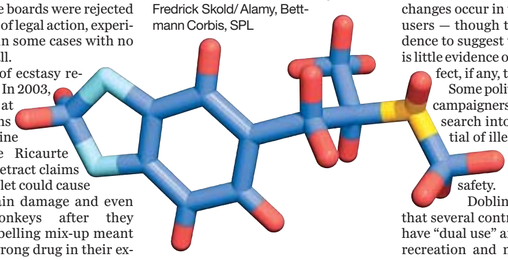
Treating agony with ecstasy

Psychedelic experience... Timothy Leary, top right, the Harvard psychology lecturer who experimented with LSD, after his arrest by customs officials in 1966 at La Guardia airport for breaching a travel ban. Below: computer model of a molecule of MDMA, better known as ecstasy Images: Fredrick Skold/ Alamy, Bettmann Corbis, SPL



Dancefloor drugs dismissed as merely recreational may have medicinal benefits – helping patients to get the most out of therapy. David Adam investigates

In 1960 a 40-year-old psychology lecturer at Harvard University took a trip that changed his life. In Mexico for a holiday, the academic tried magic mushrooms, triggering an interest in the psychological effects of hallucinogenic drugs that would ultimately lead to him being sacked, arrested, kidnapped and having seven grams of his mortal remains blasted into space after he died.

The lecturer was Timothy Leary, better known as the 1960s drug guru who urged America's youngsters to "turn on, tune in, drop out". Leary believed that hallucinogens could alter behaviour in unprecedented and beneficial ways, and in experiments at Harvard he doped graduate students with psilocybin — the active compound in magic mushrooms — and LSD.

He argued that the results of his experiments could help to treat alcoholics and reform criminals; but they enraged parents and unsettled colleagues. Harvard sacked Leary and his colleague Richard Alpert (later known as Ram Dass) in 1963 and the episode has left an embarrassing stain on the university's reputation ever since.

Now, more than 40 years later, research using psychedelic drugs is returning to Harvard.

John Halpern, a psychiatrist at the university's McLean Hospital, is set to study whether a compound called MDMA can help ease anxiety in terminal cancer patients. MDMA — or to chemists 3,4-methylenedioxymethamphetamine — is better known as the dancefloor drug ecstasy.

The study is the latest example of revived interest in the medicinal properties of controlled hallucinogenic or psychedelic drugs, loosely defined by their ability to alter perception, cognition or mood. Some researchers place MDMA in a different class, the empathogens, because it influences emotions.

Trials of MDMA for post-traumatic stress disorder are already under way in America, and psilocybin is being tried for anxiety and obsessive-compulsive disorder. There are even moves to reintroduce research on LSD at Harvard, where Halpern wants to test its abilities to treat cluster headaches — severe attacks that strike at the same time each day for weeks at a time.

"Drugs can be controlled but that doesn't stop them being useful," Halpern says. "That's what doctors are supposed to focus on and that's what I'm trying to do. The Leary connotations are understandable for a popular culture that is still struggling to resolve what happened in the 1960s.

"Let's face it, it was a huge fiasco back then, but Tim Leary was not a physician and didn't come to this from a medical approach."

Halpern's MDMA trial is different: 12 cancer patients with less than a year to live will be given varying doses under controlled conditions and strict supervision. Crucially, the trial was given the green light by several ethical review boards and approval from the US Food and Drug Administration (FDA) in December. One hurdle remains: Halpern has yet to receive a licence from the Drug Enforcement Administration (DEA) to handle the drug, though he expects to obtain one within weeks.

The ecstasy is not a chemical fix for the patients' anxiety, instead it is intended to help them to open up and get the most from conventional counselling. Halpern says the drug allows people to talk about topics they would otherwise avoid.

"It's really tough doing psychotherapy with people who have anxiety disorders because when you get to the heart of the matter it causes a panic attack. For somebody who has a particularly gruesome time trying to talk about important end-of-life issues it bubbles into anxiety and nothing gets achieved," Halpern says.

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"MDMA may be potentially useful in that it doesn't induce that reaction. We want to see if that can translate into decreased anxiety and meaningful increases in the quality of life for these people."

The alternative, he says, is heavy doses of sedatives such as Valium. "At the moment these people have a choice of being over-sedated and not having anxiety or being alert and suffering panic attacks."

Patients volunteering for the trial will receive up to 125mg of MDMA over two experimental sessions several hours apart — about the same or a little more than in a typical ecstasy tablet. They will also receive more conventional help during several non-drug sessions. Psychologists will assess their mental state before and after the trial to judge whether the drug has helped.

Rick Doblin, the founder and head of the Multidisciplinary Association for Psychedelic Studies, which funds the Harvard research, says the study could bring one step closer his goal of making MDMA a prescription medicine.

"It's going to be a hurdle but as we get pilot studies that show promise I think it will get easier and easier to raise money for the research," Doblin says. "A lot of people think what we're trying to do is impossible and so don't bother to help out. Now we've shown that it is possible."

