



What are PMA and PMMA?

PMA (paramethoxyamphetamine) and PMMA (paramethoxymethamphetamine) are in the same class of drugs as MDMA or "Ecstasy" (3,4-methylenedioxymethamphetamine). PMA is also known by the street name "death" or "Dr. Death". As with MDMA, these drugs tend to be distributed in colorful, branded tablets and are taken by mouth.

Although they are different drugs than MDMA, PMA/PMMA is often sold as "Ecstasy" or an "Ecstasy substitute". Buyers may think they are getting MDMA, when in fact they are getting PMA/PMMA or some combination of different drugs. In other cases, users may be prompted to take PMA/PMMA together with MDMA to enhance the effects.

Why do people take PMA/PMMA?

These drugs are often taken for their purported euphoric and stimulant effects. Users report feeling "at peace" and as though "all is right with the world". Users often also believe that these drugs may increase sexuality and enhance pleasure.

How are PMA/PMMA different from MDMA ('Ecstasy')?

PMA/PMMA is considered to be more toxic than MDMA, more likely to cause side effects including seizures and increased body temperature. Also, the initial effects of PMA/PMMA are often delayed and milder than MDMA, leading users to believe they have taken a weak MDMA product. Users will then often take more of the drug in an attempt to get the desired effects.

The other effects that can happen are similar to those from MDMA. It can often cause feelings of anxiety and paranoia. It can also lead to hallucinations (hearing voices or seeing things). Users report dry mouth, teeth grinding, sweating or nausea. Some may experience chest pain, palpitations (an awareness of their heartbeat). Others may experience headache, weakness, or difficulty speaking. As with MDMA, PMA/PMMA can also have serious, life-threatening side effects when used on its own, and/or if combined with other medications (including anti-depressants).

So, PMA/PMMA use can be fatal?

Yes. Whether used on its own, or in combination with other medications (including anti-depressants), significant and life-threatening health consequences are a very real danger when taking any PMA/PMMA.

As with MDMA, PMA/PMMA acts as a stimulant and causes an increase in heart rate and blood pressure, which can lead to heart attacks and strokes. These drugs can also cause multiple systems in the body to shut down.

Can users be certain that their MDMA is "pure"?

No. MDMA and other illicit drugs often contain other chemicals which can cause their own side effects with potential threat to life. There is no "safe" street drug.

If I only take a small amount, can I avoid the bad effects?

No. There have been many cases where people have died or had serious, life-threatening side effects after taking a single pill.



PMA/PMMA cont'd ('Ecstasy')



But if I know I am getting "pure" MDMA or 'Ecstasy', I don't have to worry, right?

No. PMA/PMMA and MDMA as well as other illicit drugs often contain other chemicals which can cause their own side effects with potential threat to life. There is no "safe" street drug, and there is no safe dose of a street drug.

How would I know if I have taken PMA/PMMA rather than MDMA, and what should I do?

You won't know. The only way this can be determined is by testing urine or blood or by laboratory assessment of the pills themselves. An adverse reaction to PMA/PMMA can be very similar to MDMA and can mean different things to different people. These drugs can often cause feelings of anxiety, paranoia and can lead to hallucinations (hearing voices or seeing things). Users will also often report dry mouth, teeth grinding, sweating or nausea. Some may experience chest pain, palpitations (an awareness of their heartbeat), headache, weakness, or difficulty speaking.

The Poison and Drug Information Service (PADIS) is a free, confidential, 24/7 service for all Albertans. Staff are specially trained in the assessment and management of exposures to drugs and toxins like PMA/PMMA and are available by calling 1-800-332-1414.

If anyone who has used PMA/PMMA becomes unconscious, stops breathing, experiences chest pain or has a seizure, call 911 or your local ambulance immediately.

If you are concerned about your own drug or alcohol use, the drug and/or alcohol use of a friend or loved one, or would simply like more information on drug and alcohol use, contact the Addiction & Mental Health 24 Hour Helpline at 1-866-332-2322.





