanor to a term of several months in jail.

# Error in Sentencing Document

- defense counsel is not under any affirmative obligation to reveal that the court document erroneously stated that the client had been sentenced for a misdemeanor rather than a felony, unless the client requested that he inform the court of the error. Under DR 7-101(A)(3), it would be unethical for an attorney to reveal information that will prejudice or damage his client.

# Error in Sentencing Document

- The Committee believes that since the information in question is readily available to the court, defense counsel is not engaging in attempting to conceal or deliberately failing to disclose that which he is required by law to reveal pursuant to DR 7-102(A) (3), assuming that the lawyer does not endorse the document or otherwise participate in the drafting of it.

# Duty Owed to Prospective Clients

- A lawyer must protect confidential information given by a potential client even if he or she is not hired to represent that person or where no attorney-client relationship was created. Rule 1.18, Rules of Professional Conduct; LEOs 1453, 1546, 1613, 1794. See *also* LEO 1832. (Client spoke only with attorney's secretary and provided details of client's case. Client never retained lawyer. Lawyer can represent opposing party if secretary is screened.)

# ACP—Waiver/Exceptions

- Express waiver by client
- Placing matter “in issue,” i.e., reliance on advice of counsel.
- Third parties present during communications between attorney and client (unless third party is an “agent” of client “necessary” for the communication).
- Client or Lawyer’s disclosure to third parties—intentional vs. inadvertent
- Crime/Fraud exception—incl. client perjury
- Implied waiver when client attacks lawyer or lawyer’s work product

# ACP—Inadvertent Disclosure

In a medical malpractice case, the defendant doctor waived the attorney-client privilege for a letter he wrote to his attorney regarding potential negligence in his examination of key x-rays when that letter was produced to the plaintiff during discovery. While the doctor's disclosure of the letter was inadvertent, the doctor waived his attorney-client privilege by failing to take reasonable measures to ensure and maintain the confidentiality of the letter. *Walton v. Mid-Atlantic Spine Specialists*, 280 Va. 113, 694 S.E.2d 545 (2010).

# ACP—Inadvertent Disclosure

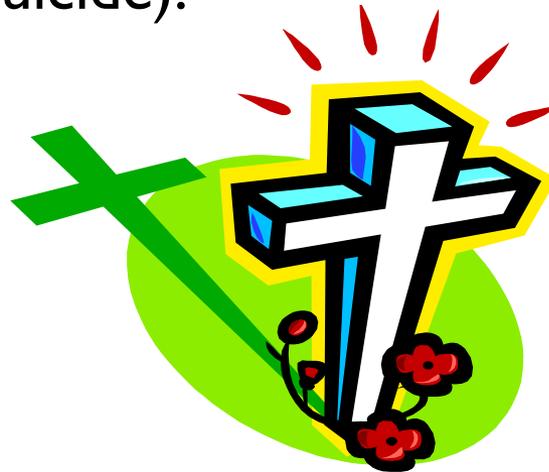
- (1) the reasonableness of the precautions to prevent inadvertent disclosures, (2) the time taken to rectify the error, (3) the scope of the discovery, (4) the extent of the disclosure, and (5) whether the party asserting the claim of privilege or protection for the communication has used its unavailability for misleading or otherwise improper or overreaching purposes in the litigation, making it unfair to allow the party to invoke confidentiality under the circumstances.

# Ethical Duty of Recipient Lawyer

- What is the ethical duty of a lawyer that receives privileged material that was misdirected or inadvertently disclosed?
- LEO 1702: must stop reading, notify sender and abide by sender's directions
- But, during discovery, Rule 4:1(b)(6)(ii) would apply: if sender asserts privilege claim, receiver must destroy or sequester and seek court ruling on waiver.
- ABA Model Rule 4.4(b): duty to notify sender only.

# Duration of ACP

- Forever—survives after representation has ended even after death of client.
- *Swidler & Berlin v. United States* (1998) (Office of Independent Counsel not entitled to handwritten notes of attorney James Hamilton from whom Deputy White House Counsel Vince Foster, Jr. sought legal counsel nine days before his suicide).



# Duration of Ethical Duty

- Duty continues post-representation and even after client is deceased. LEOs 1207, 1664.
- But lawyer may disclose deceased client's info if lawyer believes decedent would have wanted the info disclosed were he still alive. LEO 1207.
- Lawyer may disclose confidential info to decedent's successor in interest, i.e., executor or trustee—usually necessary to facilitate administration of decedent's estate.

# A Lawyer May disclose Confidential Information

- To comply with law or court order. 1.6(b)(1)
  - Cash/currency reporting requirements under fed'l law. e.g. 31 U.S.C §§ 5322, 5324 [Reporting of cash transaction in excess of \$10,000]
  - Court order—you do not have to go to jail!
- “Self defense” exception. 1.6(b)(2)
  - A defense lawyer whose former client claims that the lawyer provided constitutionally ineffective assistance of counsel generally may not disclose confidential information to government lawyers prior to any hearing on the defendant’s claim, without a court order requiring the disclosure or the informed consent of the former client. LEO 1859.
- Client fraud on third party. 1.6 (b)(3)
- Closing office due to death or disability 1.6(b)(4)

# A lawyer may disclose confidential information

- To participate in a law office management assistance program. 1.6(b)(5)
- To share info with third parties for statistical, bookkeeping, data processing, printing, or other law office management functions. 1.6 (b)(6)
  - “cloud computing”--YES
  - “contract lawyers” or temp agencies--NO
  - “outsourcing”—NO.

# A Lawyer Must Disclose

- Client's intent to commit a future crime. 1.6(c)(1)
  - Must first persuade client to abandon intent
  - Must move to w/d if client intends perjury
- Client has perpetrated a fraud on a tribunal. 1.6(c)(2)
  - Misrepresentations made during a deposition constitute a fraud on a court. Va. LEO 1451 (1992).
- See also Rule 3.3 (Candor to Tribunal)
  - Must take remedial measures to rectify fraud by client
- Information to report another lawyer's misconduct under Rule 8.3. 1.6(c)(3).
  - Cannot disclose information protected under Rule 1.6 unless client consents.

# Required or Permitted Disclosure

- Future Crimes
  - Even if contingent upon certain event. LEO 1355 (def threatens criminal act ag. Plaintiff if def loses case)
- Attorney may disclose to appropriate mental health authorities intentions of client to leave the state and commit suicide. LEO 560. See *also* Rule 1.14. Mass. Ethics Op. 01-2 (a lawyer may notify family members and adult protective services, police or client's doctors of client's threat to commit suicide if lawyer believes the threat is real);
- ABA Formal Op. 96-404 (lawyer representing disabled client may share confidential information with client's treating physician, diagnosticians and family members).
- Client perjury or intent to commit perjury. LEO 542.

# Required or Permitted Disclosure

- Attorney learned from client two years after representing client in Chapter 13 bankruptcy that client had undisclosed assets, including two notes payable to client from attorney's law partners. Attorney properly informed court of client's fraud upon the court after client refused to advise court of fraud. Va. LEO 699 (1985).
- Different result under ABA MR 3.3(c)—duty to disclose terminates when proceeding is over!

# Improper Disclosures

- Cannot voluntarily testify as to client's past crimes even if info learned through 3d party instead of client. LEO 1087.
- Client's whereabouts—fugitive. LEO 1316
- Client advised attorney during course of representation that client had hidden weapons which were subject of a search warrant. Attorney may not reveal information to law enforcement officials because information is protected by attorney/client privilege. LEO 404

# Improper Disclosures

- ABA Formal Op. 287 (1953) and ABA Formal Op. 87-353 hold that lawyer is not required to disclose error made by court in sentencing order or judgment order as long as client and lawyer had no role or made any representation that contributed to the error. Disclosure would operate to client's detriment and therefore the fact of the court's error is information protected under Rule 1.6.

# Improper Disclosures

- ABA Formal Op. 94-387 (lawyer may not reveal that statute has run on her client's claim if opposing party appears to be unaware).
- Lawyer may negotiate or settle claim that is time-barred.
- Va. LEO 1186 (1989), the committee concluded that a defense lawyer is under no obligation to advise the court that it has overlooked a criminal charge, since the facts are on the public record and the lawyer has done nothing to conceal them. The committee relied on DR 7-101 (A)(3) stating that it would be unethical to reveal information that would prejudice or damage the client.

# Improper Disclosures

- ABA Formal Op. 93-370 (lawyer may not reveal to settlement judge the limits of settlement authority or advice to client regarding settlement absent consent).
- Va. LEO 1215 (1989) (defense attorney not required to inform the court or the prosecutor that the court had rescheduled a trial date beyond the statutory limitation period for the prosecution of a particular felony; the defense attorney had not sought the continuance nor had he agreed to it).

# Improper Disclosures

- Va. LEO 1731 (1999) (attorney was not required to voluntarily reveal information that his client has been arrested between trial and sentencing, where such information was omitted from the pre-sentence report. However, the committee cautioned that the defense attorney must be careful not to mislead the court, and be truthful in response to any questions by the court).

# Improper Disclosure

- An attorney represented a client in a divorce. Subsequently, the client files for bankruptcy and lists the attorney's unpaid fees as an obligation. The client, however, does not list certain assets that the client owns which are listed in the property settlement agreement that was incorporated into the final decree of divorce. Because it was so incorporated, the property settlement agreement is a part of the public record.
- May the divorce attorney disclose his former client's fraud in the bankruptcy proceeding?

# Improper Disclosure

- Information is a “secret” even if “matter of public record”
  - See also *Turner v. Commonwealth* (J. Lemons, concurring)
- No duty to disclose fraud b/c it did occur in the course of the representation—the fraud occurred in the bankruptcy case.
- LEO 1643

# Improper Disclosures

- North Carolina Ethics Opinion 117 (1992) holds that a lawyer who learns that his client, a waiter, has a contagious disease may not reveal this regardless of the seriousness of the disease; Delaware Ethics Opinion 1988-2 (undated) similarly holds that a lawyer who knows that his client has AIDS and is living with a woman may urge his client to disclose his condition to that woman but otherwise must maintain his silence if the client so requests.
- But see ABA MR. 1.6(b)(1)(may disclose confidential information to prevent reasonable certain serious bodily injury or death).

# Joint Representation in Same Matter

- ACP d/n apply to jointly rep. clients as to matters between them. Va. Rule 1.6, cmt. [30].
- In *A v. B*, 726 A.2d 924 (N.J. 1999), the firm learned that its client had engaged the firm to draft a joint will for him and his wife, without telling wife that he had an illegitimate child. When the firm found about the illegitimate child, it wanted to tell the wife.

# Jointly Represented Clients

- Under New Jersey's version of Rule 1.6, the firm was permitted to tell wife of this fact to rectify the consequences of a client's fraudulent act.
- Was failing to disclose the mistress a fraud on the wife?
- The court answered this question by analogy with the CF exception to the ACP, holding that it applied and therefore the information was not privileged.

# Testifying Against Former Client

- Is the information protected under Rule 1.6 as a “confidence” or secret?
- If, yes, need client (or former client) consent to testify voluntarily; or require party seeking info to issue subpoena.
- Lawyer must move to quash the subpoena.
- Lawyer may disclose information when required by court order. Rule 1.6(b)(1).

# Lawyers Changing Firms

- ABA Formal Op. 09-455: Lawyer changing firms may disclose confidential information to check for potential conflicts of interest. Any disclosure of conflicts information should be no greater than reasonably necessary to accomplish the purpose of detecting and resolving conflicts and must not compromise the attorney-client privilege or otherwise prejudice a client or former client. A lawyer or law firm receiving conflicts information may not reveal such information or use it for purposes other than detecting and resolving conflicts of interest. Disclosure normally should not occur until the moving lawyer and the prospective new firm have engaged in substantive discussions regarding a possible new association.

# The End



## Confidentiality (Rule 1.6) and the Attorney-Client Privilege (ACP)—Part I.

Many lawyers mix up the various concepts and applications of the professional duty of confidentiality and the ACP. In fact they are two very different doctrines, grounded in totally different sources of law. The ACP is not as broad in scope in terms of the information it protects, but it can be interposed as an objection to responding to discovery sought by your opponent or even the judge. Note, however, that the professional duty of confidentiality is not necessarily a winning argument on an objection in court or in response to an adversary's discovery request. The professional duty of confidentiality is grounded in principles of agency law—the duties the lawyer/agent owes to the client/principal.

The court cannot—without committing error—order disclosure of information that is protected under the ACP, however, a court can ignore or disregard an objection that information is protected under Rule 1.6 and order disclosure. A lawyer does not violate Rule 1.6 by revealing client information if the court orders disclosure or if disclosure is required by law. Va. Rule 1.6 (b)(1). If you do not comply with a court's order to disclose information that you believe is protected under Rule 1.6, the court can hold you in contempt and place you in jail. A news story told about a lawyer Linda Backiel, who was willing to go to jail rather than obey a court order to reveal information that would hurt her client. Was Backiel a “heroine” or a “fool?” By the way, in addition to the court's contempt conviction, it is a separate ethical violation for a lawyer to knowingly disregard an order by a court. Va. Rule 3.4 (d). But a lawyer does not violate that rule by appealing or challenging the court's order if there is a basis to do so. Also, the lawyer can post bond and appeal the contempt citation on the basis that the court erred on the privilege issue. Do you agree with Backiel that “everyone who goes to law school should spend a week in jail

### Attorney-Client Privilege (ACP)

#### Definition and Scope:

1. Wigmore: (1) where legal advice is sought; (2) from a professional legal advisor in his capacity as such; (3) the communications relating to that purpose; (4) made in confidence; (5) by the client; (6) are at his instance permanently protected; (7) from disclosure by himself or the legal advisor; (7) except that the protection can be waived.
2. Restatement § 118:
  - (1) a communication
  - (2) made between privileged parties
  - (3) in confidence
  - (4) for the purpose of obtaining or providing legal assistance for the client

The ACP is justified on the basis that it serves as a means to ensure full and frank communication between client and attorney. It is also grounded on the premise that the lawyer will provide legal advice which brings the client's conduct in conformity with the law. The

opposite premise, of course, is that the ACP will not protect communications if the client is seeking advice to further illegal conduct. The ACP is attacked by critics and narrowly interpreted by the courts because it “frustrates the truth-finding process.”

*Attorney-Client Privilege for the Organizational Client: Upjohn v. United States* 449 U.S. 383 (1981)

*Upjohn* provides a good overview of the ACP, its relationship to the attorney work product (AWP) doctrine, and the application of the privilege in the corporate setting. The United States Supreme Court held that a company could invoke the attorney–client privilege to protect communications made between company lawyers and non-management employees. In doing so, the Court rejected the narrower control group test that had previously governed many organizational attorney–client privilege issues. Under the control group test, only employees who exercised direct control over the managerial decisions of the company were eligible to have their communications with corporate lawyers protected. The court in *Upjohn* rejected the so-called “control group” test which had been used by some lower courts (and still in effect in some state courts). Some courts liked the concept that there is a limited group of employees who control the corporation, who, in essence personify the corporation and that the ACP should be limited to persons within the “control group.” The in-house counsel’s investigation in *Upjohn* extended well beyond this limited subset of employees, to middle and lower management all over the world. The Court rejected the “control group” test for sound reasons, emphasizing that middle managers are often the only source of confidential information and they generally are the employees responsible for implementing the lawyer’s advice.

So, if the corporate ACP is not limited to the “control group” what is the test? Here is what the Court articulates as the elements: (1) there were communications; (2) made by Upjohn employees; (3) to counsel for Upjohn; (4) acting at the direction of corporate management; (5) to conduct an investigation; (6) for the purposes of giving legal advice to the corporation. I think Chief Justice Burger’s concurrence provides a good description of the test employed by the Court in *Upjohn*, but it is by no means the only way to read the opinion.

Note the modification that *Upjohn* makes to the Wigmore standard. Wigmore only seems to protect communication flowing from client to attorney. *Upjohn* (and the Restatement) protect communications from attorney to client as well. This makes sense and is the better rule. *Upjohn* is followed in most jurisdictions.

The following point cannot be repeated enough, because many lawyers and clients get it wrong: *The ACP does not protect underlying facts from disclosure*, either to a tribunal or an adversary. Be very careful here. If the IRS serves a summons or subpoena on a Upjohn employee and asks him for documents or testimony relevant to his role in making payments to foreign officials, that employee *cannot* assert the ACP as a basis to refuse to disclose relevant information within his knowledge. As the *Upjohn* Court noted, the Government is free to question the employees who communicated with in-house and outside counsel for Upjohn. What the Government cannot have is the employee’s communication with corporate counsel, memorandum of interviews with counsel or the questionnaire used by counsel to gather information from the employees. Now as

we will discuss in a later chapter, there are some limitations on which employees the Government may interview *ex parte* based on Rule 4.2.

Occasionally an organization may have rogue employees and this can create a difficult position for corporate lawyers. Remember that the ACP belongs to the corporation and not the individual employee. So the employee cannot assert the ACP in refusing to turn over facts, even if those facts are incriminating to the individual employee.

The same principal applies to a public official's communications with a government lawyer. For example, during President Clinton's administration, Hillary Clinton had communications with White House Counsel about her private matters involving the Rose Firm and the "Whitewater" controversy under investigation by Kenneth Starr, the Independent Counsel who investigated the Clintons. Those communications were not protected by the ACP because the privilege belongs to the Government and only applies when public officials seek legal advice in regard to their official duties, not their private legal matters.

#### *Client Identity, Client Whereabouts and Fact of the Representation*

Also, certain information, such as client identity or whereabouts, is considered an underlying fact and not a communication. Such information is not generally considered privileged, nor is it necessarily confidential under Rule 1.6 if disclosure of the fact of the representation or the client's identity is not "confidential." For example, it is generally not a violation of Rule 1.6 for a lawyer contemplating changing law firms, to disclose current and former client information to screen for and avoid conflicts of interest. *See, e.g.*, ABA Formal Op. 09-455 (disclosure of conflicts information during the process of lawyers moving between firms is ordinarily permissible, subject to limitations); LEO 1757 (to facilitate attorneys' move from one legal aid office to another in same geographical area serving the same client base, Legal Aid Society A may properly provide attorneys now in Legal Aid Society B with confidential client list information sufficient to enable lawyers in Legal Aid Society B to perform conflicts checks); LEO 1147 (1989)(attorney's disclosure to current client of prior representation of another client not a breach of confidentiality if not detrimental or embarrassing). *But see In re Horace Hunter* (2011) (district committee found violation of Rule 1.6 where lawyer published former clients' cases on blog where information was likely detrimental or embarrassing to former clients). There are rare exceptions when client identity is privileged but the general rule is that client identity, the fees paid by the client and client whereabouts are not protected under the ACP. *See In Re Grand Jury Subpoena*, 204 F.3d 516 (4th Cir. 2000)(holding the client identity not protected as privileged unless disclosure would reveal confidential information). Lawyers challenged unsuccessfully the IRS currency transaction reporting requirements, arguing that information such as client identity and the fee paid were protected by the ACP. The courts have rejected this argument. So if a lawyer is summonsed and asked to testify as to the location of the client, who has fled the jurisdiction, the lawyer cannot use the ACP to avoid disclosure. Even if the ACP did apply, the crime-fraud exception would apply if fleeing the jurisdiction is regarded as an ongoing criminal offense. In general, if a client has communicated a fact to an attorney, and the attorney later receives interrogatories, request for production or request for admissions, to which the information would be responsive, the attorney *must* answer the discovery request on the basis of the facts known. Failure to do so could result in the lawyer and/or client being

sanctioned by the court, plus a possible disciplinary action for violation of Rule 3.4 (e). Lawyers bungle these rules constantly in practice, so be on the alert when your adversary objects to your discovery requests on the basis of the ACP. They may be applying the doctrine way too broadly. You may have to file a motion to compel to get the discovery, but you should win on the law and be successful with your motion.

On the other hand, a lawyer is not free to voluntarily disclose a client's whereabouts under Rule 1.6 if the disclosure would likely be detrimental to the client and must generally decline requests for such information. *See* LEOs 1316 and 929 (client whereabouts is a "secret" that the lawyer may not voluntarily disclose under the ethical duty of confidentiality).

### *Duty Owed to Prospective Clients*

A lawyer must protect confidential information given by a potential client even if he or she is not hired to represent that person or where no attorney-client relationship was created. Rule 1.18, Rules of Professional Conduct; LEOs 1453, 1546, 1613, 1794. *See also* LEO 1832. (Client spoke only with attorney's secretary and provided details of client's case. Client never retained lawyer. Lawyer can represent opposing party if secretary is screened.)

## **Attorney-Client Privilege/Confidentiality—Part 2—Waiver**

### **Express Waiver**

The ACP "belongs" to the client, so the client can expressly agree to waive it at any time. The lawyer can also agree to waive the privilege at any time—with or without the client's consent. However, if the lawyer does so without the client's consent, he or she may be liable for malpractice and could be professionally disciplined for a violation of Rule 1.6. Remember, though, the lawyer would be guilty of malpractice or misconduct only if she *volunteers* protected client information. If the information must be disclosed by law or court order, the lawyer cannot be disciplined nor successfully sued for malpractice.

### **Implied Waiver: Putting in issue**

*Von Bulow I* explains that "forensic fairness" dictates that one cannot hide behind the ACP while selectively disclosing only the favorable information. Accordingly, some courts hold that a "partial" disclosure constitutes a complete subject matter waiver. To illustrate the point in a somewhat different context, consider a personal injury claimant. He or she has placed their physical condition "in issue" and therefore cannot turn over to their adversary only the favorable medical reports and then assert the doctor-patient privilege to justify withholding the unfavorable medical records. All the records must be produced. In *Von Bulow I*, the family of the decedent turned over only some of the records which appeared to implicate the husband in the murder of his wife, while withholding others. The court held that the defendant, Claus Von Bulow, was entitled to *all* of the documents relating to the family's investigation of the circumstances of his wife's death. Suppose the tobacco industry's "scientific research" documents were indeed protected by the ACP and assume further that the "crime-fraud" exception did not apply. It would be unfair and improper, in litigation with the tobacco companies, to use only the favorable

studies and withhold the unfavorable research. It would be unfair and seriously misleading if the plaintiff could not have access to all the documents relevant to a particular issue (i.e., what did the tobacco companies know about the addictive characteristics of nicotine and when?) to balance out the defendant's selective use of evidence. This is the basic premise of the "putting-in-issue" doctrine. Once a party places a particular matter "in issue," the "forensic fairness" rule kicks in. Why should the tobacco industry get away with selectively introducing only those scientific reports favorable to its position, and asserting the ACP as to those which are negative?

### **Implied Waiver—Subsequent Disclosure**

Information that is privileged is no longer protected under the ACP if it has been disclosed. Remember that the privilege covers only communications made in confidence to a privileged person (the client, the lawyer, or someone employed to assist the lawyer such as a paralegal or investigator). Thus the privilege is waived or lost if protected information is shared with a non-privileged third party. Note also that a client may also have agents and communications by that agent with a lawyer are sometimes protected under the ACP. Courts apply this rule very strictly, however, and the communications are protected only if the client *needs* the agent to communicate effectively with the lawyer. Examples of agents who would be covered under the ACP include a translator or interpreter; or, a parent who engages a lawyer to represent their child. Consequently, if a client shares information with a non-privileged third party, i.e., investment broker, accountant, realtor, financial planner, friend, consultant, etc., the privilege is waived and the opponent can compel disclosure of the information. See *Von Bulow II*, 828 F.2d 94 (2d Cir. 1987)(privilege waived by client's authorization to his attorney, Alan Dershowitz, to publish a book about this famous case). The waiver created by subsequent disclosure sounds pretty straightforward, but it has some complexity. For example, what happens if a privileged communication is inadvertently misdirected to an adversary? Some authorities hold that an inadvertent disclosure automatically waives the privilege—the Wigmore Rule. Other courts hold that a waiver occurs only if a privileged person *knowingly* discloses confidential information. See DR 4-101, ABA Model Code of Prof. Resp. Still others apply a five-factor test to determine whether the lawyer acted reasonably in protecting client information, despite the inadvertent disclosure to a third party. See *Lois Sportswear, U.S.A., Inc. v. Levi Strauss Co.*, 104 F.R.D. 103, 105-07 (S.D.N.Y.1985). If the lawyer acted reasonably, an inadvertent disclosure does not waive the ACP; and *Walton v. Mid-Atlantic Spine Specialists*, 280 Va. 113,694 S.E 2d 545 (2010)(holding that client and lawyer had not acted reasonably and waived privilege).

There are several recurring scenarios which raise the possibility of implied waiver by disclosure to a stranger to the attorney-client relationship.

1. Errant faxes, e-mails and production of documents. There are two classic examples. In one, the attorney wishes to send a confidential memo to the client, but hits the wrong button and inadvertently transmits the document to his opposing counsel. In the other scenario, sensitive privileged documents are inadvertently included in a document production along with non-privileged material. Some courts hold that the ACP is per se waived (Wigmore approach). Other courts take more contextual approach, looking at: (a) how big the document production was; (b) how careful the lawyer was in setting up procedures; and (c) how quickly the producing lawyer discovered the inadvertence and requested return of the documents.

What is the ethical duty of the attorney that receives a misdirected, privileged document?

Some decisions have incorporated the ethical duty under Rule 4.4 (b) that the receiving lawyer must immediately notify the producing lawyer. In some cases, the courts have sanctioned or disqualified the lawyer for failing to notify and have prohibited the receiving lawyer's use of the information. ABA Formal Op. 92-368 said a lawyer should stop examining the materials once it is established that they are protected under the ACP, notify the sending lawyer and abide by the sending lawyer's instructions as to their disposition. The recent amendment to Rule 4.4 (b), however, eliminates the duty to abide by the sender's instructions and only imposes the duty to notify the sender.

2. Elevator talk. Two lawyers are riding on a elevator blabbing about a case in the firm; the elevator stops on another floor leased by a different firm and another person gets on. The lawyers continue blabbing. They have waived the ACP in any communications they may have shared on the elevator. This is true for attorneys working in different firms who have drinks after work and talk about cases. BE CAREFUL!! A federal judge told me once that he was riding in a courthouse elevator once and overheard two lawyers talking about this judge in the most derogatory terms imaginable, having no idea what he looked like and totally ignorant of his presence on the elevator. These lawyers were not happy when they appeared in court later that day in front of this same judge.

3. The "due diligence" process which is required in corporate securities transactions. Courts are split on whether production of documents pursuant to a "due diligence" audit works a waiver.

4. Production to Government, i.e., in response to subpoena or administrative investigation. Again, a split as to whether the ACP is waived as to documents turned over to the Government. The Fourth Circuit's position is that production to the Government is a waiver of the ACP. *In re Martin Marietta Corp.*, 856 F.2d 619 (1988). Other courts disagree saying the privilege is not waived. There is also a middle ground, which is that no waiver occurs if the producing party specifically reserves the privilege and the Government agrees to maintain confidentiality of the produced material.

5. Obtaining assistance from a third party, such as an accountant or consultant. Generally no waiver if the third party is assisting the lawyer in rendering legal services, but waiver if the client's purpose is something else.

6. Same situation as in 5, *supra*, except that a "confidentiality agreement" is executed. Many courts disregard the agreement and say there is still a waiver.

### **"Crime-Fraud" Exception**

*Lewinsky* gives you the requirements for the crime-fraud exception to the ACP, and also employs the two-part *Zolin* procedure for asserting and litigating these claims. The ACP does not apply to a communication occurring when a client:

(a) consults with a lawyer for the purpose, later accomplished, of obtaining assistance to engage in a crime or fraud or aiding a person to do so, or

(b) regardless of the client's purpose at the time of consultation, uses the lawyer's advice or other services to engage in or assist a crime or fraud.

The crime-fraud exception is a corollary of the lawyer's obligation under Rule 1.2 (d) not to counsel or assist the client in conduct that is criminal or fraudulent. The parallel with Rule 1.2 (d) suggests an important interpretive limit on the crime-fraud exception—it only applies to *future* client misconduct. A client, for example, who comes to a lawyer with evidence of *past* criminal activity is entitled to absolute protection of his or her confidences and secrets. The lawyer may not, under Rule 1.6, disclose them *voluntarily* and the courts cannot compel the lawyer to testify in regard to past crime or fraud. Please note that the lawyer does not have to be involved in the client's wrongdoing for the CF exception to apply—they can be completely innocent and unaware of the client's purpose if the client had the purpose of obtaining legal assistance to engage in a crime or fraud. *Zolin* tells us that the party seeking to invoke the CF exception must make a *prima facie* showing that the attorney was retained for the client's purpose of obtaining assistance to engage in a crime or fraud. This showing must be established using unprivileged evidence. If the party makes the *prima facie* showing, the court may review the privileged information *in camera* and make a determination that the ACP has been lost with respect to the reviewed documents.

In *Lewinsky*, the “criminal or fraudulent” act was preparing and submitting an affidavit in the *Paula Jones v. William Clinton* sexual harassment case, in which Monica Lewinsky denied having sex with the President. It may be that this act or affidavit was perjurious, or an obstruction of justice under federal or state law, but it is not necessary to establish that her submission of a false affidavit constituted a crime. It was enough that she acted fraudulently, in the sense of her affidavit being an intentional deception. Courts can interpret “fraud” rather broadly in this context, and may not require that the conduct establish all the elements for a criminal or civil fraud. In *A v. B*, 726 A.2d 924 (N.J. 1999), the firm learned that its client had engaged the firm to draft a joint will for him and his wife, without telling wife that he had an illegitimate child. When the firm found about the illegitimate child, it wanted to tell the wife. Under New Jersey's version of Rule 1.6, the firm was permitted to tell wife of this fact to rectify the consequences of a client's fraudulent act. Was failing to disclose the mistress a fraud on the wife? The court answered this question by analogy with the CF exception to the ACP, holding that it applied and therefore the information was not privileged.

### **Professional Duty of Confidentiality—Rule 1.6**

The old Model Code, DR 4-101 referred to the duty to preserve a client's “confidences” and “secrets.” Virginia's version of Rule 1.6 still retains this language. A “confidence” is information protected under the ACP. A “secret” is any other information gained in the professional relationship which (a) the client has requested be kept inviolate or (b) the disclosure of which would be embarrassing or detrimental to the client.

Please note that ABA Model Rule 1.6 does not limit prohibited revelation of information to instances where it would be embarrassing or detrimental to the client. A lawyer can be disciplined for revealing information, even where the client can in no way be harmed. Consider this problem from the MPRE:

Four years ago, Mafco, represented by A, purchased a parcel of land and took title in the name of Trust Company. Mafco's president had informed A that that Mafco intended to build a large manufacturing plant on the property but did not wish its ownership of the property or its building plans to become public. After the purchase was completed, A did not represent Mafco in any other matter. Because of financial problems, Mafco postponed development of the plant. One year later, Investor, a client of A's, consulted A about the tax consequences of acquiring the local electric utility company. A, without revealing Mafco's identity, told Investor that a company was planning to build a large manufacturing plant in the area, and that if the company went forward with its plans, Investor's investment in the local utility company could be very profitable. Mafco subsequently declines to build the plant. Is A subject to discipline? Yes, because A revealed confidential information to Investor, even though the disclosure did not harm Mafco in any way. Of course, the rules also prohibit the lawyer from using information relating to the representation of a client to the disadvantage of the client. Rule 1.8 (b). This would prohibit A, for example, from purchasing an interest in the local utility company, if his motivation for doing so is based on confidential information that Mafco will build a plant. A lawyer cannot personally exploit or benefit from confidential client information. Former clients are protected under this ethical precept as well. Rule 1.9 (c). Breach of this duty can result in discipline, malpractice, disqualification and disgorgement of any profits gained by the lawyer in using confidential client information to the lawyer's personal advantage or gain.

Note the significantly broader scope of information protected under Rule 1.6 as compared with the ACP. See Comment [3] to Rule 1.6.

The duration of the ACP and the duty of confidentiality is "forever." The duty continues after the attorney-client relationship has ended—so a lawyer cannot reveal a former client's confidential information. Indeed the client's information is entitled to protection even after the client has died. *Swidler & Berlin v. United States*.

What if the information disclosed by the lawyer is publicly available? There is a split of authority as to whether the lawyer must keep confidential information that is a matter of public record. Some courts say that an attorney may nevertheless be disciplined for revealing confidential client information even if it is available in a public record. This is Virginia's position. LEO 1643. However, once that information is *generally known* it is not protected under the duty of confidentiality. Va. Rule 1.9 (c)(1).

### **The "Self-Defense" Exception**

The *Meyerhofer* case arose out of a disqualification motion. Lawyers for the defendants moved to disqualify the plaintiff's firm, on the theory that it had received "tainted" information from Goldberg, a former associate with the firm representing the issuer (Goldberg switched law firms and became employed by the plaintiff's law firm). Though not discussed in the case, this is a

good time to look at the ethical issues which arise when a lawyer in Firm A changes jobs and goes to work at Firm B. What happens if Firm B is representing a Client adverse to a client represented by Firm A, where the lawyer switching firms has acquired confidential information about his former client while working at Firm A?

As a general rule, information about a client possessed by one lawyer is imputed to all the other lawyers in a firm, even those lawyers who have no clue that a particular client is being represented by the firm. This is why, especially in large firms, a conflicts check is necessary to verify whether the firm is or has represented a party adverse to a potential new client. Whether or not that is in fact the case, all the lawyers in the firm are presumed to know all information about each and every client that the firm represents. Thus, for example, if Lawyer leaves Firm A, which defends physicians in medical malpractice cases, and joins Firm B which handles principally plaintiff's med mal cases, the potential for a conflict, and disqualification is great. When a lawyer changes firms under these circumstances, and joins a firm which is adverse to the old firm in a particular case, the lawyers seeking disqualification argue that the "switching" lawyer has "tainted" the new law firm, because the "switching" lawyer is presumed to possess confidential information about the old firm's client. Thus, lawyers in the old law firm move to disqualify the new law firm. However, the new law firm can successfully defend such a disqualification if it can rebut the presumption that the "switching attorney" has confidential client information. This can be accomplished by showing that while the "switching" attorney was employed at the old firm, he was not involved in that particular client's matter and acquired none of that client's confidential information. Of course, the smaller the old law firm is, the less likely that the presumption can be rebutted. Lawyers in large firms are less likely to know who in the firm is representing who.

Lateral transfers between law firms are common, so it is critical to know these rules. Read Comments 4-9 to Rule 1.9 so that you have a better understanding. This is critical information to know, especially if your firm is considering a lateral hire from another firm that is adverse to you in pending or past cases.

Returning to *Meyerhofer*, the point in that case was that Goldberg was named personally as a defendant in the securities fraud case. Disclosure of confidential information was necessary to clear Goldberg of possible civil liability. Rule 1.6 (b) (2) allows the attorney to disclose confidential information to defend himself against charges of misconduct, malpractice, ineffective assistance, etc. Although Goldberg had not yet been served with the lawsuit, Comment 17 to Rule 1.6 states that the lawyer need not wait until commencement of formal proceedings against him to reveal information necessary to defend himself against accusations of fraud or misconduct. Note also that Comment 17 limits the scope of authorized disclosure. Disclosure should be no greater than necessary to vindicate innocence.

# Ignition Interlock Device Guidelines for DWI Courts



## INTRODUCTION

DWI Courts target hardcore drunk drivers. Hardcore drunk drivers are defined as individuals with a history of prior impaired driving convictions and/or with a BAC (Blood Alcohol Concentration) over .15%. These individuals are often more resistant to traditional interventions for impaired drivers and often suffer from alcohol dependence.

Hardcore drunk drivers pose a greater risk to society and require the higher levels of supervision that exist in DWI Courts. An Ignition interlock is one more tool or technology DWI Courts can use to increase the monitoring of DWI Court participants and improve public safety.

In June, 2010, the Board of Directors of the National Association of Drug Court Professionals adopted the following position statement regarding ignition interlock devices:

*The National Association of Drug Court Professionals supports the use of ignition interlock devices for DWI Court and Drug Court participants.*

*Research demonstrates that ignition interlock devices are an effective tool in stopping an individual from starting a vehicle after consuming alcohol while the device is installed on that vehicle. The device prevents a vehicle from starting if a person's blood alcohol level exceeds a pre-set limit.*

*Research also demonstrates that once the ignition interlock device is removed from the vehicle, recidivism rates eventually return to pre-installation levels. To achieve a long term change in behavior and reduce long term risk, individuals should also be involved in a comprehensive alcohol/drug treatment program.*

*Community public safety supports the installation of ignition interlock devices to stop an addicted person from driving after drinking while the benefits of treatment are accruing.*

The following guidelines are designed to assist DWI Court teams as they consider incorporating the use of ignition interlock devices into their court.

**GUIDELINE NUMBER 1: PARTICIPANTS MUST FOLLOW THE LAW. WHEN LEGALLY ALLOWED, PARTICIPANTS SHOULD DRIVE IN AN IGNITION INTERLOCK EQUIPPED VEHICLE.**

Most DWI Court participants are repeat drunk drivers and thus, typically will not possess valid driver's licenses.

While every state has its own statutory requirements, federal law (23 USC §164a(4)A) provides that subject to state law and restrictions a repeat DWI offender can receive a restricted license to drive, but only if there is an ignition interlock device placed upon the offender's vehicle. Failure to comply with this provision results in a diversion of federal highway safety funds for the state.

Some states have passed legislation using the cited federal language that allows the granting of limited licenses, but only if the offender is in DWI Court and an ignition interlock is installed on his vehicle.

State associations of Drug Court professionals and DWI Court team members should consider and pursue similar legislation in their respective states.

**GUIDELINE NUMBER TWO: DWI COURT TEAM MEMBERS NEED TO UNDERSTAND STATE DRIVERS LICENSE ADMINISTRATIVE LAW AND PROCEDURE.**

Procedures for securing restricted licenses vary greatly state by state. DWI Court teams must familiarize themselves with their state's driver's license administrative law and procedure and fashion their DWI Court's policies so as to comply with the law and procedure.

It is important to develop a cooperative relationship with the motor vehicle licensing authority in your state with the goal of developing good policy in the application and expansion of DWI Court/Ignition Interlock programs.

**GUIDELINE NUMBER THREE: DWI COURT TEAM MEMBERS NEED TO UNDERSTAND THE DEVICES AVAILABLE IN THEIR STATE.**

Some states have their own technical standards as to what is required of ignition interlock providers. These standards vary greatly between the states. A state's technical requirements

may also rely upon The NHTSA (National Highway Traffic Safety Administration) 1992 Ignition Interlock Model Specifications.<sup>1</sup>

Many states provide lists of companies that are authorized to offer ignition interlock services in the particular state.

It is important for DWI Court team members to understand the capacities of the various devices approved for use in the state so they can be used effectively in a DWI Court Ignition Interlock Program.

DWI Courts must work only with ignition interlock providers and devices that are approved for use in the court's state.

### **GUIDELINE NUMBER FOUR: IGNITION INTERLOCK DEVICES CAN BE USED TO HELP MONITOR A PARTICIPANT'S ALCOHOL USE.**

Ignition interlocks were designed to keep a motor vehicle from starting if the driver tests positive for alcohol in excess of a predetermined breath alcohol level.

Ignition interlock devices were **NOT** created to monitor alcohol consumption. However, a number of DWI Courts are currently using ignition interlock devices to control both the participant's vehicle and monitor alcohol consumption.

This is only appropriate when:

- 1) The DWI Court has a zero tolerance policy as to alcohol consumption, and
- 2) The ignition interlock is not used to prove the presence of a particular breath alcohol level in a participant.

Ignition interlock devices can be programmed to require a DWI Court participant to make a certain number of alcohol monitoring blows per day, at specified times. A missed test, or a blow that is above a preset alcohol level, is recorded in the device as a violation.

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<sup>1</sup> NHTSA Model Specifications for Breath Alcohol Ignition Interlock Devices: Federal Register Vol. 7, No 67, Page 11772 et. sec.

The use of the ignition interlock in this manner can be a great benefit to a participant as the testing device is conveniently located at his or her residence and it is always transported with the participant whenever he or she drives to a different location. Using the same device to control the vehicle and for alcohol monitoring may also result in a cost savings to the participant and the program.

A positive alcohol blow may be indicative of the presence of mouth alcohol and many companies require additional blows when a positive result occurs, to allow the possibility of mouth alcohol to be cleared from the participant's system. Information stored in the data logger from the additional tests can also provide important information as to the underlying alcohol incident.

### **GUIDELINE NUMBER FIVE: USE PHOTO IDENTIFICATION IGNITION INTERLOCK DEVICES TO PROVIDE PROOF POSITIVE OF WHO PROVIDED THE BREATH SAMPLE.**

There are a variety of anti-circumvention features associated with ignition interlock devices designed to limit opportunities that a person other than the program participant/driver is providing the sample for the device to measure.

In the DWI Court setting it is critical to identify the individual that is blowing into the device. Many DWI Courts are utilizing ignition interlock devices which also provide a photo of the person providing the sample. A number of interlock companies have such devices available and it is important that DWI Courts understand how this feature works.

Some DWI Court judges report that photo identification technology has greatly increased their acceptance of using ignition interlocks.

### **GUIDELINE NUMBER SIX: DWI COURT TEAMS NEED TO UNDERSTAND THE USE OF DATA LOGGERS/EARLY RECALL.**

Modern ignition interlocks have data loggers which capture and store information about a wide range of vehicle events in the handset. Devices also have a backup of the data in a second location in the event that the handset is lost.

Ignition interlock data loggers are downloaded at the ignition interlock company facility between every 30 to 67 days. Information obtained by these regular data logger downloads is

not sufficient to provide the DWI Court with timely information needed to effectively address a participant's violation.

Many modern ignition interlocks have an "Early Recall" mechanism. If a DWI Court participant fails to comply with the requirements programmed into the device (e.g. blowing positive for alcohol or missing a required blow), the Early Recall mechanism is activated and a message appears on the interlock's screen telling the participant that if he/she does not bring the vehicle in for a data download within 48 hours the vehicle will no longer start.

Ideally, upon the downloading of a participant's violation at the ignition interlock company's facility, an e-mail is sent to the probation department and a violation can be processed in the normal manner of the DWI Court.

A court needs to check with the state's administrative ignition interlock program authority as to the availability of this approach.

The data obtained from the device needs to be made available to the entire team, especially treatment providers, to assist in providing an effective treatment response.

### **GUIDELINE NUMBER SEVEN: INCENTIVES AND SANCTIONS ARE IMPORTANT IN A DWI COURT IGNITION INTERLOCK PROGRAM.**

While the use of ignition interlocks in DWI Courts is a relatively new practice, it is important to remember that DWI Courts are a type of Drug Court. DWI Courts do not have to reinvent the wheel.

In DWI/Drug Courts, incentives for good behavior are more effective in changing participant addictive behavior than are sanctions. This same philosophy should be applied to the administration of DWI Court using Ignition Interlocks.

Sanctions in DWI/Drug Courts are progressive, becoming more significant based upon the number of violations and the nature of those violations. Revoking probation and/or removal of the ignition interlock devices should not be done lightly. It is important to recall that public safety is enhanced while the devices are on the vehicles. DWI/Drug Courts may want to consider extending the length of time a device is on the vehicle for a violation as an appropriate response.

Revocation of probation and/or removing of the ignition interlock devices must be weighed against an increased likelihood that drinking and driving may result.

**GUIDELINE NUMBER EIGHT: INDIGENCE AND PROGRAM COSTS SHOULD BE REVIEWED WHEN USING IGNITION INTERLOCKS.**

While DWI Court participants frequently have more resources and support systems available than do participants in classic Drug Courts, it is clear that a significant number of DWI Court participants have limited financial resources. Participant resources may be strained by the aggregate of fines, court costs, treatment expense, ignition interlock costs, license reinstatement fees and increased insurance expense.

Using ignition interlocks to both monitor the participant's alcohol consumption and to control the participant's vehicle may result in cost saving for the participant and the program. Furthermore, the ability of the participant in the DWI Court Ignition Interlock Program to earn a living may be substantially increased by making it possible for the participant to legally drive to and from employment.

However, a DWI Court Ignition Interlock Program must have some method in place to provide ignition interlock services at little or no cost to the truly indigent participant. The development of a form using objective criteria to qualify an individual as an indigent participant is recommended, although being able to afford an ignition interlock is not the same as being able to qualify for representation by a public defender.

**GUIDELINE NUMBER NINE: REPEAT DWI OFFENDERS ARE A DANGEROUS TARGET POPULATION KEEPING THE COMMUNITY INFORMED OF THIS PROGRAM IS CRUCIAL.**

Repeat DWI offenders carry with them a level of risk that many Drug Court participants do not. They repeatedly put themselves and others at significant risk by driving a vehicle while impaired on public roads.

Most law enforcement professionals understand that a very high percentage of repeat DWI offenders continue to drive when their licenses are suspended or revoked. However, the public at large, typically, is not aware of this behavior.

If a DWI Court participant should be involved in an alcohol-related crash in which someone is injured or killed, it is likely that the public will hold the DWI Court Ignition Interlock Program accountable for enabling the participant to be back on the road.

It is important to involve the community at the beginning of the process to increase the understanding on why ignition interlocks are being used in the DWI Court and the benefits they bring to the court and the community.

Some DWI Court Ignition Interlock Programs require more than the simple expiration of the 45 day hard suspension before they authorize the issuance of the restricted license. These additional conditions may include, but are not limited to, a longer period of good behavior/clean time and successful completion of certain levels of alcohol/drug counseling. Relapses or certain probation violations may restart the clock before a limited license is issued.

The establishment of these conditions must take into account local considerations, but a fair amount of caution is recommended before the restricted license is granted. Such concerns must be weighed against the understanding that the sooner that the ignition interlock devices are placed on the participant's vehicles, the sooner the protective benefits of the ignition interlocks can be realized.

### **GUIDELINE NUMBER TEN: DWI COURTS MUST PROVIDE CLEAR WRITTEN POLICY/PROCEDURES FOR THE IGNITION INTERLOCK PROGRAM.**

As with all human activity, communication is crucial. Each DWI Court utilizing ignition interlocks must include in its Memorandum of Understanding all critical terms detailing the use of the ignition interlocks and related procedures, including but not limited to those issues that have been specifically highlighted in these guidelines.

