

# A new method to monitor drugs at dance venues

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Information on the use of illicit drugs depends heavily on users' recall—what they remember, or think, that they have purchased—and on seizures by law enforcement agencies. Neither method may be able to give accurate information on what is currently available.<sup>1</sup> We have developed a new method designed to gain information on current drug consumption in a London dance venue.

## Methods and results

We analysed solid dose formulations retrieved from an amnesty bin at a London dance venue, into which visitors were required to discard illicit drugs and into which security staff place substances found during searches. We obtained a Home Office licence to analyse the contents of the bin, which were removed in the presence of a police officer and sealed in evidence bags. The data reported are for one year up to February 1999.

The 299 items, which ranged from single tablets to bags containing several, comprised 156 tablets and 90 powders; 26 cannabis items (joints, herbal material, or blocks of resin); 11 capsules; 10 knives; 5 “snorters” (often, but not exclusively, used to take cocaine or amphetamine); and 1 CS gas canister.

Initially, we tried to identify solid dose formulations using the TICTAC database (an identification CD Rom for tablets and capsules).<sup>2</sup> We confirmed or established identification using a simple chemical test, the Marquis reagent<sup>3</sup> and gas chromatography with mass-spectrometry detection. The Marquis reagent reacts with many of the drugs used in dance venues, including 3,4-methylenedioxymethylamphetamine (MDMA, known as ecstasy) and several related compounds, producing various colour reactions.

The table shows the drugs detected in the 105 (67%) tablets and the 79 (88%) powder items that could be identified. A high proportion of the tablets contained MDMA, whereas the powders were predominantly amphetamine. Two formulations of MDMA were not known to the Forensic Science Service, and 16 formulations were not noted in TICTAC. Of concern clinically was the presence of 4-methylthioamphetamine (4-MTA, known as flatliners) in nine tablets. This drug is known to be highly toxic, having been implicated in four deaths in Britain and one in the Netherlands (see [www.londontox.org.uk](http://www.londontox.org.uk)) and does not give a colour reaction with the Marquis reagent. Although there were 17 seizures of 4-MTA in England during 1997-8, the drug was not thought to have been on the streets after late 1998. Our data show, however, that it was still in circulation during 1999.

The table also shows that several “prescription only” and “over the counter” medicines were also found, together with some items of confectionery, such as Smints. Some of these substances could have been used fraudulently to mimic illicit drugs, a distinct possibility in the case of paracetamol, which was found powdered and in wraps. It is likely that many of the capsules were food supplements, usually a cocktail of amino

Drugs found in 156 tablets and 90 powders retrieved from amnesty bin in London dance venue for one year up to February 1999. Values are percentages (numbers) of items

Compound	Tablets	Powders*
Unidentified	33 (51)	12 (11)
MDMA (“ecstasy”)	29 (46)	6 (5)
MDEA	2 (3)	0
4-MTA (“flatliners”)	1 (2)	0
Amphetamine	3 (5)	47 (42)
Cocaine	0	8 (7)
Ketamine	4 (6)	4 (4)
Ephedrine	2 (3)	0
Caffeine	3 (5)	31 (28)
Paracetamol	6 (9)	9 (8)
Other “over the counter” medication†	8 (12)	4 (4)
Other “prescription only” medication‡	6 (9)	1 (1)
Confectionery	4 (6)	0

MDEA=methylenedioxyamphetamine. \*Values total >100 as some preparations contained more than one active ingredient.

†Included diphenhydramine and salicylate.

‡Included phenytoin, carbamazepine, doxylamine, promethazine, and diazepam.

acids and vitamins, taken before ingesting ecstasy (a practice known as preloading).

## Comment

In the era of evidence based medicine this method of monitoring drugs in dance venues does not rely on what the user thinks he or she has bought. If the contents of the bins were analysed regularly the results would reflect what is currently available on the streets. This would allow timely information to be disseminated on the appearance of new drugs or formulations, through the TICTAC database and its associated secure website. Accurate information on drug use would allow healthcare professionals to formulate better advice on avoiding injury through drug use and to design the most appropriate campaigns against drug use.<sup>4</sup>

Other clubs are willing to participate in a study of this nature, and our approach also has the benefit of encouraging a healthy cooperation between the police, clubs, researchers, and drug users.

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- Ramsey JD, Johnston A, Holt DW. Death rate from use of ecstasy or heroin [letter]. *Lancet* 1999;354:2166.
- Ramsey JD, ed. *TICTAC, version 4.4*. Norwich: Stationery Office, 1999.
- Moffat AC, ed. *Clarke's isolation and identification of drugs*. 2nd ed. London: Pharmaceutical Press, 1986:139.
- Sherlock K, Wolff K, Hay AW, Conner M. Analysis of illicit ecstasy tablets: implications for clinical management in the accident and emergency department. *J Accid Emerg Med* 1999;16:194-7.

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