Should I worry about Ecstasy? Yes! Here's the latest on "E" in BC:

- 1. If you took "E" and feel sick or overheated, don't wait! Go to a hospital. By the time some people got there, it was too late and they died. (You won't get arrested!)
- 2. **"E"** is almost ALWAYS a combo drug. You never know what's in it. One tab tested had: MDMA (Ecstasy), meth, coke, ketamine, DMP, and TFMPP ("Legal X"). PMMA is in "E" too, and it may have been there a while.
- 3. PMMA (a toxic meth chemical) has been found in people who died taking so-called "E". Even by itself, "E" can cause dangerous body overheating. Overheating can cause seizures, brain damage, or death. PMMA can block the "E" high so people take more and overheat more easily.

E + PMMA = more toxic

- 4. **Even 1 or 2 tabs can be a problem.** Some people's bodies just can't handle even one tab. Taking several tabs at once or over a few hours can really be bad.
- 5. **Using other drugs** (booze, prescription or street) at the same time **makes toxic effects worse.**
- 6. **If you take "E", always have someone sober with you** to take you to hospital **right away** if you get sick or overheat.
- 7. Best idea? Don't do "E", especially right now. Remember, you never know what you are really taking.

(Info from BC Drug & Poison Info Centre and BC Coroner Service)

(Source: John Carsley MD, VCH MHO, January 13, 2012©)



Ecstasy in BC

We have had some serious cases of ecstasy toxicity in BC in the last few months, several people have died and others are dealing with the residual effects. Hyperthermia (high body temperature) is the most serious symptom associated with ecstasy and can lead to seizures, brain damage, or even death in some cases.

A review of the recent cases shows the following:

- 1. The main ingredient of ecstasy is MDMA but tablets or capsules usually contain a variety of other substances. One capsule we recently analyzed contained: MDMA, methamphetamine, cocaine, ketamine, dextromethorphan and TFMPP, a piperazine (all in one capsule).
- 2. PMMA, which has been found in some ecstasy samples, may have contributed to some of the recent deaths. PMMA is more potent than MDMA and may cause more hyperthermia.
- 3. When the effects of the initial dose wears off, some users take more. However, because of depleted serotonin (a brain hormone), additional doses do not have the same effect as the initial dose. People who become seriously ill usually take several doses in an evening.
- 4. Ecstasy taken in combination with other drugs may make things worse. These can include other stimulants such as cocaine, amphetamines, prescription medication such as bupropion, and even non-prescription medications with decongestants.
- 5. MDMA is metabolized (broken down) in the liver by an enzyme. The activity of this enzyme varies among individuals, making some people more susceptible to toxic effects. As well, other drugs can interfere with ecstasy metabolism, which may lead to a build-up of MDMA in the body. These drugs include amphetamines, cocaine, methadone, dextromethorphan, fluoxetine, paroxetine, bupropion, tramadol, and ritonavir.
- 6. A delay in getting to the hospital can be life threatening. If a person's temperature is high for more than 30-40 minutes it may be too late to get them cooled quickly and can result in permanent brain damage, bleeding, kidney and liver failure and death.

Recommendations:

Ideally people should avoid using ecstasy. However, if ecstasy is used, the following is recommended to minimize harmful effects:

- Realize that ecstasy is not just MDMA. It is a 'polydrug' and ingredients often include other amphetamines, as well as stimulants and more recently PMMA. Don't take other drugs or medications in combination with ecstasy.
- 2. Don't take more than 1 or 2 doses in an evening.
- 3. Party with a 'sober' person who can get you to hospital immediately if you feel agitated, confused, extremely hot, become unconscious or have seizures.
- 4. Stay hydrated with sports drinks or non-caffeinated soda pop. Avoid drinking too much plain water as this can also lead to problems.

Statistical Report: MDMA (Ecstasy) Related Deaths (2006-2011) on http://www.pssg.gov.bc.ca/coroners/

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