

# What You Need To Know: Addiction - Ecstasy

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## INTRODUCTION

There is a widely held belief amongst Ecstasy users that it is safe. Contrary to popular belief, the drug is not new. It was first synthesised 80 years ago but it had never generated commercial interest for its intended use as an appetite suppressant.

Ecstasy or MDMA (3,4 Methylendioxyamphetamine) was generally ignored and forgotten until the seventies when it began to be used sporadically as a psychotherapeutic adjunct. A review<sup>(1)</sup> revealed that patients reported increased feelings of closeness and enhanced communication. This was variously described by the patients as "an expanded mental perspective, insight into personal problems and improved self communication".

Following increasing awareness of its toxicity, its use as a psychotherapeutic adjunct has been discontinued. Presently, the use of MDMA is restricted to recreational use in small social gatherings and in dance "raves" which are typically held in large warehouses involving all night dancing to techno music, laser light displays and computer generated ambient videos<sup>(2)</sup>.

MDMA first appeared as a drug of abuse in 1972 but it was not widely used until the 1980's. It is taken orally. In its purest form, it is a white powder that can be packed in clear gelatine capsules. Illicitly manufactured in backstreet laboratories, it is sold as "Ecstasy" or "Adam". Initially, illicit use of MDMA emanated from the United States. But by the mid-eighties it had reached the drug markets of Europe and the United Kingdom and now it has finally penetrated the Far East. It is particularly popular with adolescents and young adults at "raves" as it is perceived as a drug that makes them closer to those around them, heightens sensory perception and induces psychomotor restlessness which is relieved by dancing<sup>(3)</sup>.

## CHEMISTRY

Structurally, MDMA belongs to the amphetamine group of psychostimulants. Consequently, it activates the central nervous system and can produce hallucinogenic effects. It exerts this activity by release of noradrenaline and dopamine as well as inhibition of neuronal reuptake. There is little clinical data to suggest that repeated use of MDMA is associated with increased tolerance or dependence. Sudden termination of prolonged use may be followed by several days of lassitude, low mood and anxiety symptoms. However, MDMA withdrawal does not require specific pharmacological interaction: there is also no necessity for prescription of reducing doses.

## SYSTEMIC TOXIC EFFECTS

At recreational doses, most healthy subjects experience trismus, increased deep tendon reflexes and gait instability. This was reported from studies which evaluated the behavioural and physical effects of MDMA before researchers became aware of their toxic effects<sup>(4)</sup>.

Cardiac arrhythmia and asystole have been reported; this has occasionally resulted in cardiovascular collapse and death. Other toxic effects that have been reported include hyperthermia, rhabdomyolysis, disseminated intravascular coagulation, hepatotoxicity and acute renal failure<sup>(5-7)</sup>. Hyperthermia appears to precipitate the other clinical syndromes and this can result in a fatal outcome.

Reports of unexplained sudden deaths which have been linked to MDMA have been increasing. It has been postulated that this is due either to hyperthermia with convulsions, intracranial haemorrhage or cardiac arrhythmias.

In animal models, MDMA is toxic to serotonergic neurons. It has yet to be proven whether this effect is extended to humans. However, most of the subjects which developed serious systemic toxic effects had been involved in all night raves. It has been postulated that "raves" contain all the elements necessary to induce or enhance toxicity including high temperature, noise, crowded conditions and dehydration<sup>(8)</sup>. As these factors have been given some degree of publicity in the press, seasoned ravers using MDMA tend to avoid drinking alcohol, consuming large amounts of mineral water instead.

## NEUROPSYCHIATRIC EFFECTS

The majority of MDMA users report positive changes in mood state. This has been variously described as an increased ability to communicate, decreased sense of alienation from others, changes in visual perception, heightened sensual awareness, increased energy and euphoria<sup>(9)</sup>.

At recreational doses, the drug is not hallucinogenic. Acute adverse side effects reported include panic attacks, anxiety and insomnia. A paranoid psychosis clinically indistinguishable from schizophrenia has been reported. The psychosis is usually self-limiting but has been known to recur when MDMA use is resumed<sup>(10)</sup>.

Other neuropsychiatric effects encountered include panic disorder, flashbacks, major depressive disorders and memory disturbances.

## MANAGEMENT OF MDMA ABUSE

Acute psychiatric disturbances such as panic, anxiety and paranoid disorders can be managed by a combination of medication and trying to "talk down the patient". Severe anxiety and panic can be controlled by benzodiazepines. In view of the possibility of coexisting cardiac arrhythmias, tricyclic antidepressants should be prescribed with caution. Agitation can be controlled by haloperidol.

Chlorpromazine has been used as an antidote for acute MDMA toxicity as it may hasten restoration of normal hemodynamics and temperature.

As there is little evidence to suggest a full dependence syndrome, withdrawal from MDMA does not usually require pharmacological intervention. Admission to hospital will provide a safe environment where access to

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drugs is restricted. The individual is provided with a break in the cycle of drug use so that he can reassess his lifestyle and future options. Urine testing provides a useful monitoring system to ensure that the patient remains drug free. This can be continued even after discharge from the hospital.

Occasionally, an underlying depressive illness may be discovered. Some patients complain of lassitude, low mood and general dysphoria after MDMA cessation. This can be treated symptomatically by prescribing antidepressants.

However, the main focus of management of MDMA withdrawal involve psychoeducational measures that enable the user to be aware of the dangers of MDMA use. Group therapy usually focusing on the "here and now" offer patients to think about their situation and also by learning from other group members, learning how to avoid relapses, and maintaining a high level of motivation for abstinence.

Patients are taught how to recognise environmental cues which trigger cravings and relapses such as friends whom the individuals have shared drugs with or places such as discos where drugs were used in the past. They are taught strategies which enable them to cope without a return to substance intake.

In summary, management employs a combination of psychoeducation, group counselling, self-help groups and a cognitive behavioural approach. There has been as yet little evidence to suggest that pharmacological agents have a significant role to play in the management of patients presently with MDMA abuse.

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