TESTIMONY OF GEORGE GREER, M.D. IN DEA HEARING
ON SCHEDULING OF MDMA UNDER THE CONTROLLED SUBSTANCES ACT

QUALIFICATIONS

I am a Board Certified psychiatrist in private practice in Santa Fe, N.M. I am also a part-time consultant psychiatrist at the Penitentiary of New Mexico, where I treat many inmates with histories of severe drug abuse in addition to the full range of psychiatric disorders. I have been doing clinical work with MDMA for the past four and one half years, and have administered it to 76 patients during this time. My wife, Requa Tolbert, M.S.N., a masters level psychiatric nurse, has been co-therapist with me for almost all of the MDMA sessions. I have done an extensive follow-up on the first 29 patients who received MDMA and written up my summary and analysis of that data in the enclosed paper, "MDMA: A New Psychotropic Compound and Its Effects in Humans." In addition, I have been conducting similar clinical sessions with low doses of ketamine, a much more powerful agent for altering human consciousness than MDMA, for almost five years. About 40 patients have had sessions under my supervision, but I have not done a systematic analysis of that data at this time.

My education in the field of using altered states of consciousness to facilitate psychotherapy and personal development began when I was an undergraduate at Vassar College.

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I developed my own independent major which was a psychological, philosophical and religious investigation into the achievement of optimal human potential. The College Chaplain was my supervisor. The most relevant material on altered states of consciousness was taught by Dr. Patrick Sullivan, Ph.D. Professor of Religion and now Dean of the College. I went on to receive my medical training at the University of Texas Medical Branch in Galveston, Texas, obtaining the degree of M.D. in 1976.

Between my third and fourth years of medical school, I attended a six-week seminar at Esalen Institute in Big Sur, California led by Dr. Stanislav Grof, M.D. The seminar focused on the uses of altered states of consciousness in psychotherapy and in various native cultures. Dr. Grof is by far the most experienced investigator into the therapeutic use of LSD, conducting about 2000 sessions over 18 years in Czechoslovakia and the United States. He has published four books on his research, with a fifth due for publication this year. Dr. Claudio Naranjo, M.D., author of the only published research on the use of MMDA (another phenethylamine), as well as research on the use of MDA, in psychotherapy, was a guest instructor during the seminar. Other instructors included Dr. Gregory Bateson, Ph.D., a leading theorist in the process of schizophrenia and, at one time, a Regent of the University of California; Dr. John Perry, M.D., one of the primary authorities on the psychotherapy of schizophrenia without tranquilizers (subsequently a member of

my MDMA peer review committee); Dr. Joseph Campbell, Ph.D., the world's leading authority on mythology and its psychological interpretation; Dr. Charles Tart, Ph.D., Professor of Psychology at The University of California, Davis and the world's leading scientific expert on the phenomena of altered states of consciousness; Dr. Michael Harner, Ph.D., Professor of Anthropology at the New School of Social Research in New York City and the world's leading authority on shamans who use altered states of consciousness for healing; and Dr. Alexander Shulgin, Ph.D., the most published researcher on the biochemistry of consciousness-altering substances and recipient of an plaque from the Drug Enforcement Administration in appreciation for his efforts as a DEA consultant in the battle against drug abuse.

This training with internationally respected authorities in the subject of using altered states of consciousness in psychotherapy convinced me that the field had a great untapped potential for psychiatry. I have also been trained in the transpersonal psychology, which takes spirituality, consciousness disciplines and altered states of consciousness into account and uses techniques in these areas to enhance the therapeutic process.

My psychiatric residency was with the San Mateo County Mental Health Services in California. This residency occurred in a community mental health center where I had in depth exposure to

and training in the full range of psychiatric practice. After completion of my residency, I opened a private practice in San Francisco. Within the first year, I was elected to the Executive Committee of the Department of Psychological Medicine at Pacific Medical Center. I practiced both inpatient and outpatient psychiatry. It was during same year that I learned MDMA was being used therapeutically by a small group of psychologists and other therapists. They found it much more benign than psychedelic drugs and extremely useful for deepening and accelerating conventional psychotherapy.

I moved to Santa Fe three years ago, continuing in private practice. I also worked part-time for the Sangre de Cristo Community Mental Health Services, Inc., until October, 1984. At that time, I began my current consulting assignment at the Penitentiary of New Mexico in Santa Fe. I have never recommended MDMA as a treatment to any of my private patients, unless they have been referred to me for that purpose, because those patients have not specifically requested an experience to open their minds to repressed feelings or thoughts. Most of the patients I see who do not know of my work with MDMA are in crisis and seek relief from their symptoms. If there were an inpatient facility available with a staff trained in the use of MDMA, then I would offer its use for more distressed patients.