Some states provide for a number of separate criminal charges that may be committed when using an ignition interlock, such as:

- tampering with or attempting to circumvent the device
- asking a bystander to provide a sample
- a bystander actually providing a sample

A DWI Court team should discuss all criminal charges that could be brought as a result of any possible violation, or if any violation would result in additional sanctions in the DWI Court. The team's understanding should be reflected in the Memorandum of Understanding.

All DWI Court Ignition Interlock Program participants must be given a handbook that sets forth clear and detailed policies and procedures as to what are their rights and responsibilities in the program, so as to insure that they enter the program with appropriate expectations.

There should be a clear discussion in the participant's handbook to ensure the participant is informed as to any potential criminal charges that may be brought based on his or her use of an ignition interlock device.

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The National Center for DWI Courts (NCDC), a professional services division of the National Association of Drug Court Professionals (NADCP), is the only dedicated advocacy, policy, training and technical support organization for DWI Courts in the nation. For more information about the NCDC or DWI Courts go to [www.dwicourts.org](http://www.dwicourts.org).

NCDC – 1029 North Royal Street, Suite 201 – Alexandria, VA 22314. (703) 575-9400

*This document was developed by the NCDC DWI Court Task Force which was made possible by a charitable donation from the Wine & Spirits Wholesalers of America.*

# **Did You Hear A Word That I Said? ... Effective Communication in the Public Sector**

Virginia DUI Treatment Court Training Conference ~ September 18, 2012 ~ Williamsburg, VA

Speaker:

**Helivi L. Holland, Esq.**, City Attorney for the City of Suffolk, VA; Former Director of VA Department of Juvenile Justice

Objective: Learn techniques for effective communication with various individuals – including nice and difficult clients, client families, co-workers, attorneys, judges and others that just show up. This session will be interactive, comedic and musical.

## **I. Why You Should Care?**

- A. Rules of Ethics
- B. Standards of Conduct
- C. Rules of Professional Conduct
- D. Productivity, Morale and Job Security

## **II. Know Who are the Whos**

- A. Who you are...
- B. Who you are speaking to...
  - i. Nice/Difficult Clients
  - ii. Nice/Difficult Families
  - iii. Nice/Difficult Co-worker
  - iv. Nice/Difficult Attorneys
  - v. Nice/Difficult Judges
  - vi. The Others WHO Show Up

## **III. The A(s) Have It**

- A. Aptitude
  - i. Comprehension
- B. Attitude
  - i. Pleasantries

## **IV. “Whatcha talkin bout Willis?”**

- A. What are you really trying to say?
- B. Clarification
- C. Repeat but not annoy

## **V. “Know r mean”**

- A. Language Barrier?
  - i. Not just a foreign language
- B. Actual listening
  - i. You can ask a question

## **VI. I-jacking the Conversation**

- A. Keep focused
- B. Avoid
  - i. “I would never...
  - ii. “If I were you...

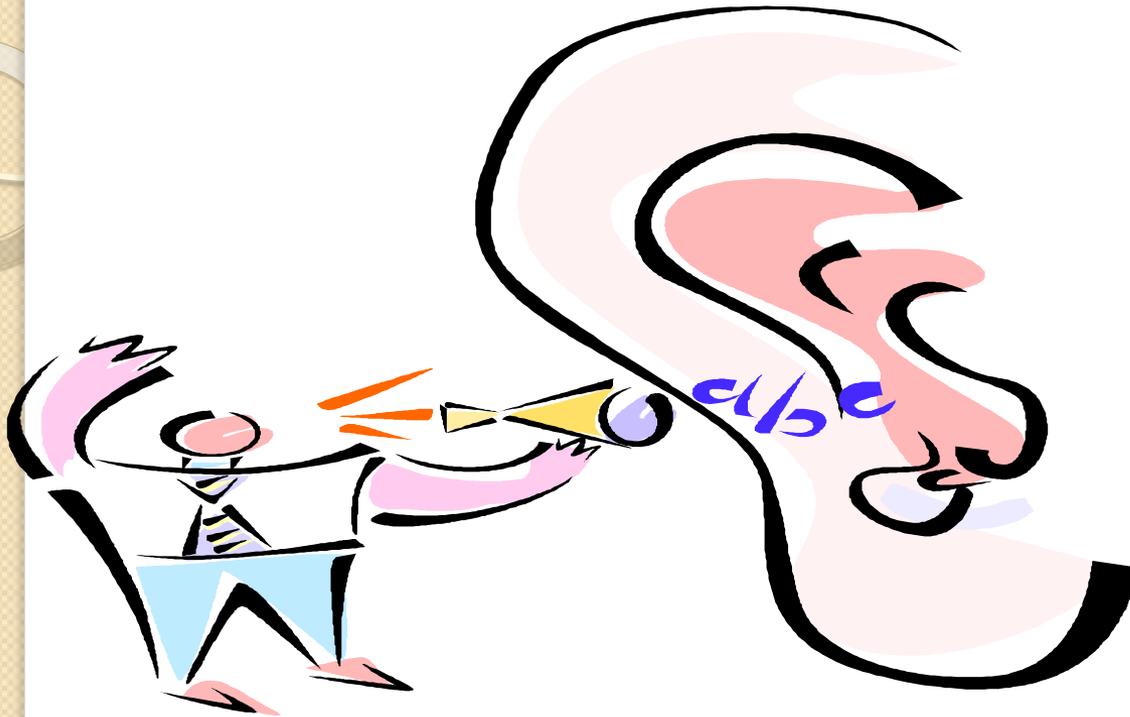
## **VII. The Art of Understanding**

- A. The sit-u-a-tion
- B. Issues and Concerns

## **VIII. End with a Closing**

- A. Summarize
- B. Document
- C. Question
- D. Pleasantries
- E. Words and Body Language of:
  - i. Interest
  - ii. Concern
  - iii. Appreciation

Did you Hear A Word That I Said?....



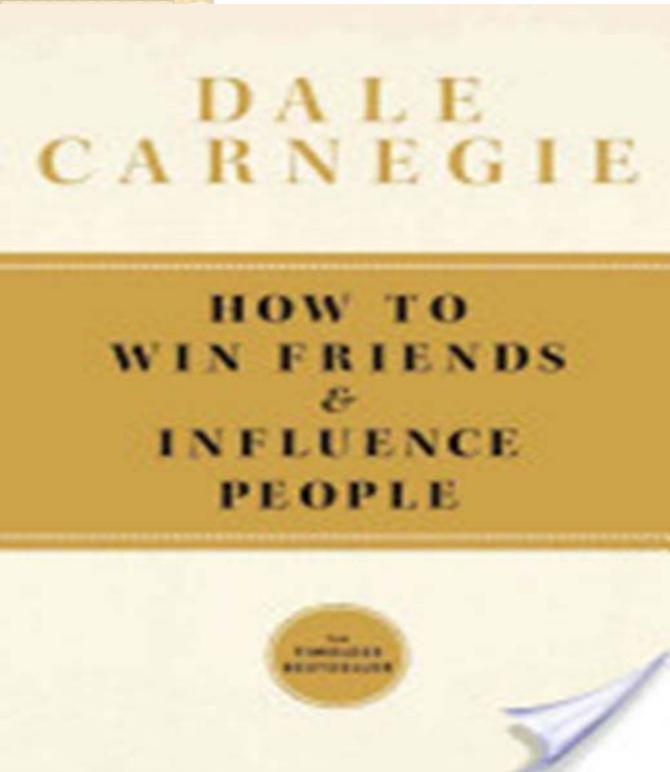
## **Effective Communication in the Public Sector**

**Virginia DUI Drug Treatment Court Training Conference  
September 18, 2012~Williamsburg, VA**

**Presenter: Helvi Holland, Esq., City Attorney for the City of Suffolk, VA  
Former Director of VA Department of Juvenile Justice**

**Does anyone know or care  
who this is??????**





The book is split up into 4 parts.

- Part 1 - Introduces the reader to fundamental techniques in handling people.
- Part 2 – Shows the reader 6 ways to make people like the reader.
- Part 3 – Tells the reader how to win people to the reader’s way of thinking.
- Part 4 – Tells the reader the principles of leadership and how to change people without offending them or making them resent the reader.

# Ever felt like Rhett Butler?



# Why You Should Care?

CERTIFIED SUBSTANCE ABUSE  
COUNSELOR (CSAC) CODE OF  
ETHICS

Canons of Judicial Conduct for the State of Virginia

*Virginia Personnel Act  
Employee Standards of  
Conduct*

- *Resolve work related issues and disputes in a professional manner and through established business processes*
- *Conduct themselves at all times in a manner that supports the mission of their agency and the performance of their duties*

*Virginia State Bar  
Rules of Professional Conduct*

***Productivity, Morale, Job Security***

**In my humble opinion**



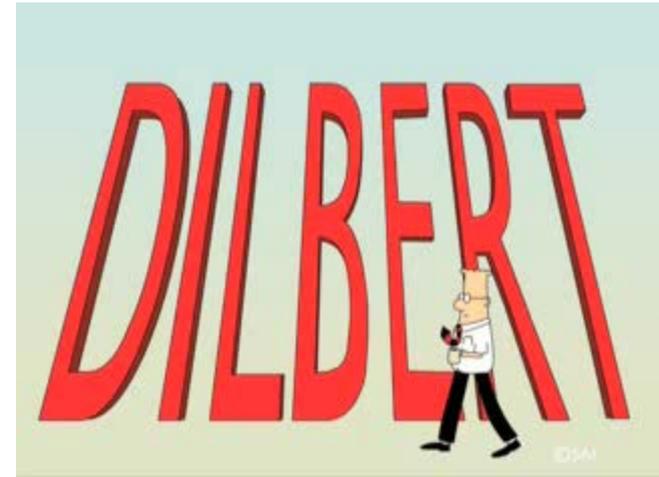
**.....copyright pending**

# Know WHO are the WHOs

- Who are you?
- Who are you speaking to?

## Nice or Difficult

- **Clients**
- **Families**
- **Co-Workers**
- **Attorneys**
- **Judges**
- **Those Others Who Show Up**



# The A(s) Have It!!!

- **A**ptitude of the Who

- **Comprehension**

- **A**ttitude of the Who

- **Pleasantries**

“Pleases” and “Thank You’s”

# “Whatcha talkin’ ‘bout Willis?”



- What are you really trying to say?
- Clarification
- Repeat but not annoy



# “Know r Mean”

Overcome the language barrier

- Not just a foreign language

Actual listening

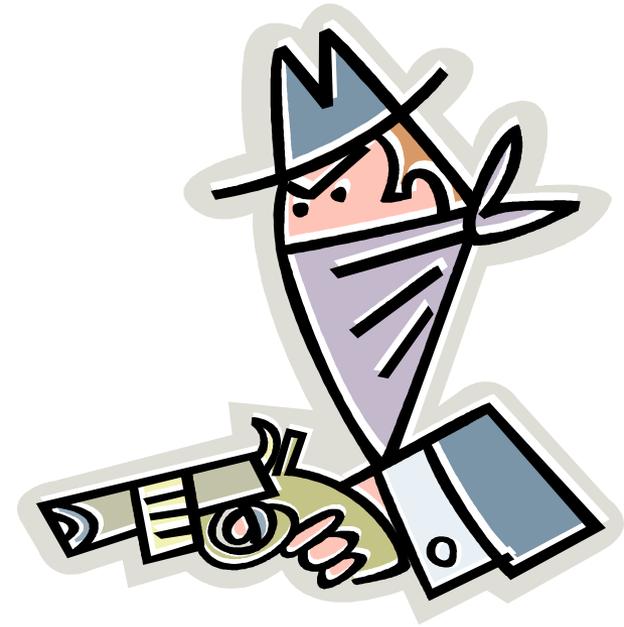
You can ask a question

# I-jacking the Conversation

- Keep Focused
- Avoid

“I would never...”

“If I were you...”

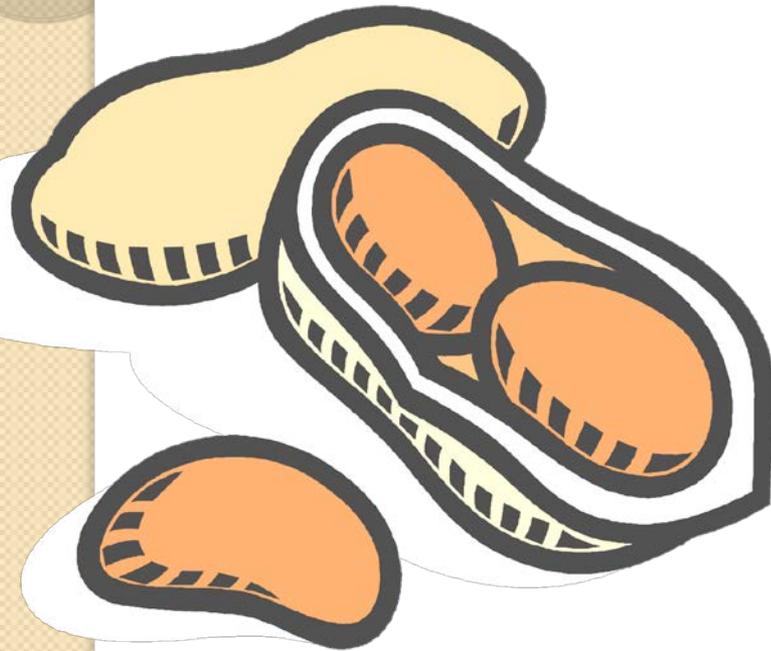


# The Art of Understanding

- ❖ The Sit-u-a-tion
- ❖ Issues and concerns

# In a nutshell...End with a Closing

(at the end of the conversation/discussion/consultation/interview)



**Summarize**

**Document**

**Question**

**Pleasantries**

**Words and Body Language of:**

◇ **Interest**

◇ **Concern**

◇ **Appreciation**

# Drug Testing



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2012



# #1 Comment from failures

**“IF ONLY YOU TESTED  
ME MORE”**



# Why we test:

- Like a thermometer-it measures possible continued infection
- It supports recovery
- It frames our treatment plan
- It frames sanctions and incentives
- It helps support the growth of refusal skills.



# Drugs of Abuse Testing Discussion

- some basic concepts about drug testing
- challenging collection strategies
- drug testing methods
- interpreting drug testing results
- questions & myths about drug testing
- specimen tampering
- The “How to Beat a Drug Test Business”
- New stuff to irritate us even more



# Characteristics of a Good Drug Test:

- **scientifically valid**
  - employs proven methods & techniques
  - accepted by the scientific community
- **therapeutically beneficial**
  - provides accurate profile of client's drug use
  - provides rapid results for appropriate response
- **legally defensible**
  - able to withstand challenge
  - established court track record
  - scrutinized by legal/judicial review



# Drug Testing Reality:

While planning, implementing and administering drug testing assume that your clients know more about drug testing than you!

It is their full time job....you have another job and other clients. They only have 1 probation officer (hopefully).



# Goals of Drug Testing: Why do it?

- acts as a deterrent to future drug use
- identify participants who are maintaining abstinence
- identify participants who have relapsed
  - rapid intervention
  - efficient utilization of limited resources
- provides incentive, support and accountability for participants
- adjunct to treatment & frames sanction decisions
- Because it is part of the court's order..



# Drug Testing Specimens

- urine - current specimen of choice
  - generally readily available - large quantities
  - contains high concentrations of drugs
  - good analytical specimen
  - provides both recent and past usage
  - EtS, EtG
- other specimens
  - hair
  - sweat - patch test
  - saliva - oral fluids
  - Eye scanning devices-ugh
  - Breath-for ETOH, lots of breath



# How to conduct a urine test

- This is a medical process. It should be consistent, objective, impersonal, and like a doctor's office.
- Chain of evidence and both the *appearance* and *factual existence* of fairness must be present.



# Officer & Staff safety first!

- Do not lock yourself in the room with a drug addict!
- No additional clothes, purses, etc in the room with you!
- Utilize universal precautions at all times.



# Urine Sample Collection:

- pre-collection preparation
  - site selection
    - minimize access to water sources
    - use an area with a scant floor plan
    - find privacy & security
  - gather supplies beforehand
- removal of outer clothing
- complete custody & control form



# Sample Collection: (continued)

- wash hands prior to donation
- provide proper collection receptacle
- “witness” collection
  - additional clothing removal
  - body inspection
  - squat and cough
  - Start, stop, start
  - use of the “wand”
  - Use of a toilet hat



# Sample Collection: (continued)

- **accept sample & inspect**
  - **temperature (90-100° F)**
  - **color (no color → inappropriate)**
  - **odor (bleach, sour apples, aromatics, vinegar, etc.)**
  - **solids or other unusual particulates**
- **maintain visual line-of-sight**
- **label sample correctly!!!**



# Sample Collection: (continued)

- security seal
- complete custody & control form
- store sample appropriately
- develop detailed written policy
- quality control collection process
  - don't assume collection procedures are being done correctly
  - exit interviews-if they laugh.....
  - sending through a fake donor



# Test for alcohol & drugs!

- Poly-substance abuse is common.
- Your drug of choice may be alcohol...or your drug of choice may be at the bottom of your first beer...
- Switching to other substances in early recovery is common to avoid detection
- Opiate cross-overs are common with alcohol.



# With alcohol, technology is your friend!

Trans-dermal detection devices

Presumptive Alcohol Sensors/PBT

Home electronic monitoring with alcohol testing

Local police/jail/Sheriff testing devices

Kiosks with identification verification

Ignition interlocks

GPS systems-safe start type

Nextel/cell phone to communicate with TX



# When to Test?

- KEEP 'EM GUESSING !
- test as often as possible - twice weekly or more
- effective drug testing must be random
- limit time between notification & testing
- consider use of multiple specimens (hair, saliva, sweat)
- design drug-specific testing regimes (cocaine test more frequently)



Remember:

THAT you are going to test is not a surprise: but WHEN you test should be a total surprise.



# The “witnessed” collection (for urine)

- single most important aspect of effective drug testing program
- urine collections not witnessed are of little or no assessment value
- denial component of substance abuse requires “direct observation” collections of participants





## Sample collection: who, quality, conflict

- treatment, probation, law enforcement, case manager
- probation vs. outside collectors (contract service) quality assurance?
- specimen type (i.e. urine, hair, sweat)
- frequency of collection
- gender issues
- training issues



**We don't test for all drugs-  
limited universe testing!**

- amphetamines (speed)
- barbiturates, benzodiazepines
- cannabinoids (THC, marijuana)
- cocaine (crack)
- opiates (heroin)
- phencyclidine (PCP)
- alcohol



# Drug Detection Times - by Specimen

- **general estimates**
- **urine: 1-7 days**
  - **excluding alcohol & THC**
  - **necessitates twice weekly screening**
- **sweat (patch): 7-14 days**
  - **depending on product used**
- **saliva (oral fluids): up to 24 hours**
- **hair: up to 90 days**
- **breathalyzer: few hours**
- **EtG: up to 48 hours at 500 cut off.**



# Two-Step Testing Approach

- **screening test – designed to separate negative samples from samples that are “presumptively” positive**
- **confirmation test – follow-up procedure designed to validate positive test results**
  - **distinctly different analytical technique**
  - **more specific and more sensitive**



# Confirmation tests

- gas chromatography-mass spectrometry (GC/MS)
  - drug molecules separated by physical characteristics
  - identified based on chemical “finger-print”
  - considered “gold standard”
- other chromatographic techniques



## Negative or None Detected Results

- indicates that no drugs or breakdown products (metabolites), tested for, were detected in the sample tested
- does not mean NO drugs present
- the probationer may be clean, or....



# Negative/None Detected Interpretation

- donor is not using a drug that can be detected by the test OR
- donor not using enough drug
- donor's drug use is too infrequent
- collection too long after drug use
- urine is tampered
- test being used not sensitive enough



# "second sense"

- If you think something else is going on, *look closer!*
- Testing is no more than a good tool.
  - Change up the testing, do a home visit, do what it takes to detect the problem.
  - You may be seeing the first stage of relapse before the use happens.



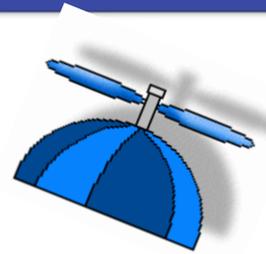
# Positive Test Result Interpretation

- indicates that drug(s) or breakdown products (metabolites), tested for, were detected in the sample tested
- drug presence is above the “cutoff” level
- greatest confidence achieved with confirmation



# What is a “cutoff” level ?

- a concentration, administratively established, to distinguish between negative and positive - “threshold”
- established above the sensitivity limit
- different for screening & confirmation
- also referred to as threshold value
- measured in  $\text{ng/mL} = \text{ppb}$





# Typical Cutoff Levels

screening & confirmation

|                         |                        |           |
|-------------------------|------------------------|-----------|
| ■ amphetamines *        | 500 ng/mL              | 250 ng/mL |
| ■ benzodiazepines       | 300 ng/mL              | variable  |
| ■ cannabinoids *        | <b>20</b> /50 ng/mL    | 15 ng/mL  |
| ■ cocaine (crack)*      | 150 ng/mL              | 100 ng/mL |
| ■ opiates (heroin) *    | <b>300</b> /2000 ng/mL | variable  |
| ■ phencyclidine (PCP) * | 25 ng/mL               | 25 ng/mL  |
| ■ alcohol               | 20 mg/dL               | 10 mg/dL  |

- \* SAMHSA (formerly NIDA) drugs



# **Specific drugs and drug classes**



# Alcohol - Results Interpretation

- screening tests specific for ethanol, ethyl alcohol
- positive results indicate presence alcohol
- alcohol is rapidly cleared from the body
- negative results don't necessarily document abstinence
- detection time = hours
- example - person intoxicated at 11:00 PM, collect second urine sample of next day (11:00 AM), most likely test negative for alcohol



# EtG...EtS

EtG [Ethyl glucuronide] is here.

- Detects a metabolite of ethyl alcohol that remains in the system between two and five days.
- Requires different lab equipment and processes—detects use when standard tests do not.
- Highly sensitive, and very effective.
- Cut off: 500 –reveals use for 48 hour window
- SAMHSA Advisory (updated)
- EtS should come in at  $\frac{1}{4}$  the EtG



# SAMHSA advisory

- Cautious use of EtG is required.
- Incidental or non-consumption exposure is possible
- Cut-offs are still being developed and clarified.
- Best recommendation: get an admission of use with the test results as a tool.



# Opiates - Results Interpretation

- screening tests - drug class assays
- positive results indicate presence of opiates
- *most assays not reactive toward synthetic narcotic analgesics; meperidine (Demerol), propoxyphene (Darvon), methadone, pentazocine (Talwin), fentanyl (Sublimaze)*
- poppy seed interference- **NO POPPY SEEDS!**
- difficult to separate legitimate use from abuse
- detection time: up to 4 days following therapeutic use of codeine or morphine



# Cocaine - Results Interpretation

- drug specific assays
- positive results indicate presence of cocaine metabolites
- virtually no interferences-if it comes back positive, it's coke.
- positive results almost always associated with illicit drug use unless there is very recent ear, nose, throat surgery!
- detection time: up to 3 days maximum
- negative result may not be clear indication of non-use



# Cannabinoids - Results Interpretation

- drug specific assays
- cutoff levels: 50 ng/mL & 20 ng/mL
- positive results indicate presence of cannabinoids - virtually no interferences
- difficult to separate recent from non-recent use due to lipophilic properties
- detection time: up to 10 days for heavy chronic use; 1 - 3 days for occasional use
- no passive inhalation
- Marinol<sup>®</sup> usage: Note Sativex is on the brink



# Recent Use versus Non-recent use (double sanction issue):

- How do you discriminate between new drug exposure and continued elimination from previous (chronic) use ?
  - only drug that poses concern is Cannabinoids
  - “two negative test” rule – two back-to-back negative drug tests post clean out



## Detection times depend on cut off levels!

30-day detection window often exaggerates duration

- detection time: at 50 ng/mL cutoff
  - up to 3 days for occasional use
  - up to 10 days for heavy chronic use
- detection time: at 20 ng/mL cutoff
  - up to 7 days for occasional use
  - up to 21 days for heavy chronic



Many of the early cannabinoid studies often cited as proof of 30+ day detection periods suffered from . . . older research practices

- unable to ensure abstinence *during* the study
- detection cutoffs used very low
- used testing methods no longer available
  - poor specificity

**Just say NO to  
“levels”**





# Drug Tests are Qualitative

- screening/monitoring drug tests are designed to determine the presence or absence of drugs - NOT their concentration
- drug tests are NOT quantitative
- drug concentrations or levels associated with urine testing are not useful for interpretation (i.e. distinguishing between recent use and continued elimination)
- A confirmation test is positive or negative-there is no value to numeric levels.

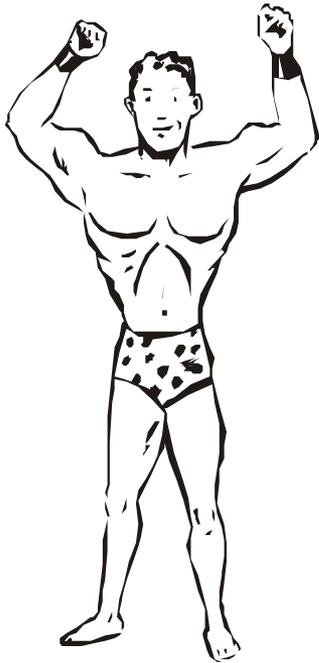


Drug concentrations or levels associated with urine testing are, for the most part, USELESS !

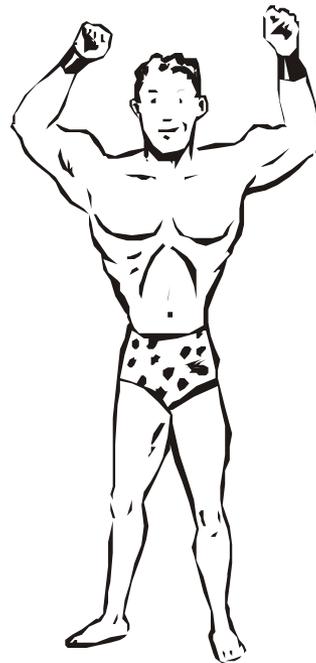
- cocaine metabolite 517 ~~ng/mL~~
- opiates negative
- cannabinoids negative
- amphetamines negative



# The Twins



**A**



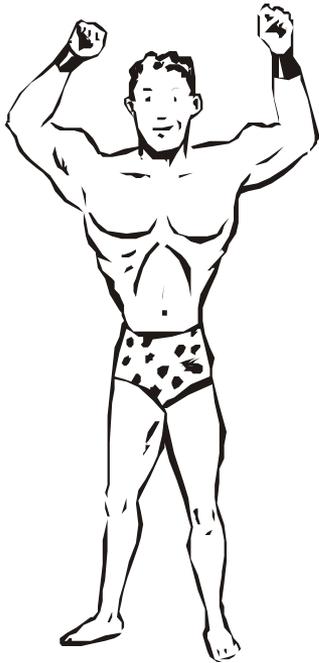
**B**

200 mg  
Wonderbarb  
@ 8:00 AM

Collect urine  
8:00 PM  
12 hours later

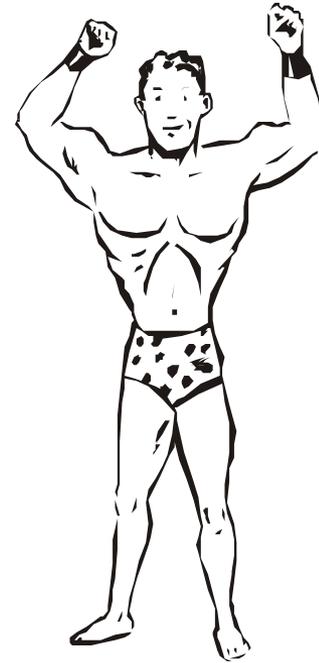


# The Twins - urine drug test results



**A**

**Wonderbarb = 638 ng/mL**

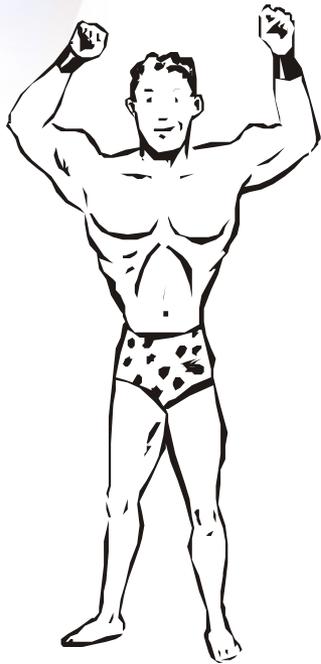


**B**

**Wonderbarb = 3172 ng/mL**



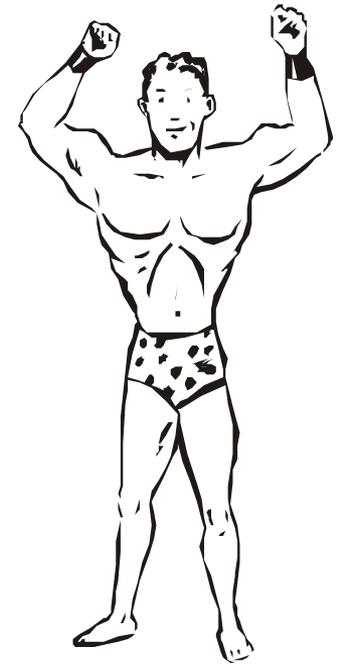
# The Twins - urine drug test results



**A**

**physiological make up**  
**exact amount drug consumed**  
**exact time of ingestion**  
**exact time between drug**  
**exposure and urine collection**

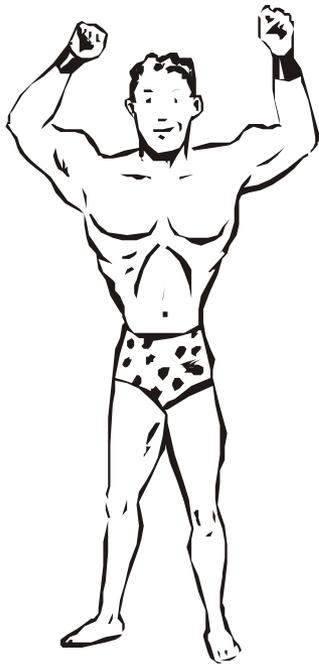
**AND YET . . . . .**



**B**



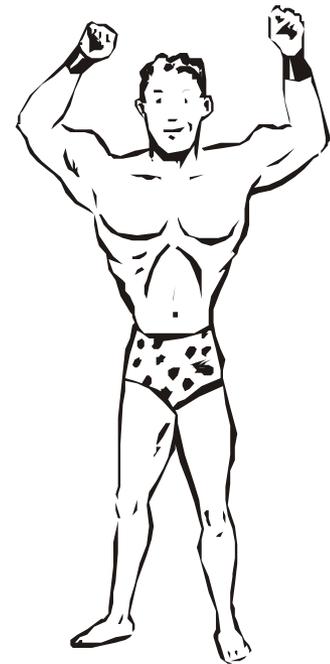
# The Twins - urine drug test results



**A**

**Wonderbarb = 638 ng/mL**

**Twin B's urine drug level is 5 times higher than Twin A**



**B**

**Wonderbarb = 3172 ng/mL**



# Why the difference in urine drug concentrations between twins?

- Twin A ate and drank normally during the day
  - consumed foods and liquids diluted urine pool
- Twin B fasted - urine more concentrated = high drug level
- reduced variables associated with twins to near zero, still could not use urine drug levels
- don't know nearly as much information about our own clients regarding drug use



**“But the levels of THC are falling!...”**

- Simple rule to help you remember:
  - You are either pregnant...or you're not
  - You are either dirty for detectable drugs...or you're not.



**What the heck is creatinine and why should I care ?**



# What is creatinine ?

- creatinine is derived from the non-enzymatic dehydration of creatine in skeletal muscle
- creatinine is produced by the body at a relatively constant rate throughout the day
- creatinine is a compound that is unique to biological material (i.e. urine, other body fluids)
- creatinine can be measured to determine the “strength” or concentration of a urine sample



## How are creatinine measurements used ?

- normal human creatinine levels will vary during the day based upon fluid intake - healthy individuals will rarely produce urine samples with creatinines of less than 20 mg/dL
- urines with a creatinines of less than 20 mg/dL are considered “dilute” and may not reflect an accurate picture of recent drug use
- urines with a creatinines of less than 5 mg/dL are considered “substituted” samples - not consistent with normal human urine



## But what about normalized creatinine?

- Interesting...yes
- Possibly instructive....yes
- Error rate: too high for my taste to sanction
- Why would you build resistance?



# Creatinine Facts

- incidence of creatinines less than 20 mg/dL in a “normal” population is approximately 1%
- some diseases that produce low urinary creatinines
- incidence of low creatinines in a population undergoing random drug testing is 3 - 5 times greater than a non-drug tested population
- any fluid intake dilutes the concentration of drugs in urine (along with the creatinine)



# More Creatinine Facts

- rapid intake of 2 quarts of fluid routinely produces low creatinines & negative urine drug tests within one hour
- rapid intake of 4 quarts of fluid almost always produces low creatinines and negative urine drug tests within one hour
- recovery time of urine creatinine and drug concentrations can take up to 10 hours
- incidence of drugs in urine of diluted specimens is over 5 times greater than in samples with normal creatinine levels



# Bottom Line:

**Dilute tests are a sign of a problem and need to be taken very seriously!**



# So, what to do?

- Begin altering your schedule-double back
- Conduct a surprise field visit
- Check your testing regimen to be certain folks are being observed...and not being given too long to report for testing.
- First void in the AM
- Refer to a physician
- Offer catheter in lieu of water for shy bladder



# Questions & Myths Surrounding Drug Testing



# Myth #1

- Passive inhalation of marijuana smoke can cause a “positive” drug test result.
- NO - not if standard cutoffs are used
- THC (cannabinoid) assay uses variable cutoffs (20, 50, 100 ng/mL)
- passive inhalation research indicates less than 10 ng/mL in volunteer urines
- Shotgunning and hot box is *not passive*
- no passive inhalation for “crack”



# Myth #2

- Advil<sup>®</sup> (ibuprofen) causes “false-positive” drug tests for marijuana
- NO!
- problem with EMIT<sup>®</sup> method corrected 15 years ago



# Myth #3

- Consuming poppy seeds causes “false-positive” drug tests for heroin
- NO! - but?
- poppy seeds contain trace amounts of both codeine and morphine
- can causes “positive” drug test results for “opiate” class
- confirm positive opiates
- Avoid the discussion: simply add “no poppy seeds” to your orders...There is NO constitutional right to poppy seeds!



# Myth #4

- Drinking vinegar or cranberry juice will produce a “negative” urine drug test.
- NO!
- theory is to cause a “pH shift”, making the urine sample acidic - altering the chemistry of immunoassay tests
- in reality - the body detoxifies the acid & dilutes to physiological pH
- But lots of fluid CAN create a dilute test



# Myth # 5

- It takes 30 days to clean out the pot!
- NO-NO-a thousand times....NO! – contact NDCI and download



# How to “Beat” a Drug Test



# Use a designer drug!

- That they don't have a test for...yet.
- Spice, etc is predominately used by drug testing populations.
- Testing on these drugs is still in infancy-approach with caution and get admissions.
- Ramp up supervision to assist.



# Basics of Specimen Tampering - The Three Approaches

- dilution
- adulteration
- substitution



**There are a variety of products on the market which take cruel advantage of the illness that has attacked our clients**



# Urine Specimen Dilution

- most common form of tampering
- pre collection dilution (hydration, water loading, diuretics)
- post collection dilution ( add water or fluid)
- creatinine measurement is critical
- dilution detection (validity checks)



# Pre-Collection Dilution

- high-volume ingestion of fluids (water loading, flushing, hydrating, etc.)
- may be in conjunction with products designed to “enhance” drug elimination or removal of drugs (Gold Seal, Clean ‘n Clear, Test-Free, Naturally Klean, etc.)
- no evidence these products have any additional effect on drug elimination
- use of diuretics



# Post-Collection Dilution

- agents added after sample collection designed to dilute or “thin” drug concentration in urine
- diluting agents (water, clean urine, other fluids)

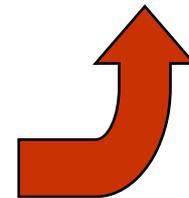


# Urine Specimen Adulteration

- addition of foreign substances designed to “mask” drug presence
- post-collection tampering
- low-tech adulterants that cause “pH shift” (lime, vinegar, bleach, ammonia, lemon, drano)
- low-tech adulterants that disrupt testing chemistry (salt, methanol, detergent)
- five common “high-tech” adulterants

# Specimen Validity Tests (SVT)

- creatinine, UUN
- specific gravity
- pH
- nitrites
- gluteraldehyde
- pyridine
- chromium





# Urine Specimen Substitution

- replacing donor urine sample with another drug-free specimen
  - biological substitution - someone else's “clean” urine
  - non-biological substitution - replacing urine with urine “look-a-like” sample (diet Mountain Dew, water with food coloring)
  - non-biologicals can be detected with creatinine testing



# Search homes & cars for signs of testing fraud





# Remember:

- This is not about “gotcha”
- It is about helping folks to resist cravings and work programs.
- It is about supporting recovery.
- It is about objectively measuring the presence of disease.
- Adolescents are not always addicted, but abusers, so your testing regimen and responses must be the very height of proficiency. The proximal and distal goals are not the same...and adolescent brains don't work that great with decisions.



# Questions?

- **Helen Harberts**
- **Porter93@msn.com**

# DRUG COURT PRACTITIONER

## F A C T   S H E E T

### URINE DRUG CONCENTRATIONS: THE SCIENTIFIC RATIONALE FOR ELIMINATING THE USE OF DRUG TEST LEVELS IN DRUG COURT PROCEEDINGS

By Paul L. Cary, M.S.

#### PREFACE

As the title implies, the objective of this fact sheet is to provide drug court professionals with a scientifically based justification for discontinuing the interpretation of urine drug levels in an effort to define client drug use behavior. As the premise of this document is not without some controversy, clarification of its intent seems warranted.

This fact sheet is intended for drug court practitioners who are routinely engaged in the interpretation and evaluation of urine drug testing results for the purpose of participant case adjudication, particularly client sanctioning. Given that most drug courts do not have routine access to biomedical or pharmacological expertise, this fact sheet recommends that the use of urine drug concentrations be eliminated from the court's decision-making process in order to protect client rights and ensure that evidentiary standards are maintained.

It is not the intention of this document to prohibit the interpretation of laboratory data by qualified scientists. Nor is it the objective of this fact sheet to assert that urine drug levels have no interpretative value. However, drug court practitioners are cautioned that the interpretation of urine drug levels is highly complex and even under the best of circumstances provides only limited information regarding a participant's drug use patterns. Further, such interpretations can be a matter of disagreement even between experts with the requisite knowledge and training to render such opinions.

It is for these stated reasons that the NDCI strongly encourages drug court programs to utilize the information contained herein to evaluate their drug testing result interpretation practices. This organization recognizes that the use of urine drug levels to assess client behavior may be widespread and longstanding. However, because courts rarely have the necessary toxicology expertise, the routine use of urine drug levels by court personnel in formulating drug court decisions is a practice that in most cases would not withstand scientific or judicial scrutiny. It is hoped that this fact sheet will serve as the foundation for those drug court programs routinely interpreting urine drug levels to transition to a strictly qualitative (positive or negative only) result format. Drug courts are also encouraged to seek expert toxicology advice when necessary and appropriate to assist in the interpretation of testing data associated with challenging cases.

## INTRODUCTION

While urine drug testing remains the primary strategy for the abstinence monitoring of drug court participants, interpretation of test results continues to be problematic for many courts. The use of urine drug concentrations (numeric values given with positive results) for the purpose of interpretation remains widespread. Many drug courts utilize urinary drug levels in an attempt to quantify the drug use behavior and patterns of their client population. To make matters worse, absolute drug concentrations are often “interpreted” without adjustments for differences in urine water content. Increases in absolute drug concentrations resulting from changes in urinary output are often mistakenly interpreted as new drug use rather than carryover from previous drug exposure. Decreases in absolute drug concentrations, which can also result from urine volume changes, can be misinterpreted as evidence of continued abstinence. Based upon limited, anecdotal information, urine drug levels are often arbitrarily assigned quantitative labels such as “high” or “very high” or “almost negative” in an effort to categorize laboratory results. Treatment providers monitor falling urine drug concentrations in an effort to substantiate continued elimination. Many drug courts utilize urine drug levels in an effort to define substance abuse behavior and dispense appropriately measured justice.

*The fact that urine drug concentrations are of little interpretive value will unfortunately come as a surprise to too many drug court professionals.*

At best, these interpretation practices are misguided. At worst, the conclusions reached regarding drug use behavior and patterns using urine drug concentrations are just plain **wrong!** While well intentioned and seemingly logical, the utilization of urine drug test levels

generally produces interpretations that are inappropriate, factually unsupportable, and without scientific foundation. Worst of all for the court system, these interpretations have little, if any, forensic merit.

## EVIDENTIARY STANDARDS

The drug court model is built upon an evidentiary foundation that provides maximum flexibility to team members as they apply innovative treatment strategies designed to succeed where other legal remedies have failed. While this flexibility is an important management tool, basic evidentiary standards for the admissibility of scientific data into the proceedings must be maintained. Unfortunately, as drug courts experiment with a variety of therapeutic interventions and struggle with sanction and incentive decisions, this evidentiary foundation sometimes may become compromised. This is particularly true when the interpretation of drug testing results utilizes urine drug levels.

The fact that urine drug concentrations are of little interpretive value will unfortunately come as a surprise to too many drug court professionals. The use of urine drug levels for evaluating patterns of substance abuse is commonplace and has deep roots in the criminal justice system. Court programs have been adjudicating cases based on urine drug levels for years. That fact does not make the practice any more legitimate. If the use of urine drug levels cannot be supported scientifically, then the validity of decisions based upon these levels is questionable. Accordingly, the more often a court utilizes drug test results in a manner that is not scientifically valid, the farther it strays from its evidentiary foundation – thus undermining the forensic defensibility of its decisions.

It has even been reported that some jurisdictions interpret urine drug levels that fall **below** the testing cutoff point (i.e., samples that have tested negative). Presumably, the evaluation of levels under the assay threshold is an effort to uncover potential covert drug

use. It is further reported that increases in these levels (still below the testing cutoff) are used to sanction drug court clients. Not only is the evaluation of urine drug levels in a negative sample the antithesis of the intent of drug testing, but it also violates standards of evidence admissibility. In short, this practice is unethical. A negative test result cannot be interpreted in any other manner than negative. Court-affiliated attorneys, both prosecution and defense counsel, entrusted with the protection of client rights are obligated to abolish this practice.

An unambiguous evidentiary foundation that will pass scientific and legal scrutiny is crucial for the continued success of drug courts. For those drug courts utilizing urine drug levels to formulate court-related judgments, this fact sheet is designed to provide sufficient objective information to support the reevaluation of those result interpretation practices that allow the introduction of unscientific evidence into the courtroom.

### LABORATORY/COURT RELATIONSHIP

The controversy associated with urine drug concentrations is complicated by the relationship between drug testing laboratories and the courts. The reporting of urine drug concentrations as part of the drug test result receives little attention within the drug testing industry itself. And if the issue does surface, the discussion often focuses on economic rather than scientific or ethical issues.

In performing a drug test, laboratories must determine the concentration of drug in urine in order to differentiate between samples that are reported as either positive or negative. Testing methodologies require that urine samples producing a drug concentration at or above the cutoff level of the drug test be classified as “positive” and that samples yielding a drug concentration below the cutoff level of the test be defined as “negative” (or none detected). In other words, the sole purpose for determining a urine drug level is to allow the assignment of a **qualitative**

result—positive or negative. The dilemma for the laboratory is what to do with the numeric result (drug concentration) that has been generated during the testing process.

Some laboratories do not report this value even if requested, believing that the urine drug concentration serves no useful purpose or could result in the misapplication of the data. On the other hand, many drug testing laboratories do provide the urine drug concentrations as part of their result report. When asked about the practice of reporting urine drug concentrations, most laboratories admit that these values are not useful for interpretation purposes; however, numerical results continue to be reported because of customer demand. Put another way, laboratories report drug levels because court professionals request those values. Laboratories that report concentrations routinely cite customer surveys that indicate that court programs would be dissatisfied with the lab services if drug concentrations were not provided (i.e., not getting their money’s worth). These surveys further suggest that merely reporting “positive” or “negative” results would be viewed as insufficient to meet the court’s needs.

The vicious cycle begins. Regardless of their negligible merit, urine drug levels reported to the court beg for interpretation and many courts are all too eager to oblige. Courts become dependent upon the drug levels provided by the laboratories for client adjudication and laboratories feel compelled to provide the concentrations to avoid the potential adverse economic repercussions associated with losing business due to not providing the levels. This results in an apparent institutional reluctance

*An unambiguous evidentiary foundation that will pass scientific and legal scrutiny is crucial for the continued success of drug courts.*

by both the laboratory industry and the criminal justice system to change current practices—even in the face of solid scientific evidence. Drug testing laboratories yield to the obvious economic forces and drug courts relying on urine drug levels for the dispensation of sanctions and rewards are not inclined to change or find the practice difficult to eliminate.

### DRUG TEST MANUFACTURERS’ RECOMMENDATIONS

By way of review, the drug tests used by drug courts are **qualitative**. That means that the purpose of the test is to determine the presence or the absence of a drug in a urine sample being tested – period. Either a drug test is positive (drug presence at or above the cutoff concentration) or negative (none detected; drug level below the cutoff concentration). These tests were not designed or marketed to produce quantitative results – how ***much*** drug is present in the sample.

