

## Fast Forward ■

and don't forget to add *this* in to the mix about America's favorite "drug problem."

Given the popularity of ecstasy-like drugs and the eternal fascination with pills that purport to open the head *and* heart, it won't be long before another "problem" turns up in the form of another MDA/MDMA chemical spin-off.

Underground chemists are nothing if not inventive, and they can be counted on to continue churning out supplies of the drug (and variations involving any of its dozens of chemical cousins) to meet demand for instant ecstasy, today and for the foreseeable future.

And while they may be creative, they're not always good. In fact, at least ten overdose deaths have been linked to an MDMA-like drug, **PMA**, that's sometimes sold as ecstasy.

That's why it's worth remembering—with "E" just as much as other chemicals—that a healthy dose of caution can be the best recreational drug option available to anyone.

Think about it. Because ecstasy doesn't mean a thing if you don't stick around to enjoy it. ■



This is one in a series of publications on drugs, behavior, and health published by Do It Now Foundation. Please call or write for a list of current titles, or visit our web site at [www.doitnow.org](http://www.doitnow.org).



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# ecstasy



## ▶ Dancing with Mister 'E'

A Do It Now Foundation Publication by Jim Parker

## Flirting with Ecstasy ■

It's almost hard to remember a time when the word "ecstasy" referred to something *other* than the drug.

That's how big an impact the drug has had on our culture since it first rolled out as the feel-good pharmacological phenomenon of the early 1980's.

Since then, it's been called "E," "X," and "XTC" at clubs and concerts, *N-methyl-3,4-methylenedioxy-amphetamine* in research labs and medical journals.

But no matter what *else* it's called, call the hallucinogenic amphetamine MDMA controversial.

For one thing, it's been hailed by therapists for its ability to boost insight and aid communication without the freaky, unpredictable twists and turns of LSD and other hallucinogens.

On the other hand, it's been knocked by researchers, who say it may damage receptor sites in the brain for the key neurotransmitter **serotonin**.

Adding to its early luster was that, until 1985, ecstasy wasn't even a controlled substance. That meant it was as legal as a scoop of Ben and Jerry's— and only slightly more expensive.

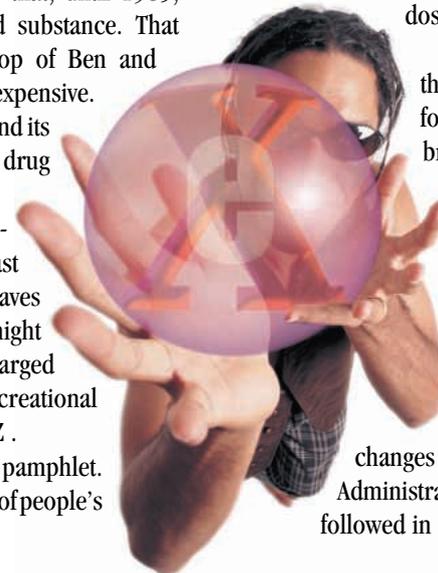
No more. Laws against MDMA and its chemical cousins have pushed the drug underground—and its price up.

But to an army of devotees, ecstasy is *the* ticket to the fastest fast time and the coolest cultural conclaves of the new century: raves—all-night dance parties that merge hypercharged techno music with the feel-good recreational love vibe of Generation X, Y and Z.

That's why we put together this pamphlet. Because ecstasy is on (and in) a lot of people's minds these days.



*Peace pill power packaging. Adding to ecstasy's mystique, tablets are often embossed with peace- & love alternative-culture icons.*



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And they need—and have a right—to know what's in MDMA and what's up with the downside (because there's one of those, too) of America's latest pharmacological flirtation with ecstasy.

## Research & Raves ■

MDMA itself is a member of a chemical family known as *phenethylamines*.

The group, which includes a string of similar compounds such as **MDA**, **MMDA**, and **MDEA**, are chemically related to both amphetamines and the hallucinogen mescaline.

Still, they're not as new as you might think.

MDA earned its counterculture stripes and its "love drug" reputation in the 1960's and '70s, due to the mild sensual arousal and euphoria it produces at low dosage levels.

MDMA rode in on its wake. First synthesized in 1914, it was little more than a forgotten formula in a research lab until it broke out onto the street in the 1970's.

Initial interest in MDMA was so scarce that the government didn't even bother outlawing it.

Then the '80s rolled around, and ecstasy emerged as **the** gotta-try-it drug of that decade—and the next.

Skyrocketing use and early rumors of possible MDMA-related brain changes convinced the U.S. Drug Enforcement Administration to ban the drug in July 1985. MDEA followed in 1987.

Today, both drugs are listed as Schedule I controlled substances. That means that they—like heroin, LSD, and marijuana—have no recognized legitimate uses and are illegal under all circumstances.

And *that* meant that research involving the drugs ground to a fast halt, and stayed that way until 2004, when a U.S. researcher finally won authorization to study the potential value of MDMA as a treatment for post-traumatic stress disorder (PTSD).

## Actions & Effects ■

Over the years, MDA and MDMA have been sold in powder, tablet, or capsule form, and can be inhaled, injected, or swallowed. Today, tablets are the most common format, and street prices range from \$20-\$30 each.

