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Medical and Toxicological Aspects of the Watkins Glen Rock Concert

The outdoor rock concert has been well established as an important feature in the life of young people both in this country and abroad. The frequent use of psychoactive chemicals at these large gatherings is to be anticipated, as shown by evaluations of such events in the past [1-3]. This phenomenon is concurrent with prevailing permissive attitudes of youth toward drug usage in our society. The evolution of the use of psychoactive drugs, especially the psychedelics, has been associated with the popularity of rock music.

The misrepresentations and adulterations of street drugs and their variable dosage levels have been well documented, reaching proportions as high as 70% of samples analyzed from anonymous sources [4-6]. The problems of treating acute drug overdosage are compounded for the physician by this street deception, especially when adequate information from toxicology laboratories is absent or not easily available. This is apparent at large outdoor rock concerts, many of which are held in rural, isolated areas of the country. The physicians in the vicinity who may be asked to staff the medical facility at such events may not be familiar with urban patterns of drug consumption practiced by the majority of rock concert participants. This lack of knowledge may be coupled with a general disinterest in drug-taking youth.

Over the weekend of 26-29 July 1973, the Summer Jam Rock Festival was held in Watkins Glen, N.Y. A CBS news report at 7:55 p.m. on 28 July 1973 made the historic announcement: "The Watkins Glen Music Festival has surpassed Woodstock, which until today was the granddaddy of the music festivals. An estimated 600,000 people have jammed into Watkins Glen, New York, for Summer Jam. The crowd in general is well behaved, orderly and enjoying the music. . . ."

A medical facility was established to care for the people attending the concert. As part of this facility, a toxicology laboratory was established on the site to analyze drug samples and biological fluids for overdosed patients. To our knowledge, this was the first time a toxicology laboratory had been included as part of the medical facility at a rock festival.

Preparation, Materials, and Methods

The basic plan taken for providing toxicological analysis to the medical facility was twofold. The first objective was to survey the solid dose forms of drugs circulating at the

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concert and to channel this information to physicians and drug crisis volunteers. The second objective was the qualitative or semiquantitative analysis of blood, urine, and gastric contents of overdosed individuals to provide some correlation with the nature and state of intoxication. This information could be an aid in the evaluation of helicopter evacuation priorities. Since the medical facility was prepared to handle all general medical problems which might occur in a population of 600,000, it was felt appropriate to include within the scope of the toxicology laboratory the capabilities of performing some clinical laboratory analysis such as a rapid blood sugar, blood urea nitrogen (BUN), and urinalysis for blood, protein, sugar, ketone, bilirubin, and pH. All of these services would be available to the medical facility for the duration of the festival, which was to be held from Thursday evening through Sunday afternoon.

Operation of the Toxicology Laboratory

The toxicology laboratory at Summer Jam was located in a trailer adjacent to the main medical tent and helicopter landing area. This trailer was also the communications center and supply depot, which provided adequate security and easy liaison with the medical staff. Neither organization nor transportation was a problem since the rock concert was held only 50 miles from the Wilson Hospital toxicology laboratory. Essential materials and chemicals used at the concert laboratory are listed in Table 1.

Description of Procedures for Analysis of Body Fluids

Extractions were accomplished by adding 5 ml of a saturated ammonium sulfate precipitating buffer solution to 5 ml of blood, 10 ml of urine, or gastric contents. This was shaken with 25 ml of ethyl acetate in a 50-ml polyethylene screw-cap tube. After allowing the phases to separate, the clear organic layer was filtered through phase separatory paper into a glass beaker.³ The sample was then evaporated with moderate heat after the addition of a drop of 0.1N HCL. The residue was dissolved in a minimal amount of methanol and spotted with standards on a thin-layer chromatographic (TLC) plate and developed in a solvent system containing ethyl acetate:methanol:ammonia (170:20:10). The plates were removed, dried with a standard hair dryer, and heated slowly and cautiously with the use of a hot plate. The TLC plates were then sprayed sequentially according to the Davidow procedure for visualization of the drugs [7]. Identifications were made by comparison with standards and reported as trace, moderate, or large amounts present.

Alcohol determinations were accomplished by the microdiffusion technique in Conway diffusion dishes. Two millilitres of Ansties reagent were placed in the inner chamber and 1 ml of saturated potassium carbonate plus 1 ml of blood in the outer chamber. The dishes were incubated for one hour at room temperature and color changes compared to a standard. Results were reported as negative, trace, less than 0.15%, greater than 0.15%, or greater than 0.30%.