The product information materials for the most popular laboratory-based drug test method in use in the U.S. (available since 1974) states the following:

- *“A positive result from the assay indicates the presence of drug but does not indicate or measure intoxication.”*
- *“Interpretation of results must take into account that urine concentrations can vary extensively with fluid intake and other biological variables.”*
- *“Immunoassays that produce a single result in the presence of a drug and its metabolites cannot fully quantitate the concentration of individual components.”*
- *“When the test is used as a qualitative assay, the amount of drugs and metabolites detected by the assay in any given specimen cannot be estimated. The assay results distinguish between positive and negative specimens only (Dade Behring, SYVA®, 2003).”*

This product information unequivocally established the qualitative nature of urine drug testing. Similar directives may be found in the product literature of essentially all drug testing products. The basis for this product

guidance is both technical (issues associated with the testing methodologies) and physiological (how the human body processes drugs).

### TECHNICAL ISSUES AFFECTING INTERPRETATION OF DRUG LEVELS

First, qualitative drug tests are generally not linear. That means that the urine drug concentration being reported may not be precise because the testing instrument’s response to varying drug concentrations is not a straight line. At high drug concentrations or low drug concentrations the values produced may not accurately reflect the actual concentration of drug in urine. Qualitative tests are not designed to accurately quantitate drug concentrations; the purpose of these tests is to determine whether the drug level in urine is greater than or less than the cutoff – positive or negative. Therefore, at the high concentrations (well above the cutoff) or at the low concentrations (significantly below the cutoff) the drug levels determined by the test may be skewed simply due to the concentration of the drug itself and the inability of the test to measure that concentration accurately.

Second, many initial screening tests detect both the presence of parent drug(s) and their metabolites (chemical breakdown products) simultaneously. That means that the numeric result reported represents a total concentration of the mixture of similar drug components (i.e., total amount of vegetables in a soup). These drug and drug metabolites are detected by the tests differentially. In other words, each individual component produces a distinct and dissimilar reaction (i.e., the peas in the soup produce a greater response when counted than the same number of carrots). With a qualitative test it is impossible to determine what portion of the total drug concentration being measured is associated with the primary drug and what portion is associated with the metabolites (i.e., what portion of the total measured vegetables in the soup is peas and what portion is carrots). Therefore, attempting to evaluate a urine drug level based upon a

result that measures total drug concentration (of continually changing concentrations of drug and drug metabolites levels) is not possible.

### PHYSIOLOGICAL ISSUES AFFECTING INTERPRETATION OF DRUG LEVELS

Drug concentrations in the urine are present in proportion to the total amount of liquid. If the urine is diluted, the concentration of the drug is reduced and when the urine is more concentrated the drug concentration is increased. Urine volume or output is highly variable (both from person to person and within the same person at different times during the day) and is influenced by a variety of factors, including: liquid, salt and protein intake, exercise, and age. The variability of drug concentrations due to changes in urine volume is significant. Drug levels may vary widely within a day or between days even with no additional drug exposure as a result of fluid intake alone. Without some form of normalization technique (some drug courts use creatinine concentrations to correct for the variations that occur in urine volume) the interpretation of urine drug levels is fraught with inaccuracy.<sup>1</sup>

As mentioned in the previous section, initial screening tests for drugs detect both the presence of parent drug(s) and their metabolites (chemical breakdown products) simultaneously. As drugs and their breakdown products are eliminated from the body they are excreted at differing rates – those that are less water-soluble are often eliminated more slowly than those that are more water-soluble. This results in a continually changing ratio of compounds that are reacting to the test (i.e., peas are eliminated more quickly than carrots; subsequent tests measure greater amounts of carrots). Due to the fact that these components are eliminated from the body at different rates, thus varying the overall test response,

any attempt to evaluate changing urine drug levels that are based upon a result that measures total drug concentration (drug and drug metabolites) becomes extremely problematic.

### THE BLOOD ALCOHOL MODEL

Judges and courts have relied on quantitative (numeric) testing data for decades in making sentencing decisions; most notably, the interpretation of blood alcohol levels for the purposes of establishing intoxication and impairment. Unfortunately, the interpretation of blood alcohol concentrations cannot serve as a model for evaluating urine drug levels. In fact, the ease with which society legislates and litigates around BAC's has likely exacerbated the problem associated with understanding the limitations of urine drug levels. The blood alcohol model may have inadvertently led to the fallacy that drug levels in any biological fluid can and should be interpreted.

When it comes to the testing of urine, it may seem logical to make the assumption that drug concentrations are related to either a specific physiological response or that urine drug levels correlate with drug usage patterns. But the correlation between blood (as a specimen) and alcohol (as a drug) from an interpretation perspective could not be more different from the interpretation of urine drug testing results. The interpretation of blood alcohol concentrations is relatively straightforward because: (1) alcohol is a simple molecule, (2) blood is the biological specimen most closely associated with the site of drug action (receptor), and (3) the study of alcohol levels and their effects on humans spans nearly 100 years. By contrast: (1) abused drugs have very complex chemical structures, (2) urine is a waste specimen not associated with the pharmacological activity of the drug, and (3) research associated with abused drug concentrations and physiological response is in its infancy (compared to alco-

1. For additional information on the use of creatinine to normalize results, see also: "The Use Creatinine-Normalized Cannabinoid Results to Determine Continued Abstinence or to Differentiate Between New Marijuana Use and Continuing Drug Excretion From Previous Exposure", *Drug Court Review*, Volume IV, Issue 1, Summer 2002, pages 83-103.

hol). It is for these reasons that eleven noted toxicologists, in a consensus report regarding the interpretation of urine drug testing results in a forensic context, wrote:

*“Testing of drugs or drug metabolites in urine is only of qualitative value in indicating some prior exposure to specific drugs. Inferences regarding the presence or systemic concentration of the drug at the time of driving or impairment from drug use are generally unwarranted (Consensus Development Panel, 1985).”*

Few outside the scientific community realize that even when measuring drugs in blood (as opposed to urine), that many of the abused drug levels commonly quantitated are extremely difficult to interpret or even to correlate with specific physiological responses. Not surprisingly, scientists generally agree that there is no correlation between urine drug levels and pharmacological action. Since there is no recognized correlation between urine drug levels and drug action, it is not difficult to understand why attempting to interpret urine drug levels is not scientifically valid.

*The blood alcohol model may have inadvertently led to the fallacy that drug levels in any biological fluid can and should be interpreted.*

A urine drug level does not indicate whether the drug has been used frequently or only a single time. Levels do not indicate the strength of the drug being used or when the drug was last used. Urine drug levels do not indicate whether a person was under the influence or intoxicated by the drug at the time of the sample collection. Urine drug concentrations cannot tell the drug court whether new drug use has occurred or the value is associated with continued elimination from a previous exposure. Numeric results do not accurately discriminate between whether a participant’s overall drug level is increasing or decreasing –

even if compared to previous urine drug concentrations from the same client, for the same drug. (This excludes those courts that have adjusted drug levels based upon urine creatinine concentrations.) Without extensive study under controlled conditions, no single urine drug test can reliably answer any of these questions.

### WHAT INFORMATION CAN BE OBTAINED FROM A URINE DRUG TEST?

A positive drug test indicates prior exposure to the drug detected. A negative drug test indicates either the specimen does not contain the drug or the drug is present in concentrations below the cutoff level of the assay. Repeat testing of clients at regular intervals can improve the interpretation of positive results. Multiple positives over a period of time reinforce that an individual may be regularly using the drug(s) being detected. For individuals known to have chronically used drugs prior to the start of urine drug testing, collection of multiple urine samples over a period of time requires special attention. While continued drug excretion from previous exposure is a factor in multiple positive tests, this explanation is only valid until such time as the drug being detected should have been eliminated from the body. Accordingly, continuing positive drug test results cannot be related to drug excretion from previous exposure indefinitely. Multiple negative or “none detected” results provide evidence that an individual is maintaining abstinence and not using drugs on a regular basis. As mentioned earlier, the use of creatinine-normalized urine results may enhance interpretation. For cannabinoids, this approach allows the differentiation between new marijuana use and positive test results associated with continued drug excretion from previous marijuana exposure.

### ELIMINATING DRUG LEVELS

Has the urine drug level increased or decreased since the last test? How positive is he/she? Does this level indicate relapse? The level

continues dropping so that indicates continued elimination, correct? If any of these questions are being asked within the drug court setting, it is almost certain that urine drug levels are being used inappropriately in the court's decision-making processes. For those court programs that use urine drug concentrations to make sentencing decisions, the transition to a non-numerical drug report format (i.e., results simply reported as positive or negative) may be difficult. However, there are benefits. First and foremost, the court moves forward secure in the knowledge that its rulings have a strong scientific basis and are forensically sound. Second, the court no longer has to attempt to interpret data that is not interpretable. Third, courts that have eliminated the use of urine drug concentrations have reported greater confidence in their decision-making process. Making decisions based entirely on either positive or negative reports removes the judicial ambiguity associated with manipulating numbers that few individuals, if any, in the court environment are trained to understand. Lastly, the use of urine drug test results that do not rely on concentrations adds additional fairness and equity to the rewards and sanctions process of the drug court. By removing the unpredictable urine drug levels from the decision-making equation, courts eliminate the unsupportable foundation on which these interpretations are based.

It is noteworthy that in the federal workplace drug testing programs (DOT, DOE, DOD, etc.), the routine reporting of urine drug levels is never permitted. Federally certified laboratories are **never** allowed to report the numerical values generated from initial screening procedures. These protections that are provided to federally regulated employees should serve to further illustrate the validity concerns associated with using urine drug concentrations in the drug court environment.

## FINAL THOUGHTS

Mark Stevens and James Addison may have said it best. In an article entitled, "Interface of Science and Law in Drug Testing" they wrote:

*"In short, there is a substantial gap between the questions that the legal community would like to have answered by drug testing and the answers that the scientific community is able to provide. The real danger lies in the legal community's failure to "mind the gap" by drawing unwarranted inferences from drug testing results (1999)."*

When a drug court uses urine drug concentrations as the evidentiary basis in support of a ruling (a practice that likely would not withstand a serious legal or scientific challenge), the interpretation is performed by court professionals who generally lack background or training in pharmacology, toxicology, or fields related to drug testing. Accordingly, the court cannot be expected to fully comprehend and apply the many physiological variables associated with the pharmacology of abused drugs in the human body or the scientific and technical issues of detecting those drugs in biological fluids. However, by using urine drug concentrations in a forensic context, the drug court assumes and accepts the responsibilities (and liabilities) associated with that scientific knowledge – its use and misuse. Therefore, it is incumbent upon each court to determine the appropriateness of its use of drug tests results in the dispensing of justice. Drug courts have been portrayed as models of effective and appropriate jurisprudence. However, the continued use of urine drug levels in the determination of sentencing decisions represents a practice that is ultimately detrimental to the process of justice.

*Making decisions based entirely on either positive or negative reports removes the judicial ambiguity associated with manipulating numbers*

Urine drug testing is **qualitative** – the purpose of a drug test is to determine the presence or absence of a drug in a urine sample – nothing more! Eliminating drug levels will not make

urine drug testing results any less reliable or useful. However, the continued use of urine drug levels by drug courts in an attempt to interpret drug test results will likely result in both inappropriate and unfair rewards and sanctions for participants. Attempting to extract information from a drug test result in order to develop conclusions about urine drug concentrations, however well-intentioned, cannot be supported by the science and represents an adjudication practice that is simply not forensically defensible.

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## FACT SHEET QUIZ: WHAT DID YOU LEARN?

*Test your new knowledge. Answer these true and false questions based on the Fact Sheet text.*

T  F 1. Urine drug levels are similar to blood alcohol concentrations in that they may be used to determine the impairment or intoxication status of the individual being tested.

T  F 2. In addressing the complexities associated with various sanction and incentive options, cocaine urine levels may be utilized in the decision making process.

T  F 3. Any fluid intake changes an individual's urine drug level.

T  F 4. Laboratories will not report drug testing results without a numerical value because testing manufacturers have indicated in their product literature that such measurements are important to result interpretation.

T  F 5. Certified laboratories are never allowed to report the numerical values produced by screening procedures for drug tests performed on federally regulated employees.

T  F 6. Evidence admissibility standards for drug courts are less restrictive because in many courts the participants have already pleaded guilty.

*Answers: 1. False; 2. False; 3. True; 4. False; 5. True; 6. False*

# The Unfortunate Story of Designer Drugs

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(Spice/K2, Bath Salts, & Beyond - 2012 Update)

Material: Paul L. Cary, Forensic Toxicologist, University of Missouri

Presenter: Helen Harberts, Chico CA [Porter93@msn.com](mailto:Porter93@msn.com)

# Synthetic Cananbinoids & Designer Stimulants (Novelty Powders)

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- ❑ history designer drugs
  - ❑ two primary categories of designer drugs
  - ❑ drug testing challenges
  - ❑ legal status
  - ❑ court's response
-

# Designer Drugs:

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- most designer drugs have been:
    - opioids
    - hallucinogens
    - anabolic steroids
  - 2005 - 2010
    - stimulants (DMAA)
    - sedatives (methyl-methaqualone)
    - Sildenafil citrate (designer Viagra)
    - synthetic cannabinoids
-

# March 1, 2011 DEA “Banned” Five Synthetic Cannabinoids

---

- synthetic cannabinoids covered under the DEA’s new rule includes the following:
    - JWH-018 \*
    - JWH-073 \*
    - JWH-200
    - CP-47,497
    - CP-47,497 (C-8 homologue)
-

|                       | <b>JWH-018<br/>(mg/g)</b> | <b>JWH-073<br/>(mg/g)</b> | <b>CP47,497<br/>(n=8) (mg/g)</b> | <b>JWH-250<br/>(mg/g)</b> |
|-----------------------|---------------------------|---------------------------|----------------------------------|---------------------------|
| <b>K2 Blonde</b>      | 12                        | 13                        | -                                | -                         |
| <b>K2 Standard</b>    | 9                         | 9                         | -                                | -                         |
| <b>K2 Citron</b>      | 10                        | 10                        | -                                | -                         |
| <b>K2* (Unknown)</b>  | -                         | -                         | 6                                | -                         |
| <b>K2 Summit</b>      | 11                        | 9                         | -                                | -                         |
| <b>K2 Blue</b>        | 15                        | -                         | -                                | -                         |
| <b>K2 Pink</b>        | 11                        | -                         | -                                | -                         |
| <b>K2 Latte</b>       | 16                        | 0.28                      | -                                | 14                        |
| <b>K2 Mint</b>        | 19                        | 0.30                      | -                                | -                         |
| <b>K2 Silver</b>      | 8                         | -                         | -                                | 16                        |
| <b>Spike Gold</b>     | 20                        | 11                        | -                                | -                         |
| <b>Spike Maxx</b>     | 17                        | -                         | -                                | 19                        |
| <b>Spike Diamond</b>  | 17                        | 0.07                      | -                                | -                         |
| <b>Spike Silver</b>   | 9                         | 16                        | -                                | -                         |
| <b>Space</b>          | 10                        | -                         | -                                | -                         |
| <b>Herbal blends*</b> | 2.0 – 35.9                | -                         | 1.1 – 16.9                       | -                         |

# Bath Salts

---

On October 21, 2011, the Drug Enforcement Administration (DEA) “banned” three synthetic cathinones by placing them into Schedule I of the Controlled Substances Act (CSA)

- ❑ mephedrone
  - ❑ 3,4 methylenedioxypropylone (MDPV)
  - ❑ methylone
-

# DEA Actions:

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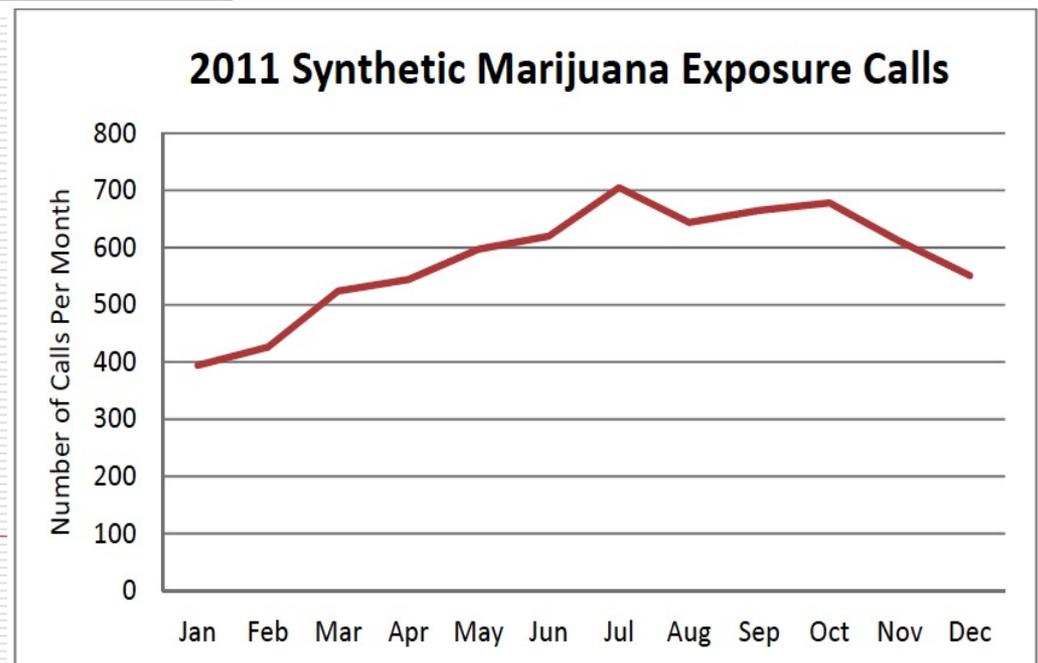
- ❑ DEA took action - imminent hazard to the public safety
  - ❑ imposes criminal sanctions and regulatory controls of Schedule I substances under the CSA
  - ❑ covers the manufacture, distribution, possession, importation, and exportation
  - ❑ RAMIFICATIONS?
-

# Synthetic Cannabinoid Data from Poison Control Centers

---

| Year                        | Number of Calls |
|-----------------------------|-----------------|
| 2010                        | 2,906           |
| 2011                        | 6,959           |
| 2012<br>As of Feb. 29, 2012 | 1,261           |

(7,566)



# Bath Salt Data from Poison Control Centers

---

| Year | Number of Calls |
|------|-----------------|
| 2010 | 304             |
| 2011 | 6,138           |

| 2011 by Month  | Number of Calls |
|----------------|-----------------|
| January 2011   | 301             |
| February 2011  | 487             |
| March 2011     | 639             |
| April 2011     | 600             |
| May 2011       | 720             |
| June 2011      | 743             |
| July 2011      | 680             |
| August 2011    | 602             |
| September 2011 | 512             |
| October 2011   | 401             |
| November 2011  | 231             |
| December 2011  | 222             |
| <b>Total</b>   | <b>6,138</b>    |

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# The Story of Designer Drugs

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# Designer Drugs:

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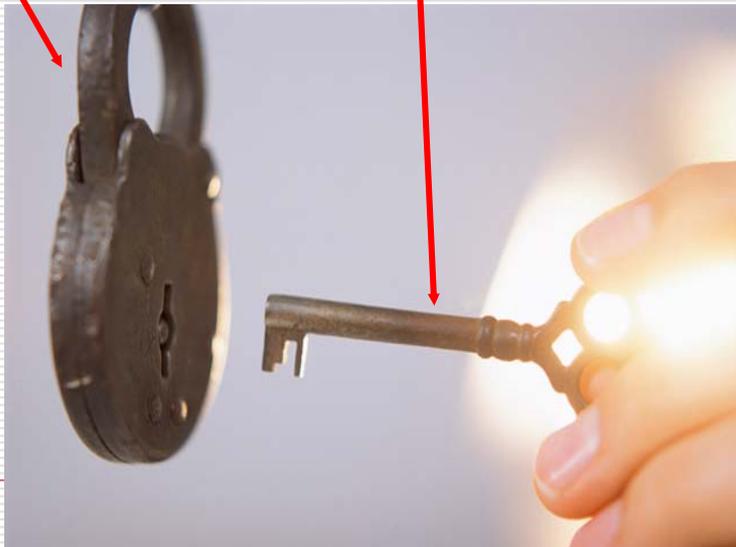
drugs, which are created (or reformulated, if the drug already existed) to get around existing drug laws (CSA), usually by modifying the molecular structures of existing drugs to varying degrees

---

An agonist is a chemical that binds to a receptor and triggers a response – often mimicking the action of a naturally occurring substance.

Receptor

Drug (agonist)



# Why Change the Key?

---

- prolong the effect of the drug
  - increase the potency of the drug
  - “select” the desired effect
  - make the drug more difficult to detect
  - avoid patent infringement
  - make an illegal drug “legal”
-

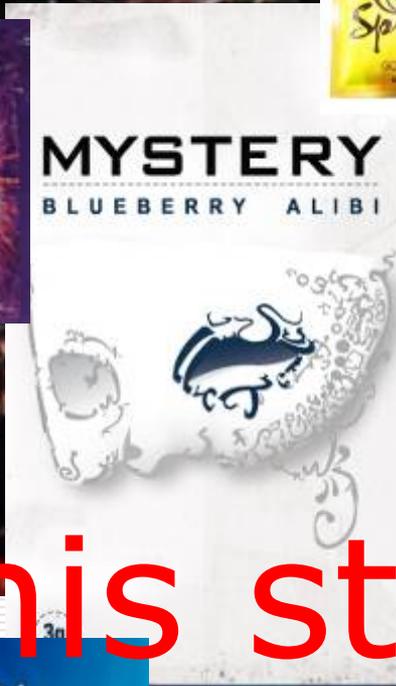
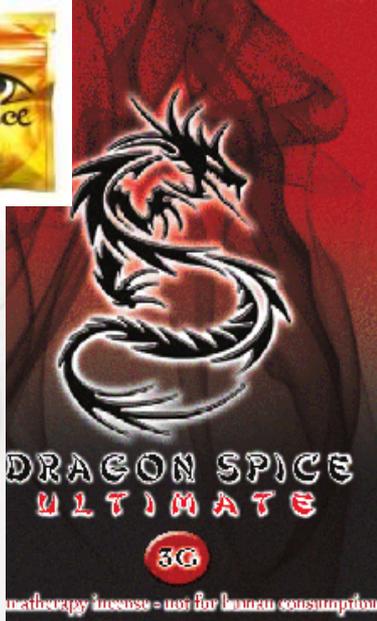
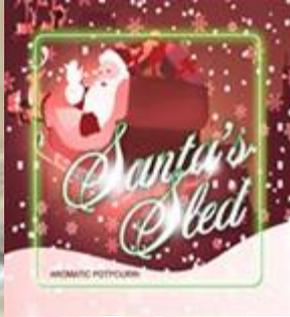
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# Spice/K2 and Synthetic Cannabinoids

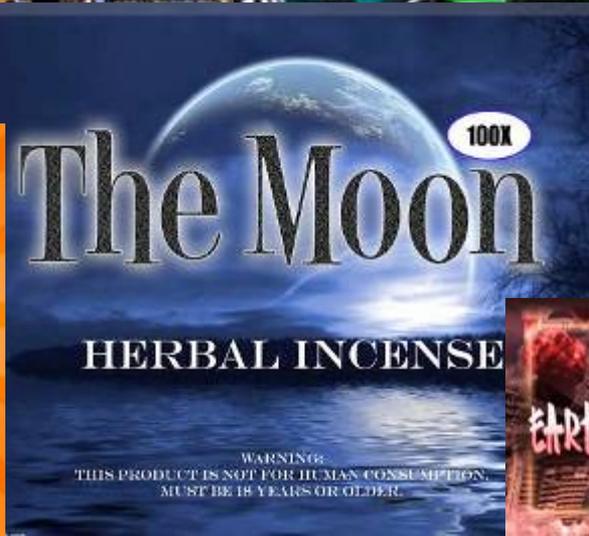
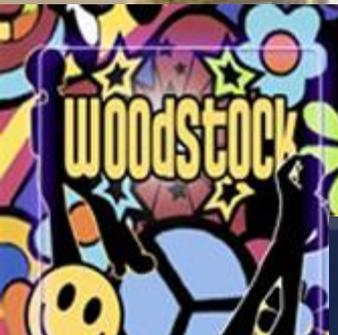
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What's in these  
"incense" products?



What is this stuff?



# “Listed” Ingredients in Spice

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- ❑ *Canavalia rosea*: commonly known as beach bean or bay bean - vine found in tropical and subtropical beach dunes
  - ❑ *Nymphaea caerulea*: also known as Blue Egyptian water lily
  - ❑ *Scutellaria nana*: perennial herb also known as Dwarf skullcap
  - ❑ *Pedicularis densiflora*: known commonly as Indian warrior - a perennial herb
  - ❑ *Leonotis leonurus*: also known as Lion's Tail and Wild Dagga - a perennial shrub native to southern Africa
  - ❑ *Zornia latifolia*: is a perennial herb
  - ❑ *Nelumbo nucifera*: known by a number of names including Indian Lotus, or simply Lotus - aquatic perennial commonly found in China
  - ❑ *Leonurus sibiricus*: commonly called Honeyweed or Siberian motherwort, herbaceous plant native to Asia
  - ❑ vanilla
  - ❑ honey
-

# Preparation of the “incense”:

---

□ botanicals are sprayed with liquid preparations of:

- HU-210
- HU-211
- CP 47,497
- JWH-018
- JWH-073



# Be on the lookout



# More Directions:

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There is 1.5g of Natural Super Puff in each package. Super Puff incense is an ultra strong aromatic incense, and is one of the world's strongest herbal incense blends available. It contains an extremely potent blend of herbal resins, extracts, and leaves. This incense is for botanical use only and is not for human consumption.

---



# Terms:

~~You affirm and agree to the following:~~  
That you are 18 years of age or older.  
NO EXCEPTIONS! You agree to use our products for their intended purposes only. You waive without exception your right to hold Seller liable in any way for the misuse of Seller's products. Buyer understands that all of Seller's products are offered for scientific research purposes only and that these products are not intended for human consumption. Buyer understands that Seller's products are not meant for oral consumption or inhalation of smoke/hot vapors. The Seller does NOT supply instructions on proper use of any product provided.

TERMS AND CONDITIONS: NS: By entering the website of and ordering from IntenseHerbs.com you agree to our Terms of Service and use as expressed below. You also affirm and agree to the following: That you are 18 years of age or older. NO EXCEPTIONS! That any herbs, herbal blends, and or bulk herbs on this site are legal to sell and/or purchase in your physical location or point of receipt of shipment. You agree to use our products for their intended purposes only. You waive without exception your right to hold Seller liable in any way for the misuse of Seller's products. OUR PRODUCTS: Buyer understands that all of Seller's products are offered for scientific research purposes only and that these products are not intended for human consumption. Buyer understands that Seller's products are not meant for oral consumption or inhalation of smoke/hot vapors. The Seller does NOT supply instructions on proper use of any product provided. If you as Buyer have any medical concerns or questions regarding the use of herbs, or herbal blends, offered on this site please consult with a physician. Buyer agrees to take full responsibility and liability for any purchases made from Seller, Buyer agrees to indemnify and hold harmless Seller, its suppliers, employees, owners and agents for and against any and all losses, damages and expenses, including legal fees, which may result from the use, intended or otherwise, of any product provided by Seller. Buyer understands that Seller's offer of any product is void where prohibited, and that it is Buyer's responsibility to check and abide by local, state/province and government laws and regulations in accordance with the use of any product provided through IntenseHerbs.com Buyer agrees to make no attempt to hold Seller liable for anything that may happen to a delivery while en route, and Buyer understands that since Seller cannot know of all laws for all locations, it is entirely Buyer's responsibility to make certain that the products ordered are allowed in buyer's place of residence, shipment or use. Buyer understands that herbs or herbal blends cannot be returned for a refund or exchange. ALL SALES ARE FINAL! Returns are not accepted due to the possibility of contamination of product. Buyer understands there are no exchanges or refunds offered of any kind with the exception of: Defective, damaged, or incorrect shipments by the seller. All products sold on IntenseHerbs.com are sold and intended for use by individuals 18 years or age or older. Buyer must be at least 18 years of age and understands that by submitting an order to the seller via the electronic processes here-in, buyer affirms they are at least 18 years of age. ORDERING: If Buyer provides a billing address that does not match the billing address of a credit card, seller will not honor the card and the order will be voided. Orders must be in the buyer's name and cannot be placed by third parties; if the name on a credit card does NOT match the name of the person placing the order, the order will be voided. CREDIT CARD FRAUD: Fraudulent orders include, but are not limited to, orders placed using a credit card that is not yours or one which you do not have permission to use. The use of a parent's or legal guardian's credit card by a minor without the consent of the parent or legal guardian is a crime. It may be classified as a felony. All such orders will be prosecuted by the seller to the fullest extent of the law. All financial responsibility including, but not limited to, attorney fees, court fees, fines and/or any other applicable fees shall be the full responsibility of the fraudulent party. PRIVACY POLICY: The IntenseHerbs.com does not sell, rent or share personal information with any third party except incident to filling an order. The information you give us is confidential, and will not be sold or given to any individual or company or organization under any circumstances. FDA DISCLAIMER: The products offered through this site have not been evaluated by the FDA (United States Food & Drug Administration) and are not approved to diagnose, treat, cure or prevent disease. COPY RIGHT NOTICE: Copyright IntenseHerbs.com All Rights Reserved. Products featured here are registered trademarks of their respective makers and distributors. IntenseHerbs.com

provided.

intenseHerbs.com



So, not for human consumption, so how do you use it?

---

# They smoke it!!

---

Warnings?

What  
warnings??!



# The 3 Groups

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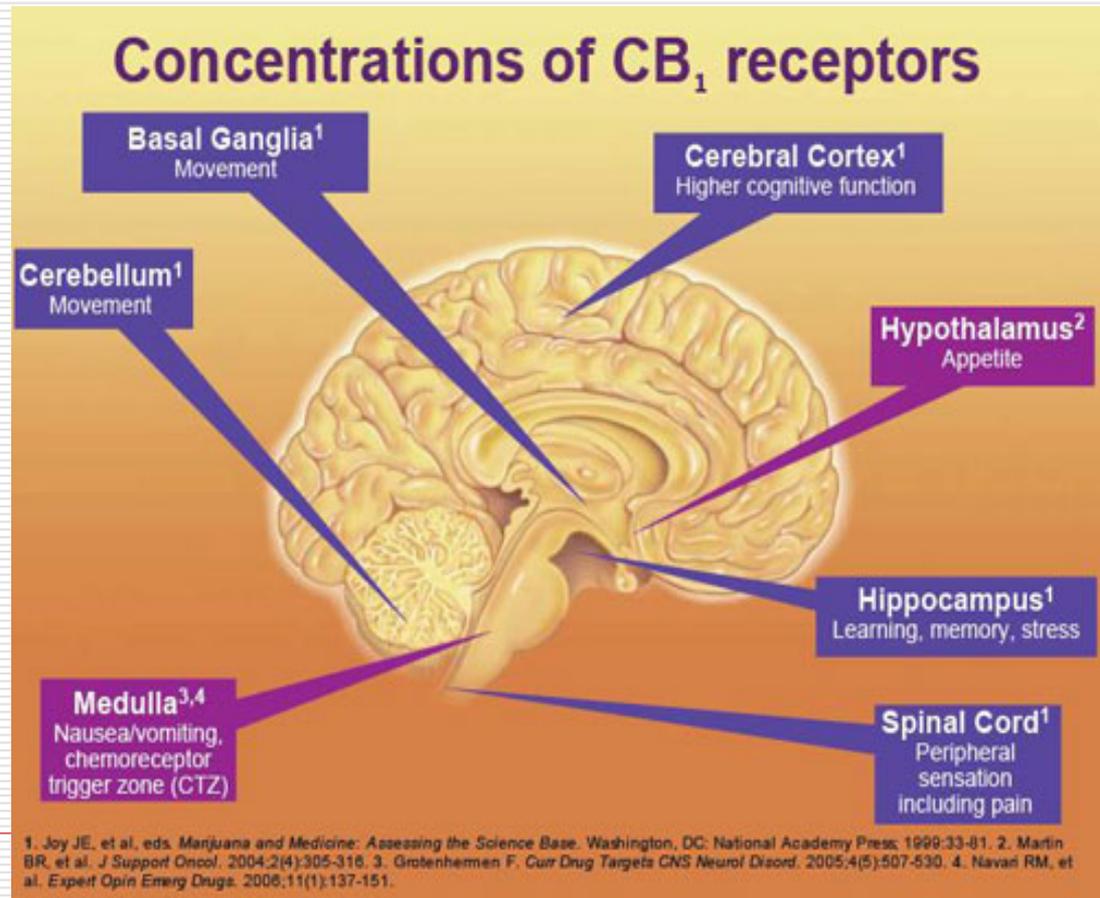
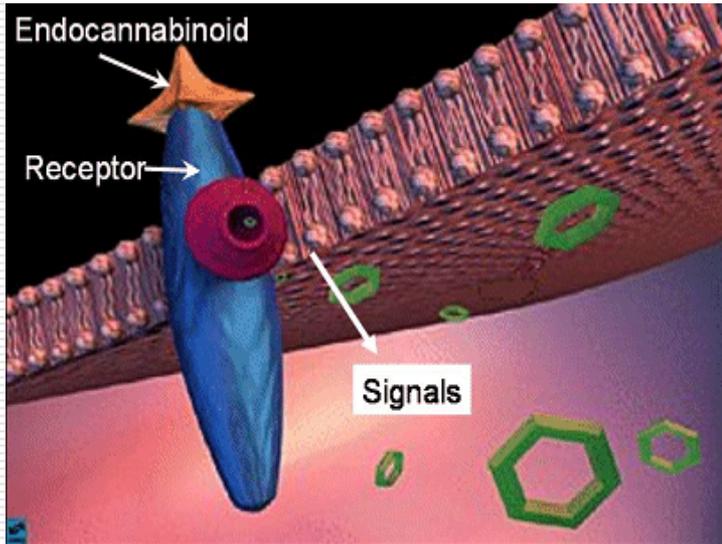
- Presently, there are three general types of cannabinoids:
    - Phytocannabinoids occur uniquely in the cannabis plant
    - Endogenous cannabinoids are produced in the bodies of humans and other animals and.....
    - Synthetic cannabinoids which are similar compounds but are produced in a lab environment
      - **This is K2 / Spice**
-

# CB Receptors:

---

- CB<sub>1</sub> and CB<sub>2</sub>
  - CB<sub>1</sub> receptor influence mainly the brain (central nervous system, CNS), but there are also effects expressed in the lungs, liver and kidneys
  - CB<sub>2</sub> receptor effects mainly the immune system and in certain stem cells
-

# CB Receptors:



## Another problem:

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- ❑ Changing formulas and inconsistent production values have created VERY inconsistent dosage.
  - ❑ Testing shows strength ranging up to 100 times stronger than marijuana.
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## CASE REPORT

# Withdrawal Phenomena and Dependence Syndrome After the Consumption of "Spice Gold"

Ulrich S. Zimmermann, Patricia R. Winkelmann, Max Pihatsch, Josef A. Nees, Rainer Spanagel, Katja Schulz

## Dependence Syndrome Similar to Marijuana

### SUMMARY

**Background:** "Spice" and other herbal blends were marketed in Germany until January 2009 as substances purportedly exerting similar effects to cannabis, yet containing no cannabinoids. These products were recently forbidden in Germany under the provisions of the German Narcotics Law after they were found to contain undeclared, synthetic cannabinomimetic substances. The authors describe physical withdrawal phenomena and a dependence syndrome that developed after the consumption of "Spice."

**Case presentation and course:** A 20-year-old patient reported that he had smoked "Spice Gold" daily for 8 months. He developed tolerance and rapidly increased the dose to 3 g per day. He felt a continuous desire for the drug and kept on using it despite the development of persistent cognitive impairment. His substance use led him to neglect his duties in his professional training position. Urinary drug screens were negative on admission to the hospital, as they were again on discharge. On hospital days 4–7, he developed inner unrest, drug craving, nocturnal nightmares, profuse sweating, nausea, tremor, and headache. His blood pressure was elevated for two days, with a maximal value of 180/90 mm Hg accompanied by a heart rate of 125/min. The patient stated that he had experienced a similar syndrome a few weeks earlier during a phase of abstinence owing to a short supply, and that it had quickly subsided after he had started consuming "Spice" once again.

**Conclusions:** The authors interpret the symptoms and signs described above as a dependence syndrome corresponding to the ICD-10 and DSM-IV criteria for this entity. The physical withdrawal syndrome closely resembles that seen in cannabis dependence. The authors postulate that the syndrome in the patient described was due to an admixture of synthetic cannabinomimetics such as JWH-018 and CP-47497 in "Spice Gold," in combination with the patient's daily consumption in very large amounts.

Dtsch Arztebl Int 2009; 106(27): 464–67  
DOI: 10.3238/arztebl.2009.0464

**Key words:** designer drugs, drug abuse, addictive behavior, pathogenesis of addiction, drug-withdrawal therapy

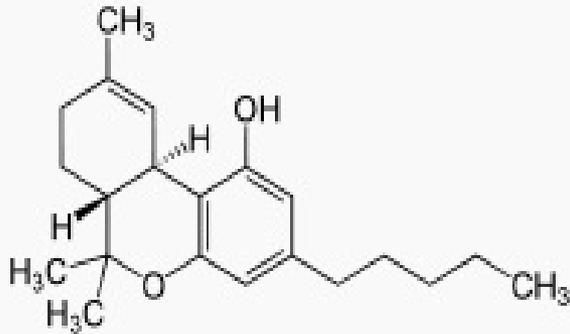
Klinik und Poliklinik für Psychiatrie und Psychotherapie, Universitätsklinikum Carl-Neuberg-Campus, PD Dr. med. Zimmermann, Winkelmann, Pihatsch, Dr. med. Nees, Institut für Rechtsmedizin, Technische Universität Dresden; Dr. rer. nat. Schulz, Zentrum für Suchtsucht, Abteilung Psychopharmakologie, Mannheim; Prof. Dr. rer. nat. Spanagel

**P**re-packed herbal blends were sold in Germany and other European countries until January 2009. The smoke of these products is supposed to have cannabinoid-like effects when inhaled, although they do not contain any cannabis. Several names have been given to these products, such as "Spice," "Smoke," "Science," "Yucatan Fire," or "Skunk." As this drug had spread rapidly by the end of 2008, there was an intensive discussion about any possible risk. In December 2008, several laboratories detected an admixture of the synthetic cannabinomimetic substances JWH-018 and CP-47497. These are in all probability the sole cause of the psychotropic effects of these smoked products (1). Therefore, the German Federal Ministry of Health made all products containing these substances subject to the Narcotics Law, by fast-track legislation on 22 January 2009. For this reason, production, trade and possession are prohibited. There is still no reliable scientific information on the actions of these substances in man. We have observed withdrawal phenomena after regular consumption of these substances in the form of "Spice Gold."

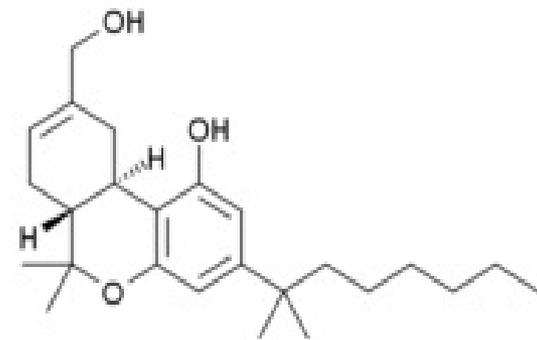
### Medical history

A youth care worker presented a 20-year-old patient (165 cm, 50.8 kg). She had been taking care of him as part of a professional rehabilitation measure. He had not participated in practical work for four weeks and now he was threatened with losing his professional training position. As regards his drug history, the patient reported that he had been consuming illegal drugs for about three years. At the beginning, he had only consumed hashish. After that he had also begun to take hallucinogenic mushrooms and *Salvia divinorum*, a type of sage with the hallucinogenic active substance salvinorin A. He drank alcohol very rarely; he had never regularly consumed opiates or other illegal drugs than the above mentioned and had not done this at all in recent years. Besides ten cigarettes per day, he has only been consuming "Spice Gold," initially 1 g daily, for eight months. Due to decreasing effect, he had rapidly increased the dose to a final value of 3 g daily—split into 3 to 4 doses, with the first dose early in the morning. For this purpose, he inhaled the smoke from the herbal mixture burned in a glass pipe ("bong"). Owing to the consumption of the substance, he had often recently been listless and had had problems in thinking clearly. A few weeks ago

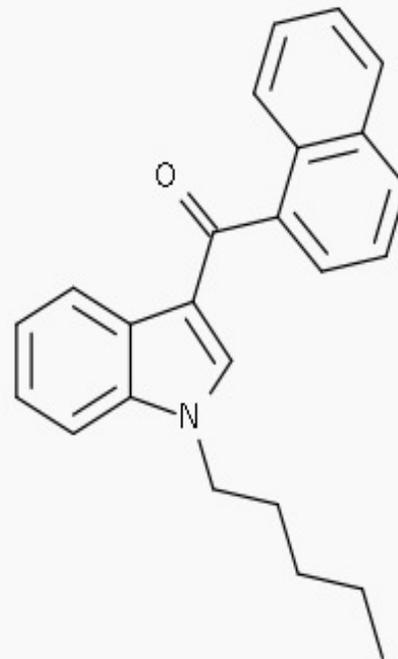
## Tetrahydrocannabinol (THC)



## HU-210



## JWH-018



# Prevalence of Synthetic THC?

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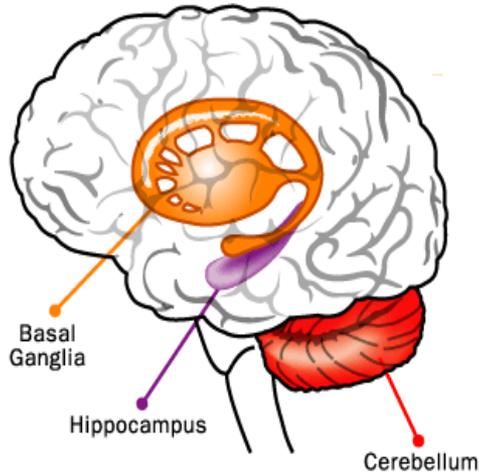
- ❑ Per Redwood Toxicology:  
30-35% positive rate on  
juvenile urine tests. (2010)
  - ❑ US Military finds it all over  
the place.
-

# Origins of Synthetic Cannabinoids

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- ❑ HU-210 & HU-211 - synthesized at Hebrew University, Israel in 1988. HU-210 is an anti-inflammatory; HU-211 as an anesthetic
  - ❑ CP 47,497 - developed by Pfizer in 1980 as an analgesic
  - ❑ JWH-018 & JWH-073 - synthesize by a researcher at Clemson (1995) for use in THC receptor research - John W. Huffman
  - ❑ more than 100 different synthetic cannabinoids have been created
-

## Cannabinoid Receptor Sites

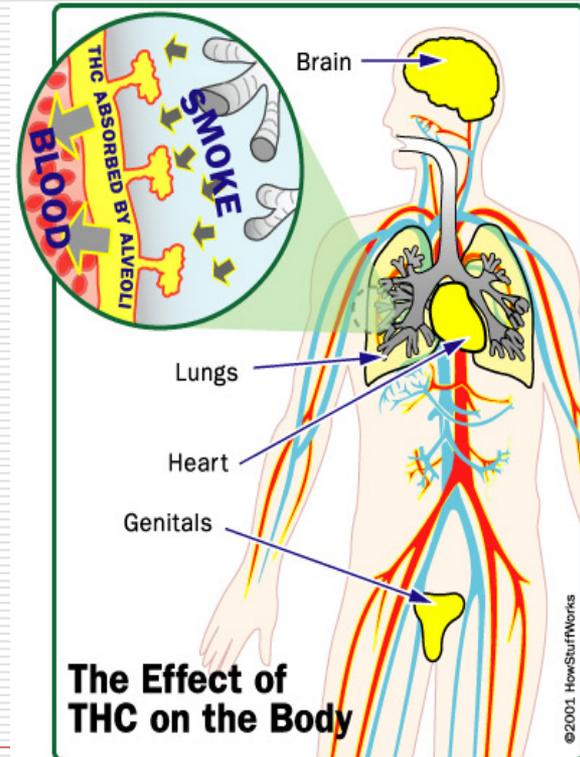


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# Smoking Cannabinoids

What does CB<sub>1</sub> receptor control?