MEDICAL USE OF MDMA IN TREATMENT

I have observed entire MDMA sessions for all of the 29 patients in my article and for 36 of the remaining 47. Everyone has reported some significant benefit from their experience. The benefits reported are summarized on pages 3 and 4 of the enclosed article, "MDMA: A New Psychotropic Compound and Its Effects in Humans," and my conclusions are summarized on page 12.

I decided to write about my work with MDMA in January of 1983 when I learned that it was being used recreationally. I became concerned that its legitimate medical use would be challenged. I did not know of any therapists who were systematically collecting data, and felt both an interest and obligation to make my findings available to professionals.

I had administered lengthy pre-session questionnaires (copy enclosed) and decided to do a follow-up of everyone who had had a session with us by essentially asking them many of the same questions, so that a "before" and "after" comparison could be made. It is noteworthy that follow-up was obtained from <u>every</u> patient. There was no hypothesis to test, and I see my work as phenomenological research. I have mainly been interested in perfecting the technique of administering MDMA in a therapeutic manner. I believe that only formal research--with funding to pay for independent evaluations of therapeutic change, extensive psychological testing, and remuneration for the research

subjects--will provide adequate data to assess the true therapeutic value of MDMA. There have been no funds available, though I have sought support from both government and the pharmaceutical industry. Though my data are anecdotal, I cannot see that the research design can be improved without a funded study as described above.

The purpose of my paper was to provide enough data to encourage funding for the next step in investigation. Because <u>every</u> therapist I know who has given MDMA to a patient has found it to be of significant value, I am convinced that it can be shown scientifically to be efficacious. I did not submit the article for publication when I completed it in December, 1983, because I wanted to try and keep the work known only to seriously interested psychotherapists for as long as possible so as to avoid its promotion as a recreational drug.

I have given a great deal of thought to the question of what MDMA does that makes it useful as an adjunct to psychotherapy. Its unique action seems to be a cutting through of the neurophysiological mechanisms of fear. When this happens, the usual feeling in the pit of the stomach that accompanies anxiety provoking thoughts or perceptions is greatly reduced or absent. In most people, this enables them to think about and communicate normally repressed ideas, memories, beliefs, opinions, and attitudes about themselves and others. If the

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content is associated with a significant amount of affect, somatic reactions such as nausea and vomiting or pain in various parts of the body may be experienced. However, the person rarely feels threatened by these symptoms and can allow them to express themselves and then subside. Case #17 in my paper is a good example of this type of response.

Following the experience, subjects are able to recall what happened quite easily and, especially at lower doses, integrate what they have learned into their everyday behavior. In the case of emotional abreactions, there is usually a relief of psychological symptoms, such as mild depression, for quite some time afterward. My conclusion from the experiences of patients I have observed is that the insights obtained during the MDMA-induced state can be quite valid, but that therapeutic change and development require follow through with a regular practice or therapy that involves self-discipline and the training of attention. I believe that long term beneficial results are entirely dependent on the person's following through with ongoing therapeutic work, either with a psychotherapist or on their own.

SAFETY FOR USE UNDER MEDICAL SUPERVISION

The only significant psychological difficulties reported in my paper occurred in two subjects, and both had had classic

panic attacks at some time in their adult lives. Subject's #17 and 19 both experienced anxiety during the session and reported significant benefit from the session once they had worked through the anxiety. Physical adverse reactions were all mild and self limiting. Pages 4, 5 and 11 of my paper detail the adverse effects mentioned by my patients. The sessions we have conducted since the paper was written have resulted in the same range of reactions as the sessions reported. Dr. Joseph Downing, M.D., in San Francisco, will be presenting testimony on a human toxicity study that was just completed. Though there were methodological constraints, no significant toxic effects were observed at the doses taken, confirming the safety of MDMA when used under medical supervision.

