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Deadly Duo: Mixing Alcohol and Prescription Drugs Can Result in Addiction or Accidental Death

Alcohol and Xanax, both found in Whitney Houston's hotel room right after she died, inhibit the central nervous system and depend on the same enzyme for bodily clearance

By Melinda Wenner Moyer | February 24, 2012



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The mystery of Whitney Houston's death will not be solved for several weeks, as the Los Angeles County Coroner's Office awaits a full toxicology report. But many experts **speculate that the singer's tragic demise involved a deadly cocktail of alcohol and prescription drugs, including Xanax.**

Houston wouldn't be the first star to suffer such a fate: Heath Ledger, Michael Jackson and Anna Nicole Smith are all thought to have died in part from prescription drug overdoses, which can involve painkillers, sedatives and stimulants, often in combination with alcohol. But the problem extends far beyond Hollywood. In 2007 some **27,000 Americans died from unintentional prescription drug overdoses**—making prescription drugs a more common cause of accidental death in many states than car crashes are.

A slippery slope

Although sedatives are thought to have played a role in Houston's death, **most prescription drug overuse involves opioid painkillers.** Approximately 3 to 5 percent of people who take pain medication eventually end up addicted, according to Nora Volkow, director of the National Institute on Drug Abuse, an arm of the U.S. National Institutes of Health. And "individuals who have a past history of a substance-use disorder—from smoking, drinking or other drugs—are at greater risk," she says. Addiction to other classes of prescription drugs such as sedatives, stimulants and sleep medications is thought to be less common—but it occurs, and even users who do not become compulsively addicted can, over time, become physically dependent and experience

intense withdrawal symptoms when their prescriptions run out. They might also develop drug tolerance, the need to take higher doses over time to feel the same effects.

Other people start taking prescription drugs just to get high, perhaps in part because they have the (false) notion that prescription drugs are safer to experiment with than are illicit drugs. "They take them for recreational purposes, and then a portion of them find 'Wow, I can't stop using this,'" says Jon Morgenstern, director of addiction treatment at the Columbia University Medical Center.

It is unclear how Houston developed her substance problems, but like many other addicts, she eventually began mixing drugs along with alcohol. Many prescription drug users who are not addicted or dependent consume alcohol concurrently as well, despite medical advice against it. According to a 2008 study published by [researchers at Brown University and the University of Rhode Island](#), 60 percent of people who regularly take prescription drugs known to interact with alcohol also drink, and 5 percent have at least three drinks in a row when they do.

Prescription drugs and alcohol can be a dangerous combination, Volkow says. [Painkillers and booze are perhaps the worst to mix](#), because *both slow breathing by different mechanisms and inhibit the coughing reflex, creating "a double-whammy effect,"* she says, that can stop breathing altogether. [Alcohol also interacts with anti-anxiety drugs \(including Xanax\), antipsychotics, antidepressants, sleep medications and muscle relaxants—intensifying the drugs' sedative effects](#), causing drowsiness and dizziness, and making falls and accidents more likely. A 2010 study published in the *Canadian Journal of Public Health* reported that automobile drivers were much more likely to weave and speed if they were under the influence of drugs like Xanax in addition to alcohol than if they had consumed alcohol alone. And according to a 2011 study published in the *American Journal of Therapeutics*, people who visited an emergency room after taking too much of the [sleeping drug Ambien were more than twice as likely to end up in an intensive care unit if they had also consumed alcohol](#), compared with Ambien-takers who had not had anything to drink.

Alcohol and Xanax—both of which reportedly were found in Houston's hotel room immediately after her death—are dangerous when consumed together for several reasons. One has to do with the **similar processes by which the body expels them**. [Alcohol circulating in the body eventually ends up in the liver, where it is metabolized by enzymes called alcohol dehydrogenase and cytochrome P450. The latter is also responsible for breaking down Xanax.](#) The alcohol and drugs therefore **compete for the enzyme**, and [this slows their rate of clearance from the body, causing them to remain in the blood longer, and at higher concentrations that make overdoses and accidents more likely.](#)

In addition, [alcohol and Xanax both inhibit the central nervous system, lowering heart and breathing rates](#), and their effects can be **synergistic**—meaning that their **combined effects can be greater than the sum of their individual effects would suggest**. And because both substances **impair memory** ([Rohypnol, the "date rape" drug, is a potent](#)

member of the same drug class as Xanax), the combination can cause users to forget their actions while under the influence. It can thereby lead them to reach for another pill, for instance, further increasing the risk for an overdose.

Feeding the problem

Once people get hooked on prescription drugs, it is fairly easy for them to stay addicted. Painkillers, in particular, are much more easily obtained than they used to be. In 2001 The Joint Commission, a nonprofit organization that oversees the accreditation of more than 19,000 health care organizations in the U.S., set aggressive pain-management standards that encouraged physicians to be more liberal about prescribing pain drugs. As a result, prescription painkiller sales to pharmacies, hospitals and doctors' offices have quadrupled since 1999.

The Internet adds another layer of complexity to the problem. An estimated 85 percent of Web sites offering prescription drugs do not require a legitimate prescription; those that do sometimes accept faxed scripts, which can be forged or used multiple times. In 2008 Congress banned sites from distributing drugs to people without prescriptions from doctors who had physically examined them as patients. Since then the U.S. Food and Drug Administration has written warning letters to more than 100 violating online pharmacies. But these efforts have had limited success in part because Web sites go offline and then reappear online under a new domain name or with a new IP address, making it hard for the agency to track them. In addition, the many pharmacies located abroad are "nearly impossible for the FDA to have any effect on because they can't stop the Internet service providers from hosting the Web sites," says Anupam Jena, a clinical fellow in medicine at Massachusetts General Hospital who studies the role of the Internet in prescription drug abuse.

What's worse, people who are addicted or dependent rarely seek help right away, and their loved ones are also often slow to intervene, too. "We see this over and over again, not only with celebrities but in people who come into our treatment program: The people around them have known for a long time that they've been using," Morgenstern says.

Indeed, the **average person waits 10 years from the start of an addiction to the time when he or she actually seeks help**, he says. Many lives could be saved if people thought of addiction as the chronic illness that it is—a deadly disease similar to, say, a cancer. "If you catch that tumor before it spreads, it's a treatable disease," Morgenstern says. But if you wait, "you're playing Russian roulette." The same goes for substance abuse.