- ❑ BG: motor control, learning
- ❑ Hippo: memory, spatial navigation
- ❑ CB: cognitive functions - attention, language, emotions



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# Reported Effects of Synthetic Cannabinoids are Different to THC

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- ❑ production inconsistencies
  - ❑ herbal incense blends are harsher to inhale
  - ❑ effect on appetite is non-existent
  - ❑ **increased restlessness & aggressive behavior**
  - ❑ herbal incense produces a shorter “high” (perceptual alterations & sensory effects are limited)
  - ❑ doesn't mix well with alcohol (hangovers)
  - ❑ incense costs more than marijuana
-

# Pharmacological Effects of Synthetic Cannabinoids are Similar to THC

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- ❑ increase heart rate & blood pressure
- ❑ altered state of consciousness
- ❑ mild euphoria and relaxation
- ❑ perceptual alterations (time distortion)
- ❑ intensification of sensory experiences
- ❑ pronounced cognitive effects
- ❑ impaired short-term memory
- ❑ reduction in motor skill acuity
- ❑ increase in reaction times

# Synthetic Cannabinoids: Physical & Social Effects

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- increasing reports of adverse effects
    - ER admissions, assaults, homicides, DUID
  - effects similar to THC, BUT . . . .
    - increased anxiety, paranoia, panic
    - increased restlessness & aggressive behavior
  - leads to untoward consequences
    - contact with law enforcement
    - loss of life (violence & unexplained)
-

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# Current state of drug testing for synthetic cannabinoids

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# Evolutionary Landscape

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- appearing & disappearing
  - what's popular today cycles out to be replaced by new synthetic THC analogs
  - labs testing for common compounds a few months ago may not be testing for same chemicals now
  - on-site, POC devices cannot keep pace
-

# Lab-Based Drug Testing (2010):

JWH-018

JWH-019

JWH-073

CP 47, 497 (C7)

CP 47,497 (C8)

WIN 48,098

HU-210

HU-211

# Lab-Based Drug Testing (2012):

|                      |                                |                 |
|----------------------|--------------------------------|-----------------|
| AM-694               | JWH-018 Chloropentyl analog    | JWH-251         |
| AM-1220              | JWH-018 6-Methoxyindole analog | JWH-302         |
| AM-1241              | JWH-018 1-Methylhexyl homolog  | JWH-307         |
| AM-1248              | JWH-019                        | JWH-398         |
| AM-2201              | JWH-020                        | RCS-4           |
| AM-2233              | JWH-022                        | RCS-8           |
| CB-13                | JWH-072                        | RCS-8 4-Methoxy |
| CB-25                | JWH-073                        | UR-144          |
| CB-52                | JWH-073 3-Methylbutyl homolog  | URB-447         |
| CP47,497 (C7 analog) | JWH-081                        | URB-597         |
| CP47,497 (C8 analog) | JWH-098                        | URB-602         |
| CP55,940             | JWH-122                        | URB-754         |
| HU-210/HU-211        | JWH-133                        | URB-937         |
| HU-308               | JWH-147                        | WIN48,098       |
| HU-331               | JWH-175                        | (Pravadoline)   |
| JP-104               | JWH-200                        | WIN55,212-2     |
| JTE-907              | JWH-201                        | WIN55,212-3     |
| JWH-007              | JWH-203                        | XLR-11          |
| JWH-015              | JWH-210                        |                 |
| JWH-018              | JWH-250                        |                 |

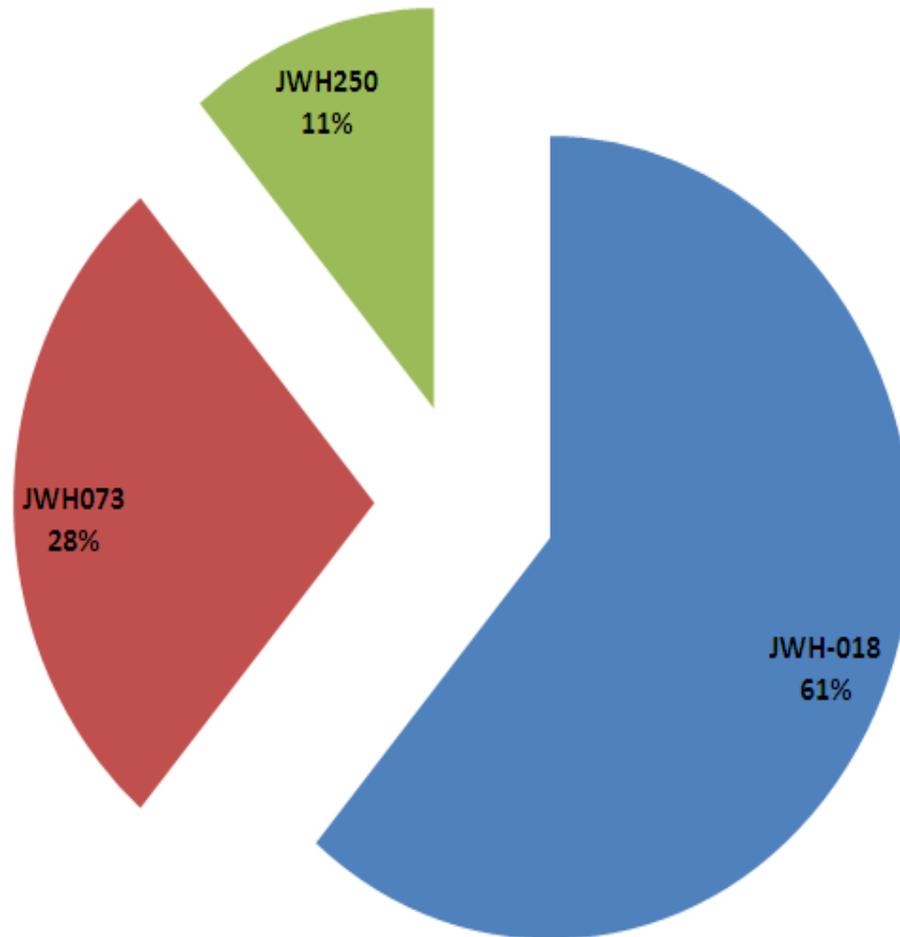
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# Acknowledgment:

Dr. Barry Logan  
National Medical Services  
Willow Grove, PA

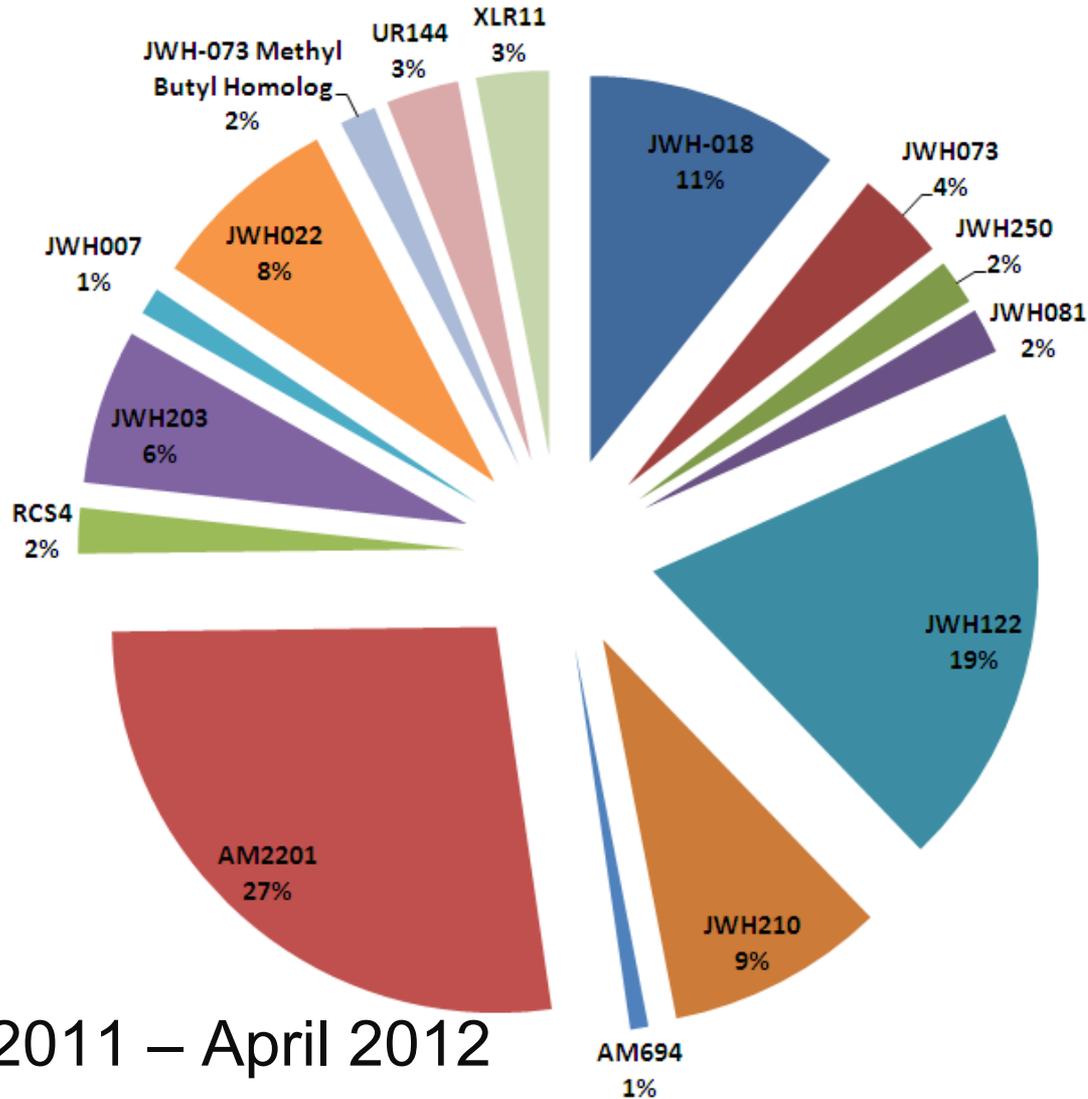
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# Prevalence – 2010



July – December 2010

# Prevalence - 2012



Oct 2011 - April 2012

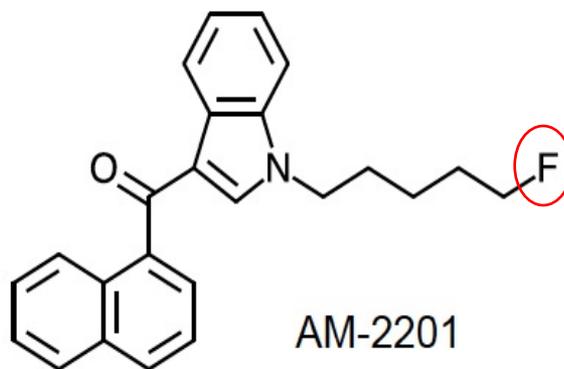
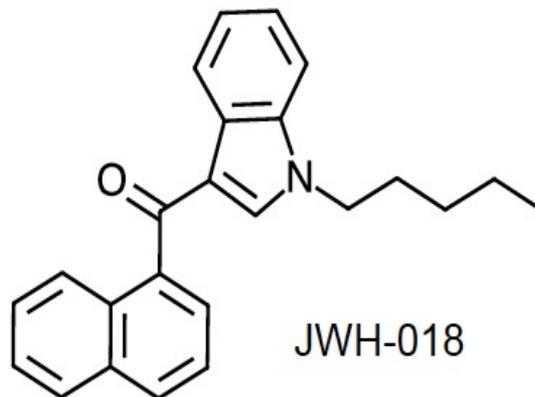
# Evolutionary Landscape

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- **JWH-018/073** arrived early and have largely come and gone.
  - **JWH-250** arrived a little later and as also cycling out.
  - **JWH-081** was part of a second wave that has already completed its cycle.
  - **JWH-122** was part of the same wave but has persisted in popularity and is part of the current scene.
  - **AM-2201** was part of the same second wave and has gained in popularity, probably currently the most prevalent.
  - **JWH-022** and **JWH-210** are showing signs of increasing popularity.
-

# Ingenuity of Designer Chemists:

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# JAT July/August – AIT Labs

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| <b>Pre Federal Ban<br/>(12)</b> | <b>Post Federal Ban<br/>(52)</b> |
|---------------------------------|----------------------------------|
| JWH-018                    11   | AM 2201                    40    |
| JWH-073                    7    | JWH-122                    14    |
| JWH-250                    1    | JWH-250                    9     |
|                                 | JWH-210                    7     |
|                                 | OTHERS                    8      |
|                                 | JWH-073                    2     |
|                                 | JWH-018                    0     |

# Drug Testing – On-Site:

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- ❑ rapid, instant, POC tests
  - ❑ testing for JWH-018/JWH-073
  - ❑ cutoff 50-75 ng/mL
  - ❑ lab testing - cutoff 0.5 ng/mL
  - ❑ false negatives
-

# Drug Testing – Laboratory:

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- ❑ rapidly changing landscape
  - ❑ constantly updating menus
  - ❑ lack of standards
  - ❑ some labs developing screening tests
  - ❑ not all lab-based testing is equal
-

# Unresolved Issues of Concern:

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- what synthetic compounds (or metabolites) are being tested by these laboratories?
  - no standardized urine cutoff levels
  - no standardized methods (LC/MS/MS)
  - tests detect metabolites
  - no independent quality control materials
  - no proficiency testing
  - detection window unknown
-

# Synthetic Cannabinoids

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- ❑ evolving analogs
  - ❑ redesigned molecules
  - ❑ new products
  - ❑ evolving mixtures/cocktails
  - ❑ increased difficulty in detection
  - ❑ increased legal strategies
-

# More dangerous than we first thought?

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**Coroner: Lamar Jack ingested chemical found in fake marijuana before he died**

**Synthetic Marijuana Blamed in Central Iowa Teen's Death**

American Journal of Emergency Medicine (2011) xx, xxx-xxx



ELSEVIER

**Teen seriously injured in fall from parking garage**

Case Report

Cardiotoxicity associated with the synthetic cannabinoid, K9, with laboratory confirmation☆☆☆

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# Designer Stimulants (Novelty Powders)

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# Designer Stimulants:

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- bath salts/bath bubbles
  - plant foods/plant vitamins
  - glass cleaners/pond cleaners
  - soft drink additive
  - “novelty collectors item”
  - Ladybug attractant
-

# MDPV:

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- ❑ Methylendioxypropylone (MDPV) - a psychoactive drug with stimulant properties which acts as both a norepinephrine-dopamine reuptake inhibitor (NDRI).
  - ❑ often snorted - similar to cocaine
  - ❑ considered extremely addictive
  - ❑ adverse medical/psychiatric ramifications
-

# Methylmethcathinone (Mephedrone)

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- ❑ designer drug chemically similar to cathinone
  - ❑ first synthesized in 1929
  - ❑ amphetamine-like properties
  - ❑ powerful synthetic stimulant
  - ❑ adverse medical/psychiatric ramifications
-

# Pharmacological Effects of “Bath Salts”:

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- increase heart rate & blood pressure
  - pupil dilation
  - hyperactivity, arousal & over stimulation
  - increased energy & motivation
  - euphoria - agitation
  - dizziness
  - nausea
  - breathing difficulties
  - diminished perception of the requirement for food and sleep
-

# Health Hazard?

Ivory Wave drug implicated in death of 24-year-old man

Drug bought online as legal high following ban on mephedrone causing several hospitalisations and possibly one death

**HALLUCINATING BOY RAN AMOK IN HOSPITAL**

*By Staff Reporter*

**How 'bath salts' led to suicide**

**The bride killed by bath salts - the new 'legal high' Ivory Wave drug that's sweeping Britain**

**Police consider buying Tasers to deal with bath salts users**

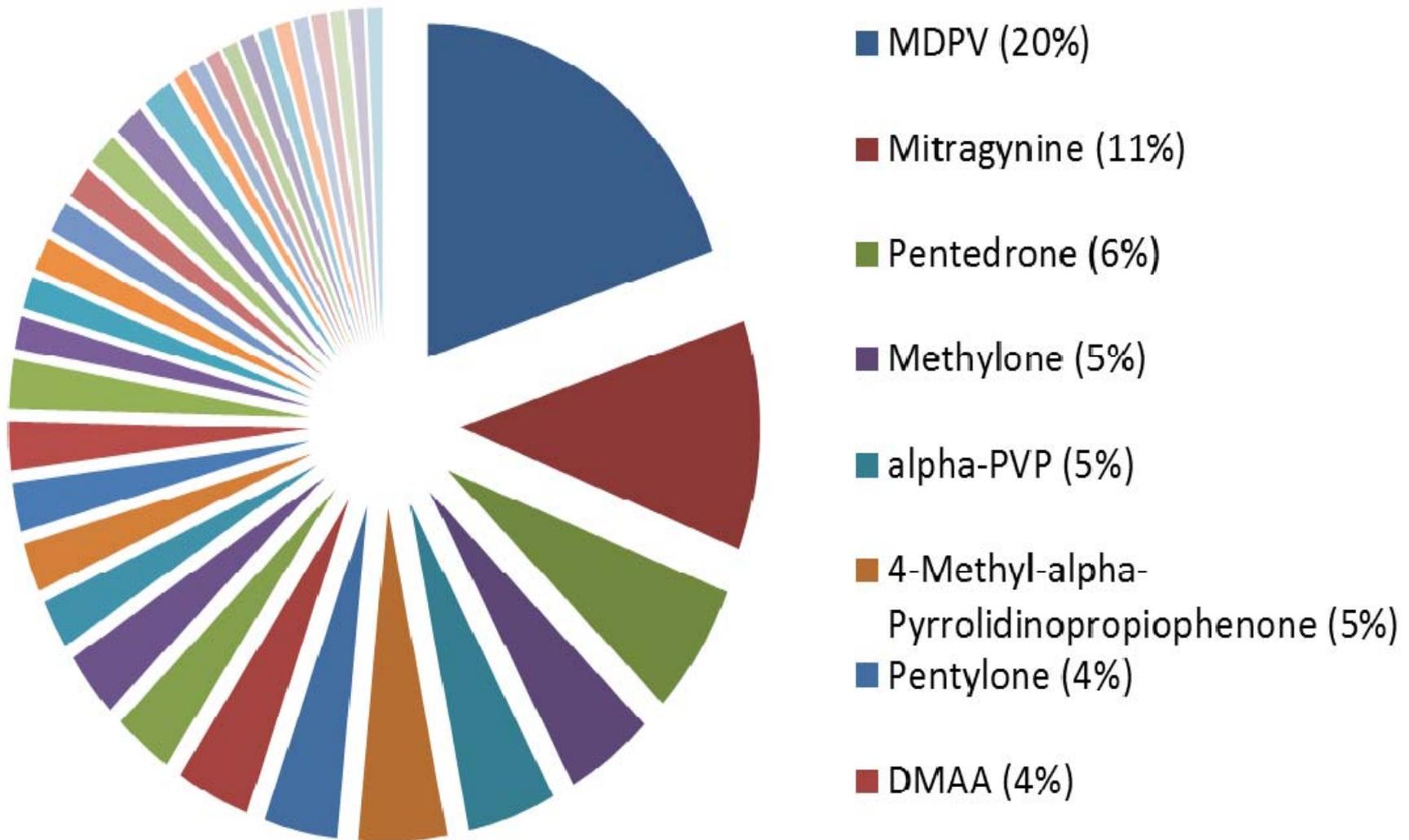
One death in Blaine drug overdose case confirmed

**Sheriff: Scott County man high on bath salts fires 30 shots inside trailer**

**'Bath salts' legal high lands 20 in hospital in a week**

Adam Morris - Evening News - 9th August 2010

# Prevalence – Designer Stimulants



# Growth of Designer Drugs

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What's different today then in the 1970's when the drug Ecstasy (MDMA) was popularized?

What has changed to fuel the rapid development and distribution of designer drugs?

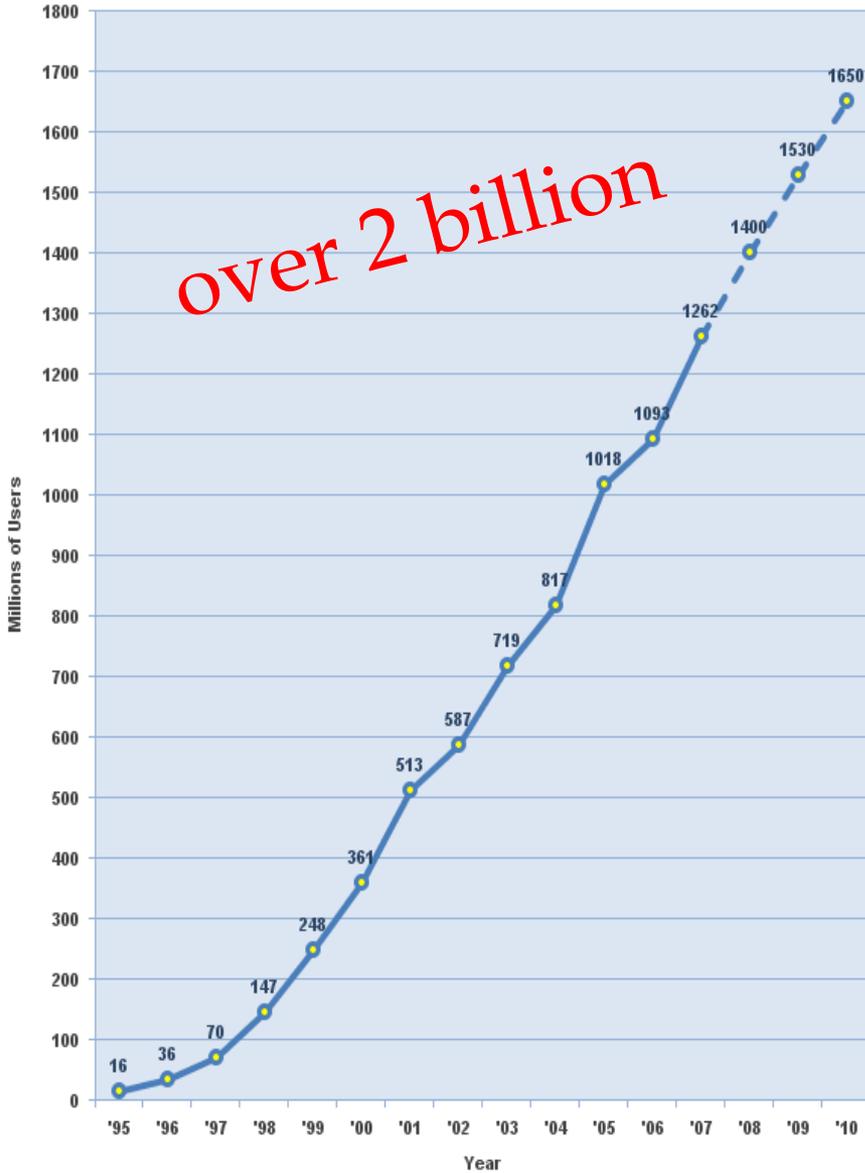
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# Internet!

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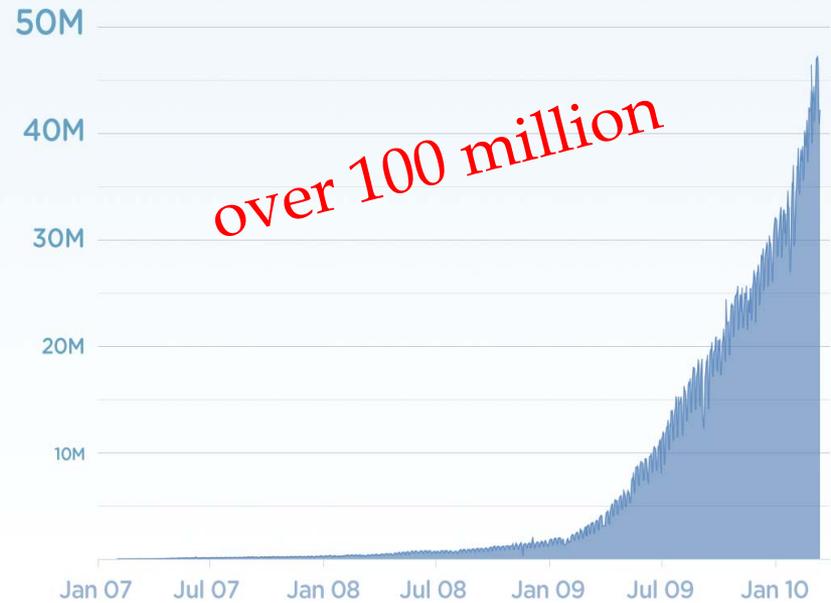
## Internet Users in the World Growth 1995 - 2010



facebook

over 800 million users

## Tweets per Day



# What does the Internet offer?

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- improved accessibility
  - increased affordability
  - enhanced anonymity
-

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# Legal Status of Control Strategies

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# Federal Law:

JWH-018 \*

JWH-073 \*

JWH-200

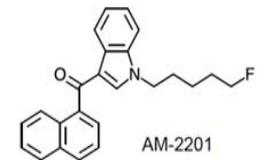
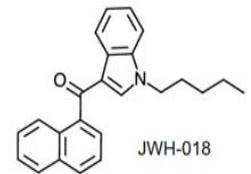
CP-47,497

CP-47,497 (C-8 homologue)

Federally Scheduled Drugs

Federal Analog Status

- substantially chemically similar
- equivalent pharmacological activity
- intended for human consumption



# State Law (patchwork):

State Scheduled Drugs - varies

State Analog Status - varies

- substantially chemically similar
  - equivalent pharmacological activity
  - intended for human consumption
-

# Unfortunate Truisms:

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- ❑ legal controls that prohibit designer drugs will always lag behind their production
  - ❑ drug detection methods for the identification of designer drugs may also not be available when these compounds become popular
-

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Are There Other  
Control Strategies  
(other than Legal)?

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# Alternative Control Strategies:

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- community supervision
  - search & seizure
  - deterrence (client contract)
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# Field Visits: *Get proactive*

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- frequent
  - random
  - announced & unannounced
  - non-governmental hours
  - Search computers and smart phones, any shipping/delivery receipts, credit card and PayPal accounts
-

# Court's Response:

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- ❑ place specific design drugs prohibition in your client contract
- ❑ establish sanction severity
- ❑ perform testing if available
- ❑ select participants for testing where there are indications of use
- ❑ identify positive participants in court & sanction openly to enhance deterrent effect
- ❑ provide opportunity for participants to self-report

# Client Prohibition Guidance:

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- ❑ Any and all “designer drugs” that can be purchased legally, over the counter without a physician’s prescription are strictly prohibited.
- ❑ Any and all “smoking mixtures” (other than products specifically designated to contain only tobacco) are strictly prohibited.
- ❑ Any and all products sold or marketed under false pretenses with the warning “Not for Human Consumption” are strictly prohibited.

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Outlook for the  
Rest of 2012 and  
Beyond:  
Not great

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# More of the Same

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## Latest

Pump It Pure Energy

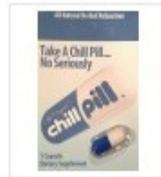
\$24.99

Add to Cart

8 Ballz Zanzibars

\$11.99

Add to Cart



Original Chill Pill

\$12.99

Add to Cart



Best Buds Potpourri

\$22.95

Add to Cart

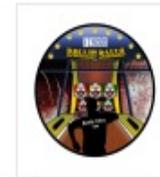


No Bull Powder Cleaner

\$29.95



Add to Cart



Rollin' Balls Shine

\$19.95



Add to Cart

# Pump-it! Powder:

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- ❑ methylhexanamine
  - ❑ source - found naturally in the geranium plant
  - ❑ it is not scheduled by the DEA - legal
  - ❑ banned in athletics
  - ❑ stimulant
  - ❑ not widely studied
-

# Bromo-DragonFLY

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- v psychedelic hallucinogenic drug
  - v related to the phenethylamine family
  - v extremely potent hallucinogen
  - v similar to LSD
  - v extended duration of action up to several days
  - v dosage is in micrograms
-

# Dosage error or mixed drugs=bad outcomes

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Necrosis and amputation

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Good News . . . . ?

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# Brand New Law:

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- signed by the President on July 10, 2012
  - S. 3187: Food and Drug Administration Safety and Innovation Act
    - TITLE XI--OTHER PROVISIONS
    - Subtitle D--Synthetic Drugs
    - Sec. 1151-1153
    - Synthetic Drug Abuse Prevention Act of 2012
  - Bans several dozens designer drugs
-

# Operation Log Jam:

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- ❑ operations in 30 states were raided
  - ❑ 90 arrests at 29 manufacturing facilities
  - ❑ 36 million in cash seized
  - ❑ 4.8 million packets of synthetic cannabinoids
  - ❑ confiscated chemicals sufficient to make 13.6 million additional packets
  - ❑ 53 weapons seized
  - ❑ 6 million in other assets
-

# Designer Drugs:

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- ❑ designer drugs are here to stay
  - ❑ rapid evolving landscape
  - ❑ testing will nearly always lag behind
  - ❑ legal controls will be challenging and delayed
  - ❑ growing evidence of adverse effects
  - ❑ BE PROACTIVE!
  - ❑ design client contract specifically address designer drugs
  - ❑ build community supervision/expand search & seizure efforts
-

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**This is a race we  
can't win, but a  
challenge we can't  
ignore.**

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# Bath Salts:

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- The term bath salts refers to a range of water-soluble products designed to be added to a bath. They are said to improve cleaning, improve the experience of bathing, serve as a vehicle for cosmetic agents, and some even claim medical benefits. Bath salts have been developed which mimic the properties of natural mineral baths or hot springs.



# Bad? Ask this guy...

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- ❑ Three day binge
  - ❑ Killed pygmy goat
  - ❑ Had sex with it
  - ❑ Found covered with blood in women's undies, porn magazine, dying goat, and blood all over him.
-

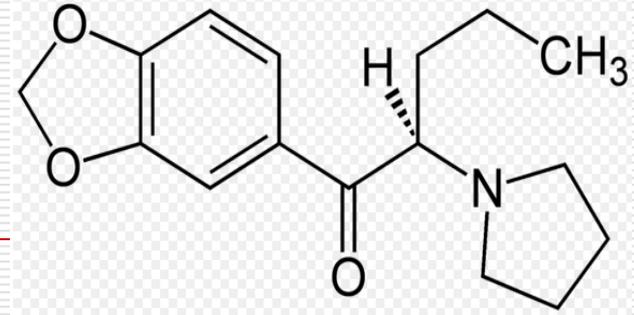
## Bath Salts impact continues to rise

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- ❑ Emergency department (ED) visits and calls to poison control centers in 2011 have skyrocketed due to ingestion of "bath salts."
  - ❑ In the United States, over 4000 calls to poison control centers were made regarding exposure to "bath salts" as of July 31, 2011, and about 1500 ED visits due to exposure were reported in the first quarter of 2011.
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# What is Ivory Wave:

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- ❑ Methylenedioxypropylvalerone (MDPV) is a psychoactive drug with stimulant properties which acts as both a norepinephrine-dopamine reuptake inhibitor (NDRI).
- ❑ MDPV has four times the potency of Ritalin
- ❑ MDPV - no history of FDA approved medical use
- ❑ sold since 2007 as a research chemical

# MDPV:

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- ❑ currently popular in Europe, UK & Australia
  - ❑ is usually snorted - similar to cocaine
  - ❑ considered extremely addictive
  - ❑ MDPV is “legal”
  - ❑ adverse medical/psychiatric ramifications
-

## 4-methylmethcathinone (mephedrone).

- ❑ Mephedrone has amphetamine- or cocaine-like effects related to the alkaloid cathinone which is derived from the active ingredient of the Khat plant. The clinical effects of synthetic cathinones begin within 20 minutes of oral ingestion and last from 2 to 4 hours. If snorted, the effects begin within minutes and the peak occurs in less than 30 minutes.
- ❑ Effects may include intense stimulation, alertness, euphoria, elevated mood, and a pleasurable "rush." Users may describe feelings of closeness, sociability, and moderate sexual arousal.

- 
- ❑ Other physical symptoms are typical of stimulants and include tremor, shortness of breath, and loss of appetite. Changes in body temperature regulation accompanied by hot flashes and sweating (characterized by a strong body odor) are common as are nose and throat bleeds with burns and ulcerations caused from snorting the "bath salts".
-

- 
- ❑ Effects on the cardiovascular system include tachycardia, hypertension, peripheral vasoconstriction, and chest pain.
  - ❑ Psychiatric effects at higher doses can include anxiety, agitation, hallucinations, paranoia, and erratic behavior. Depression has been associated with mephedrone use as have reports of successful suicide attempts during use. Withdrawal symptoms are not typically reported, but users often describe strong cravings for the drug.
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# What is the “make up”?

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- ❑ Technically 4-Methylmethcathinone
  - ❑ Neuropharmacological impact: studies evolving as fast as possible.
  - ❑ NIDA Notes (Oct.2011) article refers to Journal of Pharmacology and Experimental Therapeutics: rat studies reveal impact similar to methamphetamine but injury is found in serotonin system like MDMA (ecstasy)
-

# Bottom line:

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- Initial studies demonstrate methamphetamine like stimulant response in rats. Self administration at neurotoxic levels, but significant damage to serotonin reuptake system, resulting in damage not only to the dopamine system, but to serotonin.

- Mephedrone: neuropharmacological effects of a designer stimulant of abuse. Hadlock et alia. August 2011.
-

# Ladybug Attractant

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- Negative erowid reviews
- Unknown formula



# Special K is back

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- ❑ Artificial ketamine type substances are also flooding the market
  - ❑ Similar problems-and poor solutions.
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# The Next Wave?

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# 2C-E Nicknamed "Europa"

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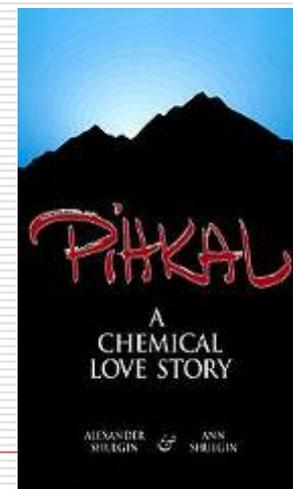
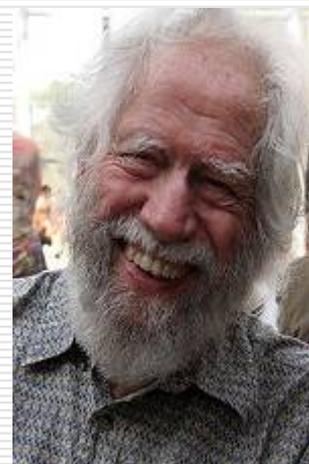
- ❑ synthesized in 1970's -1980's
- ❑ psychedelic phenethylamine
- ❑ taken orally
- ❑ powerful hallucinogenic effects
- ❑ high can last 6- 12 hours
- ❑ sold through European sources
- ❑ one death reported in MN on March 11, 2011



# 2C-E Nicknamed "Europa"

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- ❑ synthesized by Alexander Shulgin
- ❑ popularized MDMA (Ecstasy)
- ❑ PIHKAL book (1991)
- ❑ 2C-I another phenethylamine available
- ❑ 2C-E is chemically related to other 2C phenethylamines
- ❑ exact legal status is unclear - 2C-B banned under CSA

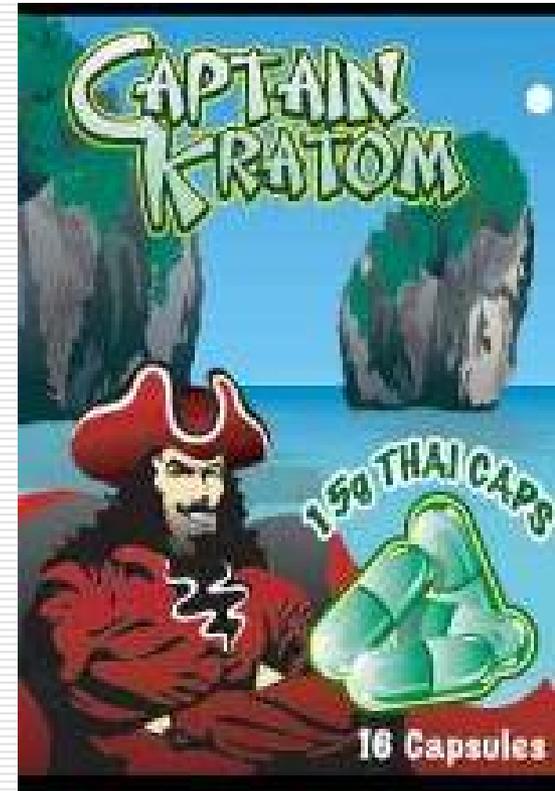


# Kratom:

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- ❑ leaf from large trees native to Southeast Asia
  - ❑ mitragynine
  - ❑ interacts with opioid receptors in the brain
  - ❑ mild stimulant at low doses
  - ❑ sedative effects at higher doses
- 



# Krokodil:

---

- ❑ abuse rampant in Russia
  - ❑ mixture of codeine and gasoline, paint thinner, iodine, hydrochloric acid and red phosphorous
  - ❑ desomorphine - synthesized in U.S. in 1932
  - ❑ heroin-like effects
  - ❑ much cheaper obtain - codeine sold OTC in Russia
  - ❑ being monitored by DEA
-

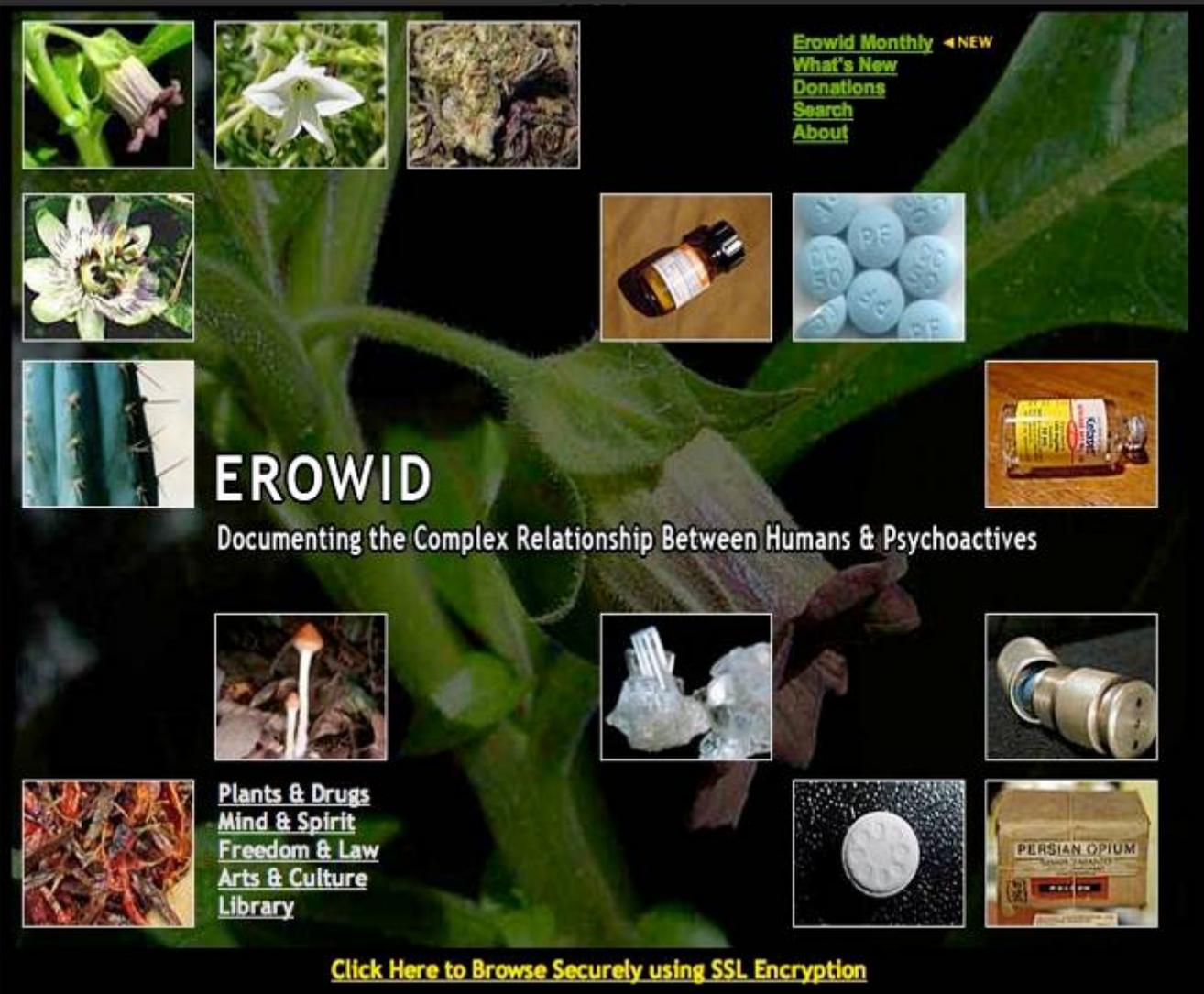


# “Jenkem”:

---

- ❑ fermentation of human waste
  - ❑ feces and urine stored in tight container for several days
  - ❑ reaction produces methane gas
  - ❑ methane major component of natural gas
  - ❑ “huffed” by users producing anoxia
-

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| ★      | <a href="#">No Real Mental or Emotional Insights</a>       | Abyss         | Kratom (10x extract)            | Jan 25 2009 |
| ★      | <a href="#">Quite An Adventure</a>                         | C-Rizzle      | Kratom (15x extract)            | Nov 9 2008  |
| ★      | <a href="#">Like Getting Drunk and Having a Hangover</a>   | Jamie         | Kratom                          | Feb 19 2007 |
| ★      | <a href="#">The Experience Was Just Okay</a>               | Zac           | Kratom (10x extract) & Caffeine | Feb 6 2007  |
| ★      | <a href="#">Into Neverland</a>                             | Pyro          | Kratom                          | Mar 20 2006 |
| ★      | <a href="#">Mitragyna Blossay</a>                          | Darklight     | Mitragyna speciosa (Kratom)     | Oct 27 2002 |
|        | <a href="#">Excellent Self Healing Session</a>             | WanderRA      | Kratom (15x extract)            | Jan 9 2011  |
|        | <a href="#">Beautiful Experience</a>                       | Black Parasol | Kratom                          | Feb 9 2010  |
|        | <a href="#">New Favorite</a>                               | Blue          | Kratom (20x extract)            | Sep 17 2008 |
|        | <a href="#">Powerful</a>                                   | Retread       | Kratom (15x extract)            | Sep 4 2008  |
|        | <a href="#">Lowly Thoughts</a>                             | Lizardking    | Kratom (15x extract)            | Jun 13 2008 |
|        | <a href="#">Not Worth the Next Day Hangover</a>            | Xnaught       | Kratom (15x Extract)            | Feb 28 2008 |
|        | <a href="#">Relaxing, Pleasant, Worthwhile</a>             | pillowz       | Kratom                          | Nov 5 2007  |
|        | <a href="#">A First and Complete Look</a>                  | Greenfox      | Kratom (15x extract)            | Jun 16 2007 |
|        | <a href="#">The System Cleaner</a>                         | Enigma        | Kratom                          | Mar 17 2007 |
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## MDMA Dosage

by Erowid

MDMA generally comes in the form of small tablets, capsules, or white powder. When found in tablet form (often referred to as "ecstasy"), it is common for MDMA to be combined with any of the following substances : MDMA, Caffeine, MDA, Methamphetamine, DXM, MDE, Pseudo/Ephedrine, Ketamine, BZP, and TFMPP. Chemical analysis of ecstasy tablets has found from 0 - 120 mg of MDMA as well as a variety of the above substances. Trying to calculate dosages from tablets containing unknown quantities of MDMA can be difficult, but a high quality tablet of street ecstasy (those containing MDMA alone) generally contains an average of 60 to 80 mg of MDMA. The chart below shows what are considered recreational/therapeutic dosages for pure MDMA HCl (the most common crystalline form), measured in milligrams. Note that most Ecstasy and even crystalline MDMA is not 100% pure and may contain fillers or other drugs. See [EcstasyData.org](http://EcstasyData.org).

| Oral MDMA Dosages                       |              |
|---|--------------|
| Threshold                               | 30 mg        |
| Light                                   | 40 - 75 mg   |
| Common (small or sensitive people)      | 60 - 90 mg   |
| Common (most people)                    | 75 - 125 mg  |
| Common (large or less sensitive people) | 110 - 150 mg |
| Strong                                  | 150 - 200 mg |
| Heavy                                   | 200 + mg     |

**Onset** : 20 - 70 minutes (depending on form and stomach contents)

**Duration** : 3 - 5 hours

**Normal After Effects** : up to 24 hours

### Overdose Effects:

Vomiting, headaches and dizziness may result from too high a dose of MDMA. Some people are considerably more sensitive to MDMA than others. Be careful if you are using MDMA for the first time or using material of an unknown purity and strength. Always start low.

# Designer Drugs:

---

- ❑ designer drugs are here to stay
  - ❑ rapid evolving landscape
  - ❑ testing will nearly always lag behind
  - ❑ legal controls will be challenging and delayed
  - ❑ growing evidence of adverse effects
  - ❑ BE PROACTIVE!
  - ❑ design client contract specifically address designer drugs
  - ❑ build community supervision/expand search & seizure efforts
-

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# Questions?

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# DRUG COURT PRACTITIONER

## FACT SHEET

### SPICE, K2 AND THE PROBLEM OF SYNTHETIC CANNABINOIDS

By Paul Cary

Many drug courts are experiencing a significant and disturbing surge in client's use of synthetic cannabinoids. In many areas of the country "herbal incense" can be legally purchased and smoked with impunity as specific drug detection methods slowly become available. Products such as Spice and K2 have been widely reported as producing many of the same physiological effects as marijuana. Without laws to control its distribution, courts face a significant challenge in addressing the problem of synthetic cannabinoids.

#### WHAT ARE SYNTHETIC CANNABINOIDS?

Synthetic cannabinoids represent the most recent advent of "designer drugs." Designer drugs are pharmaceuticals, created or reformulated (if the drug already exists) to avoid current laws (such as the Control Substance Act) by modifying the molecular structures of drugs to varying degrees. The clandestine manufacturers' ability to successfully modify a drug chemically (so as to retain its pharmacological activity while changing the structure enough to skirt existing legal controls) drives the designer drug market. The goal is to satisfy users' demands for popular drugs that can be obtained without prescriptions or other legal constraints.

The developmental history of designer drugs includes alternative esters of

opium in the 1920's, synthetic hallucinogens (modifications of LSD and PCP) in the 1960's, MDMA (ecstasy) and methcathinone in the 1980's and the derivatives of anabolic steroids used in major league baseball in the last decade. Synthetic cannabinoids are but the latest example of "look-a-like" drugs created to indulge users attempting to evade established restrictions.

Synthetic cannabinoids are marketed under dozens of product names including Zombie World, Bad to the Bone, Black Mamba, Blaze, Fire and Ice, Dark Night, Earthquake, Berry Blend, The Moon and G-Force. Dispensed in small packets (1-5 grams each), nearly all contain the moniker "herbal incense," along with the disclaimer "not for human consumption." Synthetic cannabinoids are retailed widely on the internet,

through “head” shops, alternative medicine stores, and can even be purchased on eBay. While the content of each product is unique, all of these products contain differing varieties of herbs and other botanicals. The list below is typical:

- **Canavalia rosea:** *commonly known as beach bean or bay bean – vine found in tropical and subtropical beach dunes*
- **Nymphaea caerulea:** *also known as Blue Egyptian water lily*
- **Scutellaria nana:** *perennial herb also known as Dwarf skullcap*
- **Pedicularis densiflora:** *known commonly as Indian warrior – a perennial herb*
- **Leonotis leonurus:** *also known as Lion's Tail and Wild Dagga – a perennial shrub native to southern Africa*
- **Zornia latifolia:** *a perennial herb*
- **Nelumbo nucifera:** *known by a number of names including Indian Lotus, or simply Lotus – aquatic perennial commonly found in China*
- **Leonurus sibiricus:** *commonly called Honeyweed or Siberian motherwort, herbaceous plant native to Asia*

While some of these plant species can produce mild psychoactive or hallucinating effects if consumed, the significant marijuana-like effects are not associated with the plant materials themselves. The dried/crushed/chopped botanicals are sprayed with a liquid form of synthetic cannabinoids, thus greatly enhancing their potency and creating the classic marijuana “high” when the herbal incense is smoked.