RELATIVE POTENTIAL FOR DEPENDENCY AND ABUSE

The National Institute on Drug Abuse "Research Monograph 52: Testing Drugs for Physical Dependence Potential and Abuse Liability" presents the following definitions of dependency and abuse potential:

> It is primarily the reactive biochemical, physiological, and behavioral consequences, of drug administration, both acute and chronic (in terms of tolerance and withdrawal), which define a pharmacologic agent's physical dependence potential. The proactive drug-seeking, and drug

discrimination which occur as antecedents to habitual drug use, on the other hand, together with the adverse effects of such use (i.e., a combination of the drug's reinforcing properties and its toxicity), define a drug's abuse liability. (Emphasis theirs) (page 5)

Physical dependence potential is described in two categories for all drugs discussed in the monograph: "tolerance to drug effects" and "withdrawal from chronic drug administration". Tolerance to the effect of MDMA develops within a few hours. On page 12 of my paper there is a description of the effects of repeating doses of MDMA beyond the usual one to three doses. None of the desirable effects were experienced with the last dose, taken only a few hours after the first. In short, MDMA can be taken only for a few hours before tolerance occurs. Even if MDMA were taken on a daily basis, its effects would last only two to three hours per day, which is not long enough to cause any significant impairment in the functioning of the person.

I have observed no evidence of a withdrawal syndrome with MDMA in the sense of an unpleasant experience that can be relieved by taking another dose. As mentioned above, after a few doses, tolerance develops to the extent that unpleasant side effects are not prevented, even momentarily. Patients usually feel some fatigue after the effect of MDMA has subsided, but this

fatigue is only replaced by an agitated discomfort, as opposed to a lethargic discomfort, if more MDMA is ingested. I conclude, therefore, that the physical dependence liability of MDMA is virtually non-existent.

Abuse liability is discussed under three headings in the NIDA monograph: "drug-self administration", "self-report of drug effects", and "behavioral toxicity". Emphasized are "drug-seeking and drug self-administration which are essential features of abuse, and which one attempts to predict by assessment of 'abuse liability." (page 5). I have observed no drug-seeking behavior or craving for repeated self-administration beyond the dosage of MDMA administered during the sessions I have supervised. After the session is over, people who want a repeat session almost never request it before a month has transpired. 26 of the 76 have had MDMA only once. Only 7 of the 29 had more than two experiences with MDMA, as did a similar proportion of the remaining 47.

There is no doubt that patients describe desirable effects of MDMA, including euphoria, a common effect of abused stimulants. However, as mentioned above, these effects are inherently self-limiting due to the lack of desirable drug effects beyond a few hours. In addition, high doses of MDMA resulted in many unpleasant and uncomfortable side effects, including nausea, vomiting, jaw tension, loss of balance, urinary

urgency, blurred vision, sweating, loss of appetite, insomnia and biting of the inside of the cheek. The pleasant effects of MDMA give it some abuse potential, but because the effect is limited to lower doses for short intervals of time, I believe the abuse potential is low.

The behavioral toxicity of MDMA in my patients consists primarily of their desire to be still and not engage in physical activity during the sessions. There were few significant changes in cognitive functioning and judgment. It is my impression that subtle social judgments were impaired, but that would be difficult to measure. There was a notable absence of perceptual distortions such as hallucinations. One woman, subject #7, had a momentary hallucination and distortion of depth perception, but she initiated no behavior based on the false perception because it was so brief, probably less than 3 seconds. She was 74 years old and had taken a very high dose that was accompanied by many benign but unpleasant physical side effects, discussed above.

MDMA has been referred to as "psychotomimetic" by Dr's. Shulgin and Nichols, but that term has a non-pathological meaning as described in Dr. Shulgin's accompanying letter. He also describes MDMA's relationship to MDA in regard to hallucinations, which is consistent with my assessment that MDMA is not hallucinogenic. Finally (in the same letter and in another addressed to Richard Cotton) he describes his investigation into

the two deaths reported by the Drug Abuse Warning Network to have been associated with MDMA. Both of these reports have been found to be erroneous. My conclusion is that at the doses that produce MDMA's pleasurable effects, which are the doses likely to be taken by recreational users (100-150 mg), there is essentially no behavioral toxicity.

Based on the above discussion of the abuse potential as defined and outlined by NIDA, I believe that MDMA has a low abuse potential. I believe that it should become a controlled substance so that its illicit manufacture and recreational use can be better controlled. Schedule IV seems to be the most appropriate schedule for MDMA since its abuse potential arises only from its short-term pleasurable effects which diminish with repeated use, and because it has not demonstrated any harmful effects. The extreme paucity of emergency room mentions (eight, and none since early 1981) in the Drug Abuse Warning Network compared to the mentions of many uncontrolled substances, such as antidepressants, supports this conclusion.

My 1983 paper attached hereto is incorporated in full into this testimony, and the oath below applies both to this testimony and to the information set forth in that paper.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this twenty-second day of April, 1985 at Santa Fe, New Mexico.

George Greer, M.D.

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