

The current epidemic of drug abuse has touched all levels of society. Addiction treatment providers, the court system, mental health agencies, and behavioral health services are increasingly called on to identify, monitor, and treat persons with drug abuse problems. All major drugs of abuse, including cocaine, marijuana, amphetamine, phencyclidine, heroin, and alcohol, may produce typical eye signs that can be easily detected by a rapid eye observation. These signs include ptosis, abnormal pupil size, non-reactivity of the pupil to a light challenge, nystagmus, and non-convergence. When eye signs are detected, drug use should be confirmed by analysis of body fluids. The rapid eye observation is suitable for routine use, or “red-flag” screening when and where the safety to the individual participant and to the community exists. It has also gained in popularity because of the high cost of blood and urine screening and the controversy over privacy rights.

The eye is the easiest part of the body to examine for drug influence. It is located next to the brain and is essentially part of the Central Nervous System (CNS). Any drug that affects the CNS almost always has an influence on the eye. Because proper eye function requires precise actions of very-small nerves and muscles, even small doses of some drugs disturb normal physiologic processes and produce eye signs.

Numerous studies and clinical reports document the principle effects of commonly abused drugs on the eye. Most of these effects can be easily detected by a simple, one-minute rapid eye observation that has been formalized to assist in the detection and management of those who abuse drugs.

It is important to have an accurate baseline of the participants eyes before drawing conclusions from a rapid eye observation. An accurate baseline should consist of an evidentiary-type screening procedure at the time the individual is enrolled in the eRAMx System. Components of rapid eye observations for drug abuse include but are not limited to the following...

PUPIL REACTION TO LIGHT STIMULUS

What to look for...

- **Horizontal and Vertical Nystagmus** - Failure to hold gaze, jerkiness of movements when instructing the participant to move their eyes horizontally to the left and to the right; vertically up and down

- **Non-Convergence** - Inability to track or hold the cross-eyed position when instructing the participant to touch their index-finger to their nose.
- **Pupil Comparison** - Dilation and/or constriction of the pupil

OBSERVATION PROCEDURE

The rapid eye screening should be performed in a quiet, private setting so as not to distract the participant. It can be performed in ordinary room light with the subject standing or sitting. The screening consists of five parts:

- General observation
- Measurement of pupil size
- Observation of pupil reaction to light
- Observing for nystagmus
- Observing for convergence

Below are specific changes in pupils, eye motion, or vision that can indicate intoxication or overdose from specific substances...

Alcohol: Intoxication can cause [double vision or blurry vision](#).

Amphetamines: Ecstasy, Molly, MDMA, and similar drugs can cause blurred vision and changes in pupil size. These drugs can also cause [rapid quivering of the pupils \(nystagmus\)](#).

Benzodiazepines: These medications can cause [dilated pupils](#).

Cocaine and crack cocaine: As the drug stimulates the brain and releases endorphins and adrenaline, the body will react by [dilating the pupils](#).

Dextromethorphan: A common cough-suppressing ingredient in cold and flu medicines, this substance can cause intoxication. A symptom of DXM abuse is [rapid, involuntary eye movement called nystagmus](#).

Hallucinogens: Mescaline, LSD, and other similar drugs cause the [pupils to dilate](#).

Heroin: This drug will cause the pupils to constrict, leading to [pinpoint pupils](#).

Inhalants: Abusing substances like paint thinner or nitrous in canisters can lead to [watering and red eyes as a sign of intoxication](#).

Ketamine: [Rapid, involuntary eye movement and dilated pupils](#) are symptoms of intoxication from this narcotic-like drug. Ketamine can also cause visual [impairment](#), like alcohol.

Marijuana: [Bloodshot eyes](#) are one of the most common side effects of marijuana intoxication.

Methamphetamine: One of the symptoms of methamphetamine intoxication is [rapid eye movements – movements that are usually about 10 times faster than average eye movement](#).

Narcotics: Both legal and illicit narcotic drugs – including heroin, hydrocodone, morphine, and fentanyl – constrict the pupils. At high doses, one of the symptoms of overdose is [pinpoint pupils that do not respond to changes in light](#).

PCP (phencyclidine): [Rapid eye movements that are involuntary.](#) A person intoxicated on PCP may also develop a blank stare, during which they do not respond to direct visual stimuli.