These synthetic cannabinoids go by such innocuous identifiers as:

- HU-210
- HU-211
- CP 47,497
- JWH-018
- JWH-073

This is but a partial listing. The origins of these compounds are actually quite legitimate. HU-210 and HU-211 were synthesized in 1988 at Hebrew University in Israel. HU-210 has anti-inflammatory properties and HU-211 is an anesthetic agent. CP 47,497 was developed by the pharmaceutical manufacturer Pfizer in 1980, and is also an analgesic

drug. JWH-018 and JWH-073 were developed by a researcher at Clemson University in 1995 for use in THC receptor research. The researcher was John W. Huffman, hence the prefix JWH. Synthetic cannabinoids are particularly useful in experiments designed to determine the precise relationship between the structure of drugs, like delta 9-THC, and brain receptor activity. By making incremental modifications to the cannabinoid molecule, researchers are able to identify THC’s active sites, which promote our understanding of how marijuana effects the human body.

## GROWING POPULARITY

The first appearance of synthetic cannabinoids sold as herbal incense occurred on the Internet in 2004. While Europe was the first target market and misuse of herbal incense was widespread there by 2008, its manifestation in this country did not lag far behind. Reports of synthetic cannabinoids use in the US began in earnest in 2008 and by 2009 products like Spice and K2 were nearly epidemic in parts of the country. In late 2008, the first article appeared in the scientific literature (University Hospital in Freiburg, Germany) describing the chemical analyses linking the incense to synthetic cannabinoids. The Drug Enforcement Administration’s Office of Diversion Control published a one-page update on Spice in its Year 2008 Annual Report.

## EFFECTS ON SYNTHETIC CANNABINOIDS USERS

The reported pharmacological effects of smoked synthetic cannabinoids are very similar to that of marijuana. This comes as no surprise given that Spice and K2 are THC agonists – meaning they chemically bind to the same brain receptor (CB1) and trigger many of the same responses as marijuana. The physiological effects of synthetic cannabinoids include:

- *Increase heart rate & blood pressure*
- *Altered state of consciousness*
- *Mild euphoria and relaxation*
- *Perceptual alterations (time distortion)*

- *Intensification of sensory experiences*
- *Pronounced cognitive effects*
- *Impaired short-term memory*
- *Increase in reaction times*

Some reports indicate that JWH-018 binds to the CB1 receptor with even greater affinity than marijuana. Researchers in Japan have surveyed over 40 herbal preparations on the market and determined that the concentration of synthetic cannabinoids varied by a factor of fifteen, which likely explains the variability of the intensity of effects reported by users. Prolonged use of the synthetic cannabinoids has also led to publications indicating that, like marijuana, Spice and K2 can produce withdrawal symptoms and dependency syndromes similar to those identified in chronic marijuana smokers. Recently, the American Association of Poison Control Centers reported 567 cases in 41 states in which people had suffered adverse reactions to Spice during the first half of 2010. As opposed to only 13 cases reported in all of 2009. The long-term health ramifications of smoking synthetic cannabinoids remain unstudied.

## LAWS REGARDING SYNTHETIC CANNABINOIDS

At the present time, there is no federal ban on most of the synthetic cannabinoids. As a result, the current legal status of synthetic cannabinoids is an evolving patchwork of local and state laws. Products such as Spice and K2 have been banned in approximately a dozen states and in some local jurisdictions. More such prohibitions are making their way through many state legislatures.

As is often the case with designer drugs, the ability to detect these compounds through drug testing lags behind the popularity of their emergence. At the writing of this article, there are no screening tests capable of detecting synthetic cannabinoids in urine. Due to the fact that pure synthetic cannabinoids and their metabolites are difficult to obtain and combined with the reluctance of manufacturers/laboratories to invest significant resources in what may be a transient abuse

trend, the prospects for either on-site, rapid tests or laboratory-based screening appears unlikely. However, there are several national laboratories that have begun to offer urine synthetic cannabinoid testing commercially, utilizing sophisticated LC/MS/MS technology. While these tests afford drug courts with some detection options, many questions remain unresolved: Which of the many synthetic cannabinoids/metabolites will be detected by these tests (likely to vary between laboratories)? What are the appropriate detection cutoff levels? What is the detection window for synthetic cannabinoids? To what extent will LC/MS/MS testing be useful without a preliminary screening test? Will the costs associated with testing for synthetic cannabinoids influence the court's ability to provide effective abstinence monitoring?

As an alternative to or as an addition to testing, courts are urged to use existing community supervision personnel to extend the court's surveillance reach. Increased search and seizure practices employing probation, law enforcement and court marshals can be effective in monitoring client behaviors in situations where drug testing approaches are insufficient. For clients suspected of synthetic cannabinoids abuse, searches should be frequent, random, unannounced and occur during non-governmental hours. An intrusive inspection of a client's home, car, school, work, "hangouts" and other restricted areas provides a visible message to all participants as to the court's monitoring vigilance. Some courts have established sanctions of greater severity if evidence of synthetic cannabinoids is identified – believing that the use of these drugs by clients is a purposeful attempt to perpetrate a fraud on the court (since current testing for synthetic cannabinoids is limited).

It is unclear as to whether the phenomenon of synthetic cannabinoids is a passing fancy or a substance abuse trend that will remain taxing to client monitoring efforts. With an uncertain legal future and limited drug detection strategies, in the short term, evaluating synthetic cannabinoids usage will continue to be a challenging endeavor for drug court programs.

Paul L. Cary, M.S., is director of the Toxicology and Drug Monitoring Laboratory at University of Missouri Health Care in Columbia Missouri. For the past thirty years, Mr. Cary has been actively involved in the management of a nationally-recognized toxicology laboratory (SAMHSA certified) that performs drug testing for drug courts, hospitals, mental health facilities, attorneys, coroners and medical examiners, athletic programs, and public and private employers. He has authored numerous scientific publications and monographs, has served on a variety of clinical and technical advisory committees, teaches at the university, is involved in drug testing research, and serves as a consultant in toxicology-related matters. Mr. Cary has also provided judicial education including lecturing at the National Judicial College on alcohol pharmacology, the use of expert testimony and on drug testing issues. He has been certified as an expert and provided expert testimony in court (local, state and federal) and in labor arbitration. Mr. Cary has been a resource to drug court teams throughout the nation and overseas and serves as visiting faculty for the National Association of Drug Court Professionals, the Center for Court Innovation, the National Council of Juvenile and Family Court Judges and the National Drug Court Institute.

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Due to the nature of this subject matter and the limited amount of scientific information on synthetic cannabinoids, much of the source material used in this publication was obtained from news organizations, relevant web sites and personal communications with government officials, researchers, laboratory directors and actual synthetic cannabinoids users. Other source materials included the following:

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# New Type of “Bath Salts” Reported in Virginia

By [Join Together Staff](#) | May 8, 2012 | [1 Comment](#) | Filed in [Community Related](#) & [Drugs](#)



A new type of “bath salts” called “Amped” is being used in Virginia, poison control officials there report. The drug, sold as a ladybug attractant, is likely also being used in other parts of the country, according to [ABC News](#).

Dr. Rutherford Rose, Director of the Virginia Poison Center, said at least six cases of people ingesting Amped have been reported in the state.

Amped and other [bath salts](#) have amphetamine-like qualities. Common effects are teeth grinding, jerking eye movements, profuse sweating, high blood pressure, high body temperature, fast heart rate, anorexia, diminished thirst, paranoia, hallucinations, seizures, significant violent outbursts, self-injurious behaviors and suicidal thoughts and acts. Deaths have been reported as the direct result of the abuse of these drugs.

“Despite laws that have outlawed certain chemicals within these drugs, chemists easily change a chemical or molecule within the compound to give it a similar or more potent property, and, because it is a different chemical entity, it is no longer illegal,” Dr. Rose said. “These drugs are a time bomb. It’s like playing Russian Roulette.”

The drugs carry labels warning against human consumption. The [American Association of Poison Control Centers](#) reports that in 2011, there were 6,138 calls regarding bath salts, up from 304 in 2010. As of March 31, poison control centers received 722 calls about bath salts so far this year

# DRUG COURT PRACTITIONER

## FACT SHEET

### THE MARIJUANA DETECTION WINDOW: DETERMINING THE LENGTH OF TIME CANNABINOIDS WILL REMAIN DETECTABLE IN URINE FOLLOWING SMOKING

#### A CRITICAL REVIEW OF RELEVANT RESEARCH AND CANNABINOID DETECTION GUIDANCE FOR DRUG COURTS

By Paul L. Cary, M.S.

#### PREFACE

The duration of the urinary cannabinoid detection window is not settled science. The number of days, following the cessation of marijuana smoking, necessary for cannabinoids to become non-detectable using traditional drug testing methods is the subject of debate among forensic toxicologists and a matter of on-going scientific research. This article makes no pretense to limit the important discussion, but rather seeks to enhance it. It is hoped that drug court practitioners will find that this information clarifies some of the complex issues associated with the elimination of marijuana from the human body.

Conventional wisdom has led to the common assumption that cannabinoids will remain detectable in urine for 30 days or longer following the use of marijuana. These prolonged cannabinoid elimination projections have likely resulted in the delay of therapy, prevented the timely use of judicial sanctioning, and fostered the denial of marijuana usage by drug court participants.

This review challenges some of the research upon which the 30-plus day elimination assumption is based. Careful scrutiny of these studies should not be interpreted as an effort to discredit the findings or the authors of this research. However, as our knowledge evolves, the relevancy of previously published scientific data should be evaluated anew. One fact is clear—more research is needed in the area cannabinoid elimination.



Merely attempting to formulate cannabinoid detection guidance invites controversy. Some will argue that the proposed detection window defined in this article is too short. Others will suggest the opposite. Still others will insist that the scientific evidence is insufficient to allow the establishment of such guidance. To some degree, each position has merit. No detection window guidance, regardless of the extent of scientific support, will encompass every set of circumstances or all client situations. If nothing else, the research demonstrates that there is significant variability between individuals in the time required to eliminate drugs.

These facts, however, should not preclude the development of reasonable and pragmatic guidance, supported by scientific research, for use in the majority of drug court adjudications. It is widely accepted that in order to instill successful behavioral changes in a substance abusing population, that consequences need to be applied soon after the identification of renewed or continued drug use. In a drug court context, the application of judicial sanctions and the initiation of therapeutic interventions have been needlessly delayed due to a lack of coherent guidance regarding the length of time cannabinoids will likely remain detectable in urine following the cessation of marijuana smoking. The purpose of this article is to provide that much needed guidance.

## INTRODUCTION

In a recent forensic publication, Dr. Marilyn Huestis wrote: "Monitoring acute cannabis usage with a commercial cannabinoid immunoassay with a 50-ng/mL cutoff concentration provides only a narrow window of detection of 1–2 days," (2002). In a 1985 article by Ellis et. al., researchers concluded; "that under very strictly supervised abstinence, chronic users can have positive results for cannabinoids in urine at 20 ng/mL or above on the EMIT-d.a.u. assay<sup>1</sup> for as many as 46 consecutive days from admission, and can take as many as 77 days to drop below

the cutoff calibrator for ten consecutive days." Based upon these seemingly divergent findings, it is not difficult to comprehend why judges, attorneys and other drug court professionals are in a quandary regarding the length of time marijuana can remain detectable in urine following use. The dilemma—if the scientific research seems not to be able to achieve consensus on the urinary cannabinoid detection window, how are those responsible for court mandated drug supervision programs suppose to understand and resolve this issue?

Like many other scientific and technical topics that have been thrust into the judicial environment, the detection window of marijuana is both complex and controversial, yet the understanding of the pharmacology of this popular substance is crucial to the adjudication of cases in which marijuana usage is involved. While the difficulties associated with establishing the length of time a drug will continue to test positive in urine after use are not unique to marijuana, the problem is exacerbated by the extended elimination characteristics of cannabinoids relative to other drugs of abuse, most notably after chronic use.

The questions posed by drug court professionals related to cannabinoid detection in urine include:

- *How many days is it likely to take for a chronic marijuana user to reach a negative urine drug test result?*
- *How long can cannabinoids be excreted and detected in urine after a single exposure to marijuana?*
- *How many days of positive urine drug tests for cannabinoids constitutes continued marijuana usage?*
- *How often should a client's urine be tested to monitor for continued abstinence from marijuana?*
- *How many days should the court wait before retesting a client after a positive urine drug test for cannabinoids has been obtained?*
- *How should the court interpret a positive urine drug test for cannabinoids after a client has completed an initial 30-day detoxification period designed to "clean out" their system?*

To one degree or another, answering these questions depends upon the ability of the court to estimate the length of time cannabinoids will likely remain detectable in urine following the use of marijuana by a drug court client. Thus, the cannabinoid detection window becomes a determinative factor in the appropriate interpretation of urine drug testing results for marijuana. The lack of adequate guidance has hindered the development of these standards for use in drug court.

It is important to note that while courts may be seeking absolute answers (an exact cannabinoid detection window), the science of drug detection in urine can only provide reasonable best estimates. The law is not always black and white; neither is science. Therefore, precise “yes/no” answers or exact detection windows are generally not attainable. Sensible guidance for the interpretation of urine cannabinoid results by drug courts, however, is achievable.

### FRAMING THE QUESTION

Simply put, the *detection window* is the length of time in days following the last substance usage that sequentially collected urine samples will continue to produce positive drug test results—in other words, the number of days until last positive sample. This time period is *not* the same as the length of time a drug will remain in someone’s system—that concept is, in reality, indeterminable (given that there is no analytical method capable of detecting the presence of a single molecule of drug in a donor’s body). The question being addressed herein is not how long minute traces of marijuana will remain in a client’s tissues or fluids after smoking, but rather how long those residual cannabinoid metabolites will continue to be excreted in urine in sufficient quantities to produce a positive drug test (by standard screening and confirmation testing).

*Study subjects with exceptionally long cannabinoid detection times (30-plus days) were just that-exceptional.*

For those compounds with uncomplicated metabolic pathways or for those drugs that are not significantly retained in body storage compartments, detection times have been established and generally accepted. These include urinary detection windows for drugs such as cocaine (1-3 days), amphetamines and opiates (1-4 days), and PCP (1-6 days) (Baselt, 2004). For marijuana, the urine elimination profile used to establish the detection window is more complex. It is well documented and understood that cannabinoids are lipid-soluble compounds that preferentially bind to fat-containing structures within the human body (Baselt, 2004). This and other chemical characteristics can prolong the elimination half-life of cannabinoids and extend the detection window beyond that of other abused substances. Chronic marijuana use, which expands body stores of drug metabolites faster than they can be eliminated, further increases cannabinoid detection time in urine.

### VARIABLES

Estimating the detection time of a drug in urine is a complex task because of the many factors that influence a compound’s elimination from the body. Additionally, technical aspects of the testing methods themselves also affect how long a drug will continue to be detected in urine. The pharmacological variables affecting the duration of detection include drug dose, route of administration, duration of use (acute or chronic), and rate of metabolism. Detection time is also dependent upon analytical factors including the sensitivity of the test (cutoff concentration) and the method’s specificity (the actual drug and/or metabolite that is being detected).

Generally speaking, the following factors affect the marijuana detection window accordingly:

- **Drug Dose**  
*The higher the dose; the longer the detection window. The percentage of psychologically active delta-9 THC in marijuana plant material varies considerably, making dosage difficult to estimate.*
- **Route of Entry**  
*Inhalation (smoking) is the only route of administration to be evaluated in this review.*
- **Duration/Frequency of Use**  
*The longer the duration and the greater the frequency of cannabinoid usage (chronic); the greater the body storage of fat-soluble metabolites; the longer the cannabinoid detection window. Drug surveillance programs may be able to define use patterns based on client self-reporting, arrest reports, documentation of previous treatment, or other court records.*
- **Metabolism Rate**  
*The higher the metabolic functions of the client; the faster cannabinoids are broken down; the shorter the detection window. Monitoring programs cannot determine this parameter.*
- **Test Sensitivity**  
*The lower the cutoff concentration; the more sensitivity the testing method toward cannabinoids; the longer the detection window. Court staff can select between various cannabinoid testing cutoffs.*
- **Test Specificity**  
*The less specific the testing method; the greater number of cannabinoid metabolites detected; the longer the detection window. This is difficult for monitoring programs to assess without technical assistance.*

Of these variables, drug courts are effectively limited to controlling only the sensitivity of the drug test itself (i.e., cutoff concentration). Initial screening test cutoffs for cannabinoids in urine generally include thresholds at 20, 50, and 100 ng/mL. The choice of testing cutoff has a profound effect on the cannabinoid detection window. The only other factor that can assist the court in the interpretation of cannabinoid testing results and the estimation of a client's detection window is attempting to define the duration and extent of a client's marijuana use over time (acute or chronic).

The differentiation between acute (a single use event or occasional use) versus chronic (persistent, long-term, continued usage) is important to establishing reliable detection benchmarks. As a result, drug court practitioners should attempt to gather as much information as they can about client drug use behavior and patterns.

Finally, the detection window by its very nature is subject to the timing of events outside the purview of the court. The last use of marijuana by a client prior to a positive test is often unknown to drug court staff. Thus, the real interval between drug usage and first detection can rarely be ascertained. For example, if a client smoked marijuana on Monday and a urine sample collected on Friday produced a positive result, the window of detection is 4 days shorter than if that same client had smoked on Thursday and produced a positive cannabinoid test on Friday. Therefore, the actual detection window for marijuana will almost always be longer than the analytically derived detection window as determined via positive tests.

## RESEARCH REVIEW

Research associated with the detection window of cannabinoids in urine spans several decades. While these studies have produced a significant amount of valuable information about marijuana elimination, older studies (primarily those performed in the 1980's) have also yielded some unintended consequences as pertains to the detection window. The technologies of drug testing and the methodologies used in drug detection have advanced rapidly in recent years. Consequently, cannabinoid detection studies performed twenty years ago (employing older immunoassays methods) utilized drug testing methods that are either no longer in widespread use or assays that have been extensively reformulated.

As cannabinoid screening tests evolved, these improved assays became more selective in the manner in which they detected marijuana metabolites (breakdown products). As detection

**Table 1. Review of Cannabinoid Studies Reporting Long Detection Times**

| Maximum Detection Times Determined for Cannabinoids | Factors Potentially Affecting the Relevance of Study Findings to Cannabinoid Detection Window Interpretation   | Year | Author                |
|---|--|------|-----------------------|
| 36 days   | Retrospective case study of a single patient; report on 6 similar cases included; no testing data provided in publication; no cannabinoid cutoff given   | 1982 | Dackis et al.         |
| 37 days   | 27 subjects studied, no testing data provided in publication; cannabinoid cutoff not provided; "calculated" cannabinoid cutoff less than 10 ng/mL; 37 day detection derived from 95% confidence interval for calculated elimination half-life; actual length of positivity averaged 9.7 days (5-20 days); authors acknowledge subjects may have been able to obtain marijuana during study; possibility supported by staff monitoring subjects | 1983 | Cridland et al.       |
| 40 days   | 10 subjects studied; self-reported as chronic users; subjects housed on unrestricted drug treatment ward; marijuana use during study suspected by authors and confirmed by several subjects  | 1984 | Swatek                |
| 67 days   | 86 subjects studied; self-reported as chronic users; subjects treated on "closely supervised" ward; single case of an individual's time to last positive urine (at or above 20 ng/mL) of 67 days (77 days to drop below the cutoff calibrator for ten consecutive days); spikes in urine cannabinoid levels during the study are not explained by the authors  | 1985 | Ellis et al.          |
| 25 days   | 11 subjects studied for cannabinoid elimination patterns (70 participants in entire study); only one subject remained positive for 25 days; mean elimination for self-reported "heavy" users was 13 days; immunoassay used in study not commercially available since 1995.   | 1985 | Schwartz et al.       |
| 25 days   | 13 subjects studied; self-reported as chronic users; subject abstinence not supervised during study; subjects allowed to smoke marijuana before and on the day of test drug administration; only one subject tested positive beyond 14 days  | 1989 | Johansson & Halldin   |
| 25 days   | Subject detection times determined using methods with a 5 ng/mL cannabinoid cutoff concentration   | 1994 | Iten                  |
| 32 days   | 19 subjects studied - half withdrew from study prior to completion; subjects were prisoners housed in general population with no additional surveillance; participants not asked to report new drug use during study; marijuana use during study suspected by authors  | 1999 | Smith-Kielland et al. |

specificity increased, the length of time cannabinoids were being detected in urine decreased. The greater the cannabinoid testing specificity, the shorter the detection window. Studies have demonstrated that detection times of cannabinoid metabolites in urine monitored by immunoassay have decreased over the past two decades (Huestis, 2002; Huestis, Mitchell, & Cone, 1994). Therefore, the results of cannabinoid elimination investigations performed in the 1980's may no longer be applicable to estimating the detection window for marijuana in urine using today's testing methodologies. Not to mention that twenty years ago, the routine use of on-site drug testing devices was nonexistent.

Studies of chronic marijuana users reporting prolonged cannabinoid excretion profiles have provided the basis for the common assumption that marijuana can be detected in urine for weeks or even months following use. In general, cannabinoid elimination studies that have manifested exceptionally long detection times suffer from a variety of research design shortcomings that raise concerns about their usefulness in establishing a reliable cannabinoid detection window for use in the modern drug court movement. Table I examines some of the potentially limiting factors from studies that produced prolonged cannabinoid detection times.

*The detection window for cannabinoids in urine must be seen in the proper context—as a reasonable estimate.*

The research studies presented in Table 1 contain numerous design details that confound the use of the data presented in establishing a reasonable and pragmatic cannabinoid detection window for drug court proceedings. The most serious of these obfuscating factors is the inability to assure marijuana abstinence of the subjects during the studies. The adverse

effect of this flaw on determining the true cannabinoid elimination time after marijuana cessation is significant. Drug use during an elimination study would extend the duration cannabinoids would be detected in the urine of subjects and would produce inaccurately long detection windows. In several cases, the authors themselves in their own review of results raise this concern. Other study design issues that may limit their usefulness include the use of detection methods with cannabinoid cutoff concentrations far below those traditionally utilized in criminal justice programs, the use of testing methods no longer commercially available and the use of immunoassay drug tests with reduced cannabinoid specificity (as compared with current immunoassay testing methods). It is not the intention of this article to discredit these studies, but rather to illustrate the degree to which their prolonged cannabinoid detection findings have influenced the understanding of the length of time cannabinoids can be detected in urine.

This critical evaluation (Table 1) is not presented to imply that these peer-reviewed articles are unscientific or contain no information of probative value. It is insufficient, however, to merely read the abstract of a scientific paper or the findings of a research study and draw the conclusion that a drug court client can remain positive for 30 days or longer, based upon the longest cannabinoid detection time reported therein. The data from these studies are often misused to make such claims.

Despite the potential limitations affecting the interpretation of the data produced by the studies in Table 1, the research does present some general cannabinoid elimination trends worth further examination. A closer evaluation of the study by Smith-Kielland, Skuterud, & Morland indicates that even with the factors identified as limiting its relevance, the average time to the first negative urine sample at a cannabinoid cutoff of 20 ng/mL was just 3.8 days for infrequent users and only 11.3 days for frequent users (1999). In the Swatek study, eight out of ten chronic subjects tested below the 50 ng/mL cutoff after an average of only

13 days (range 5-19 days) (1984). Johansson and Halldin identified only one study subject that tested positive for longer than 14 days with all thirteen subjects having an average last day with detectable levels (using a 20 ng/mL cutoff) of 9.8 days (1989). In other words, despite the potential factors restricting interpretation, those study subjects with exceptionally long cannabinoid detection times (30-plus days) were just that—exceptional. In several of the studies presented in Table 1, only a single subject was the source of the maximum cannabinoid detection time. Unfortunately, these rare occurrences have had a disproportional influence on the overall cannabinoid detection window discussion in a manner that has led to the general assumption that 30-plus day detection times are routine in drug court clients—regardless of use patterns (chronic vs. acute). Moreover, this prolonged elimination assumption and its widespread use as exculpatory evidence has most likely fostered client denial and hindered legitimate sanctioning efforts.

By contrast, the research associated with acute marijuana usage and resulting cannabinoid detection window is considerably more straightforward and less contentious. In a 1995 study using six healthy males (under continuous medical supervision), Huestis, Mitchell, & Cone determined that the mean detection times following a low dose marijuana cigarette ranged from 1 to 5 days and after a high dose cigarette from 3 to 6 days at a 20 ng/mL immunoassay cutoff concentration (average 2.1 days and 3.8 days, respectively) (1995). They also concluded that immunoassays at the 50 ng/mL cannabinoid cutoff provide only a narrow window of detection of 1-2 days following single-event use. In 1996, Huestis et. al. published research focusing on carboxy-THC, the cannabinoid metabolite most often identified by gas chromatography/mass spectrometry (GC/MS) confirmation methods. Using the 15 ng/mL GC/MS cutoff, the detection time for the last positive urine sample (for six subjects following high dose smoking) was 122 hours—just over five days. In 2001,

Niedbala et. al. demonstrated similar results with 18 healthy male subjects following the smoking of cigarettes containing an average THC content of 20-25 mg. Analyzing urine samples at a 50 ng/mL immunoassay cutoff yielded an average cannabinoid detection time of 42 hours. These acute marijuana elimination studies conclude that after single usage events cannabinoids are detected in urine for no more than a few days.

While studies of the cannabinoid detection window in chronic substance users have been more difficult to accomplish, research protocols have been developed to overcome concerns about marijuana usage during the study. Using a well-crafted study design, Kouri, Pope, & Lukas in 1999 determined the cannabinoid elimination profiles of 17 chronic users. Subjects were selected after reporting a history of at least 5000 separate “episodes” of marijuana use in their lifetime (the equivalent of smoking once per day for 13.7 years) plus continuing daily usage. Abstinence during the 28-day study was ensured by withdrawing those subjects whose normalized urine cannabinoid levels (cannabinoid/creatinine ratio) indicated evidence of new marijuana use. Kouri, et al, found that five of the 17 subjects reached non-detectable levels (less than 20 ng/mL) within the first week of abstinence, four during the second week, two during the third week and the remaining six subjects still had detectable cannabinoid urinary levels at the end of the 28-day abstinence period. Unfortunately, analytical results related to the cannabinoid testing in the article were scant as the primary objective of the study was to assess changes in aggressive behavior during withdrawal from long-term marijuana use. Even though this represents one of the best studies of chronic marijuana users, interpretation of this data for cannabinoid elimination purposes is limited because the actual drug testing data is not available. Nonetheless, Kouri, et al, shows that after at least 5000 marijuana smoking episodes, 30-day elimination times are possible.

A 2001 research project by Reiter et al. also seemed to avoid many of the design issues cited as concerns in Table 1. Reiter's case study involved 52 volunteer chronic substance abusers drug tested on a detoxification ward. Daily urine and blood tests excluded illicit drug consumption during the study. Using a 20 ng/mL immunoassay cutoff, the maximum elimination time (last time urine tested above the cutoff) for cannabinoids in urine was 433.5 hours (or just over 18 days); with a mean elimination time of 117.5 hours (4.9 days). When controlling for covert marijuana use by subjects during the study, chronic users in this study did not exhibit detectable urine cannabinoid levels for even three weeks.

In aggregate, using the data from the five studies cited in this review that researchers described as chronic marijuana users (even including data from Table 1), the average detection window for cannabinoids in urine at the lowest cutoff concentration of 20 ng/mL was just 14 days (Ellis, et al, 2002; Iten, 1994; Niedbala, 2001; Schwartz, Hayden, & Riddile, 1985; Swatek, 1984).

### PERPETUATING THE 30-PLUS DAY ASSUMPTION

The assumption that cannabinoids can be routinely detected in urine following the smoking of marijuana for 30 days or longer appears widespread and longstanding. Exacerbating this problem is the nearly constant proliferation of published material that continually reinforces the 30-plus day cannabinoid detection window into the criminal justice psyche. Examples of the enormous body of information/literature that propagates the 30-plus day cannabinoid detection times abound:

- *Substance abuse treatment literature proclaiming that "some parts of the body still retain THC even after a couple of months."*<sup>2</sup>
- *Drug abuse information targeted toward teens that often presents unrealistic cannabinoid detection times such as; "Traces of THC can be detected by standard urine and blood tests for about 2 days up to 11 weeks."*<sup>3</sup>

- *Criminal justice publications that list the cannabinoid detection limits of a "Chronic Heavy Smoker" as "21-27 days."*<sup>4</sup>
- *Drug testing manufacturers' pamphlets that state the time to last cannabinoid positive urine sample as "Mean = 27.1 days; Range = 3-77 days."*<sup>5</sup>
- *General information websites that offer "expert" advice concluding, "The average time pot stays in your system is 30 days."*<sup>6</sup>
- *Urine tampering promotions in magazines such as High Times and on websites that offer urine drug cleansing supplements and adulterants intended to chemically mask the presence of drugs in urine often exaggerate the detection window in an effort to promote the continued use of their products. Some of their claims include: drug detection times in urine [for] "Cannabinoids (THC, Marijuana) 20-90 days,"<sup>7</sup> and detection times for smokers who use "5-6x per week—33-48 days."*<sup>8</sup>
- *Health information websites that provide the following guidance; "At the confirmation level of 15 ng/ml, the frequent user will be positive for perhaps as long as 15 weeks."*<sup>9</sup>
- *Dr. Drew Pinsky (a.k.a. Dr. Drew), who has co-hosted the popular call-in radio show Loveline for 17 years, states that "Pot stays in your body, stored in fat tissues, potentially your whole life."*<sup>10</sup>

Based upon these information sources that claim cannabinoids elimination profiles of 25 days, 11 weeks, 90 days, up to 15 weeks after use, and for "your whole life," is it any wonder that drug court professionals cannot reach consensus on this issue? Is there any doubt why drug court clients make outlandish cannabinoid elimination claims in court? These represent but a sampling of the many dubious sources that perpetuate the prolonged cannabinoid detection window. As a consequence, the 30-plus day cannabinoid elimination period remains a commonly assumed "fact."

### ESTABLISHING THE CANNABINOID DETECTION WINDOW IN URINE

The detection window for cannabinoids in urine must be seen in the proper context—as a reasonable estimate. Detection times for cannabinoids in urine following smoking vary considerably between subjects even in

controlled smoking studies using standardized dosing techniques. Research studies have also demonstrated significant inter-subject differences in cannabinoid elimination rates. The timing of marijuana elimination is further complicated by the uncertainty of the termination of use and continued abstinence. That said, general estimates for establishing a cannabinoid detection window in urine can be advanced and accepted for use in drug courts. Based upon the current state of cannabinoid elimination knowledge and the drug testing methods available in today's market, the following practical cannabinoid detection guidance is offered.

*Based upon recent scientific evidence, at the 50 ng/mL cutoff concentration for the detection of cannabinoids in urine (using the currently available laboratory-based screening methods) it would be unlikely for a chronic user to produce a positive urine drug test result for longer than 10 days after the last smoking episode. Although there are no scientific cannabinoid elimination studies on chronic users using non-instrumented testing devices, one would assume that if the on-site devices are properly calibrated at the 50 ng/mL cutoff level the detection guidance would be the same.*

*At the 20 ng/mL cutoff concentration for the detection of cannabinoids in urine (using the currently available laboratory-based screening methods) it would be uncommon for a chronic marijuana smoker to produce a positive urine drug test result longer than 21 days after the last smoking episode.*

*For occasional marijuana use (or single event usage), at the 50 ng/mL cutoff level, it would be unusual for the detection of cannabinoids in urine to extend beyond 3-4 days following the smoking episode (using the currently available laboratory-based screening methods or the currently available on-site THC detection devices). At the 20 ng/mL cutoff for cannabinoids, positive urine drug test results for the single event marijuana use would not be expected to be longer than 7 days.*

This cannabinoid detection guidance should be applicable in the majority of drug court cases. These parameters (acute vs. chronic), however, represent opposite ends of the marijuana usage spectrum. Clients will often exhibit marijuana-smoking patterns between these two extremes resulting in an actual detection window that lies within these limits. As noted in the Kouri, et al, study, research suggests that under extraordinary circumstances of sustained, extended and on-going chronic marijuana abuse (thousands of smoking episodes over multiple years) that 30-day urinary cannabinoid detection is *possible* in some individuals at the 20 ng/mL cutoff (1999). However, the burden of proof for documenting such aberrant and chronic marijuana use patterns should fall on the drug court client or the client's representatives. For a client to simply disclose "chronic" use is insufficient corroboration.

Much has been made about marijuana research that has produced dramatically prolonged cannabinoid elimination times, particularly in those subjects identified as chronic. This data has often been used to explain continuing positive cannabinoid test results in clients long after their drug elimination threshold (resulting in negative urine drug tests) should have been reached. The pertinent question: to what extent does the scientific data (demonstrating 30-plus day cannabinoid detection times in chronic users) influence the disposition of drug court cases? Put another way, do drug court practitioners need to be concerned about the potential of extended cannabinoid detection times impacting court decisions (i.e., sanctions)? In reality, the only timeframe in which an individual's chronic marijuana use (possibly leading to extended cannabinoid elimination) is relevant is during a client's admission into the drug court program. It is during this initial phase that the court may find itself attempting to estimate the number of days necessary for a client's body to rid itself of acquired cannabinoid stores and the time required to produce negative drug test results. In many programs, a detoxification

period is established for this purpose. Once in the drug court program (following the initial detoxification phase), the extent of a client's past chronic marijuana usage does not influence the cannabinoid detection window as long as appropriate supervision and drug monitoring for abstinence continues on a regular basis. It would seem reasonable to assume that chronic client marijuana usage of the extreme levels discussed here while within a properly administered drug court would be highly unlikely. Therefore, the consequences of chronic marijuana usage on the cannabinoid detection window are effectively limited to the initial entry phase of the program.

*Science is not black and white and the state of our knowledge is continually evolving.*

The cannabinoid detection window guidance provided herein relies upon the widely used cutoff concentrations for the initial screening tests—20 ng/mL and 50 ng/mL. For programs utilizing GC/MS confirmation for the validation of positive screening results, the confirmation cutoff has little influence on the length of the cannabinoid detection window in urine. A review of the potential result possibilities demonstrates this point. If a drug court sample tests negative for cannabinoids on the initial screen, the confirmation cutoff is obviously irrelevant because the sample is not submitted for confirmation testing. If a sample both screens and confirms as positive for cannabinoids (and is reported as positive), then the cutoff concentration of the confirmation analysis is also not relevant because the sample would not have been sent for confirmation unless it produced a result greater than or equal to the cutoff level of the initial screening test. In other words, the confirmation procedure is merely validating the results (and therefore the cutoff) of the original screening

test. The only scenario in which the confirmation cutoff could potentially impact the length of the cannabinoid detection window is if a sample screened positive and the confirmation procedure failed to confirm the presence of cannabinoids (and the results of the drug test were reported as negative). In this circumstance, the cannabinoid detection window might be *shorter* than the estimate provided as guidance. This would be true on the condition that the confirmation cutoff concentration was lower than that of the screening procedure—which is nearly always the case. A shorter cannabinoid detection window would not be seen as prejudicial to the client and might actually be beneficial to the drug court.

Using this cannabinoid detection window guidance, the drug court decision-making hierarchy should be able to establish reasonable and pragmatic cannabinoid detection benchmarks that both provide objective criteria for court decisions and protect clients from inappropriate or unsupportable consequences. Some courts may choose to use the cannabinoid elimination information detailed in this paper exactly as presented to establish a marijuana detection window that will allow the differentiation between abstinence and continued/renewed use. Other courts may decide to build into the guidance an additional safety margin, granting clients further benefit of the doubt. Regardless of the approach, however, courts are urged to establish detection benchmarks and utilize these scientifically supportable criteria for case disposition.

Every day drug courts grapple with two seemingly disparate imperatives—the need for rapid therapeutic intervention (sanctioning designed to produce behavioral change) and the need to ensure that the evidentiary standards, crafted to protect client rights, are maintained. While administrative decision-making in a drug court environment (or a probation revocation hearing) does not necessitate the same due process requirements and protections that exist in criminal cases, as professionals we are obliged to ensure that court decisions have a strong evidentiary foundation.

Courts establishing detection windows for cannabinoids need to be aware of the existence of research studies indicating prolonged elimination times in urine. It is not recommended, however, that drug courts manipulate their detection windows to include these exceptional findings. Sound judicial practice requires that court decisions be based upon case-specific information. In weighing the evidence, courts also acknowledge the reality that a particular client's individualities or the uniqueness of circumstances may not always allow the strict application of cannabinoid detection window parameters in a sentencing decision. These uncommon events, however, should not preclude the development of cannabinoid detection windows for the use in the majority of court determinations.

### CLIENT DETOXIFICATION: THE "CLEAN OUT" PHASE

As a result of the extended elimination of cannabinoids (as compared to other abused drugs), some drug courts have instituted a detoxification stage or "clean out" period in the first phase of program participation. This grace period allows new clients a defined time frame for their bodies to eliminate stores of drugs that may have built up over years of substance abuse without the fear of court sanctions associated with a positive drug test. In many cases this detoxification period extends for 30 days, which corresponds to the commonly held assumption that this represents the time period required for marijuana metabolites to be eliminated from a client's system.

Regardless of the origin of the 30-day marijuana detection window and its influence on the duration of the detoxification period, 30 days is certainly an equitable time period for client drug elimination purposes. Simply because the science may not support the necessity of a detoxification period of this duration does not mean that a court cannot use the 30-day parameter in order to establish program expectations. However, based upon the

*Courts are urged to establish detection benchmarks and utilize these scientifically supportable criteria for case disposition.*

cannabinoid detection guidelines presented in this review, it is unlikely (utilizing reasonable physiological or technology criteria) that a drug court client would continue to remain cannabinoid positive at the end of this designated abstinence period. After 30 days, using either a 20 or 50 ng/mL testing cutoff, continued cannabinoid positive urine drug tests almost certainly indicate marijuana usage at some point during the detoxification period and should provoke a court response to reinforce program expectations.

### ABSTINENCE BASELINE

The abstinence baseline can either be a point at which a client has *demonstrated* their abstinence from drug use via sequentially negative testing results (actual baseline) or a court-established time limit after which a client *should not* test positive if that client has abstained from marijuana use (scientific baseline). Each baseline has importance in a court-mandated drug monitoring program. The later has been the focus of this review. It is exemplified by establishing the detection window for marijuana and utilizing positive urine drug testing results to guide court intervention. Individuals who continue to produce cannabinoid positive results beyond the established detection window maximums (the scientific baseline) are subject to sanction for failing to remain abstinence during program participation.

The alternative approach uses negative test results in establishing the actual abstinence baseline. This has been referred to as the "two negative test approach" and has been

previously described in the literature (Cary, 2002). A drug court participant is deemed to have reached their abstinence baseline when two consecutive urine drug tests yielding negative results for cannabinoids have been achieved, where the two tests are separated by a several day interval. Any positive drug test result following the establishment of this baseline indicates new drug exposure. This technique can be used with assays that test for marijuana at either the 20 or 50 ng/mL cutoff concentration.<sup>11</sup>

### CANNABINOID TESTING FOLLOWING POSITIVE RESULTS

Due to the prolonged excretion profile of cannabinoids in urine (especially after chronic use) some drug court programs wrestle with the issue of whether to continue urine drug testing during the expected marijuana elimination period. Simply put, why continue the expense and sample collection burden for clients who have already tested positive for cannabinoids knowing that the client may continue to produce positive cannabinoid results for many days? There are at least three principle reasons drug courts are not advised to suspend urine drug testing following a positive result for cannabinoids.

First, most court-mandated testing includes drugs other than marijuana. Client surveillance often encompasses testing for many of the popularly abused substances such as amphetamines, cocaine, opiates, and alcohol. Programs that forego scheduled testing run the very real risk of missing covert drug use for substances other than marijuana. If a drug court client knows a positive cannabinoid test will result in a drug testing “vacation,” they may use that non-testing period to use substances with shorter detection windows (i.e. cocaine or alcohol). By continuing to test, the court maintains its abstinence monitoring for drugs besides marijuana.

Second, from a programmatic standpoint the suspension of scheduled client drug testing sends the wrong therapeutic message. If a

drug court's policies and procedures require a certain schedule of testing, suspending testing for even a short period may appear to other program participants that the court is “rewarding” a client who has tested positive. Eliminating scheduled drug tests in response to a positive cannabinoid result degrades the program’s efforts at maintaining client behavioral expectations.

Lastly, depending upon the cutoff concentration of the drug test being used and whether the client’s marijuana usage was an isolated event (rather than a full relapse), it is entirely possible that a client who has previously tested positive for cannabinoids may test negative sooner than the cannabinoid detection window estimate. As indicated earlier, acute marijuana use results in cannabinoid positive urine samples for only several days following exposure. Curtailing drug testing for longer than three days extends unnecessarily the period of uncertainty about a client’s recent behavior and may delay appropriate therapeutic strategies or sanction decisions.

### COURT EXPECTATIONS AND CLIENT BOUNDARIES

One of the most important prerogatives of drug court (or any therapeutic court) is to clearly define the behavioral expectations for clients by establishing compliance boundaries required for continued program participation. Drug testing used as a surveillance tool defines those boundaries and monitors client behavior in order that the court can direct either incentives or sanctions as needed to maintain participant compliance. To fulfill this important responsibility, drug courts teams must agree upon specific drug testing benchmarks in order to apply court intervention strategies in an equitable and consistent manner.

The primary focus of this article is to promote the establishment of a drug testing benchmark that defines the expected detection window of cannabinoids in urine following the cessation of smoking. In order for drug courts to determine their cannabinoid detection window,

the program will need to consider the cutoff concentration of the urine cannabinoid test being utilized and develop criteria for defining chronic marijuana users. Drug courts should also take into account how the cannabinoid detection window will be incorporated into their current policies and procedures and how the detection window will be used in case adjudication. Once established, the court should apprise program participants of the expectations associated with the cannabinoid detection window. Clients should understand that sanctions will result if continued cannabinoid positive tests occur beyond the established detection window (the drug elimination time limit after which a client should not test positive if that client has abstained from marijuana use). Courts are reminded that the cannabinoid detection window may require revision if there are modifications to the drug testing methods or if there are significant changes in marijuana usage patterns in the court's target population (i.e., significant increases in chronic use).

Practitioners are reminded that the goal in establishing a cannabinoid detection window is not to ensure that a monitored client is drug free. Chronic marijuana users may carry undetectable traces of drug in their bodies for a significant time after the cessation of use. Rather, the goal is to establish a given time period (detection window limit) after which a client should not test positive for cannabinoids as a result of continued excretion from prior usage.

Finally, the cannabinoid detection window is a scientifically supportable, evidence-based effort to establish a reasonable and practical standard for determining the length of time cannabinoids will remain detectable in urine following the smoking of marijuana. Drug courts are reminded that science is not black and white and that the state of our knowledge is continually evolving. While detection window benchmarks will and should guide the sanctioning process for violations of abstinent

behavior, courts are urged to judge a client's level of compliance on a case by case basis using all of the behavioral data available to the court in conjunction with drug testing results. In unconventional situations that confound the court, qualified toxicological assistance should be sought.

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### Endnotes

1. EMIT is a registered trademark of the Dade Behring/SYVA Company and stands for (Enzyme Multiplied Immunoassay Technique). EMIT is a commercial drug testing product for the analysis of drugs of abuse in urine (d.a.u.).
2. *Detoxing from Marijuana* (pamphlet). (1992). Marijuana Anonymous: 12-Step Program for Marijuana Addicts, 4. The entire text reads as follows: "Why do some effects last so long?" "Unlike most other drugs, including alcohol, THC (the active chemical in marijuana) is stored

in the fat cells and therefore takes longer to fully clear the body than with any other common drug. This means that some parts of the body still retain THC even after a couple of months, rather than just the couple of days or weeks for water soluble drugs."

3. Website: TeenHealthFX. URL: <http://www.teenhealthfx.com/answers/12.html>. TeenHealthFX.com is a project funded by Atlantic Health System, a New Jersey hospital consortium. The website states that "the professional staff who answer questions from our vast audience and provide oversight include clinical social workers, health educators, adolescent medicine physicians, pediatricians and pediatric subspecialists, psychiatrists, psychologists, nurses, nutritionists, and many other health professionals."

QUESTION: "Dear TeenHealthFX, Smoking marijuana can be detected how long? I've heard a couple of weeks in urine, a couple of days in blood, and a couple of years in hair... please clarify! Also, during a routine physical at the doctor, will they check for marijuana in the blood or urine sample?"

Signed: Longevity Of Marijuana - How Long Does It Stay In Your System"

ANSWER: "Dear Longevity Of Marijuana - How Long Does It Stay In Your System, The chemical in marijuana, THC, is absorbed by fatty tissues in various organs. Traces of THC can be detected by standard urine and blood tests for about 2 days up to 11 weeks depending on the person's metabolism, how much they smoked and how long they smoked. THC can be detected for the life of the hair. Again, the sensitivity of the test ranges from person to person depending on many factors including the amount of body fat, differences in metabolism, and how long and how much they smoked."

Presumably, the 11 week estimate comes from the research finding of Ellis, et. al. (1985) which has been described earlier.

