MDMA (ecstasy) intoxication in adolescents and adults: Rapid overview

To obtain emergent consultation with a medical toxicologist, call the United States Poison Control Network at 1-800-222-1222, or access the World Health Organization’s list of international poison centers (www.who.int/gho/phe/chemical_safety/poisons_centres/en/index.html).

**Clinical features**

MDMA is a serotonergic amphetamine that generally causes feelings of euphoria, empathy, excitement, and wellbeing.

Patients with MDMA toxicity may exhibit CNS agitation, hypertension, tachycardia, and hyperthermia.

MDMA intoxication can cause severe hyponatremia, seizures, and obtundation. Serotonin syndrome can occur.

**Laboratory evaluation**

Obtain the following:

- Fingerstick glucose, electrocardiogram, acetaminophen and aspirin levels, and pregnancy test (when appropriate)
- Basic chemistries, to assess serum sodium and creatinine
- Creatinine kinase, for evidence of rhabdomyolysis
- Liver function testing and coagulation profiles in severely ill patients

**Treatment**

Secure airway, breathing, and circulation: standard rapid sequence medications may be used; treat severe hypertension initially with benzodiazepines (eg, lorazepam, 1 to 2 mg IV push, may repeat as needed; or in the absence of IV access midazolam 3 to 5 mg intramuscularly, may repeat as needed)

Give one dose of activated charcoal (1 g/kg; maximum dose 50 g) for ingestions less than one hour if airway protected

Agitation and/or seizures: give benzodiazepines (eg, lorazepam 1 to 2 mg IV push or midazolam 3 to 5 mg IM; may repeat as needed); **DO NOT** give butyrophenones (eg, haloperidol); **DO NOT** give phenytoin

Chest pain: give oxygen, aspirin and nitroglycerin if chest pain does not respond to benzodiazepines; **DO NOT** administer beta-blocking agents

Hyperthermia: active external cooling, benzodiazepines; **DO NOT** give antipyretics

Hyponatremia: fluid restriction if hyponatremia is mild or moderate (above 115 mEq/dL)

Hyponatremia with persistent seizure: benzodiazepines (eg, lorazepam 1 to 2 mg IV push or midazolam 3 to 5 mg IM; may repeat as needed); hypertonic saline (3 percent or 513 mEq/L), if serum sodium 115 mEq/dL or less, give 100 mL as IV bolus; if seizures persist, give one or two additional doses of 100 mL, with each dose given over 10 minutes; **DO NOT** give additional hypertonic or normal saline; monitor serum sodium closely; **DO NOT** give phenytoin

MDMA: 3,4-methylenedioxymethamphetamine.