



Synthetic Drugs: Guidance for Healthcare Practitioners

Synthetic drugs are known by numerous names (Spice, bath salts, K2, and Molly to name a few), and are legally sold in the community as incense or other products “not meant for human consumption” but have an alternate use to produce a high without causing a positive urine drug screen. The lack of a positive drug screen makes these drugs very attractive to people who are incarcerated or on parole. The problem is that each batch of these synthetic drugs of abuse contains different chemicals meaning each batch can produce different effects some of which can be life-threatening. These drugs can be used orally, nasally, intravenously, and rectally; very small amounts can cause devastating effects.

These synthetic drugs of abuse can be classified into 3 groups:

Synthetic Cannabinoids

Frequently known as Spice or K2, these drugs are a veritable hodge-podge of chemicals. Over 80 chemicals have been identified in these compounds, but it is estimated that more than 100 exist. These compounds are structurally distinct from THC but they act at the same receptor with a potency of 40 to 100 times that of THC. The packaging often does not reflect the actual compounds contained or the concentration of the compounds found within.

The effects of this type of synthetic drug vary but commonly include anxiety, tachy- or bradycardia, hyper- or hypotension, euphoria, altered mental status, disinhibition, and acute renal insufficiency. A syndrome dubbed “spiceophrenia” has also been described; it is a psychotic syndrome that persists for months after the acute symptoms. It is difficult to predict which patients will develop spiceophrenia.

This type of drug is often smuggled into correctional settings typically with rolling papers.

Synthetic Amphetamines

Commonly referred to as bath salts, this drug type is similar to amphetamines and are represented by more than 30 chemical compounds on the street. Typically, they are sold as crystal or liquid which are smoked, insufflated, injected or vaporized.

Effects of this drug type include agitation, hypertension, tachycardia, hallucinations, delusions, diaphoresis, and hyperthermia. Rhabdomyolysis occurs in up to 60% of these cases.

Synthetic Hallucinogens

Names for this drug type include NBOMB, Smiles, and Legal LSD. They are typically sold as powders or liquid solutions laced onto edible products or soaked into paper. Of note, the “Legal LSD” sold on the streets contains no detectable LSD.



The effects of this drug class include euphoria, confusion, paranoia, panic, clonus, bruxism, paresthesias, tachycardia, hypertension, diaphoresis, and hyperthermia. As little as one drop can lead to seizures, cardiac/respiratory arrest and death.

These synthetic drugs can produce similar effects as marijuana, amphetamines or LSD when used. The users of these drugs are very likely to have serious side-effects. As a correctional provider, you need to be aware that a patient having the following symptoms may have used synthetic drugs:

- Anxiety and panic attacks
- Aggression
- Paranoia (potentially resulting in violent attacks or even suicide attempts)
- Hallucinations
- Inability to speak
- Tremors
- Seizures
- Unconsciousness/unresponsiveness
- Vomiting
- Numbness/tingling
- Headache
- Profuse sweating

If you encounter a patient exhibiting behavior or mental status changes described above and have reason to suspect that there is the possibility that they could have recently used synthetic drugs, then they should be stabilized while awaiting EMS to arrive to transport the patient to the ER for additional work-up and treatment. Ongoing management on-site is not recommended. Interval treatment can include IV fluids (NS or LR), oxygen, cooling measures, and sedatives for anxiety or violent behavior (parenteral lorazepam or diazepam). The use of beta blockers should best be avoided as this would lead to unopposed alpha-adrenergic stimulation in patients using substituted cathinones.

For patients who are unresponsive and you suspect synthetic drug use, normal CPR steps should be taken (CAB- Circulation, Airway, and Breathing).

Patient Safety Committee, Correct Care Solutions