4. Bureau of Justice Assistance Monograph entitled: *Integrating Drug Testing into a Pretrial Services System: 1999 Update*, July 1999, NCJ # 176340. On page 48, Exhibit 5-3 titled; Approximate Duration of Detectability of Selected Drugs in Urine lists Cannabinoids (marijuana) Chronic heavy use as 21 to 27 days. Source: Adapted from the Journal of the American Medical Association's Council on Scientific Affairs (1987, p. 3112).

The source material citation is the Journal of the American Medical Association. (1987, June)

12;257(22):3110-4. The article is titled; "Scientific Issues in Drug Testing—Council on Scientific Affairs." On page 3112, Table 2. titled "Approximate Duration of Detectability of Selected Drugs in Urine" lists chronic heavy smoker as 21-27 days. The references cited for this data are Dackis, et. al (1982), and Ellis, et. al. (1985), the potential shortcomings of both have been discussed in this article. It is noteworthy and illustrative that this 1999 "updated" publication still relies on research performed in 1982 and 1985.

5. *Cannabinoid Issues: Passive Inhalation, Excretion Patterns and Retention Times* (pamphlet). Dade Behring, SYVA Company, S-10036. On page 25 in a table titled: "Emit d.a.u. Cannabinoid Assay (20 ng/mL)" is listed the following:

All Subjects (n = 86):

First Negative:

Mean = 16.0 days    Range = 3-46 days

Last Positive:

Mean = 27.1 days    Range = 3-77 days

Examination of the references associated with this data indicates the following sources; Ellis, et. al. (1985), Schwartz, Hayden, & Riddile (1985), and Johansson & Halldin (1989). All of these references and their potential study design issues have been reviewed in this article. This pamphlet also contains cannabinoid elimination data using the Emit-st Cannabinoid Assay testing method. Given that this assay is no longer being manufactured, the data was not included.

6. Website: *What You Need to Know*. About.com URL: <http://experts.about.com/q/1319/718935.htm>. This is a popular website for general information inquiries about almost any subject matter. In a section entitled "About Our Service" the website states, "Allexperts, created in early 1998, was the very first large-scale question and answer service on the net! We have thousands of volunteers, including top lawyers, doctors, engineers, and scientists, waiting to answer your questions. All answers are free and most come within a day!"

The question submitted to the site was, "How long does marijuana stay in your system?" The expert response was: "The average time pot stays in your system is 30 days. The time may differ depending on your metabolism. If you have a fast metabolism it may be shorter than 30 days, if you have a slow metabolism it may be more. The average though is about 30 days." Note that in this answer, 30 days is given as an average cannabinoid elimination time.

7. Website: Health Choice of New York. URL: <http://www.clearchoiceofny.com/drugtestinfo.htm>. This website states: "It's One Stop Shopping For All Of Your Detoxifying Needs. We Have All The Products You Need To Pass A Urine Drug Test." In a section entitled "Drug Approximate Detection Time in Urine," the site provides the following information: "Cannabinoids (THC, Marijuana) 20-90 days."

8. Website: IPassedMyDrugTest.Com. URL: [http://www.ipassedmydrugtest.com/drug\\_test\\_faq.asp#detect\\_time](http://www.ipassedmydrugtest.com/drug_test_faq.asp#detect_time)

The following table is provided:

Cannabinoids (THC, Marijuana) Detection Time:

|                |            |
|----------------|------------|
| 1 time only    | 5-8 days   |
| 2-4x per month | 11-18 days |
| 2-4x per week  | 23-35 days |
| 5-6x per week  | 33-48 days |
| Daily          | 49-63 days |

9. Website: HealthWorld Online. URL: <http://www.healthy.net/clinic/lab/labtest/004.asp>. Site's mission statement; "HealthWorld Online is your 24-hour health resource center—a virtual health village where you can access information, products, and services to help create your wellness-based lifestyle." In the section called "Detection of Cannabinoids in Urine," the following information is provided: "Cutoff and Detection Post Dose: The initial screening cutoff level is 50 ng/ml. The GC/MS cutoff level is 15 ng/ml. The elimination half-life of marijuana ranges from 14-38 hours. At the initial cutoff of 50 ng/ml, the daily user will remain positive for perhaps 7 to 30 days after cessation. At the confirmation level of 15 ng/ml, the frequent user will be positive for perhaps as long as 15 weeks."

10. Website: Dr. Drew. URL: <http://drdrew.com/Office/faq.asp?id=1083&section=5002>

QUESTION: How long does pot (or other drugs) stay in your body? Is there any way to detect it?

ANSWER: Most readily available drug screens are tests of the urine. Blood tests and breath analyzers are another way substances can be detected. Pot stays in your body, stored in fat tissues, potentially your whole life. However, it is very unusual to be released in sufficient quantities to have an intoxicating effect or be measurable in urine screens. Heavy pot smokers, people who have smoked for years on a daily basis, very commonly have detectable amounts in their urine for at least two weeks.

11. Research data indicates that in the terminal phase of cannabinoid elimination, subjects can produce urine samples with levels below the cutoff concentration (negative results), followed subsequently by samples with levels slightly above the cutoff (positive results) (Huestis, 2002). This fluctuation between positive and negative did not occur in all subjects and in those that did exhibit this pattern, the fluctuation was generally transitory. Based on this elimination pattern, it is recommended that programs using a cannabinoid cutoff of 50 ng/mL allow an interval of at least three days between the two negative result samples to establish the abstinence baseline. It is further recommended that programs using the 20 ng/mL cannabinoid cutoff allow an interval of at least five days between the two negative result samples to establish the abstinence baseline. If a program's testing frequency is greater than every five days (using the 20 ng/mL cutoff), a total of three or more negative tests may be required before the five-day interval is achieved.

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## FACT SHEET QUIZ: WHAT DID YOU LEARN?

*Test your new knowledge. Answer these true and false questions based on the Fact Sheet text.*

T  F 1. The "detection window" means the length of time a drug will remain in someone's system.

T  F 2. The choice of testing cutoff has a profound effect on the cannabinoid detection window.

T  F 3. Despite changes in testing methodologies, detection times of cannabinoid metabolites in urine monitored by immunoassay have remained the same over the past two decades.

T  F 4. Chronic users of marijuana commonly produce a positive urine drug test result 30 days after the last smoking episode.

T  F 5. Any positive drug test result following two successive negative urine drug tests several days apart indicates new or recent drug exposure.

T  F 6. Since marijuana has such a prolonged elimination period, temporarily suspending drug testing of a client who tests positive for marijuana is a good money-saving strategy.

*Answers: 1. False; 2. True; 3. True; 4. False; 5. True; 6. False*



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# **DUID INVESTIGATION AND PROSECUTION**

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**Assistant Commonwealth's Attorney  
Henrico County**

**Officer Sean Broomell**

**Henrico County Division of Police**

# WHY DISCUSS DUID?

- Driving under the influence of drugs is an issue we are beginning to see more frequently
- Drug impairment cases cannot be treated exactly like alcohol impairment cases
- Education and treatment of offenders

# **THE LAW RELATED TO DUID CASES**

**Virginia Code § 18.2-266 makes it unlawful for any person to drive or operate a motor vehicle:**

**“while under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature, or any combination of such drugs, to a degree which impairs his ability to drive or operate any motor vehicle safely” or**

**“while such person is under the combined influence of alcohol and any drug or drugs to a degree which impairs his ability to drive or operate any motor vehicle”**

# THE LAW RELATED TO DUID CASES

- Virginia has four per se drugs
  - 0.02 milligrams of COCAINE per liter of blood
  - 0.1 milligrams of METHAMPHETAMINE per liter of blood
  - 0.01 milligrams of phencyclidine (PCP) per liter of blood
  - 0.1 milligrams of 3,4-methylenedioxymethamphetamine (MDMA/ECSTASY) per liter of blood

# INVESTIGATION & ARREST

- Initial observations, investigation and note taking are key
- During the traffic stop: observations, indicators, and asking the right questions
- Note taking and documentation
- Case Study #1
  - Male, mid-50s, prior alcohol DUI
  - Stop at road check
  - PBT = .02, but tests showed impairment

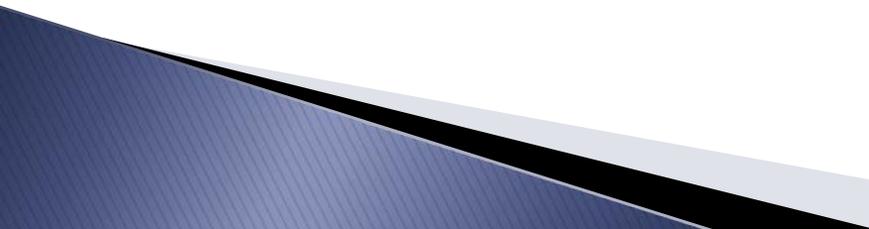
# POST-ARREST & TRIAL

- Chemical testing of an arrestee believed to be impaired
  - Breath, blood, or both
- Preparing for Trial
  - Officers and prosecutors **MUST** take the time to prep
  - “Painting the Picture”
- Case Study #2
  - Female in her mid-40s
  - Call about possible impaired driver
  - Admitted alcohol use, but denied drugs

# TRAINING

- Training begins with the basic academy
  - NHTSA standards
- Specific training on drugged driving and poly-drug awareness
- Alcohol-wet lab, no live drug lab
- In-service and roll call training continues throughout an officer's career

# TRENDS IN DUID CASES

- Fatalities have decreased, but drug involvement in drivers has increased
  - In 2009, 33% of fatally injured drivers with known test results tested positive for drugs
  - Drugs and alcohol often appear together
  - Some of the most frequently detected drugs: cannabis, benzodiazepines, amphetamines, cocaine and methamphetamine
- 

# DUI Alcohol v. DUI Drugs

- Significant differences in how these cases are investigated and prosecuted
- Drug cases are often more complex
  - Alcohol is alcohol
  - No prescription for alcohol and no therapeutic levels of alcohol
  - Fact finders typically have some familiarity with what a BAC means, but are less familiar with what an amount of a drug means
  - For some drugs, it is difficult for a toxicologist to say whether a person may have been impaired

# TREATING THE OFFENDERS

- Punishment statutes do not differentiate between DUI and DUID offenders
- May not even know everything that is in a person's system (DFS Protocol on blood testing)
- The prescription drug that caused impairment may be a necessary drug
- Are prescription drug users being educated BEFORE they take the drug?

# RESOURCES

National Institute on Drug Abuse, “Drugged Driving Research: A White Paper” (Mar. 31, 2011)

NHTSA Traffic Safety Facts, “Drug Involvement of Fatally Injured Drivers” (Nov. 2010)

MADD, “White House Drug Policy Director and Mothers Against Drug Drinking Unite to Combat Drugged Driving” (Oct. 13, 2011)

Virginia Department of Forensic Science Evidence Handling & Laboratory Capabilities Guide (Feb. 2010)

# QUESTIONS?



# Effective Use of Rewards & Sanctions

**Douglas B. Marlowe, J.D., Ph.D.**

*Treatment Research Institute at the  
University of Pennsylvania*



# Basic Terminology

|             | <b>SANCTION</b>               | <b>REWARD</b>                 |
|-------------|-------------------------------|-------------------------------|
| <b>GIVE</b> | <b>Punishment</b>             | <b>Positive Reinforcement</b> |
| <b>TAKE</b> | <b>Negative Reinforcement</b> | <b>Response Cost</b>          |

# Carrot and Stick

- Reduce undesirable behaviors and increase desirable behaviors
- No thinning for punishment
- Positive vs. negative reinforcement



# Certainty

- **Reliable detection is key**
- **Random drug testing twice per week, including weekends and holidays**
- **Sufficient detection windows & panels**
- **Community supervision**
- **Last supervisory burdens to be lifted**
- **Second chances**



# Celerity

- **Timing is second most influential**
- **Interference from new behaviors**
- **Status hearings every 2 weeks until the case has stabilized**
- **Noncompliance hearings where indicated**



# Magnitude

EFFECTIVENESS

Habituation  
Effects



Effective  
Zone



Ceiling  
Effects



MINIMAL

MODERATE

SEVERE

MAGNITUDE OF SANCTION

# Procedural Fairness

- **Clearly communicated policies and procedures**
- **Presumptive consequences with flexible application**
- **Opportunity to be heard**
- **Respect and dignity**



# Target Behaviors

- **Don't expect too much**
  - Learned helplessness and ratio burden
- **Don't expect too little**
  - Habituation
- **Proximal vs. distal goals**
- **Phase specificity**



# **Treat or Punish?**

**Substance Dependence or Addiction**

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms



Abstinence is a distal goal

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms



Abstinence is a distal goal

## Substance Abuse

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms



Abstinence is a distal goal

## Substance Abuse



Abstinence is a proximal goal

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms

} Abstinence is a distal goal

## Substance Abuse

} Abstinence is a proximal goal

## Collateral needs

- Dual diagnosis
- Chronic medical condition (e.g., HIV+, HCV, diabetes)
- Homelessness, chronic unemployment

# Treat or Punish?

## Substance Dependence or Addiction

1. Triggered binge pattern
2. Cravings or compulsions
3. Withdrawal symptoms

} Abstinence is a distal goal

## Substance Abuse

} Abstinence is a proximal goal

## Collateral needs

- Dual diagnosis
- Chronic medical condition (e.g., HIV+, HCV, diabetes)
- Homelessness, chronic unemployment

} Regimen compliance is proximal

# Tangible Rewards

- **Most important for reinforcement-starved participants**
- **Fishbowl procedure**
- **Symbolic rewards**



# Readings



**Burdon WM et al (2001). Drug courts and contingency management. *Journal of Drug Issues*, 31, 73-90.**

**Harrell A & Roman J (2001). Reducing drug use and crime among offenders: The impact of graduated sanctions. *Journal of Drug Issues*, 31, 207-232.**

**Marlowe DB (2007). Strategies for administering rewards and sanctions. In JE Lessenger & GF Roper (Eds.), *Drug courts: A new approach to treatment and rehabilitation* (pp. 317-336). New York: Springer.**

**Marlowe DB (2008). Application of sanctions. In *Drug Court Quality Improvement Monograph*. Alexandria, VA: NDCI.**

**Marlowe DB & Wong CJ (2008). Contingency management in adult criminal drug courts (pp. 334-354). In ST Higgins, K Silverman & SH Heil (Eds.), *Contingency management in substance abuse treatment*. New York: Guilford.**

**Marlowe DB (2011). Applying incentives and sanctions. In *The drug court judicial benchbook* (pp.139-157). Alexandria, VA: NDCI.**

# Chapter 7

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## APPLYING INCENTIVES AND SANCTIONS

*Douglas B. Marlowe, J.D., Ph.D.*

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## I. [§7.1] INTRODUCTION

In the social and psychological sciences, few findings have been so reliably demonstrated that they may qualify as “laws” of human behavior. The principles of operant conditioning or contingency management are one such set of laws. These principles have been proven time and again across numerous settings to the degree that they are no longer the subject of legitimate scientific dispute. The basic techniques for effective implementation of operant conditioning are reviewed in the pages that follow. For more in-depth discussions of the topic, a list of recommended readings is provided at the conclusion of this chapter.

Put simply, if one’s goal is to improve adaptive functioning and reduce antisocial behavior on the part of drug offenders, then it is essential to closely monitor their conduct and impose certain and immediate rewards for achievements and sanctions for infractions. Failing to punish misfeasance inevitably makes behavior worse, and failing to reward accomplishments makes those accomplishments less likely to recur. Although the proper administration of incentives and sanctions is by no means the be-all and end-all of drug court programs, it will be the rare drug court that can effect positive change without it.

## II. [§7.2] RELIABLE MONITORING

The success of every intervention in a drug court depends, ultimately, on the reliable monitoring of participants’ behaviors. Research indicates that the most important factor influencing the success of any behavioral intervention is certainty. Certainty is often expressed as a ratio of infractions to sanctions, or as a ratio of achievements to rewards. For example, if drug court participants are sanctioned every time they fail to attend a treatment session, then the ratio of infractions to sanctions is 1:1, and this is called a fixed ratio-1 (or FR1) schedule. If they are sanctioned for every two missed sessions, this would be an FR2 schedule, and so forth. The scientific evidence is unambiguous on this point: the smaller the ratio, the better the effects for initiating a new behavior.

---

*Nothing spells disaster  
more for a drug court than  
failing to detect and redress  
negative behaviors or failing  
to recognize and reward  
positive accomplishments.*

---

If the drug court judge does not have accurate information about whether a participant is being compliant or noncompliant in the program, there is no possible way to apply incentives or sanctions correctly or to adjust treatment and supervision services accordingly. Nothing spells disaster more for a drug court than failing to detect and redress negative behaviors or failing to recognize and reward positive accomplishments. The worst case scenario is to apply the wrong consequence. For example, if a participant is wrongly applauded for doing well in the program, when in fact he or she is surreptitiously continuing to abuse drugs, the practical effect is to reward the participant’s deception and

destroy any credibility the program might have had. Once credibility is lost, it is exceedingly difficult to reclaim.

Recommended procedures for monitoring participants' behaviors are discussed in other sections of this benchbook, including Chapters 5 and 6 on community supervision and drug-testing (respectively); however, a few evidence-based pointers are worth underscoring here:

- Urine drug testing should be performed no less frequently than twice per week, at least during the first phase of the program.<sup>1</sup> Because the detectible metabolites of most drugs of abuse stay in the system for only about forty-eight to seventy-two hours, less frequent testing leaves an unacceptable gap during which participants can abuse drugs without being detected.
- Urine drug testing should be performed on a random basis. If participants know in advance when they will be drug tested, they can adjust their usage accordingly. They can also front-load on water consumption or take other countermeasures to beat the tests. If drug testing is unannounced, participants will have less time to prepare for such countermeasures.
- Urine drug testing should be the last supervisory burden that is lifted, and ordinarily only during the last phase of the program, if at all. Drug courts typically ratchet down the intensity of treatment and supervision services as participants make progress in the program. There is always the risk that participants will relapse as those services are reduced. Therefore, urine drug testing should continue unabated in order to be certain that relapse is not occurring when other adjustments are being made to the treatment plan.
- Urine drug testing should be performed, at least occasionally, on weekends. Participants are very attentive to when they are being tested and they know when testing will not occur. Giving them a predictable 48-hour reprieve from testing invites efforts to get away with undetected drug use.
- Alcohol is one of the most common substances of abuse among drug court participants, yet many testing technologies do not do a good job of detecting alcohol consumption. Breathalyzers, for example, detect only a very small time window of recent alcohol use. Technologies should be employed that have longer detection windows, such as ethyl glucuronide (EtG), ethyl sulfate (EtS) or SCRAM (Secure Continuous Remote Alcohol Monitor) anklet devices. (These technologies are discussed in Chapter 6, "The Fundamentals of Drug Testing.")
- Most misconduct by participants occurs during off-hours, when they are not physically present at the drug court program. It is essential, therefore, for community supervision officers to observe participants in their natural social environments. This includes conducting unannounced home contacts, verifying employment and school attendance, enforcing area and place restrictions, monitoring compliance with curfews, and performing bar sweeps, where relevant.

---

*Best practice would be to  
continue monitoring  
substance use throughout  
the court process.*

---

It bears repeating that naiveté is inconsistent with competent professional practice and effective behavior modification. To borrow a phrase from former President Ronald Reagan: “trust but verify.”

### III. [§7.3] UNEARNED LENIENCY

Some drug court professionals may feel ambivalent about administering punishment. They may view their role as providing treatment and not policing misconduct. Although such sentiments may be appropriate for certain team members, such as defense counsel or clinicians, it is not appropriate for the drug court team as a whole. A critical function of any drug court is to closely monitor offenders and hold them meaningfully accountable for their behavior. The public at-large is a legitimate consumer of drug court services and has a right to expect drug courts to fulfill their obligations to public safety and to the integrity of our legal system.

This has important implications for the practice of giving participants second chances. Assume, for example, that a participant delivers a drug-positive urine specimen, but the judge elects not to administer a sanction because the judge was in a good mood that day. This would have the practical effect of increasing the ratio of infractions to sanctions. For example, it might shift the participant from an FR1 schedule to an FR2 schedule. This would be likely to reduce the efficacy of the program, no matter how well intentioned it might have been.

Consider a different example, however, in which the participant used drugs, but then felt guilty about it, spontaneously acknowledged the drug use to his or her counselor, and sought further treatment to avoid a continued relapse. In this example, it would be appropriate to withhold the sanction as an incentive for the client being truthful and seeking treatment on his or her own volition. In behavioral terms, this would be an example of what is called *negative reinforcement*, in which a sanction is withheld as an incentive for honesty and help-seeking behavior. The point here is that second chances can be appropriate, but only when they have been earned. Mistakes happen, and participants need to learn how to deal with the aftermath of their mistakes. If a participant behaves in a responsible manner following a relapse, then that responsible behavior may be seen as canceling out the impending sanction for drug use. This should not be misconstrued; participants cannot continue to use drugs again and again, knowing that as long as they are honest afterwards they will avoid a sanction. This would be something that would primarily happen in the early stages of treatment.

---

*Sanctions for drug use might  
be suspended to reward honesty  
and help-seeking behavior.*

---

This process can at times be applied prospectively as well. For example, a sanction might be imposed for an infraction, such as failing to attend a counseling session, but then held in abeyance pending subsequent corrective action. If the participant attends, say, the next five counseling sessions in a row, the sanction might be formally withdrawn.

However, failure to attend the next five sessions would elicit two sanctions—one for the original absence and another for the new one. In essence, the participant is offered an opportunity for “double or nothing.”

In short, when a sanction is withheld to reward corrective efforts, it is in the best interests of the participant and is an example of effective behavior modification. When, however, it is withheld because it makes the professional feel more personally comfortable, it is not effective behavior modification and is apt to make the participant worse off in the long run.

#### IV. [§7.4] SCHEDULE OF STATUS HEARINGS

After certainty, the second most important element of effective behavior modification is immediacy, sometimes referred to as *celerity*. The unfortunate reality is that the effects of rewards and sanctions begin to decline within only a few hours or days after a participant has engaged in a target behavior. One explanation for this precipitous decline in efficacy is that there is interference from new behaviors. Assume, for example, that a participant uses drugs on Monday, but then is abstinent and compliant with treatment for the remainder of the week. If that same individual is sanctioned on Friday for the instance of drug use that occurred on Monday, it should be evident that the desirable behaviors transpiring on Tuesday through Thursday are actually closer in time to the sanction than the drug use. This explains why the effects of sanctions decline precipitously. New behaviors occur more recently in time, and behavior modification works, in part, by proximity in time. In this example, the practical effects of the sanction could be, paradoxically, to punish the good behaviors that occurred most recently.

This finding has important implications for establishing an effective schedule of status hearings in drug courts. Most drug courts apply incentives and sanctions during court hearings, after the team has had an opportunity to review the case in a staffing and agree

---

*Initially, Drug court participants should appear for court sessions at least every two weeks.*

---

upon a suitable consequence. The ultimate decision about what consequence to impose is determined by the judge, but is based upon a consideration of the relevant evidence and expertise contributed by the various team members. The longer the time interval between staffings and between status hearings, the longer the

delay will be between participants' accomplishments and the imposition of rewards, and between their infractions and the imposition of sanctions.

Fortunately, research provides clear indications about when to schedule status hearings. Outcomes in drug courts appear to be optimized when participants appear in court no less frequently than every two weeks, at least during the first three to six months of the program.<sup>2,3,4,5</sup> Requiring participants to appear in court at least every two weeks permits the team to respond to their accomplishments and infractions in a reasonably short interval of time, which is necessary to modify their behavior effectively.

This is not to suggest that holding status hearings on a weekly basis is harmful or undesirable. Rather, there is no clear indication from the research that the additional expense and inconvenience of weekly hearings (for both the participants and staff) is warranted based upon the relative differences in outcomes. It also remains unclear whether this finding applies equally to populations other than adult drug offenders, such as mentally ill offenders or juvenile delinquents. More research is needed to determine how frequently status hearings should be scheduled for other populations. The best advice that can be offered at this juncture is that biweekly status hearings appear to be a reasonable and evidence-based schedule to follow in a drug court program.

There is no clear indication yet from the research evidence about when it is appropriate to ratchet down the frequency of status hearings. Most drug courts reduce the schedule of court hearings as participants move through the various phases of the program. If advancement through the phases is based upon objective evidence of progress in treatment (which it should always be), and if participants continue to be reliably tested for substance abuse and other relevant behaviors, then it appears suitable to gradually reduce the frequency of court hearings over time. More research is needed to determine how quickly those adjustments can and should be made.

## V. [§7.5] MAGNITUDE OF REWARDS AND SANCTIONS

There is a common misconception that rewards and sanctions are most effective at high magnitudes. In fact, evidence reveals that rewards can be quite effective at low to moderate magnitudes. For example, positive outcomes have been achieved with low-magnitude rewards, such as verbal praise, diplomas, certificates of progress, transportation passes, and gift cards to local stores or restaurants.

Punitive sanctions tend to be the least effective at the lowest and highest magnitudes, and most effective within the moderate range. Sanctions that are too weak in magnitude can precipitate what is called *habituation*, in which the individual becomes accustomed to being sanctioned. The problem with habituation is not only that low-magnitude sanctions may fall below an effective threshold—of greater concern, they can make it less likely for higher-magnitude sanctions to work in the future because they can raise the participant's tolerance for being sanctioned. This may account for the “been-there, done-that” attitude that many drug offenders exhibit in response to threats of punishment. Over time, they may become desensitized to repeated threats of inconsequential sanctions; therefore, they may be apt to push the limits to the point of no return (e.g., to the point of imprisonment, overdose, or death).

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*Moderate magnitude responses can be quite effective at producing behavioral change.*

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At the other extreme, sanctions that are too high in magnitude can lead to *ceiling effects*, in which further escalation of punishment is impracticable. Once a participant has been

incarcerated, for example, the drug court may have used up its list of sanctions. At this point, future efforts to improve that offender's behavior could be futile. High-magnitude sanctions are also apt to precipitate a host of negative side effects. Individuals who are exposed to high-magnitude sanctions will often do everything in their power to avoid the sanctions, such as absconding from the program, lying, or tainting their urine specimens. As a result, staff members spend much of their time attempting to overcome participants' deceptions rather than conducting therapy. In addition, participants who receive severe sanctions may become depressed, angry, or despondent, which can interfere with their therapeutic alliance with staff members.

For these reasons, successful drug courts craft a wide and creative range of intermediate-magnitude rewards and sanctions, which can be ratcheted upward or downward in response to participants' behaviors. For example, participants may receive writing assignments, fines, community service, or brief intervals of jail detention for failing to comply with treatment. Conversely, they may receive verbal praise, token gifts, or reduced supervisory obligations for complying with treatment. The sanctions and rewards are administered on an escalating or graduated gradient, in which the magnitude increases progressively in response to each successive infraction or accomplishment in the program. This can enable a drug court to navigate between habituation and ceiling effects by altering the magnitude of punishment in response to successive infractions. It also permits the criminal justice system to offer a substantially richer and more effective range of rewards than is ordinarily available to offender populations.

The success of any drug court will depend largely on its ability to apply a meaningful range of intermediate rewards and sanctions. Just like the story of "Goldilocks and the Three Bears", those programs that are too lenient will be apt to elicit habituation and make outcomes stagnant; whereas those that are too harsh will be apt to elicit resentment, avoidance, and ceiling effects. Those programs that are "just right" will tend toward the best results.

## VI. [§7.6] THE "FISHBOWL" PROCEDURE

Many drug courts are stretched for resources and may not have much money available to purchase concrete rewards. One economical way to deal with this limitation is to use what is sometimes referred to as the *fishbowl procedure*. Participants earn opportunities to draw from a fishbowl or other lottery-like container as a reward for various accomplishments in the program, such as attending treatment sessions and providing drug-negative urine specimens. Most of the draws might earn only a written declaration of success in the program (e.g., a certificate of accomplishment for the week signed by the judge). Others might elicit small prizes of roughly \$5 to \$15 value (e.g., transportation passes or gift certificates to

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*An effective and inexpensive  
reward system allows  
everyone who has done  
well to participate in a  
lottery for prizes.*

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fast food restaurants). Finally, a small proportion of the draws might elicit larger prizes, such as DVDs or a portable CD player.

Research indicates that the fishbowl procedure can bring about comparable, or even better, outcomes than providing participants with rewards for every achievement.<sup>6,7</sup> The excitement of possibly winning a higher-magnitude reward appears to compensate for the reduced chances of actual success. This can enable drug courts to offer effective positive reinforcement for their clients at a reduced cost to the program. It also introduces some entertainment value into the process. Importantly, concerns that such a procedure might trigger gambling behavior on the part of some participants are not warranted and have been disproven in research studies.<sup>8</sup> In addition, concerns that participants might exchange their rewards for drugs or other inappropriate acquisitions have also proven unwarranted.<sup>9, 10, 11</sup> To the contrary, providing concrete rewards is associated with reductions in drug use, higher success rates, and greater satisfaction with the drug court program.

## VII. [§7.7] FAIRNESS

Certainty, immediacy, and magnitude relate to how rewards and sanctions are actually imposed. However, *perceptions* of rewards and sanctions are also very important. One issue relates to the concept of procedural justice. Evidence from cognitive psychology reveals that individuals are more likely to perceive a decision as being correct and appropriate if they believe that fair procedures were employed in reaching that decision.<sup>12, 13</sup> In fact, the perceived fairness of the procedures exerts a greater influence over participants' reactions than does the outcome of the decision. Specifically, participants will be most likely to accept an adverse judgment if they feel they (1) had a fair opportunity to voice their side of the story, (2) were treated in an equivalent manner to similar people in similar circumstances, and (3) were accorded respect and dignity throughout the process.<sup>14</sup> When any one of these factors is absent, behavior not only fails to improve, but may get worse, and participants may sabotage their own treatment goals.<sup>15</sup>

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*Rewards and sanctions  
must be perceived as fair  
to be effective.*

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This does not mean that participants should necessarily get what they want. The important point is that they should be given a fair chance to explain their side of the story, and they should be offered a clear-headed explanation about how and why a particular decision was reached. If staff members have difficulty articulating a defensible rationale for why a participant is being treated a given way, then perhaps the team should rethink its response. Most importantly, it is never appropriate to be condescending or discourteous. Even the most severe sanctions, such as jail detention or termination, should be delivered in a dispassionate and even-handed manner, with no suggestion that the judge or other staff members enjoy meting out punishment. It should be clear that the sanction is intended to address the participant's misconduct, and is not being imposed because the participant is a bad person or intrinsically deserves to be punished.

Research indicates that drug courts tend to have better outcomes when they clearly specify their policies regarding incentives and sanctions in a written program handbook or manual.<sup>16</sup> Prior to entering the program, participants should be clearly informed in writing about the program's rules; the specific behaviors that may trigger sanctions or rewards; the types of sanctions and rewards that can be imposed; the criteria for graduation or termination from the program; and the consequences that may ensue from graduation and termination. Prior to waiving their legal rights, this material in the handbook should be verbally reviewed by defense counsel with the participants and should perhaps also be the subject of a formal colloquy between the judge and each participant. Such procedures help to ensure that participants understand the rights they are giving up and the risks they are assuming by entering the program. This will serve to increase participants' perceptions of fairness and predictability in the program, which will make them more likely to accept negative sanctions should they need to be imposed.

## VIII. [§7.8] SPECIFICITY

Ambiguity undermines the effects of sanctions and rewards. If participants do not have clear advance notice about the specific behaviors that may trigger sanctions or rewards, and the types of sanctions and rewards that may be imposed, they will be apt to view the imposition of sanctions and rewards as unfair. This will be unlikely to improve their behavior and may actually make their behavior worse.

Vague terms such as "irresponsible behavior" and "immaturity" are open to differing interpretations and should be scrupulously avoided. Infractions and achievements should be clearly defined in objectively measurable behavioral terms, such as drug-positive urine specimens or unexcused absences from counseling sessions. Criteria for phase advancement and graduation should similarly be clearly stated, such as a specified number of drug-negative urine specimens or a specified attendance rate at counseling sessions. As noted previously, these criteria should be memorialized in a written manual or handbook, carefully discussed with participants prior to entry, and periodically reviewed with participants over time.

## IX. [§7.9] PROXIMAL VS. DISTAL GOALS

When it comes to modifying habitual or ingrained behaviors, it is essential to draw a distinction between proximal and distal behavioral goals. This process is referred to as shaping. Proximal goals are behaviors that (1) participants are already capable of engaging in, and (2) are necessary for long-term objectives to be achieved. Examples might include attendance at counseling sessions, attendance at court hearings, or delivery of urine specimens. Distal goals are the behaviors that are ultimately

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*Distal goals are the  
desired behavior that may  
take time to achieve.*

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desired, but may take participants some time to accomplish. Examples might include gainful employment or improved parenting skills.

As will be discussed in greater depth below, the shaping process has important implications for responding to positive urine drug screens from individuals who are substance abusers as opposed to those who are compulsively addicted to alcohol or other drugs. Abstinence, on one hand, is relatively easier to achieve (and thus is a proximal goal) for individuals whose drug use is under voluntary control and has not progressed very far in severity. On the other hand, abstinence is a distal goal for individuals who are seriously addicted to alcohol or other drugs. Thus, as will be discussed, sanction and incentive schedules may need to be different for addicted individuals as opposed to substance abusers.

Although it is always appropriate to administer a sanction for every infraction, the magnitude or severity of the sanction should be higher for proximal behaviors and lower for distal behaviors. If a participant receives low-magnitude sanctions for failing to fulfill easy obligations, this will almost certainly lead to habituation. However, if a participant receives high-magnitude sanctions for failing to satisfy difficult demands that are beyond his or her capabilities, this will almost certainly lead to depression, hostility, or a disruption of the therapeutic relationship.

Thus, for example, a participant who fails to show up for counseling sessions or delivers tampered urine specimens might receive a substantial sanction, such as community service or a brief period of jail detention. On the other hand, if that same participant failed to find a job or to enroll in

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*Telling the truth is always a proximal goal. Sobriety or total abstinence may be a distal goal.*

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an educational program during the early phases of the program, he or she might receive a lesser consequence, such as a verbal reminder or writing assignment. As will be discussed, distal goals eventually become proximal goals as participants make progress in the program. At some point in time, finding a job or enrolling in an educational program will become a proximal goal, and the participant should receive higher-magnitude consequences for failing to fulfill these obligations as well.

The converse applies to rewards. Low-magnitude rewards should generally be administered for proximal behaviors, and high-magnitude rewards for distal behaviors. For example, participants might receive verbal praise and encouragement for attending counseling sessions, but might receive more substantial rewards, such as reduced supervision requirements, for engaging in prosocial behaviors like returning to school. Again, distal behaviors will eventually become proximal behaviors over time. At some point in time, verbal praise might become a sufficient response to attendance at school.

Of course, some behaviors that represent an immediate threat to public safety or to program integrity, such as the commission of a new crime, driving while impaired (DWI), or dealing drugs to other clients, are necessarily conceptualized as proximal because they cannot be permitted to continue. Offenders who fail to refrain from these behaviors

might be considered to be poor candidates for drug court or may need to be confined and treated in a correctional halfway house, residential facility, or prison or jail setting.

## X. [§7.10] PHASE ADVANCEMENT

Defining proximal and distal goals has important implications for designing the phase structure of a drug court program. The primary purpose of phase advancement is to let participants know that what was previously considered to be

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*Phase advancement recognizes that distal goals have become proximal.*

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a distal goal has now become a proximal goal. For example, phase one in many drug courts focuses on stabilization of the client and induction into treatment. The emphasis might be placed on completing clinical assessments, establishing a routine of attending treatment sessions in a timely manner, abiding by a home curfew, and obtaining a self-help group sponsor. Participants might not, however, be required (or even encouraged) to find a job or return to school at this early stage in their recovery.

Once a participant has become stabilized and developed a proper routine, he or she might then be advanced to phase two, in which other goals such as employment or education would become more salient. Thus, failing to attend job training during phase one might receive no consequence or only a minimal consequence, whereas failing to attend job training during phase two or three might elicit a more substantial consequence. A distal goal becomes a proximal goal over subsequent phases of the program, and the consequences for failing to achieve that goal increase accordingly.

Each time a participant is advanced to a higher phase in the program, the drug court team should take that opportunity to underscore for all of the participants what was required for the advancement to occur, and what new challenges now await the individual. Ideally, the judge should repeatedly review the process of phase advancement in open court and explain to all participants the implications of moving from one phase to another. This way, there will be no surprises when participants find that the program's expectations for their behavior have increased and the consequences for their misbehavior have been enhanced accordingly.

## XI. [§7.11] SUBSTANCE ABUSE VS. DEPENDENCE

It is unwarranted to assume that merely because an individual has been arrested for a drug-related offense, he or she must be an addict or in denial about being an addict. In fact, research indicates that approximately thirty to forty percent of drug court participants do not have a serious addiction problem.<sup>17</sup>

There are three prototypical symptoms for determining whether an individual is addicted to or dependent on alcohol or other drugs:

- Any introduction of the substance into the bloodstream precipitates a binge pattern. For example, the individual intends to have just one beer, but drinking that beer triggers a several-hour bender.
- The individual experiences intense cravings or compulsions for the substance, which are extremely difficult to resist and which steadily build in intensity during prolonged intervals of abstinence.
- The individual suffers severely uncomfortable or debilitating withdrawal symptoms when levels of the substance decline in the bloodstream.

Further discussion of the diagnostic criteria for substance abuse and dependence may be found in Chapter 4, “Addiction and Treatment Services.”

As was noted previously, for participants who are exhibiting one or more of these hallmark features of dependence, abstinence should generally be considered a distal goal. Substance use is compulsive for such individuals and they may be expected to require time and effort in order to achieve abstinence. If a drug court team were to impose high-magnitude sanctions on these individuals for drug use early in treatment, the odds are high that the team would hit a ceiling effect quite soon, and the participant could fail out of the program. This would have the paradoxical effect of making the most drug-dependent individuals ill-fated for success in drug

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*For substance abusers, sobriety is a proximal goal, and they should receive relatively high magnitude sanctions for drug use. This is not necessarily true for those who are substance dependent.*

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court programs. Instead, high-magnitude sanctions should be reserved during the early phases of the program for proximal, treatment-related behaviors, such as attending counseling sessions, appearing at status hearings, and submitting urine specimens. Positive urine screens should still be met with certain and swift sanctions; however, the magnitude of those sanctions should be relatively low, thus permitting ample opportunities for the team to ratchet up the magnitude of the sanctions over time.

By contrast, for participants who are not addicted to alcohol or other drugs, abstinence should be considered a proximal goal. Because substance use is not compulsive for these individuals, they are capable of stopping their usage relatively quickly. Applying low-magnitude sanctions for substance use would essentially allow them to continue their use with minimal consequences. This could lead to habituation effects, which would make outcomes worse. Instead, higher-magnitude sanctions should be applied for drug use from the outset, so as to put a rapid end to this misbehavior.

It should be evident from the foregoing discussion that sanction and incentive schedules and phase structures should ordinarily be different for participants who are substance abusers as opposed to those who are dependent or addicted. For example, substance abusers might be required to initiate abstinence during phase one of the program, and

might receive relatively high-magnitude sanctions for drug use in phase one, whereas such a requirement could be unrealistic for those who are compulsively addicted to alcohol or other drugs. For addicted individuals, the emphasis during phase one might, instead, be on learning to follow a structured routine, attending treatment sessions on time, completing applicable clinical assessments, and obtaining a self-help group sponsor. It might be more realistic to reserve a major emphasis on the initiation of abstinence for addicted individuals until phase two of the program. After an addicted participant has developed a productive routine and begun to engage meaningfully in treatment, then abstinence might become a proximal goal, and higher-magnitude sanctions would ensue for drug use.

This practice could require some drug courts to develop separately stratified tracks or dockets for participants who are drug-dependent as opposed to those who are abusers. Separate tracks could help to avoid perceptions of unfairness when some participants are treated more leniently than others for what appears on the surface to be the same behavior (i.e., drug use). Of course, for rural drug courts or those with low censuses, separate tracks might not be practical. Staff members in those programs will need to be able explain to participants why they are being treated differently from other clients based upon their clinical needs. Having a prepared script on hand to provide this explanation could help to reduce perceptions of unfairness.

## XII. [§7.12] NONCOMPLIANCE VS. NONRESPONSIVENESS

Related to the distinction between proximal and distal goals is the distinction between noncompliance and nonresponsiveness. Drug court participants are jointly supervised by the criminal justice system and the substance abuse treatment system, which can lead to apparent (though not actual) role conflicts between different team members. Criminal justice professionals are primarily charged with protecting public safety and are empowered to respond to misconduct with enhanced supervision or punitive sanctions. Treatment professionals, by contrast, are primarily charged with improving the health and functioning of their clients and may intensify a client's treatment plan in furtherance of these goals. It is not always immediately apparent whether a punitive sanction or a change to the treatment plan is called for in a given instance. Distinguishing between noncompliance and nonresponsiveness addresses this issue squarely.

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*Increased treatment should not be used as a sanction.*

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If, for example, a participant fails to show up for counseling sessions or to deliver urine specimens when directed to do so, he or she is arguably engaged in willful noncompliance, assuming that the absences were unexcused and avoidable. Under such circumstances, it would be appropriate to apply a punitive sanction or to increase the participant's supervision requirements. On the other hand, if the participant was attending all of his

or her required sessions but was not responding to the clinical interventions, the fault might lie not with the participant but with the treatment plan. Rather than apply a punitive sanction, it would be preferable to alter the treatment plan. For example, the participant might require intensive clinical case management services to address a co-occurring psychiatric problem. In other words, noncompliance refers to a failure to engage in treatment, whereas nonresponsiveness refers to a failure to benefit from the treatment that is being offered. The former is willful (and proximal) and the latter is non-willful (and distal). Thus, the former should result in a sanction, and the latter should result in an alteration of the treatment plan. Recent research suggests that making this important distinction when applying consequences has the potential to significantly improve outcomes in drug court programs.<sup>18, 19</sup>

Distinguishing between noncompliance and nonresponsiveness addresses an important problem that is commonly encountered in drug courts. Some judges or probation officers may suggest increasing treatment requirements as a consequence of misconduct in the program. However, as noted in Chapter 4, “Addiction and Treatment Services,” this practice not only risks wasting scarce treatment slots, it may give the inadvertent message to participants that treatment is aversive and thus something to be avoided. It is only appropriate for a judge or criminal justice professional to order a change to the treatment plan or level of care in response to noncompliance when it is clinically indicated after reassessment by a treatment professional. If, however, a participant is being compliant in treatment, but is not getting better, then it is certainly appropriate for the court to order a clinical reevaluation of the case by treatment professionals and to solicit recommendations from the treatment professionals about the best course to pursue. Under such circumstances, the judge would be relying upon expert advice in ordering a change to treatment, rather than practicing a clinical specialty without a license or adequate training or expertise.

### XIII. [§7.13] THE CARROT VS. THE STICK

There is a serious concern that some drug courts may place an inordinate emphasis on squelching undesired behaviors to the detriment of reinforcing desired behaviors. Although drug courts can be quite effective at reducing crime and drug use while participants are under the supervision of the judge, these effects should not be expected to endure unless the participants receive alternative rewards and sanctions in their natural social environments that help to maintain the effects over time. For instance, participants who find a job, develop hobbies, or improve their family relationships will be more likely to be continuously rewarded for prosocial behaviors (e.g., with praise, social prestige, or wages) and punished for drug-related behaviors (e.g., by being ostracized from peers or fired from a job). By contrast, participants who simply return to their previous habits and routines will most likely find themselves back in an environment that rewards drug use at the expense of prosocial attainments. The community reinforcement approach (CRA)<sup>20</sup> is one counseling strategy that seeks to capitalize on natural systems of rewards and sanctions in clients’ social environments to compete with the drug-using lifestyle.

To maintain treatment effects over time, it is essential that drug courts not merely punish crime and drug use, but also reward productive activities that are incompatible with crime and drug use. A critical task facing drug court practitioners is to use more positive reinforcement in their work and to select behavioral goals for their clients that can take the place of drug use and crime.

As was discussed earlier, sanctions have been associated with a host of negative side effects that can make outcomes worse, rather than better. For example, sanctions have been associated with avoidance responses, learned helplessness, anger, despondency, and ceiling effects. Positive reinforcement

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*Reward productive activities  
that are incompatible with  
crime and drug use.*

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has also been associated with negative side effects; however, those side effects tend to be considerably less problematic than those of punishment. For example, some participants may become complacent or feel entitled if they come to expect

something for nothing. That is, if participants are continuously rewarded for mediocre or substandard performance, this will not only fail to improve their performance, but can lead them to feel resentful or despondent if expectations for acceptable performance are subsequently increased. This problem can be easily avoided by increasing one's expectations for participants over time. As participants move through the various phases of the program, the requirements for the program should steadily increase (i.e., distal goals should become proximal goals). If expectations for appropriate behavior are continuously heightened, there should be little concern that participants' conduct will become stagnant.

There is also some suggestion from the research literature that artificial, extrinsic rewards can undermine clients' intrinsic motivation for change.<sup>21</sup> Importantly, however, these findings relate to detrimental effects on individuals who were already intrinsically motivated. Intrinsic motivation is often conspicuously absent among drug abusers and criminal offenders. If participants are not motivated to begin with, then it is difficult to envision how their motivation could be interfered with. For unmotivated individuals, it is not only acceptable to use extrinsic rewards to get them started on a course towards abstinence, but it may be minimally necessary to do so.<sup>22</sup> After they have experienced a sustained interval of sobriety, then participants will begin to experience the natural rewards that come with abstinence. For example, they will start feeling physically and emotionally healthier, may regain the respect of family members or friends, and may become gainfully employable. Then, and perhaps only then, will they begin to develop the intrinsic motivation that is necessary to maintain abstinence over the long run.