Rapid blood sugars were accomplished with Dextrostix[®] and chemical tests of clinical value were performed on urine samples with the use of Labstix[®] and Urograph[®].

Description of Procedures for Analysis of Solid Dose Forms of Drugs

Prenumbered envelopes were utilized for the collection of drugs circulating at the concert. The samples were received and logged according to this given number with the alleged content, adverse effects, and physical description of the preparation. If a sample showed

³ Bidanset, J. (Chief Toxicologist, Nassau County Medical Examiner's Office, East Meadow, Long Island, N.Y.), personal communication, July 1973.

TABLE 1—*Materials and chemical reagents used in medical facility toxicology laboratory at Watkins Glen Summer Jam.*

Basic Equipment	Spray Reagents for TLC
TLC plates, Silica Gel G (Analtech)	Ninhydrin
Developing tanks	Diphenylcarbazone
Polyethylene screw-cap tubes, 50-ml	Mercuric sulfate
Polyethylene graduated cylinders, 100-ml	Iodoplatinate
Test tubes, beakers, and pipets	Dragendorff
Capillary tubes	Fast Blue B Salt
Whatman No. 1 PS filter paper	
Whatman No. 1 quality filter paper	Spot Test Reagents and Strong Acids
Portable ultraviolet light (375 nm)	Sulfuric acid (conc.)
Power spray units (Pre-Val)	Nitric acid (conc.)
Mortar and pestle	Marquis reagent
Spot test plates	Dille-Koppanyi reagent
Conway diffusion dishes	Sanchez reagent
Hot plate and heater-blower apparatus (electric)	Van Urks reagent
	Cobalt thiocyanate
	Nitroprusside/sodium carbonate
	Duquenois-Levine
	Gallic acid
	Ferric chloride and FPN reagent
	Diphenylamine
General Solvents	
Ethyl acetate	
Methanol	
Chloroform	
	Conway Diffusion Reagents
Developing Solvents	Ansties reagent (alcohol)
Ethyl acetate:methanol:ammonia (170:20:10)	Saturated potassium carbonate
Ethyl acetate:methanol (147:3)	Palladium chloride solution (CO)
Chloroform:methanol:acetic acid (75:20:5)	Sulfuric acid, 10%
Buffer Solution and Precipitating Reagent	Miscellaneous
Saturated ammonium sulfate adjusted to pH 9.3-9.5 with ammonium hydroxide	Logbook and file cards
	Sample envelopes (solid dose)
	Blood collection apparatus, specimen containers
	Dextrostix [®] , Labstix [®] (Ames Co.)
Analytical Drug Standards	Urograph [®] for blood urea nitrogen (Warner Chilcott)
Pure standards (Applied Science, Aldrich Co.)	<i>Physicians' Desk Reference</i> and toxicology reference books
Pharmaceuticals (commercial dosage forms)	

commercial identification markings, it was located in the *Physicians' Desk Reference* for tentative identification.

If there was sufficient sample to work with, it was subjected to a series of chemical spot tests. Though limited in specificity, these tests were helpful for the identification of a barbiturate and differentiation of amphetamine from methamphetamine and cocaine from procaine.

Thin-layer chromatography was the most useful technique for the identification of many drugs analyzed at the concert. The sample was crushed and rapidly extracted with a small amount of methanol and spotted with a series of standards on a TLC plate. The general developing scheme utilized was a two solvent system⁴. The plate was first allowed to develop about 7 cm in System A, which consisted of ethyl acetate:methanol:ammonia (170:20:10). The plate was then removed, air dried, and placed in System B, which was ethyl

⁴Regent, T. (Chief Toxicologist, Erie County Toxicology Laboratories, Buffalo, N.Y.) personal communication, Nov. 1972.

acetate:methanol (147:3) and allowed to develop for 12 cm. The TLC plate was then removed from System B, air dried, and then observed under ultraviolet light for lysergic acid diethylamide (LSD) and other fluorescent compounds. The plate was then heated cautiously with the use of a hot plate and subjected to the Davidow spray sequence. This method was particularly effective for separation of phenacyclidine, methaqualone, propoxyphene, and cocaine. The barbiturates migrated with the solvent front, but these could easily be separated by the regular Davidow system.

If a sample was found to be ninhydrin positive and a possible phenylethylamine, it was developed in another system which consisted of chloroform:methanol:acetic acid (75:20:5). This system was found to be effective for the separation of amphetamine, methamphetamine, mescaline, methylenedioxyamphetamine (MDA), paramethoxyamphetamine (PMA), and dimethoxyamphetamine (DMA).

