

JHH Adult Emergency Department
Management of Agitated Patients with Suspected Synthetic Cannabinoid Ingestion

Background

Synthetic cannabinoids have many trade and street names, but are most frequently referred to as K2 or Spice. A list of common street names is provided at the bottom of this document for reference. The synthetic cannabinoids are one of many in the pharmacological class known as herbal marijuana alternatives. These products are an herbal blend that contain varying degrees of plant matter and chemical grade synthetic cannabinoids. While the mechanism of action is somewhat unclear, it is proposed that the synthetic chemical compounds in these combination products act on cannabinoid receptors (CB 1 and 2). This mimics the effect of THC and works as a receptor agonist to cause psychotropic effects. Because the chemical compounds used to create these products can vary widely, it appears that patients can present in a variety of ways. While some patients may be hypertensive, tachycardic or acutely agitated, others may present in a more hemodynamically depressed state with hypotension and bradycardia in addition to agitated delirium. Seizure is a potential life threatening adverse event that can be seen as well. Because of the significant chemical compound variability of these synthetic agents, it is not currently possible to detect them in routine toxicology screens. Patients should still have a urine toxicology screen sent to identify any potential co- ingestions. As the clinical picture can differ, so should our approach to evaluating and treating these patients in the ED setting. Some treatment strategies for consideration are listed below:

Recommended Strategies to Manage Cardiopulmonary Abnormalities

- **Blood Pressure**
 - Hypotension:
 - Some patients may experience hypotension regardless of sedation strategy
 - IV fluid administration should be sufficient to maintain blood pressures
 - Vasopressor agents are generally not necessary to maintain MAPs, but can be considered in severe cases refractory to fluid resuscitation
 - Hypertension:
 - Vasodilator/ anti-hypertensive therapy is not typically indicated
 - Most patients will have a response in vital signs when appropriately sedated
- **Oxygenation**
 - Intubation is generally not necessary to maintain adequate ventilation
 - If patients are not responsive but breathing spontaneously, consider use of continuous end-tidal-CO₂ monitoring for ongoing assessment of patient ventilation.
 - Intubation is indicated for refractory hypoxia, significant CNS and or Respiratory depression.

Recommended Strategies to Manage Acute Agitation

- **First-line**
 - Benzodiazepines should be used to manage acute agitation and titrated to response
 - No IV Access: IM midazolam is preferred due to more rapid onset
 - IV Access: Benzodiazepine selection at the discretion of the prescriber
- **Second-line**
 - Ketamine may be considered as a second-line adjunct therapy in the following patients:
 - Refractory to benzodiazepines after several dose titrations
 - Unable to tolerate benzodiazepine therapy due to hemodynamic status

- Recommended doses are 1 mg/kg IV or 2-4 mg/kg IM (*consider emergence reaction*)
- Patients may still require additional doses of benzodiazepines based on available literature
- ****NOTE: Ketamine must be administered by the Prescriber****

- **Antipsychotics such as haloperidol can lower the seizure threshold and are NOT recommended**

Security/Patient Belongings (Per recommendations from the JHH Legal Department)

- While technically a legal substance, synthetic marijuana will be considered illegal contraband.
- If a patient has synthetic marijuana in their belongings in a treatment area or upon preparation for admission (i.e. when doing a belongings inventory):
 - Synthetic marijuana will be treated as contraband
 - Clinical staff should contact security and the material should be confiscated (do not give back to the patient)
 - The material will then be discarded by security with the nurse as a witness.

References:

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3. Hopper, et.al. *The Journal of Emergency Medicine*, Vol. 48, No. 6, pp. 712–719, 2015
4. Burnett AM, et.al. *Am J Emerg Med* 2015;33(1):76-9.
5. Nobay F, et.al. *Acad Emerg Med* 2004;11:744-749
6. Trecki, et.al. *N Engl J Med* 2015; 373:103-107
7. DEA Diversion, DOJ: http://www.deadiversion.usdoj.gov/fed_regs/rules/2014/fr0110_10.htm accessed 7/15/2015
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Additional Street Names

(This list is not all-inclusive, and new products/ names are available regularly)

Spice	Mr. Nice Guy
K2	Ninja
Blaze	Zohai
Red X Dawn	Dream
Paradise	Genie
Demon	Sence
Smoke	Skunk
Black Magic	Mr. Nice Guy
Serenity	Fire
Spike	Ninja
Yucatan	Scooby Snax
Crazy Clown	