Perhaps the most enduring objection to rewards is one of equity. Citizens are not ordinarily given tangible incentives for abstaining from drugs and crime. Therefore, it may seem inequitable to reward some people for doing what is minimally expected of others—particularly when those being rewarded may be seen as the less desirable elements of society, such as drug addicts and criminal offenders. Because this objection is based upon sentiment and is not related to the actual effects of the intervention, it cannot be empirically disputed. It is an unavoidable policy objection that can make it

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*High-risk, antisocial drug abusers respond very well to positive reinforcement programs.*

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difficult for drug court professionals to conduct their work most effectively. The best recourse is to explain to stakeholders why positive reinforcement is so necessary to achieve long-term gains among drug offenders, and why it may be among the most effective and cost-effective strategies

to employ with these individuals. Perhaps data can answer some of the objections that are often raised against the use of positive rewards with offenders.

In fact, numerous studies have found that high-risk, antisocial drug abusers tended to respond exceptionally well to positive reinforcement programs.<sup>23, 24, 25</sup> Many of these individuals are reinforcement-starved, meaning they rarely received praise or positive incentives for good behaviors in their past, including during their childhoods when incentives are especially influential. Because they may have been denied positive reinforcement during many of their formative years, they may crave positive attention to a degree beyond that of most adults. Although they may make every effort to act as if they do not care about rewards, their actions often suggest otherwise. Some studies in drug courts suggest that the more severe an offender's criminal background, the more responsive he or she may be to earning rewards for good behaviors.<sup>26</sup>

#### XIV. [§7.14] CONCLUSION

At its core, the criminal justice system is a contingency management intervention designed to reduce crime and rehabilitate offenders. Traditionally, however, rewards and sanctions have rarely been applied in a systematic manner that could produce meaningful or lasting effects. Dissatisfied with this state of affairs, a group of criminal court judges set aside special dockets to provide closer supervision and greater accountability for drug-abusing offenders. Wittingly or unwittingly, these judges devised programs highly consonant with scientific principles of operant conditioning. Specifically, they:

- Introduced greater certainty, celerity, and fairness into the process of imposing criminal justice sanctions;
- Crafted a range of intermediate-magnitude incentives and sanctions that could be ratcheted upward or downward in response to offenders' conduct;
- Developed a phased program structure that separates proximal from distal goals, and thus helps to shape behavior most effectively;
- Introduced more positive reinforcement and therapeutic goals into the business of the courts.

As a result, outcomes from drug courts have substantially exceeded those typically achieved by other programs for drug-involved offender populations. Drug courts are certainly far from perfect and more research is needed to fine-tune the behavioral components of these programs. Clearly, however, drug courts represent the best behavior modification intervention, to date, that has been applied on a systemic scale for drug-involved offenders.

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# Signs of Impairment - DUID

Jason S. Hudson, Ph.D.

Forensic Toxicologist

Virginia Department of Forensic Science

Central Laboratory

Richmond, Virginia



# Legal Spectrum

Prosecution

Defense



# Analysis of DUID Submissions



Are drugs or alcohol present?

What class of drugs?

How much of a drug is present?

Confirmation of result

No single test exists for everything



# Biological Specimens

- Blood
  - Indicates level of effects a drug may be producing
  - Implied Consent
- Urine
  - Longer window of detection
  - Does not indicate whether a person was under the influence



# DUID Testing - Implied Consent

- Mailed to the Central Laboratory
- BAC
  - 0.10% and greater → no further testing
  - BAC < 0.10% → drug testing protocol
- Report quantitative results on drugs known to cause impairment
- Destroyed after 90 days unless a motion is filed for independent analysis

# DUID Drug Screen Panel

- Cocaine
- Opiates
- Oxycod/Oxymor
- Methamp/MDMA
- PCP
- Barbiturates
- Benzodiazepines
- Carisoprodol (Soma)
- Methadone
- Fentanyl
- Cannabinoids
- Zolpidem

# The C.O.A.

- Analyst vs. Examiner
  - Multiple analysts and multiple reviewers
  - One examiner
    - Reviews ALL assay and QC data
    - Signs C.O.A.
  - Advantages
    - Increase productivity; decrease chance for errors
- Current practice
  - Regional jurisdictions
    - Analyzed and assays reviewed in Central
    - Case reviewed and signed out in Regional Lab

Western Laboratory  
6600 Northside HS Road  
Roanoke, VA 24019-2837

Tel. No.: (540) 561-6600  
Fax: (540) 561-6608  
January 5, 2010

TO: CLERK GENERAL DISTRICT COURT, GILES COUNTY  
COURTHOUSE BUILDING  
PEARISBURG, VA 24134

FS Lab #: [REDACTED]

ACCUSED: [REDACTED]

Received at Department of Forensic Science  
Vial No. 284592 containing Blood for  
Alcohol/Drug Content.

By: Moses, Linda C.  
Date: 08/20/2009 Time: 3:28PM

Examined By: Burrows, David L.  
Date: 01/05/2010 Time: 8:02AM

The vial seal had not been broken or tampered with when received.  
The container and vial were provided by the Department of Forensic  
Science. The attached Certificate of Blood Withdrawal was  
affixed to the vial.

RESULTS:

Blood Alcohol Content 0.00% by weight by volume

Morphine 0.03 mg/L.  
Hydrocodone 0.04 mg/L.  
Alprazolam 0.08 mg/L.  
Tetrahydrocannabinol 0.006 mg/L.  
THC Carboxylic Acid 0.13 mg/L.

The following substances were not detected:

Cocaine/Benzoylcegonine  
Methamphetamine/MDMA  
Phencyclidine  
Barbiturates  
Carisoprodol/Meprobamate  
Fentanyl  
Methadone

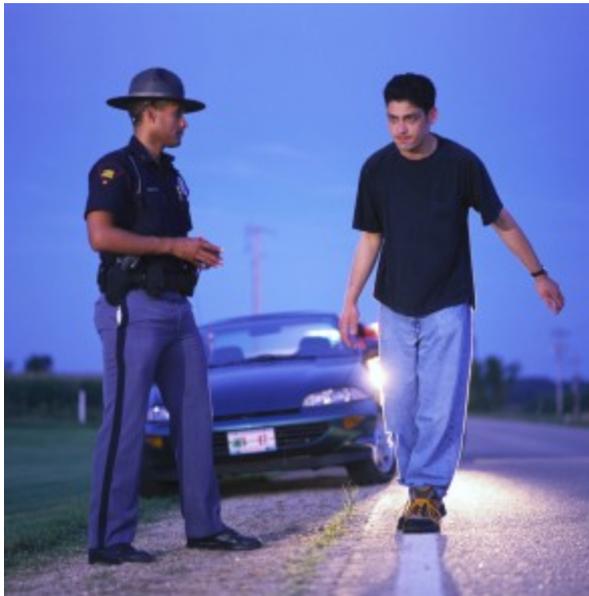
No other analyses were performed

This Certificate of Blood Withdrawal was removed from the vial and  
attached hereto by the department director or employee.

I certify that I performed the above analysis or examination as an employee of and in a laboratory operated by the Department of Forensic Science,  
that the above is an accurate record of the results and interpretations of that analysis or examination, and that this duty has been delegated to me by  
the Director of the Department of Forensic Science pursuant to Section 18.2-268.7 of the Code of Virginia.

TESTE \_\_\_\_\_  
(Department Employee)

# The Effects of Drugs and Alcohol on Driving



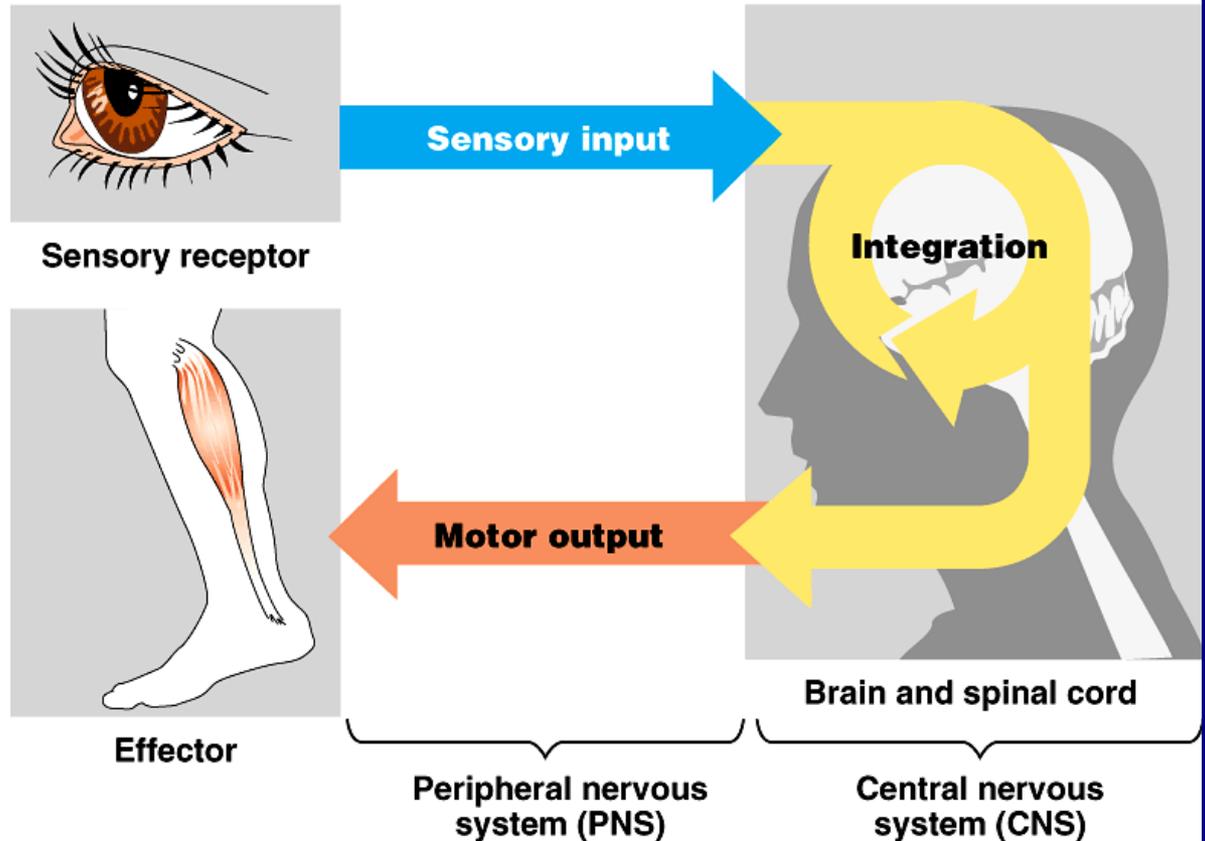
# Basic Tasks of the Nervous System

## Sensory Input:

Monitor both external and internal environments.

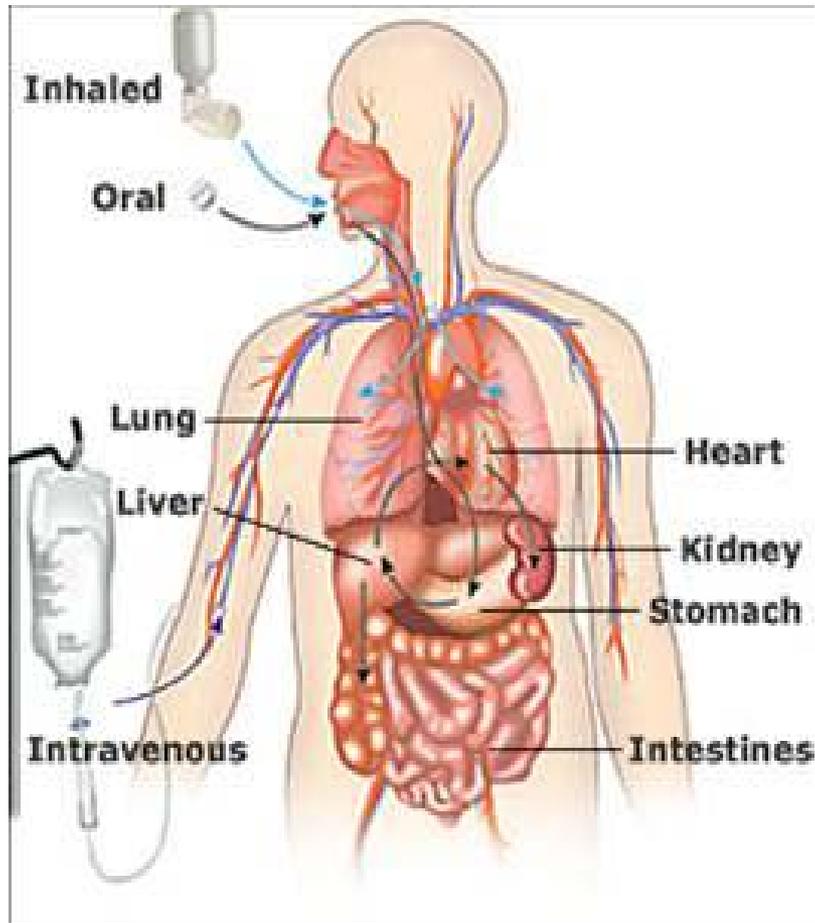
**Integration:** Process the information and often integrate it with stored information.

**Motor output:** If necessary, signal effector organs to make an appropriate response.



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# What Influences the Effects of Drugs and Alcohol?



- Pharmacokinetics
- Route of Administration
- Dose
- Drug Interactions
- Individual variability

# Pharmacology of Drugs and Alcohol

- Pharmacodynamics- What the drug does to body
  - Effects
    - Intended and Unintended
- Pharmacokinetics- What the body does to the drug
  - How long is drug in the body?
  - Metabolites

# Why Does Route Matter?

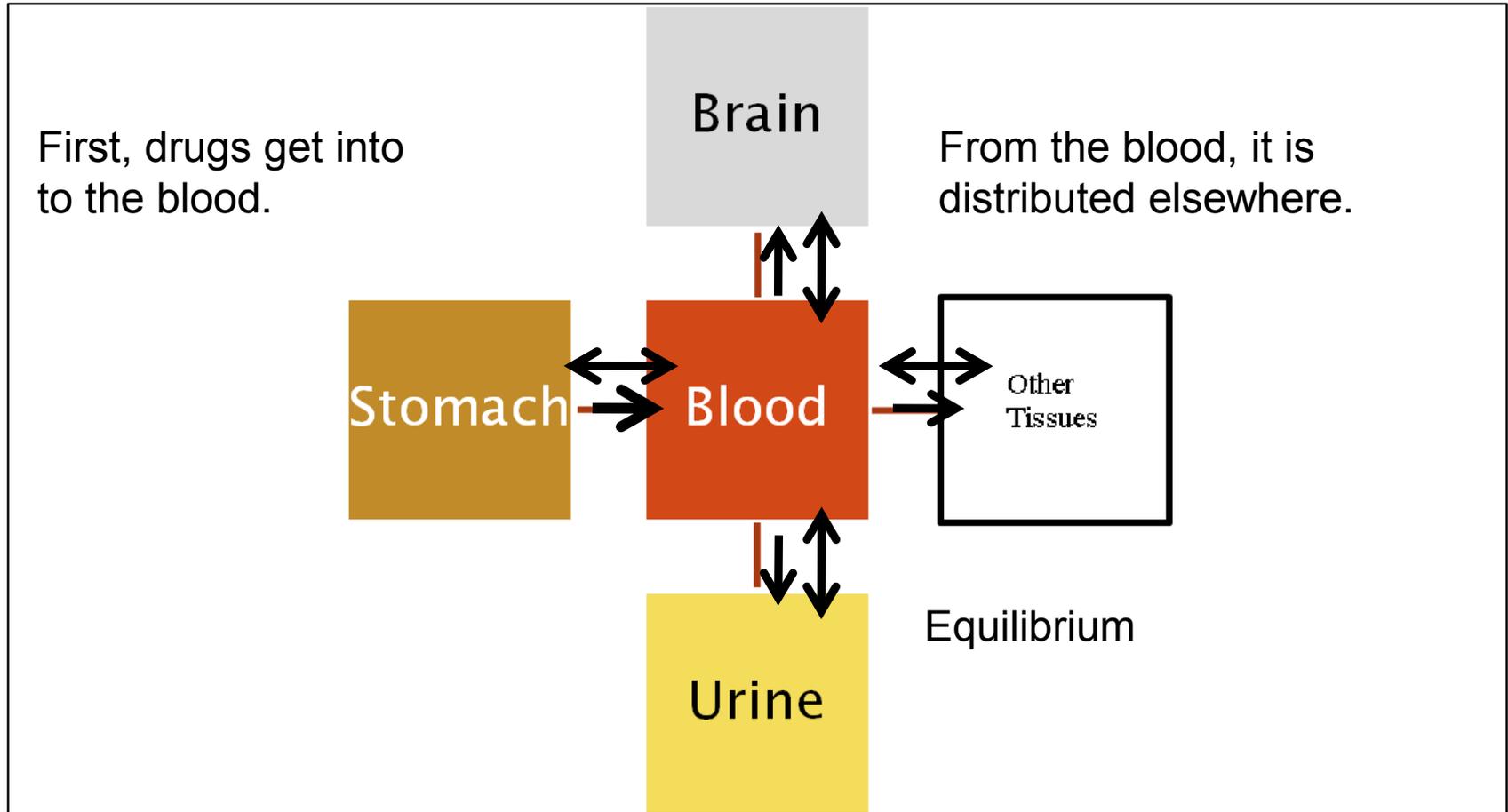
- Oral administration
  - Delayed absorption
  - First pass effect (liver)



- Intravenous > inhalation > insufflation > sublingual
  - Immediate effects



# Distribution



# Drug Half-Life

- The duration of time it takes for half of the drug to be eliminated from the blood
  - If the half life is 30 min and the starting concentration is 100  $\mu\text{g/L}$ :
    - after 30 min, the concentration will be 50  $\mu\text{g/L}$
    - after 60 min, the concentration will be 25  $\mu\text{g/L}$
- Alcohol elimination does NOT behave like drug elimination
  - Linear (0.01%-0.02% per hour)

# Dose-Perspective

- Six -12 ounce beers (5% ethanol each)  
= 3.6 liquid ounces of ethanol total
  - equal to 108 mL of ethanol
  - equal to 85 grams of ethanol
  - equal to 85,000 mg of ethanol
- Triazolam - 0.5 mg (therapeutic dose)
  - 6 beers is 170,000X the dose of triazolam

# Dose-Take Home Message

- Drugs can grossly affect the body with a very small quantity
- The body handles drugs differently than it does ethanol
  - Absorption
    - More routes
  - Distribution
    - Fat, blood, pH dependent
  - Elimination
    - Half-Life

# Drug Effects

- Dependent on the:
  - Drug/drug class
  - Dose/blood level
  - “Phase” of intoxication
    - High vs. crash (withdrawal)
- All drugs affect everyone differently
- All drugs have side effects
  - Even at therapeutic levels

# Three Categories of Drug Levels in Blood

- Therapeutic
  - Concentrations at which a drug typically exerts an effect to treats a certain medical condition
    - 100% independent of the ability to operate a motor vehicle safely
- Toxic
  - Concentrations at which a drug's side effects can be damaging; risks may start to outweigh benefits
- Lethal
  - Toxic levels of drug left untreated can be fatal

# Therapeutic Range

- Concentration of drug in blood that produces the desired medical effect
- Numerical range is a literature compilation of blood concentrations that produce the desired medical effect at specific dosages
- Physician is free to prescribe whatever dosage is necessary to achieve the desired medical effect

# Therapeutic Range vs. Impairment

- Therapeutic does not = not impaired!
- Therapeutic does not = impaired!
- **18.2-266.** (iii) while such person is under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature, or any combination of such drugs, to a degree which impairs his ability to drive or operate any motor vehicle, engine or train safely,
- **18.2-266** makes no distinction between abused drug, therapeutic drug or the blood drug concentration

# Acute vs. Chronic Drug Use

- **Acute Drug Use**

- Short time use (intermittent, recent, days)
- Naïve User
- More significant or observable impairment

- **Chronic Drug Use**

- Long term daily use (weeks, months, years)
- Tolerant subject **less** observable impairment

- **Tolerance** develops to specific drugs at specific doses;

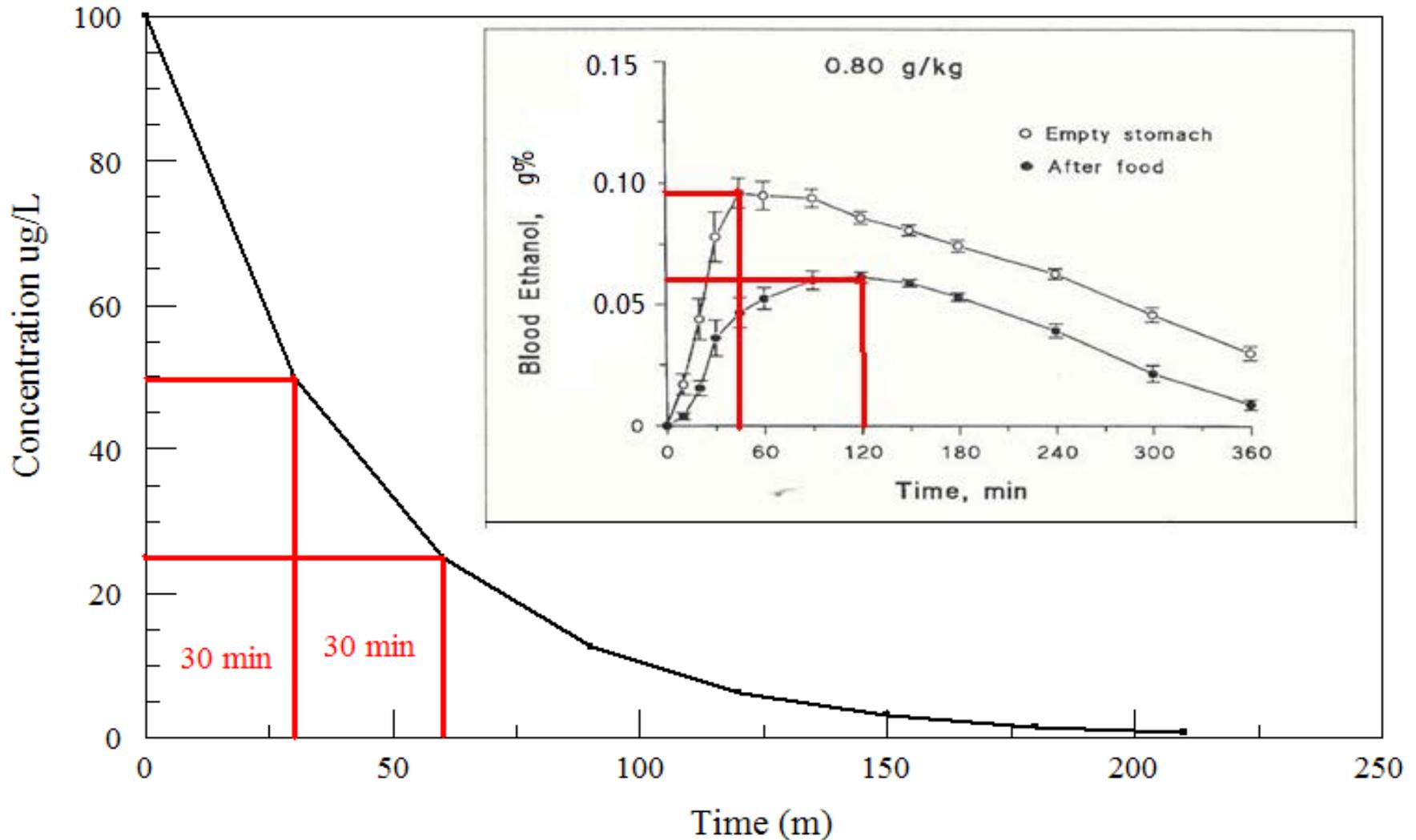
*however,*

- Higher doses
- More frequent dosing
- Not following physician's prescription
- Mixing drugs
- Changing the route of Administration erases whatever tolerance the person may have developed

# Tolerance

- **Pharmacodynamic Tolerance:** Adaptive changes within a person such that a drug response is reduced in the presence of the same drug concentration
- **Behavioral Tolerance:** Change in the response to a drug due to behavioral mechanism or the development of learned compensation
  - Stand with feet spread apart
  - Speak slower

# Elimination - Drugs vs. Ethanol



# Interactions

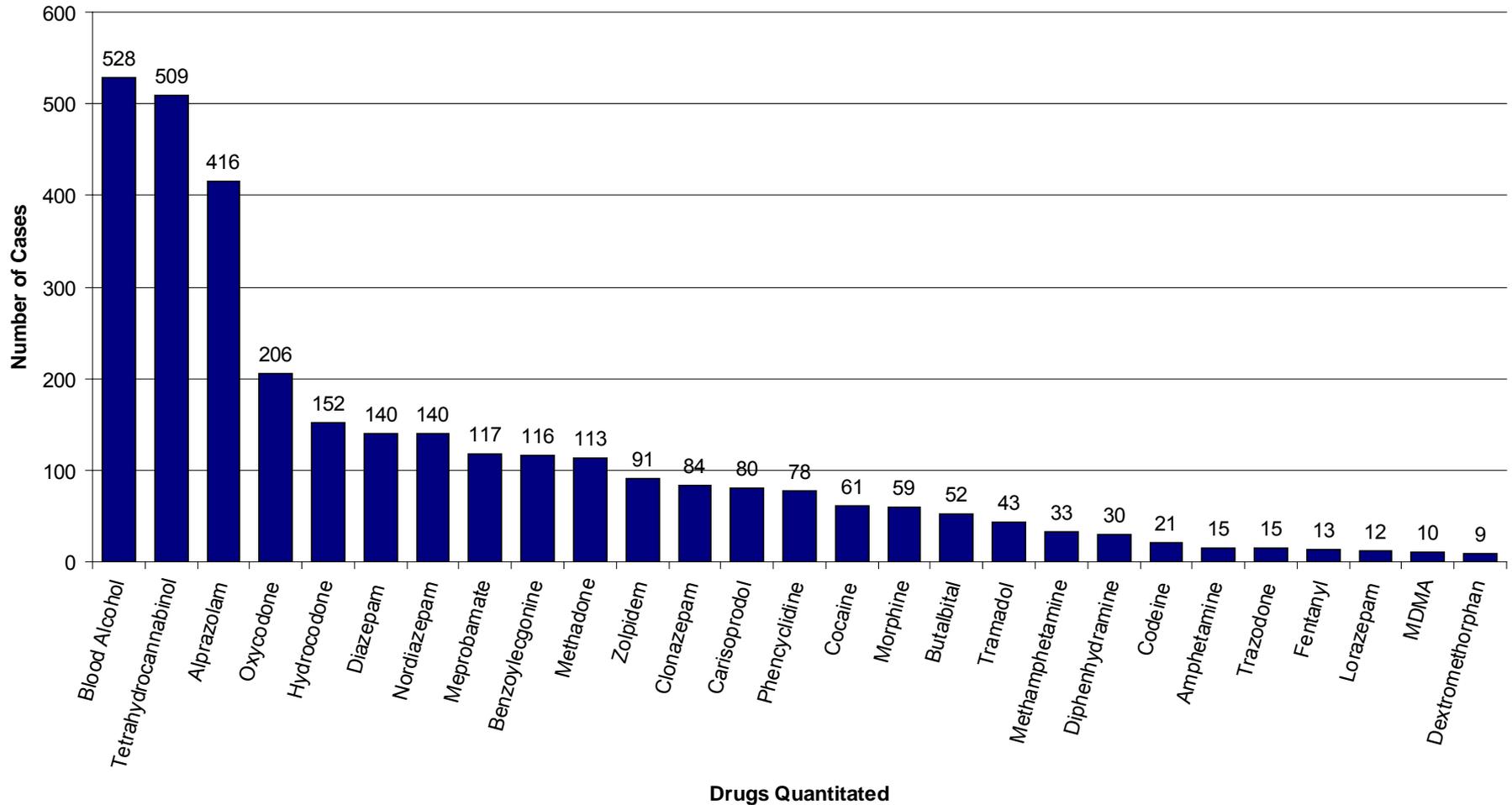
- Drug-Drug
  - Additive -  $1+1=2$ 
    - If taking 1 mg of alprazolam (therapeutic dose) and 5 mg of diazepam (therapeutic dose) has about the same effect as taking 2 mg of alprazolam, this is an additive effect.
  - Synergistic -  $1+1=4$ 
    - If taking 1 mg of alprazolam (therapeutic dose) and 5 mg of hydrocodone (therapeutic dose) has about the same effect as taking 8 mg of alprazolam, this is a synergistic effect.

# 2005-2007 Top 5 DUID Drugs

| Drug            | Total | Median | Mode  |
|-----------------|-------|--------|-------|
| Marijuana (THC) | 1062  | 0.003  | 0.001 |
| Alprazolam      | 682   | 0.07   | 0.02  |
| Hydrocodone     | 332   | 0.03   | 0.01  |
| Cocaine         | 264   | 0.03   | 0.01  |
| Diazepam        | 215   | 0.28   | 0.10  |

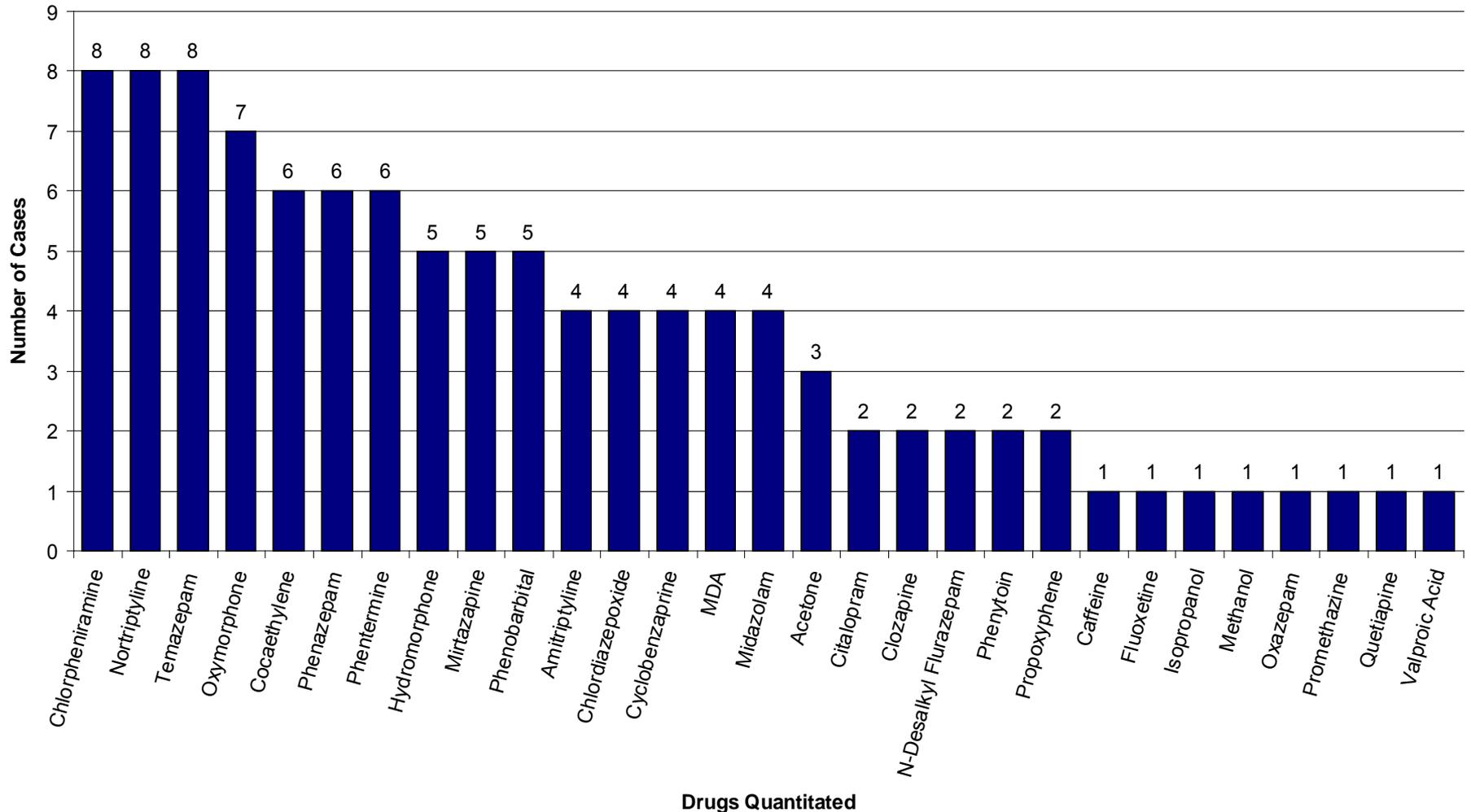
# Prevalence of Benzodiazepines in Virginia DUI Cases

Central DUI Cases 2010



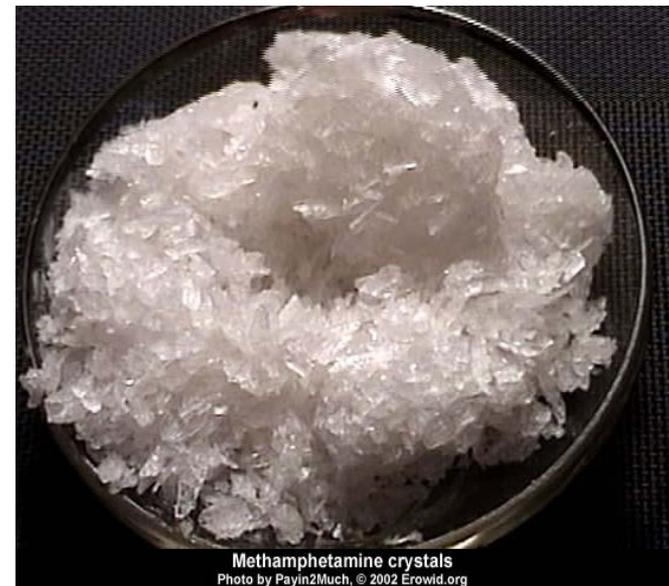
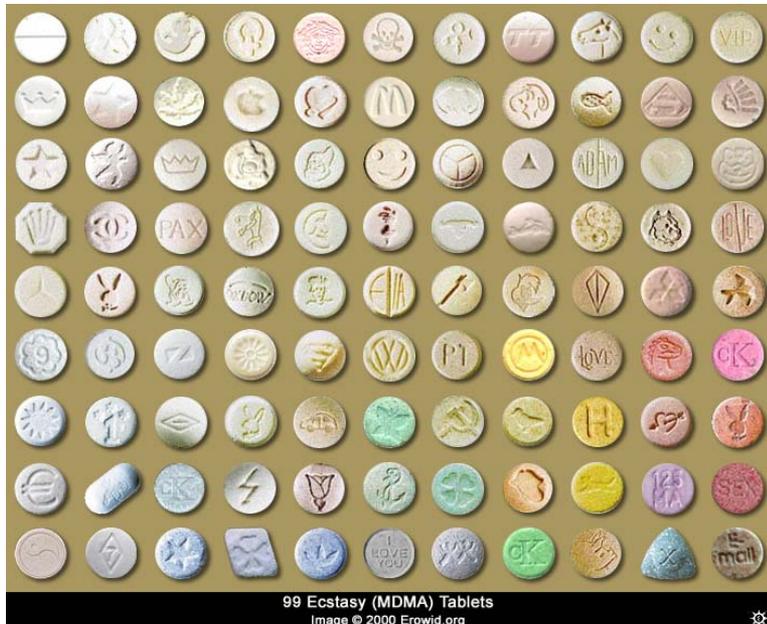
# Prevalence of Benzodiazepines in Virginia DUI Cases

Central DUI Cases 2010



# Stimulants

- Cocaine
- Methamphetamine
- MDMA (Ecstasy)



# Cocaine

- Insufflated, smoked or injected
- Some licit use in facial surgery
  - Stops bleeding; local anesthetic
- Elimination half-life is about 20-40 min



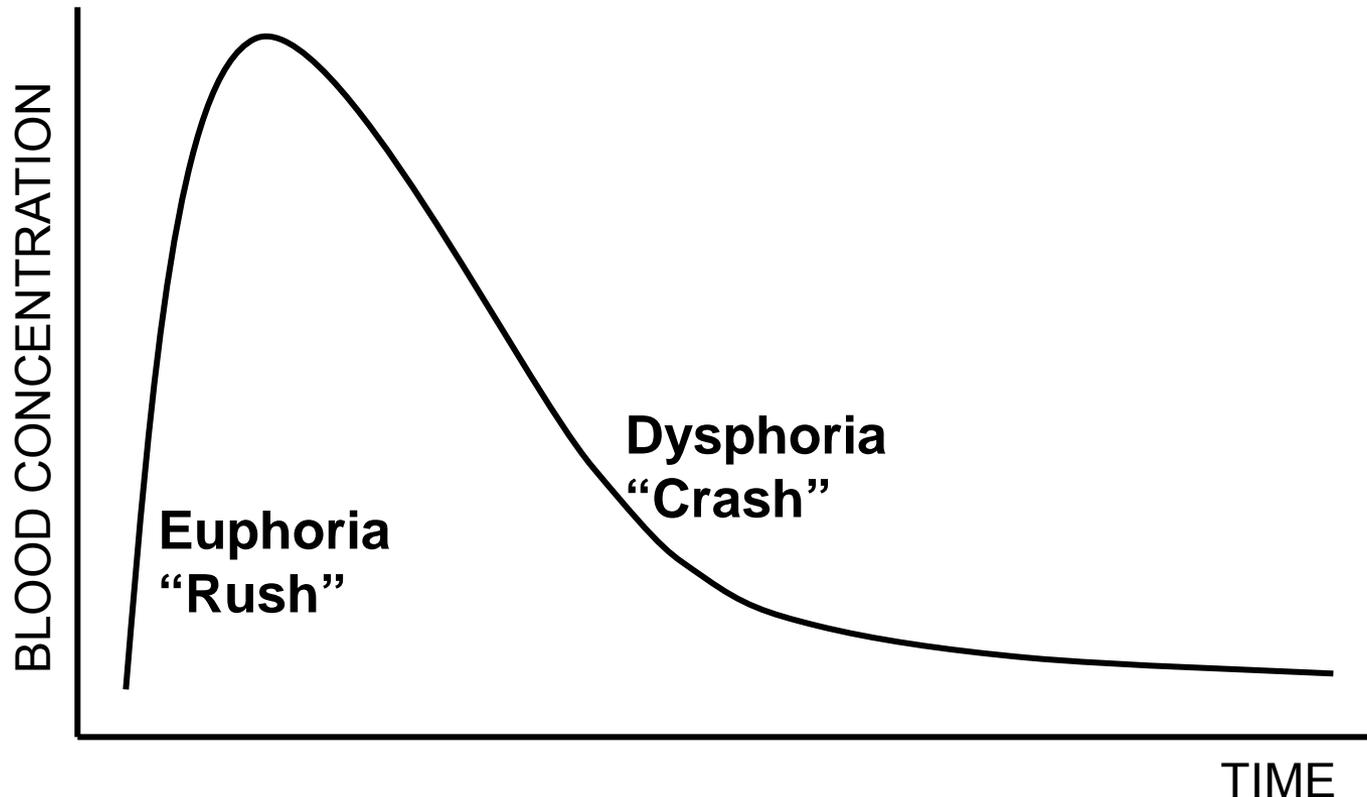
# Cocaine Effects

- Rush / “High”
  - Excess dopamine
  - Euphoria, excitement, apprehension, talkative, laughing, pacing, sweating
  - Mydriasis (dilated pupils), twitching, trembling, aggressiveness
  - Psychosis, hallucinations, teeth grinding
- Crash
  - Dopamine depletion
  - Irritability, ravenous appetite
  - Excessive fatigue, somnolence, depression, slurred speech

# Cocaine

- Both phases can interact with ethanol
  - Rush/“High”
    - Exhibit more risk-taking behavior, higher confidence
  - Crash
    - Worsen the depressant effect
- Metabolizes to a non-psychoactive metabolite (benzoylecgonine)
  - Also forms an active metabolite (cocaethylene) when ethanol is present

# Cocaine: Rush vs. Crash



- Dysphoria is the opposite of euphoria



# Methamphetamine/MDMA

- Methamphetamine

- Usually insufflated or injected

- Directly stimulates neurons

- Also works indirectly by pushing norepinephrine to stimulate neurons

- Long half life

- Affected by pH; antacids may be used to prolong effect

- Licit use to treat narcolepsy and ADHD

- MDMA

- Combination stimulant and hallucinogen

- Usually ingested



# Methamphetamine

- Rush

- Hyperactive (jerky, fast movements, fidgeting, teeth grinding)
- Rapid, non-stop or unintelligible speech, thick tongued; low, raspy voice
- Dilated pupils
- Driving fast
- Fixation on a particular task (tweaking)
- Risk-taking behavior

- Crash

- Itching, picking, scratching
- Altered perceptions, delusions, psychosis
- Normal to small pupils



# MDMA (Ecstasy)

- Effects
  - Primarily effects serotonin receptors
  - Euphoria
  - “Warm-fuzzy” sociability
  - Pleasure
  - Increased energy



**ALLDUMB.COM**

# Stimulant Drug Symptoms

- Dilated pupils
- Nervousness
- Restlessness
- Tremors
- Sweating
- Increased heart rate
- Rapid speech
- Talkativeness
- Anxiety

# Why do stimulants impair driving?

- They alter mood
- They alter judgment and decision making
- They alter perception
- They alter reaction time
- They impair vision
- They induce fatigue
- They diminish divided attention performance
- They produce motor agitation and tremors



# Dissociative Anesthetics

- PCP
- Ketamine



PCP sold as MDMA



Ketamine HCl  
photo copyright Erowid



Ketamine on sugar cubes

# PCP (Phencyclidine)

- Blocks certain neurotransmitters in brain
- Effects
  - Low doses
    - Giddy, drunken, marked anxiety and emotional outbursts, staggering, slurred speech, decreased pain sensation, HGN/VGN
  - Moderate doses
    - Coma or stupor (often with eyes open), shivering, drooling, vomiting, distortion of body image
  - High doses
    - Disorientation, distortions, hallucinations
    - Death from OD is unlikely; death usually results from impaired perceptions of gravity

# PCP DUID Case

- 37 M – accident with injury
- Subject admitted to smoking PCP-laced marijuana joint immediately prior to accident
- Sweating profusely, speaking rapidly, poor balance, mood swings, one moment speaking fine, next moment yelling and screaming
  
- BAC 0.00%
- PCP 0.02 mg/L
- THC 0.002 mg/L
- THCA 0.02 mg/L



# Marijuana



*Cannabis sativa*

Erowid.org (Photographer unknown)



# Marijuana

- Tetrahydrocannabinol (THC)
  - Active component of marijuana
  - Detectable in blood for ~4-6 hrs after smoking
  - Produces psychological, cognitive and psychomotor effects
  - At detectable levels 0.001 mg/L and higher, we say that it can have an effect. At levels of 0.005, the probability of a crash increases.
- THC Carboxylic Acid
  - Inactive metabolite
  - Indicates previous marijuana use only; cannot be used to infer impairment
  - Detectable in blood for up to 24-36 hrs after MJ use
  - Detectable in urine for 3-5 days, heavy users weeks

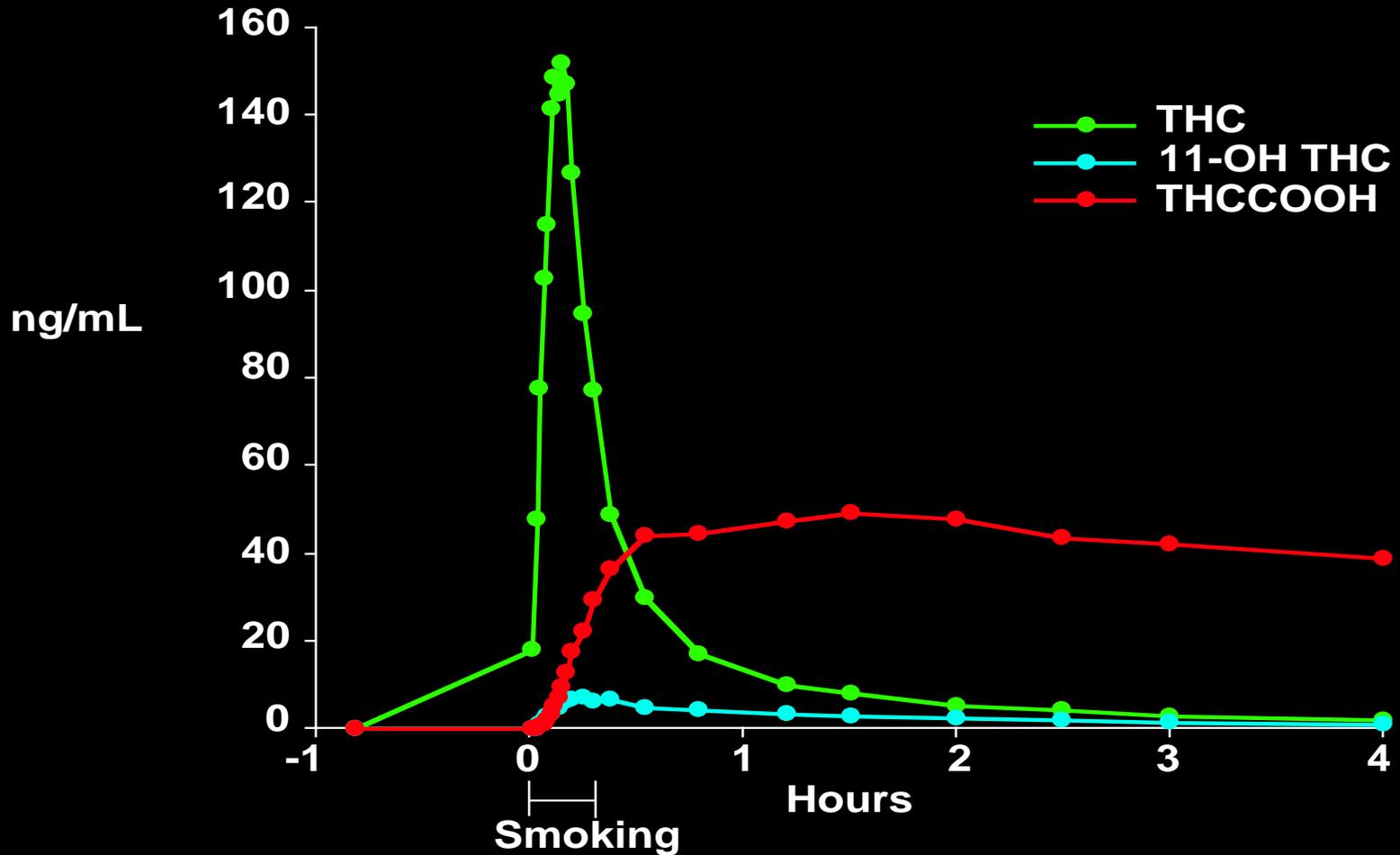
# THC

- Lipid soluble drug
  - Rapidly absorbed by the brain, short half life
  - If suspected, it is important to get a blood sample ASAP
- Marinol is a prescription oral THC preparation used to increase the appetite, change the perception of pain