His group is funding the world's only current clinical trial of MDMA. At his South Carolina clinic, psychiatrist Michael Mithoefer has given the drug or a placebo to victims of rape and sexual abuse who suffer from post-traumatic stress disorder. The trial started almost a year ago and five of a total of 20 patients have been treated so far. Two more — the victim of a random shooting and a police officer involved in a violent incident — are lined up, and Mithoefer is preparing to extend the study to American soldiers traumatised by fighting in Iraq and Afghanistan after receiving permission from the FDA.

The research is controversial and getting it off the ground proved difficult. The FDA originally approved the South Carolina study in November 2001 but insisted that Doblin's group also get permission from an independent ethics review board; these oversee research and are usually attached to universities. The first seven applications to separate boards were rejected because of fears of legal action, experimental bias or in some cases with no explanation at all.

The dangers of ecstasy remain uncertain. In 2003, researchers at Johns Hopkins School of Medicine led by George Ricaurte were forced to retract claims that a single tablet could cause irreversible brain damage and even death in monkeys after they discovered a labelling mix-up meant they used the wrong drug in their experiments. Just 18 days later, the South Carolina trial got the go-ahead from its eighth ethics review board.

But significant doubts over the long-term risks of MDMA remain: animal studies show that it can lower levels of the neurotransmitter serotonin. It is difficult to judge whether similar changes occur in the brains of human users — though there is indirect evidence to suggest they do — and there is little evidence on what long-term effect, if any, this could have.

Some politicians and anti-drug campaigners have argued that research into the medical potential of illegal drugs presents a false reassuring message about their safety.

Doblin rejects this, arguing that several controlled drugs already have "dual use" and are used both for recreation and medicine. Heroin is routinely prescribed as a painkiller (though not in the US where synthetic versions are used) and cocaine is used as a local anaesthetic for surgery around the nose because it numbs tissue so effectively. "No one has been saying that the rise in street use of methamphetamine is because some kids with attention deficit disorder get prescribed it," Doblin says.

"We have to recognise there is no risk-free strategy. We're not trying to sell what we're doing as the way to solve all the problems with drugs. You look at the people who are taking MDMA for post-traumatic stress disorder and you would say that's the opposite of ecstasy. They're crying and shaking. They're not saying 'Oh I'm so happy and I love the guy who did this to me,'" he adds.

Some people who take ecstasy in clubs break through emotional barriers to memories of childhood or other abuse, he says. Deliberately suppressing these feelings if they feel unable to talk about them with their friends at the time can then make the situation worse. "I think that's the real risk of MDMA, more significant than the few cases of people who overheat and die and drink too much water and die."

The results of the South Carolina trial are expected at some point next year. Doblin says the next stage will be two larger trials involving hundreds of people: one would take place in the US and the second probably in Israel or Spain, where smaller studies are already planned.

Jose Carlos Bouso of the Autonomous University of Madrid started his own study of MDMA for patients with post traumatic stress disorder in 2001. Spanish drug-enforcement officials halted the work in 2002 after political pressure, but Doblin is hopeful that it will restart soon.

It's not just interest in MDMA that is on the rise. Francisco Moreno at the University of Arizona at Tuscon is currently writing up the results of a trial of eight people with obsessive-compulsive disorder treated with psilocybin. Psychiatrist Charles Grob at the University of California, Los Angeles, is also testing psilocybin, to relieve anxiety in terminal cancer patients.

Elsewhere, a team at the Orenda Institute in Baltimore has asked the FDA for permission to give cancer sufferers LSD and a Russian group in St Petersburg led by Evgeny Krupitsky are investigating whether heroin addicts can be helped by treatment with the psychedelic drug ketamine, which is commonly used as a horse tranquilliser.

A small clinic in Peru is also treating drug addicts with a hallucinogen — the native brew Ayahuasca, which is unusual because it contains dimethyltryptamine or DMT, the only psychedelic compound our bodies produce naturally.

Mithoefer, who leads the South Carolina MDMA trial, says it is too early to tell if the compound has clinical benefits, though the early signs are good. "The trend that we're noticing so far is that people are able to connect more deeply on an emotional level with the fact that they are safe now."

The trial is double-blind — meaning neither the patients nor the scientists know who has been given the MDMA — but Mithoefer says there are several tell-tale signs, not least that pulse rate and blood pressure increase.

"It's a little hard to describe, there's just a real sense of somebody having a new experience and connecting with their trauma."

Each drug-assisted session lasts about eight hours, during which patients lie down and music is played — though psychedelic classics such as the Beatles' Sergeant Pepper are out. "None of that stuff, because it has lyrics," Doblin says. "Lyrics plant images into people's minds and we really want people to be free to bring up their own content."

Halpern at Harvard hopes to get his trial of MDMA in cancer patients under way by the spring. "If it doesn't work then I'll feel bad about that but I'll get another paper published and that will further my career and I suppose that's nice," he says.

"But if it [MDMA] does help it should be compelling, and that shouldn't be thrown away because of the controversy over how some people end up abusing it."

Further reading

www.maps.org Multidisciplinary Association for Psychedelic Studies

www.heffter.org Heffter Institute, supporting psychedelic consciousness research

www.clusterbusters.com Headache sufferers who seek relief in hallucinogenic drugs

Turn On, Tune In, Drop Out Ronin Publishing, ISBN 1579510094 Timothy Leary's classic call to arms

www.drugs.gov.uk Government website offering information on its drugs strategy and advice on drugs misuse