

OxyContin formula change has many abusers switching to heroin

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A new formulation of OxyContin makes inhaling or injecting the drug more difficult, so drug abusers are turning instead to heroin (pictured above). Credit: US Drug Enforcement Administration

A change in the formula of the frequently abused prescription painkiller OxyContin has many abusers switching to a drug that is potentially more dangerous, according to researchers at Washington University School of Medicine in St. Louis.

The formula change makes inhaling or injecting the opioid drug more difficult, so many users are switching to heroin, the scientists report in the July 12 issue of the [New England Journal of Medicine](#).

For nearly three years, the investigators have been collecting information from patients entering treatment for [drug abuse](#). More than 2,500

patients from 150 treatment centers in 39 states have answered survey questions about their drug use with a particular focus on the reformulation of [OxyContin](#).

The widely prescribed pain-killing drug originally was thought to be part of the solution to the abuse of [opioid drugs](#) because OxyContin was designed to be released into the system slowly, thus not contributing to an immediate "high." But drug abusers could evade the slow-release mechanism by crushing the pills and inhaling the powder, or by dissolving the pills in water and injecting the solution, getting an immediate rush as large amounts of [oxycodone](#) entered the system all at once.

In addition, because OxyContin was designed to be a slow-release form of the generic oxycodone, the pills contained large amounts of the drug, making it even more attractive to abusers. Standard oxycodone tablets contained smaller amounts of the drug and did not produce as big a rush when inhaled or injected.

Then in 2010, a new formulation of the drug was introduced. The new pills were much more difficult to crush and dissolved more slowly. The idea, according to principal investigator Theodore J. Cicero, PhD, was to make the drug less attractive to illicit users who wanted to experience an immediate high.

"Our data show that OxyContin use by [inhalation](#) or intravenous administration has dropped significantly since that abuse-deterrent formulation came onto the market," says Cicero, a professor of neuropharmacology in psychiatry. "In that sense, the new formulation was very successful."

The researchers still are analyzing data, but Cicero says they wanted to make their findings public as quickly as possible. The new report

appears as a letter to the editor in the journal. Although he found that many users stopped using OxyContin, they didn't stop using drugs.

"The most unexpected, and probably detrimental, effect of the abuse-deterrent formulation was that it contributed to a huge surge in the use of heroin, which is like OxyContin in that it also is inhaled or injected," he says. "We're now seeing reports from across the country of large quantities of heroin appearing in suburbs and rural areas. Unable to use OxyContin easily, which was a very popular drug in suburban and rural areas, drug abusers who prefer snorting or IV drug administration now have shifted either to more potent opioids, if they can find them, or to heroin."

Since the researchers started gathering data from patients admitted to drug treatment centers, the number of users who selected OxyContin as their primary drug of abuse has decreased from 35.6 percent of respondents before the release of the abuse-deterrent formulation to 12.8 percent now.

When users answered a question about which opioid they used to get high "in the past 30 days at least once," OxyContin fell from 47.4 percent of respondents to 30 percent. During the same time period, reported use of heroin nearly doubled.

In addition to answering a confidential questionnaire when admitted to a drug treatment program, more than 125 of the study subjects also agreed to longer phone interviews during which they discussed their drug use and the impact of the new OxyContin formulation on their individual choices.

"When we asked if they had stopped using OxyContin, the normal response was 'yes,'" Cicero says. "And then when we asked about what drug they were using now, most said something like: 'Because of the

decreased availability of OxyContin, I switched to heroin."

These findings may explain why so many law enforcement officials around the country are reporting increases in heroin use, Cicero says. He compares attempts to limit illicit drug use to a levee holding back floodwaters. Where the new formulation of OxyContin may have made it harder for abusers to use that particular drug, the "water" of illicit [drug use](#) simply has sought out other weak spots in the "levee" of drug policy.

"This trend toward increases in heroin use is important enough that we want to get the word out to physicians, regulatory officials and the public, so they can be aware of what's happening," he says. "Heroin is a very dangerous drug, and dealers always 'cut' the [drug](#) with something, with the result that some users will overdose. As users switch to [heroin](#), overdoses may become more common."

More information: Cicero TJ, Ellis MS, Surrat HL. Effect of abuse-deterrent formulation of OxyContin. *The New England Journal of Medicine*, July 12, 2012.

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