# THC Time Course in Plasma

3.55% THC



# Marijuana Effects

- Short term memory
  - Did officer have to repeat instructions?
- Relaxation and euphoria
- Lack of concentration
- Inability to focus attention
- Poor decision making
- Altered time and space perception
  - Speed of vehicle, stopping earlier or extended periods of time
- Divided attention decrements
  - Increased response time
- Hallucinations

# THC and Driving

- Most frequently detected drug in DUID cases (40%)
- THC concentrations are frequently  $<0.005$  mg/L by the time the blood is drawn
- THC has rapid absorption after smoking
  - Peak concentrations in 8-10 minutes
- THC is fat soluble, readily accumulates in fatty tissue (i.e. brain). THC will not remain in blood very long. Usually less than 4 – 6 hours

# Marijuana DUID Case

- Stopped for lane violations, crossing the center line, following a tractor too close, driving with school-aged daughter in back seat
- Subject admits to 2 bowls and 3 beers
- Subject admits to the officer that she is under the influence more of the marijuana rather than the EtOH. She uses this drug daily
- Walk & Turn – loss of balance, used arms for balance, stepped off the line
- One Leg Stand – sways and used arms for balance
- Failed to follow FST instructions as requested
- THC = 0.003 mg/L, THCA = 0.020 mg/L

00028 2:01 OFC KOLAK  
PLAY  
SEP 16 1999 00:51:20  
M1 M2

SEP 15 5:25:38

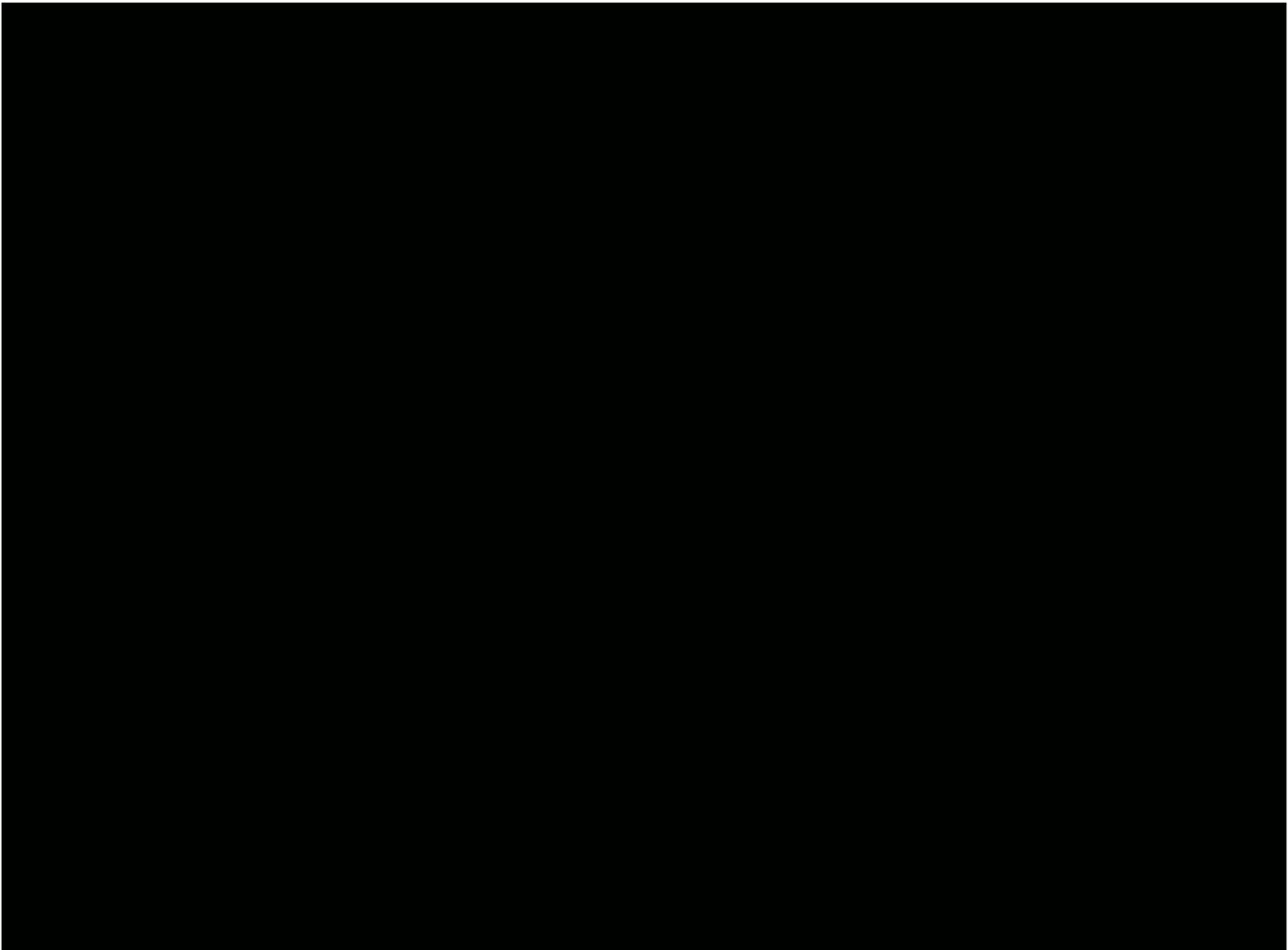
# CNS Depressants

- Opiates and Opioids
- Sedative/hypnotics (benzodiazepines)
- Muscle Relaxants
- Sleeping Pills
- Antihistamines



# Depressant Drug Symptoms

- Dizziness
- Drowsiness
- Disorientation
- Lethargic behavior
- Slowed reaction time
- Incoordination (stumbling)
- Loss of balance
- Slurred speech
- Similar to alcohol
- Confusion
- Drunken behavior
- Nystagmus



# Opiates and Opioids

- Extracted/derived from opium (poppy plant)
  - Morphine
  - Codeine
  - Heroin (Diacetylmorphine)
- Semi-synthetic (derived from morphine/codeine)
  - Hydrocodone (Vicodin)
  - Oxycodone (Percocet, Oxycontin)
  - Hydromorphone (Dilaudid)
  - Oxymorphone (Opana)
  - Buprenorphine (Subutex, Suboxone)
- Synthetic
  - Methadone
  - Propoxyphene (Darvon, Darvocet)
  - Meperidine (Demerol)
  - Fentanyl (Duragesic, Actiq)



# Opiates and Opioids

- Induce sleep and relieve pain
  - Narcotic analgesic
- Synthetic compounds are generally more potent, efficacious, and better absorbed than natural compounds
- Multiple routes of administration;
- Half-lives in the range of a few hours

# Methadone

- Opioid
- In the past, mostly used to help wean individuals off of heroin
- Now also prescribed for pain after the “OXY” boom in the mid 90’s
- In DUID cases, it is almost never taken by itself (Xanax)
- Broad range of blood levels and effects
- Long half life

# Fentanyl

- Very potent opioid
  - ~81X more potent than morphine
- Prescribed for pain associated with cancer
- Patches (duragesic) and “lollipops” (actiq)
- Tends to significantly slow breathing



# Opiates and Opioids

- CNS depressant = DDDSS
  - Drowsiness, Dizziness, Disorientation, Slurred Speech
- Weaving, slow driving
- Additive to synergistic effects with ethanol
- Therapeutic Levels (mg/L)
  - Hydrocodone - 0.01-0.10
  - Oxycodone - 0.01-0.10
  - Morphine - 0.05-0.15
  - Codeine - 0.03-0.34
  - Methadone - 0.07-1.1
  - Fentanyl - 0.001-0.006

# Benzodiazepines

- Alprazolam (Xanax)
- Diazepam (Valium)
- Nordiazepam (Clorazepate & metabolites)
- Lorazepam (Ativan)
- Clonazepam (Klonopin)
- Temazepam (Restoril, Valium metabolite)
- Chlordiazepoxide (Librium)

# Medical Indications for Benzodiazepines

- Anxiety
  - panic disorder
  - phobias
  - obsessive compulsive disorder
  - post-traumatic stress disorder
  - generalized anxiety disorder
- Insomnia
- Depression
- Muscle spasms
- Convulsions
- Acute alcohol withdrawal
- Adjunct to anesthesia



# Benzodiazepines

- CNS depressant = DDDSS
  - Drowsiness, Dizziness, Disorientation, Slurred Speech
- Anterograde amnesia
- Additive to synergistic effects with ethanol and other CNS depressants
- Impairs drivers in driving simulators and on the open road
  - Affects lateral lane deviation, road tracking skills, vigilance; increases reaction time
- Therapeutic levels (mg/L)
  - Alprazolam- 0.01-0.10
  - Diazepam- 0.02-4.0
  - Nordiazepam- 0.02-1.8

MPD 201

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BUI ENFORCEMENT



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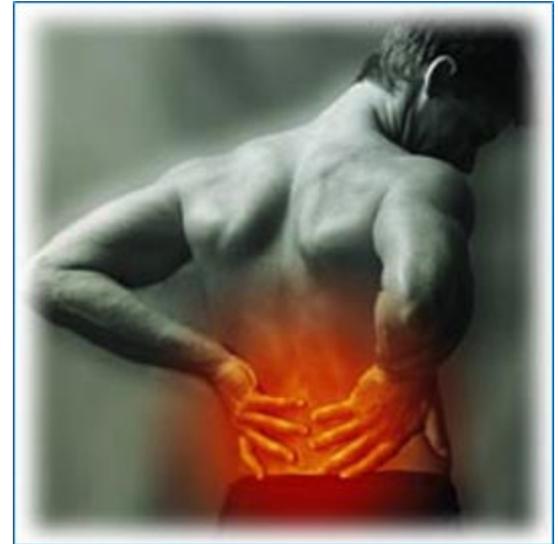
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09-17-01

# Barbiturates

- Became less prescribed as benzodiazepines were developed
- Butalbital
  - Combined with Tylenol to treat migraine headaches
- Phenobarbital
  - Not metabolized like most other drugs, therefore, levels can build up (not uncommon to be elevated even when taken as prescribed)
- Therapeutic Levels (mg/L)
  - Phenobarbital - 10-40
  - Butalbital - 1.7-2.6

# Muscle Relaxants

- Carisoprodol (Soma)
- Meprobamate (Soma metabolite)
- Cyclobenzaprine (Flexeril)
- Methocarbamol (Robaxin)

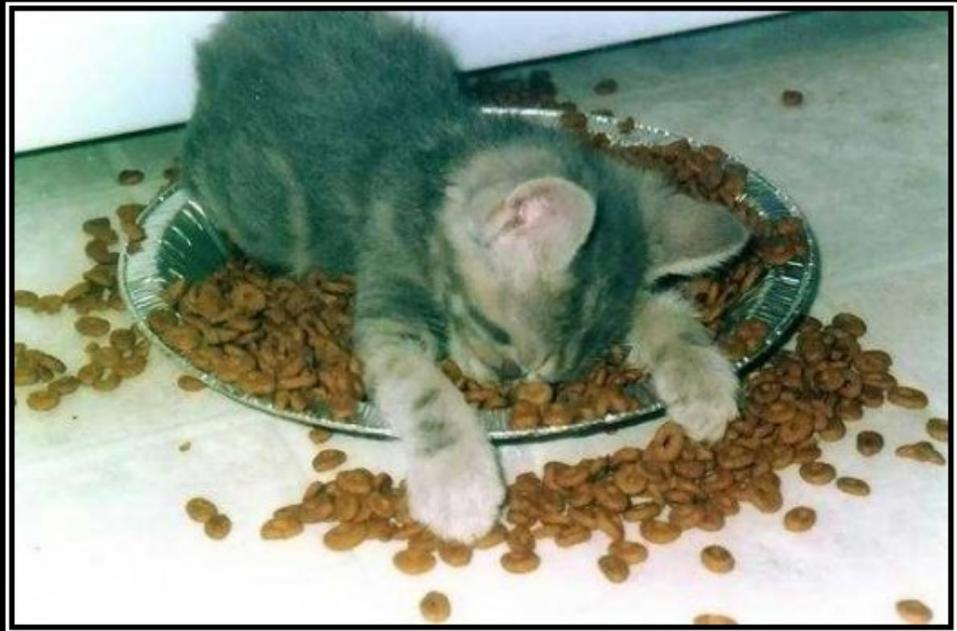


# Carisoprodol (Soma)

- Muscle relaxant
- Its metabolite meprobamate is ACTIVE
  - Meprobamate can be prescribed by itself
- “Over 10” guideline
  - If the sum of carisoprodol and meprobamate is  $>10$  mg/L, significantly affects driving (even though they are in therapeutic levels)

# Sleeping Pills “Zzzzzz” Drugs

- Zolpidem (Ambien)
- Zaleplon (Sonata)
- Zolpiclone (Lunesta)



**HE GOT THE SLEEPING PILLS**

your kitten found your sleeping pills.

# Zolpidem



- “Good Morning”- AM Bien
- Classified as a non-benzodiazepine, but works in the same manner
- Prescribed to induce sleep
  - Therapeutic levels make you sleepy
  - Directions state to take just before going to bed
  - They do not say to take and go drive around
- Relatively short half life
- Numerous cases of individuals performing acts such as: driving, working at their job, eating, etc. with no memory of the event (amnesia effects esp. with alcohol)

# Zolpidem DUID cases

- At 0.14 mg/L
  - Asleep at the wheel sitting at intersection, unsteady walk, leaned on vehicle, slurred speech
- At 0.18 mg/L
  - Ran off road X2, confused, slurred speech, urinated on self, almost fell twice, unsteady, could not stand on own
- At 0.20 mg/L
  - Weaving, sideswiped several cars, ran off road and over disabled vehicle, confused, unsteady, swaying, too many steps on WAT, OLS tried 3X but couldnt get past 15

# Antihistamines

Over-the-Counter (OTC) Medication

## Diphenhydramine (DPH)

- Benadryl<sup>®</sup>
- Dramamine<sup>®</sup>
- Dytuss<sup>®</sup>
- Unisom SoftGels<sup>®</sup>
- Tylenol<sup>®</sup> preps



# DPH – Side Effects



- DDDSS
- Blurred vision, altered mood, depression
- Agitation, restlessness, nervousness
- Inability to sleep
- Anticholinergic effects (e.g. dry mouth)

# CNS Dep/Opioid DUID

- 54 F, stopped for very erratic driving (crossing both center and fog lines)
- Upon contact she seemed unaware of officer's presence – had to tap on window
- Subject described as lethargic, drowsy, slurred speech, pale
- Subject stated that “I need a cup of coffee and I will be fine”, stated she was taking “high pressure” pills and valium for stress
- HGN & VGN
  - Could not follow stimulus
- Walk & Turn
  - Could not hold position, nearly fell, missed every step
  - Nearly fell on turn
  - Used her arms for balance
- One Leg Stand
  - Could not complete the test
- Pupils
  - Within normal range
  
- Morphine 0.21 mg/L
- Oxycodone 0.16 mg/L
- Alprazolam 0.03 mg/L
- Propoxyphene 0.08 mg/L
- Norpropoxyphene 0.19 mg/L

# CNS Dep. DUID Case 1

- Stopped for very erratic driving (weaving badly)
  - When officer got close to the vehicle, he saw it had major damage from an accident. The subject stated that she hit something but did not really have any damage
  - She did have a slight odor of alcohol on her breath. She had been convicted of 2 DUIs in the last 2 years.
  - She was so unsteady on her feet that she had to lean on our vehicles for support. There was some HGN present but not consistent with a lot of alcohol. Her pupils were very dilated.
  - She could not do any of the balance tests and was one of the worse unsteady persons I have ever seen
  - The suspect is a nurse and has substance abuse problems. I believe she is taking prescription pills. She said she is only taking Lorazepam and neurontin.
- 
- BAC 0.04%
  - Lorazepam 0.08 mg/L
  - Diphenhydramine 0.22 mg/L

# CNS Dep. DUID Case 2

- DWI call in from public, wrong way driver
- Vehicle traveled across outside lane onto shoulder
- Small children standing in vehicle (front and back seats)
  
- Driver fumbled through purse, watery eyes, slurred speech
- States she takes Xanax and Paxil
- HGN prior to 45 degrees (6 clues)
- OLS –sways, uses arms, hops, test stopped for safety
- WAT – no balance during instruction, no heel to toe, loses balance, uses arms, incorrect # of steps, steps off line > 3 times
  
- Alprazolam 0.08 mg/L

# CNS Dep. DUID Case 3

- 56 M
- Driving 10 mph on a major urban freeway ~ 10 am
- Very poor lane travel
- Subject took several minutes to stop (continued to weave, ignored flashing lights, siren)
  
- Subject took ~ 6 min to retrieve his wallet from pocket
- Thick, slurred and incoherent speech
- Could not stand or walk unassisted
  
- Carisoprodol 9.5 mg/L
- Meprobamate 32.9 mg/L

# Polydrug DUID Case 1

- 24 M
- Almost hit police cruiser on side of road (performing traffic stop on another vehicle)
- Red, glassy eyes, slurred speech
- Pat down revealed tin in pant leg containing numerous pills (admitted Xanax)
- Back injury 2 months ago
- FTN – R under, L touch, R under, L under, swaying
- ABC – slow and deliberate
- Finger – 1234, 4321, 1234, 4321, 1111, 2345
- OLS – unsteady, 3 attempts, swaying
  
- Alprazolam 0.05 mg/L
- THC 0.001 mg/L
- THCA 0.04 mg/L

# Polydrug DUID Case 2

- 32 F, traveling south in northbound lanes
  - Stopped at green light for 30 seconds
  - Accelerated rapidly, finally stopped, struck curb resulting in front end damage
  - ABC-could not understand
  - Fingers-1234, kept going up to 15
  - Finger to nose-didn't know L from R, officer caught her so she wouldn't fall
  - Extremely intoxicated, talking out of context, mood swings (agitated, argumentative, polite, crying)
  - Asked for her purse more than 50 times but she had no idea where it was
  - Spoke of eating "blue bugs"
- 
- BAC 0.07 %
  - Cocaine 0.01 mg/L
  - Benzoyllecgonine 0.4 mg/L
  - Alprazolam 0.15 mg/L
  - THC 0.002 mg/L
  - THCA 0.04 mg/L

DAY 01  
09:22

2H

12:27PM

09:23:10



# Behavior = Information

- Best clues are frequently overlooked
- Behavior
  - **Fast or confused speech**
  - **Excessive sweating**
  - **Pupil size (miosis, mydriasis)**
  - **Lethargic behavior**
  - **Can individual follow simple instructions**
  - **Drug odor**
  - **Drug paraphernalia**
- Valuable Information
  - **Did you take any drugs?**
  - **Are you prescribed any medication?**
  - **When was your last dose?**

# Synthetic Cannabinoids and Designer Stimulants

- Development and History
- Toxicology and Pharmacology
- Testing Capabilities
- Interpretation



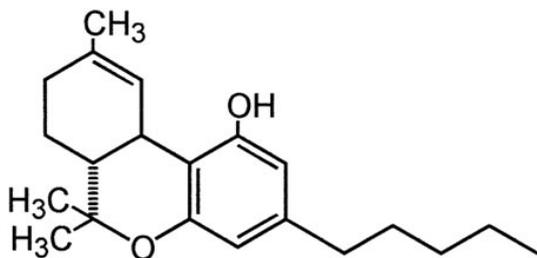
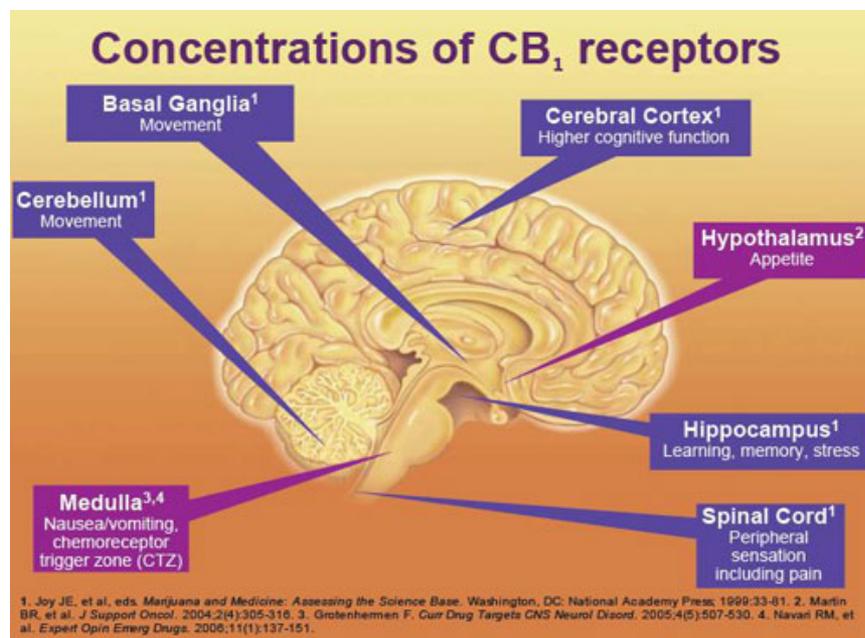
# Synthetic Cannabinoids

- Marketed as an herbal incense and utilized as a legal high
  - K2
  - Spice
  - Potpourri
  - Many additional names

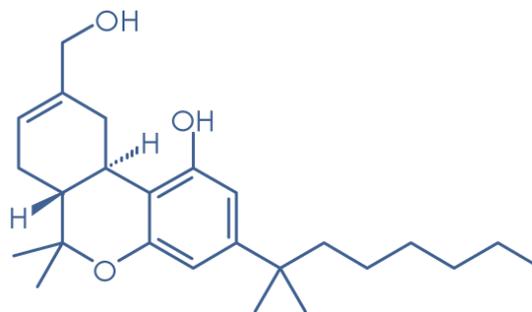


# Synthetic Cannabinoids

- Originally designed in the 1980's to have CB1/CB2 binding capabilities
- Looks like THC to the brain
- Medical research purpose
  - Receptor mapping
  - Development of pharmaceutical drugs



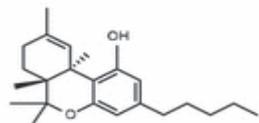
Δ-9-tetrahydrocannabinol (THC)



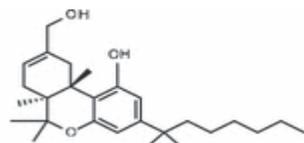
HU-210

HU-210 binds ~100 times more strongly to the CB1 receptor than THC

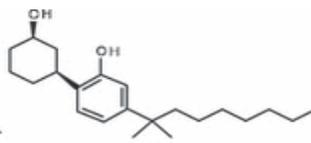
# Analogs



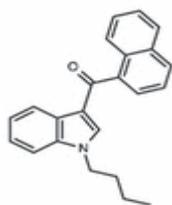
THC



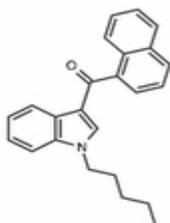
HU-210



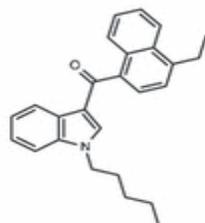
CP47,497(C=8)



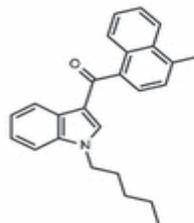
JWH-073



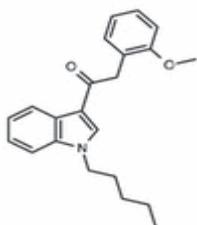
JWH-018



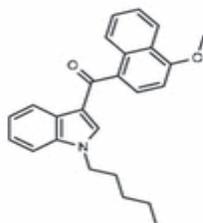
JWH-210



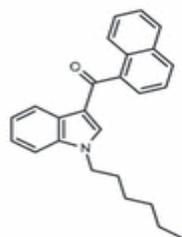
JWH-122



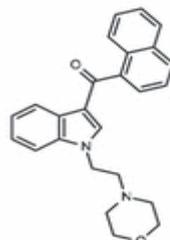
JWH-250



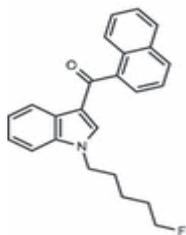
JWH-081



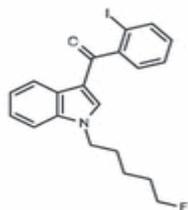
JWH-019



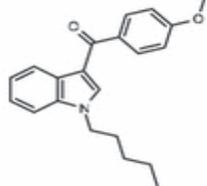
JWH-200



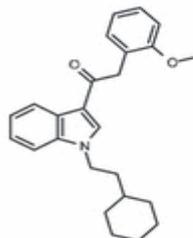
AM-2201



AM-694



RCS-4



RCS-8

## Nomenclature

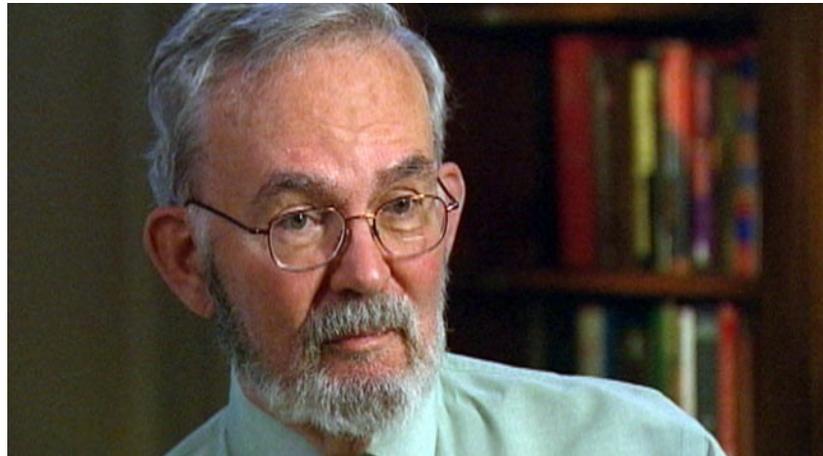
- JWH Compounds: John W. Huffman at Clemson University
- HU Compounds: Hebrew University
- AM Compounds: Alexandros Makriyannis at Northeastern University

*“you can’t be responsible for what idiots are going to do.”*

*“We had no idea that anyone would be stupid enough to use it”*

*“It's like playing Russian roulette because we don't have toxicity data, we don't know the metabolites, and we don't know the pharmacokinetics”*

*“The stuff that's been put into the incense was originally made in our lab 15 years ago.”*

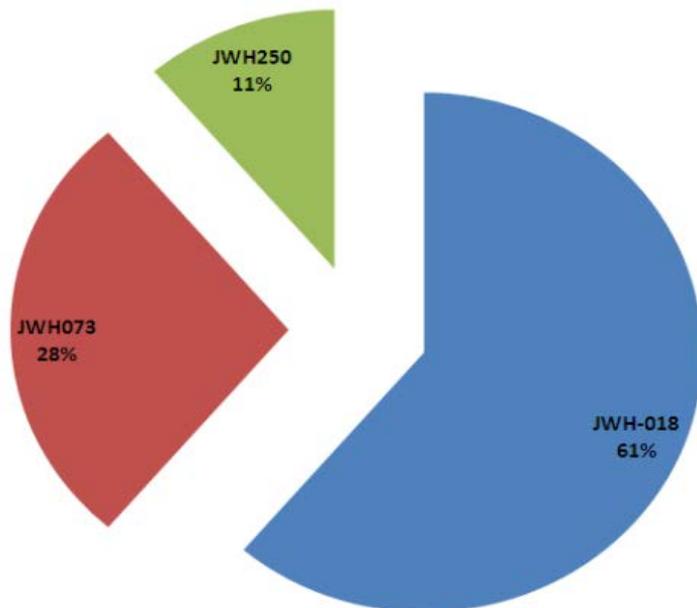


John W. Huffman, ABC News Interview, 3/17/10

John W. Huffman, WFAE, NPR Interview, 1/23/11

# Synthetic Cannabinoids 2010

40 YEARS  
of Excellence  
NMS LABS  
1970-2010



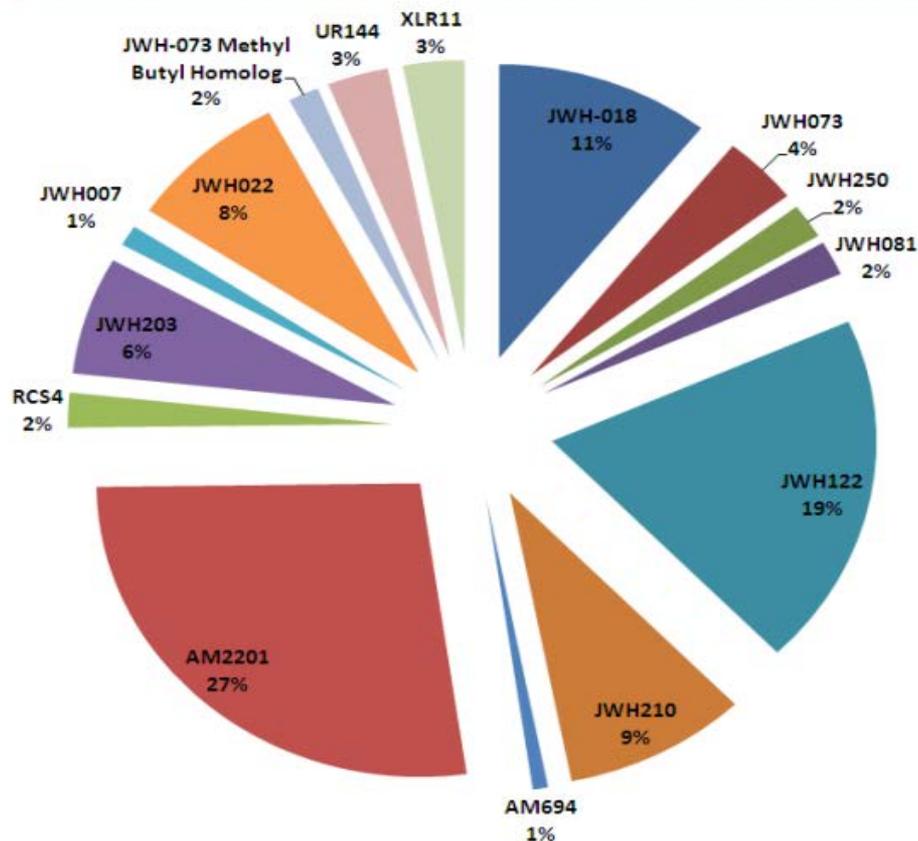
July – December 2010

# Synthetic Cannabinoids 2012

40 YEARS  
of Excellence  
NMS LABS  
1970-2010

<http://www.nmslabs.com/about-webinars-presentations>

# Synthetic Cannabinoids 2012



Oct 2011 – April 2012

## Designer Stimulants 2012

# Pharmacology of Synthetic Cannabinoids

- Pharmacodynamics- What the drug does to body
  - Marijuana “like”
  - Limited controlled studies
    - Self reported effects, very limited number of subjects
  - Side effects
    - Paranoia, seizures, psychosis
- Pharmacokinetics- What the body does to the drug
  - Metabolism and Metabolites?
    - Limited controlled studies
    - In Vitro studies
  - How long is drug in the body?

# Self Reported Effects

## Emergency Room Reports

### Missouri K2 Administration Study



|  |
|--|
| <i>Red eyes / bloodshot</i>                                    |
| <i>Burning of the eyes</i>                                     |
| <i>Xerostomia (dry mouth)</i>                                  |
| <i>Tachycardia</i>   |
| <i>Changes in perception/mood</i>                              |
| <i>Balance and Coordination</i>                                |
| <i>Hallucinations</i>  |
| <i>Sedation</i>  |
| <i>Subjective thought<br/>disruption/loss of concentration</i> |
| <i>Impaired sense of time</i>                                  |
| <i>Self assessed impairment</i>                                |
| <i>Arrhythmias</i>   |
| <i>Seizures/Convulsions</i>                                    |
| <i>Panic Attacks</i>   |
| <i>Paranoia and Anxiety</i>                                    |
| <i>Sickness</i>  |



# How Long is the Parent Compound Present in the Blood?

**Table 4**

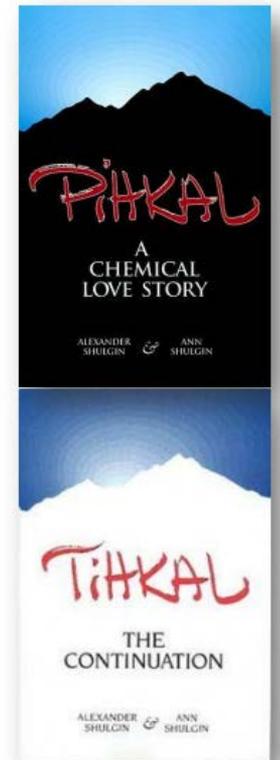
Serum concentrations of JWH-018; \* exact time 1.33 h, \*\* half-quantitative value below LOQ, p. = present, qualitative verification in the area of LOD; n.p. = not present.

| Post-smoking time | Volunteer 1<br>Concentration [ng/ml] | Volunteer 2<br>Concentration [ng/ml] |
|-------------------|--------------------------------------|--------------------------------------|
| 5 min             | 8.1                                  | 10.2                                 |
| 15 min            | 4.6                                  | 6.1                                  |
| 1 h               | 1.7*                                 | 1.8                                  |
| 3 h               | 0.41                                 | 0.25                                 |
| 6 h               | 0.16**                               | 0.13**                               |
| 24 h              | p.                                   | p.                                   |
| 48 h              | p.                                   | n.p.                                 |

Teske J, Weller JP, Fieguth A, Rothämel T, Schulz Y, Tröger HD. J Chromatogr B Analyt Technol Biomed Life Sci. 2010 Oct 1;878(27):2659-63.

# Designer Stimulants

- 1980's
- methylfentanyl, MPPP, MDMA,
- 1990's, early 2000's
- PMA, rise of methamphetamine
- 1991 Publication of PiHKAL
- 1997 Publication of TiHKAL
- **Growth of the Internet**
- Beginnings of the “Research Chemicals” or “New Psychedelic” Movement.

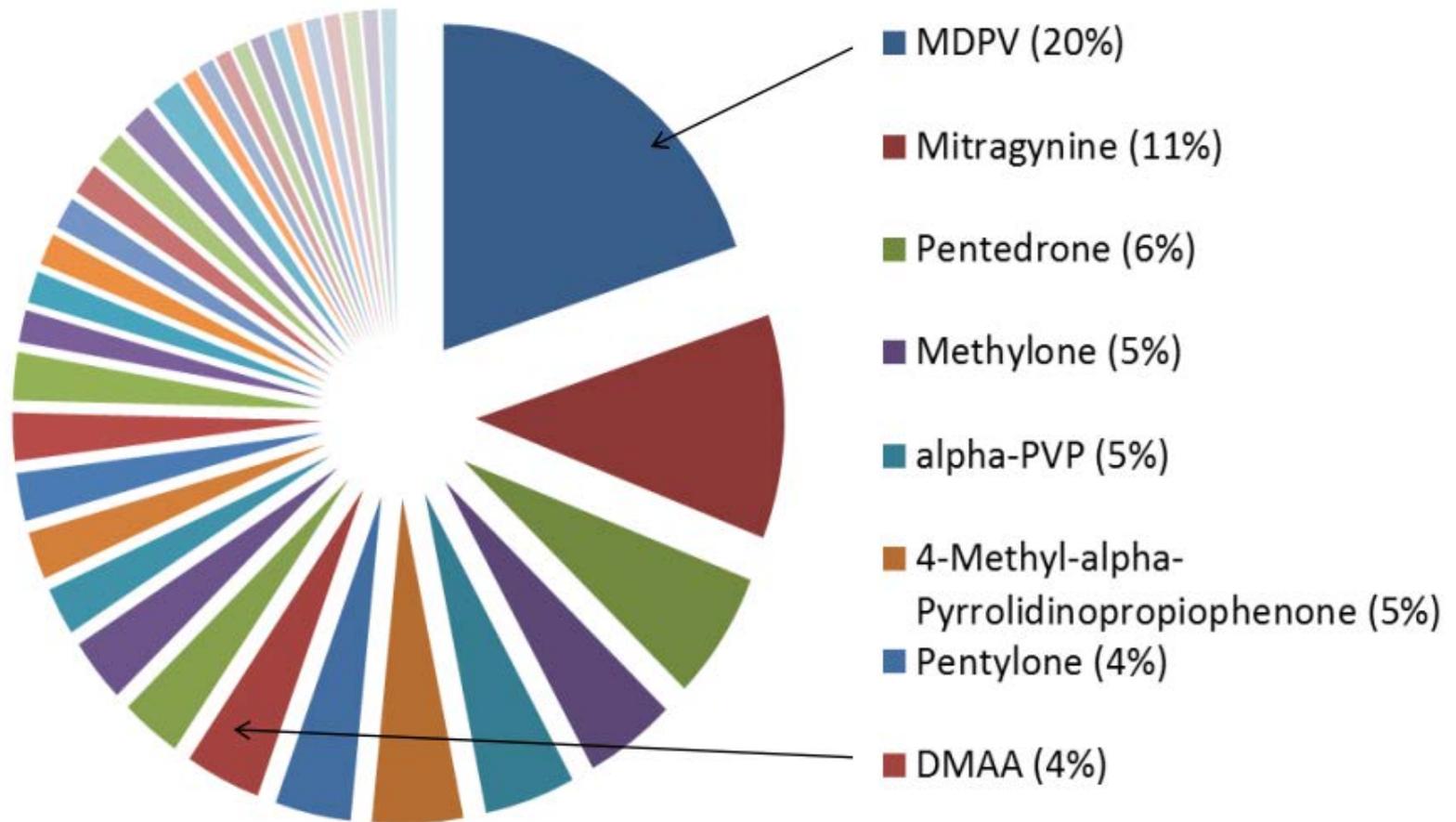


# Designer Stimulants

- Amphetamine or Ecstasy-like
- AKA:
  - Bath Bubbles
  - Bath Salts
  - Pond Cleaner
  - Burial Powder
  - Glass Cleaner
  - Plant Food
  - Plant Vitamin



# Designer Stimulants 2012

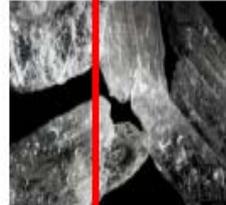


# Pharmacology

- Very limited information on the effects
  - No controlled studies
- Self reported effects
  - Amphetamine and Ecstasy “like”
- Poison Control/ER reports
  - Delusions
  - Hallucinations
  - Seizures
  - Death

# Meth

|                              |
|------------------------------|
| <i>Excitement</i>            |
| <i>Euphoria</i>              |
| <i>Tachycardia</i>           |
| <i>Increased pupil size</i>  |
| <i>Rapid Speech</i>          |
| <i>Motor Restlessness</i>    |
| <i>Anxiety</i>               |
| <i>Paranoia</i>              |
| <i>Mood Changes</i>          |
| <i>Withdrawal/Depression</i> |
| <i>Delusions</i>             |
| <i>Hallucinations</i>        |
| <i>Seizures/Convulsions</i>  |
| <i>Death</i>                 |



# Ecstasy



# Bath Salts



# Testing Capabilities for Synthetic Cannabinoids and Designer Stimulants

- Synthetic Cannabinoids
  - No current testing available
  - Testimony regarding effects not available
- Designer Stimulants
  - Present only for MDPV and Pyrovalerone
    - Quantitation not currently available
  - Testimony regarding effects not available

# Requirements for Testing and Testimony

- Blood Testing
  - Requires extensive method development and validation (process takes months)
    - New targets would require additional validation
  - Requires purchase of external controls for the analysis
- Testimony
  - Information!
    - Majority of available information on effects is anecdotal
    - Lack of pharmacology information (metabolites, how long drug is present in blood, etc...)

# Future Capabilities

- DFS Investment in new technology
  - Improved screening and quantitation capabilities



- Screening for synthetic cannabinoids
  - Present only
- We have method developed for designer stimulants awaiting validation

# Summary

- Rapidly changing products and chemicals.
  - Analog definitions will be fought out in court.
- Growing evidence of adverse effects.
  - Impairment, violence, paranoia, psychosis,
  - Cardiotoxicity, and unexplained deaths.
- Testing capabilities always behind release of new products
- New methods and testing capabilities will be released in the future

# **Department of Forensic Science**

## **Toxicologists**

- **Carol O'Neal, Ph.D., DABFT (Manassas)**
- **Jennifer Mercer, Ph.D. (Manassas)**
- **Connie Luckie, Ph.D. (Norfolk)**
- **Jim Kuhlman, Ph.D., DABFT (Roanoke)**
- **Dave Burrows, Ph.D. (Roanoke)**
- **Teresa Gray, Ph.D. (Richmond)**
- **Jason Hudson, Ph.D. (Richmond)**
- **James Hutchings, Ph.D. (Richmond)**
- **Jayne Thatcher, Ph.D. (Richmond)**

# Questions



# The Ethics of Social Networking and the Online Provision of Services

VA DUI and Drug Court

9/18/12



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<http://www.bsvinc.com>

# Facebook Ethics

# Facebook Ethics

## “It’s In The Public Domain”

During therapy, student client A mentioned that while he was recently on Facebook, he noticed a posting from another client that indicates possible dangerous or suicidal ideation. Should the therapist access Facebook to verify the information, and if so, what should he do with the information once he has it? Suppose that once the therapist does this, he realizes that Facebook might contain a wealth of information about his clients, so he does a general search on all of the students on his case load and finds that most of them have Facebook pages and that some of those postings indicate illicit substance abuse behavior. Should the therapist confront his consumers with this information?



# Facebook Ethics

## “Questions”

- Would it be ethical for the counselor to examine the relevant Facebook page?
- Finding information on Facebook to be useful, would it be ethical for the counselor to look up all of his clients to see if they have postings?
- How should information from Facebook be used once it is obtained?
- Would the case be different in a different therapeutic setting?
- Would the case be different depending on the type of professional involved?

# Facebook Ethics

## “The Core Issue”

While discussions around the opening case generally begin with concerns of confidentiality, the core ethical issue is not actually one of privacy. The primary ethical issue in this case is one of boundaries and potential dual relationships.

# Facebook Ethics

“Conceptual Divergence”

Is a Facebook page a document  
or a virtual location?

Is it an object or a place?

# Facebook Ethics

## “Relevant Expressions”

- Facebook Stalking
- “Guess who I bumped into this morning on Facebook?”

# Facebook Ethics

## “The Core Issue Revisited”

If the primary ethical issue in this case is one of boundaries, then we must assume that social boundaries exist when dealing with social networking sites. This supports the view that social networking sites are virtual spaces rather than document exchange servers, and it opens the possibility for the creation of a therapeutic virtual space.



# The New Electronic World

## “The Evolution of a Paradigm”

As our culture sheds its dependence on spatial proximity, an emerging comfort with physically remote interaction will generate the need for an adjustment of requirements and expectations. This will create new opportunities for choice and access, but it will also necessitate a transition to a more flexible understanding of social and professional interaction.

# Related Cases

# Electronic Healthcare

## “I Thought I Made Myself Clear”

Client L placed a clear suicidal threat on her Facebook page six hours before committing suicide. When the lawyers pressed their case of negligence against CSB staff, they inquired about why that call for help had been ignored.

Alternative: Client L tweeted her therapist prior to carrying out suicide.



# Facebook Ethics

## “Who’s Your Friend?”

Client O has been receiving services from the CSB for several years and he recently took a class in computer literacy. After completing the class, Mr. O created his own Facebook page, of which he is very proud. Mr. O has now send “friend” requests to the staff members who work at his group home. How should the staff members respond?

# Facebook Ethics

## “What Is Your Status?”

Staff member R is a supervisor at a local mental health facility that maintains a clear policy on dual relationships. Recent postings on Ms. R’s Facebook page demonstrate that she is in a relationship with Mr. S, who is also one of her direct supervisees. This type of relationship is in violation of agency policy. Is it ethical for the director of the facility to discipline Ms. R if this is the only source of the relevant information?

# Facebook Ethics

## “My Private Time Is Private”

Staff member Q is a substance abuse counselor who recently posted pictures of himself on his Facebook wall from a recent party. The photo clearly shows Mr. Q using what appear to be illicit substances. Mr. Q’s supervisor learned of the photos from a client and must now determine how to deal with Mr. Q.

# Facebook Ethics

## “Be Careful Of Who Is Watching”

Staff member P was called into the Director’s office after it was discovered that he had posted derogatory comments about the agency where he works on his Facebook page. The postings were written on Ms. P’s “wall” and included criticisms of how the agency operates, specific complaints about supervisory staff, and gossip about co-workers. Would it be ethical for the Director to discipline Ms. P regarding her comments?



# Electronic Healthcare

## “Are You Ignoring Me”

Client W sent an email to his therapist on Monday morning but the therapist was out of the office until Wednesday. When the therapist returned to the office, she found an angry message on her voicemail from Mr. W accusing her of ignoring him and asking why she won't respond to his email.

# Electronic Healthcare

## “That Was Private”

Client K sent an email to her therapist in which she discussed a recent extra-marital affair. The therapist printed out the email and inserted it into the client’s record. Later, during a counseling session, Ms. K became quite distressed that her private email had been recorded on paper.