What buyers get for their money is largely determined by dose. At 50-150 mg, the drugs light up the brain's pleasure-reward system, sparking feelings of increased confidence and relaxed arousal.

This dual action is tied to changes in brain chem-



## ► FYI: Rx = H<sub>2</sub>O

**a**ll-night dancing to the restless pulse of trance and techno music can make ravers oblivious to more than just the world outside.

In some cases, dancers forget to pay attention to what's going on inside their own bodies.

And while the number of E-related deaths is low—a handful have been reported in the U.K. and the U.S.—dehydration, heat exhaustion, and high body temperature are common and serious enough to warrant special note.

Simply put, dancers risk slowing down for good if they stay too long at the dance.

The solution? An old one, as it turns out: H<sub>2</sub>O. Experts recommend plenty of it—and frequent breaks to keep cool—for those who plan to keep on dancing (and otherwise kicking) till dawn.

Just don't overdo it—too much water can be deadly, too. To borrow a phrase: Obey your thirst. ■



istry. Like amphetamine, both MDA and MDMA boost levels of **norepinephrine**, a chemical that regulates alertness and heart rate.

And like mescaline, both drugs also increase the supply of **dopamine**, a neurotransmitter that figures into a variety of physical and emotional states.

Effects begin within 30 minutes and last 4-6 hours. Side effects can include dilated pupils, dry mouth and throat, nervousness, and muscular tension.

One reason "E" found a market niche so fast (and has held onto it so long) is that its effects are more manageable than the harder-hitting effects of LSD and other drugs.

In particular, phenethylamines cause less dissociation and disorientation—and fewer panic reactions—than more potent psychedelics.

That fact, along with reports of MDMA's ability to enhance empathy and communication, prompted early researchers to test the drug as a possible tool in treating depression and other emotional problems.

Before the DEA halted that research, a number of U.S. psychotherapists reported favorable results with MDMA in helping patients resolve painful blocks. Their work was so promising, in fact, that it probably helped win approval of the current PTSD research.

## Down the Upside ■

Still, even proponents concede that the drugs *can* cause problems for users—particularly when self-administered and used without supervision.

First among these is the possibility of overdose—and the related risk of **hyperthermia**, or dangerously high body temperature.

Since MDA and MDMA are amphetamines, tolerance develops quickly and overdose *is* possible. Other speed-like dangers include the risk of liver damage and plain old exhaustion.

At high doses, MDA and MDMA can trigger the



E 2 the Xtreme. 410-power close-up of an MDMA crystal.

## The hottest controversy swirling around ecstasy today involves questions about the drug's effects on the brain.



same symptoms of over-amping—with anxiety, delusions, and paranoia—seen in heavy speed users.

The drugs can also intensify heart problems. Some early deaths tied to MDMA involved cardiac arrhythmia—irregular heartbeat—in users with previously-undiagnosed heart disease.

But the hottest current controversy surrounding ecstasy—aside from hyperthermia-related problems (See the box "FYI: Rx = H<sub>2</sub>O" at lower left, for details)—involves questions about the drug's possible effects on the brain.

A Johns Hopkins University study of high-dose effects on monkeys and rats showed that the drug attacks areas in brain cells that manufacture the neurotransmitter serotonin.

Researchers also found evidence that the

damage may last: Half the serotonin-producing nerve cells in test animals were still damaged eight weeks later.

And in a 2006 study, researchers in Amsterdam found that even small doses of ecstasy taken by first-time users was linked to long-term memory problems.

Still, questions remain.

Evidence of neurological damage is less clear-cut in humans than in monkeys and rats. And those who've taken the drug during psychotherapy haven't reported long-term problems.

Still, some experts worry that the drug's seductive effects may lull users into believing that ecstasy is side-effect-free before all the evidence is in.



Cand-E Therapy. Some users suck lollipops or pacifiers to ease the jaw clenching that E commonly causes.

## ► Herbs, Hype and 'Legal' Ecstasy

**f**or those who find dancing around fine points of drug law unnecessarily nerve-racking, good-old American know-how and greed have conspired to provide a variety of safe (at least, *theoretically* safe), legal, and over-priced ecstasy alternatives.

Like "look-alike" and "act-alike" drugs of years past, the mysteriously-misspelled "Ecstasy" and similar herbal products are promoted wherever young people with money mingle, riding the coattails of their more famous (and sought-after) pharmacological prototypes.

The ingredient line-up in herbal "E" reads like the inventory list at the local health-food store, and differs only in price from a variety of over-the-counter herbal energizers and diet pills. Ephedra used to stand alone at the top of the list, until the U.S. Food and Drug Administration banned it as inherently unsafe in 2004. Now, users of the products are more likely to trip out on guarana, kola nut, Siberian ginseng, and green tea, at levels that may pack too much punch for some users and none at all for others.

Adverse reactions to any one of these herbs can include rapid heartbeat, insomnia, and intense anxiety. Other severe reactions have been reported, too, and serve to underscore both the wide variability of human response to drugs of *all* kinds and the very *real* need to exercise caution whenever you exercise **your** right to party, people. ■



Wild pitch. Ad promoting 'Herbal Ecstasy.'