

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Internet Provides Prescription Drug Abusers Information on Tampering Methods

Prescription drug abusers often attempt to physically or chemically change a drug to enhance the drug's effects and to increase the speed of onset of effects. The internet is a "prime source of information on drug tampering and offers a broad sweep of information on methods that spans from vague to highly descriptive, inaccurate to accurate, and scattered to organized" (p. S37). A recent review of tampering methods reported on the Internet for selected pharmaceutical products found four main methods of tampering:

- **Altering dosage forms to allow alternate routes of administration.** This is most often achieved by crushing the tablets and then snorting or injecting the drug.
- **Removing the active drug from high-dose formulations, such as patches.** For example, "methods of removal of fentanyl from patches include squeezing the fentanyl gel out of the patch, removal with a syringe, and extraction with various solvents" (p. S34).
- **Separating narcotic drugs (codeine, hydrocodone, oxycodone) from undesirable drugs (aspirin, acetaminophen, ibuprofen) or inactive ingredients.** The techniques most often discussed involve water- or acid-based extraction.
- **Overcoming time-release formulations.** Many prescription drugs use beads or layers to enable time-release of the drugs. Techniques for overcoming these barriers, such as crushing the beads or separating the layers, are frequently discussed on the internet.

Knowledge of tampering practices is not only important for the identification of prescription drug misuse, but also offers developers of these drugs "an opportunity to assess the strengths and limitations of their products in light of how recreational drug users may approach their products" (p. S38). There are numerous ways that prescription medicines can be designed to hinder tampering and thus discourage drug misuse. A pill that is very hard and therefore difficult to crush is less likely to be abused. Making the drug insoluble in water or including wax-based bindings can hinder extraction of the active drug. Wax-based bindings that gum up when heated can also make it difficult to inject drugs. The authors conclude that "the development of successful formulations that inhibit or prevent drug/formulation tampering with drugs of abuse should take into consideration the scope and practice of tampering methods available to recreational drug users on the Internet" (p. S31).

SOURCE: Adapted by CESAR from Cone, E.J. "Ephemeral Profiles of Prescription Drug and Formulation Tampering: Evolving Pseudoscience on the Internet," *Drug and Alcohol Dependence* 83(S1):S31-S39, 2006. For more information, contact Edward Cone at edward.cone@comcast.net.

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The Governor's Office of Crime Control and Prevention funded this project under grant BJAG 2005-1206. All points of view in this document are those of the author and do not necessarily represent the official position of any State agency.