

Emerging Drugs of Abuse

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KEYWORDS

- Synthetic cathinones • Synthetic cannabinoids • Phenethylamines • Piperazines
- Herbal drugs of abuse • Prescription drug abuse • Managing new drug exposures

KEY POINTS

- Emerging drugs of abuse are forever changing and involve manipulation of basic chemical structures to avoid legal ramifications.
- The individual names and chemical formulations of emerging drugs of abuse are not as important as a general understanding of the classes of drugs.
- Most of the synthetic new drugs of abuse result in psychoactive and sympathomimetic effects.
- Management generally involves symptom-based goal-directed supportive care with benzodiazepines as a useful adjunct.

INTRODUCTION

Remaining abreast of emerging drugs of abuse continues to challenge emergency practitioners (EPs). As law enforcement agencies classify certain drugs as illegal, street pharmacists rapidly adapt and develop new congeners of old drugs for distribution and use. It is essential that EPs have a solid foundation in the general classes of drugs of abuse. Many of the newer drugs have similar effects, and respond well to meticulous and aggressive supportive management. Sources of information and surveillance should be available so that EPs remain knowledgeable of current trends. Poison centers, along with local public health officials, should be important sources of current information. Internet sites, social media, and search engines may be additional tools for drugs of abuse trends.^{1,2}

Legal highs present an ongoing issue. These products are sold in head shops, the Internet, and other sources.³ Bath salts (cathinones, mephedrone, and others) and synthetic cannabinoids are two useful examples of the problem of legal highs and

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are discussed later. These substances tend to be slightly altered chemicals derived from other known drugs of abuse. They were easily obtained on the Internet and in tobacco head shops, and were finally banned once public health and law enforcement officials identified these compounds and adapted laws. Recent legislation shows that authorities can act quickly to implement important public health laws. The Synthetic Drug Abuse Prevention Act of 2012 included synthetic cannabinoids in the schedule I category, which subsequently diminished their availability considerably.⁴

One article nicely summarizes the cycle of one drug of abuse.⁵ Ecstasy (MDMA, 3,4-methylenedioxy-*N*-methylamphetamine) has been abused for several decades. Its street use was complicated by adulteration and substitution. However, there has been a resurgence of this drug as “Molly,” which is touted to be a pure form of ecstasy. Much of this street information is unreliable, but the fact that Molly appeared in the fashion section of a notable newspaper is remarkable.

PRESCRIPTION DRUG ABUSE EPIDEMIC

Another major perspective for EPs to maintain is the current prescription drug epidemic. Beginning in 2004, prescription opioids have outstripped street heroin and cocaine as causes of death.⁶ Physician prescriptions can and are being used as emerging drugs of abuse. Opioids and benzodiazepines are frequent diversion targets.^{6,7} Patients prescribed these medications and other controlled substances such as medications for attention deficit hyperactivity disorder (ADHD) should be screened for at-risk substance abuse.⁸

Most physicians are aware of prescription-monitoring programs and can use this as a tool to detect diversion and to identify multiple prescriptions of controlled substances.^{9,10} Although it is controversial whether prescription-monitoring programs are effective in reducing rates of drug overdose mortality, they are an important tool to prevent the inappropriate use and diversion of these medications.⁹

Unfortunately, the problem expands far beyond the prescription drug arena. There is widespread over-the-counter drug abuse and misuse.¹¹ Weight-control drugs and laxatives are just two such examples. Further attention on how a product is sold, such as behind-the-counter (BTC) status, is appropriate to assure age-appropriate use.¹¹

Performance-enhancing drugs are and will continue to be emerging drugs of abuse. The incentives to perform at high levels are profound and with increasingly sophisticated techniques of drug detection, it is logical that this will be an evolving arena. These substances are widely available on the Internet.¹² The World Anti-Doping Agency (WADA) modifies its prohibited list on an annual basis in response to this ongoing issue.¹³ This discussion, however, is immense in itself and beyond the scope of this article.

Not only are performance-enhancing drugs abused, but so too are drugs that are used to improve appearance. Examples include weight loss and melanotan products. Melanotan products are Internet-purchased substances used to improve tanning, and have been reported to cause significant sympathomimetic signs and symptoms, along with rhabdomyolysis and renal dysfunction.¹⁴

In addition to the substances covered in this article, there are numerous other examples of drugs of abuse that continue to emerge and evolve. Methoxetamine, a ketamine analogue, has become a drug of abuse. It carries the purported advantage over ketamine of being less toxic to the urologic system, although animal studies call this into question.¹⁵ Krokodil, or desomorphine, is a drug of abuse that is typically used when heroin or poppy straw is in short supply. Significant abuse has been

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