The prevailing conditions at Summer Jam posed some interesting analytical problems and unique situations. The prior organization of the medical facility and the laboratory appeared satisfactory, and the units were open and ready for operation about 11 p.m. Thursday evening. A few hours later it was evident that it was going to be a long, hard struggle to provide adequate medical care for the mass of young people. Many of the medical personnel had not arrived at the main medical facility when the emergencies began to overflow the area, because of long miles of traffic complicated by a heavy rainstorm. The first drug screenings were performed during the early morning hours between unpacking medical supplies and dispensing them to the medical tent. The toxicology lab area was suddenly expanded into a combination laboratory, central supply service, pharmacy, and communications center together in one small trailer. In reality, the laboratory area consisted of a card table in the corner. The trailer was supported only by its wheels, which created a frequent motion and lurching when people moved in and out. This motion became madness when helicopters began landing and taking off from the adjacent heliport. This created analytical problems for normally simple laboratory techniques such as pouring solutions, pipetting, and spotting TLC plates. The developing tanks for TLC finally had to be moved onto the grass under the trailer to obtain an even migration of the solvent front. The spraying of the completed plates had to be accomplished outside after carefully checking the direction of the wind and who might be standing downwind so that no one would catch a faceful of errant spray reagent. The helicopter landing area was chosen as the most suitable place for this job. This decentralization of the laboratory to areas outside the trailer caused additional problems when simultaneously a drug screen was being performed, a shipment of supplies was arriving by helicopter, a patient was being evacuated to the helicopter, a doctor wanted injectable diazepam, another wanted 80 units of insulin, and a nurse wanted a suture tray and tetanus toxoid from the toxicologists who were given these responsibilities. This was not an uncommon situation for most of the concert, which seemed like four days of continuous emergencies of every conceivable nature.

Even the cleaning of laboratory glassware became an adventure. The only running water for this was available from two hoses located at the perimeter of the medical facility. These hoses were also a popular shower stall for many of the passing crowd who exhibited little if any modesty.

Despite many of these unforeseen problems, which hampered the efficiency of the toxicology laboratory, most of the requests for analysis were completed within a reasonable period of time. Unless a solid dose from analysis related directly to the condition of a patient in the medical tent, it was not considered immediately. Tablets and capsules were usually run in batches of four or more. The emergency toxicology was performed as soon as possible on the blood, urine, and gastric contents. One hour to ninety minutes was the minimum

time required for the TLC screen and alcohol determination on a patient. The use of prescored TLC plates, 20 by 20 cm, which could be split into quarters, proved very convenient for these single analyses.

The proper identification of the toxicological samples, especially those obtained from the comatose or uncommunicative patient, was almost impossible. There was some use of disaster-type tags, but these did not have a standard numbering system which could be adhered to with complete confidence. An effort was made by the toxicologists to draw the blood for analysis themselves or at least observe the patient while this was being done to reduce the possibility of mix-ups. The completed analysis report was given to the doctor and a file card with this information was attached to the patient directly, rather than to his cot or intravenous pole.

Blood, urine, or gastric contents were collected from 20 patients. Most comatose individuals were found to have ingested alcohol or sedative-hypnotic drugs or both. Some case histories will demonstrate this and other types of intoxication which were encountered.

Case Reports

Case 1

A young female was carried into the main medical tent because of loss of consciousness. On examination she was found to have severe respiratory depression, lack of response to noxious stimuli, and numerous fresh puncture marks from needles. A narcotic overdose was suspected, and she was given naloxone 0.4 mg intravenously twice with no improvement in her condition. Blood was drawn for drug levels and she was found to have ethanol about 0.15% and a short-acting barbiturate (later confirmed as secobarbital). Because of her level of respiratory depression, she was evacuated to the hospital by helicopter.

Case 2

A young male was located unconscious in the crowd and brought to the medical tent. The history was supplied by a friend who reported that the patient had "done a lot of oral THC." The patient regained consciousness fairly quickly, with supportive measures only, and complained of difficulty with his speech and paralysis of his extremities. On examination, he was found to have a profound peripheral sensory loss which slowly returned to normal. A vial containing approximately 2 g of brown powder was found in the patient's pocket and was identified as phencyclidine (PCP) by toxicological analysis.

Case 3

A young male was brought to the medical tent because he was exhibiting violent aggressive behavior and screaming obscenities. In order to protect him and others from physical harm, he had to be restrained by four crisis workers. The patient was treated with diazepam 10 mg intramuscularly and became calm, no longer requiring restraints. Analysis of his urine revealed a large quantity of amphetamine.

Case 4

A young male was brought to the medical tent comatose with depressed vital signs. He was responsive to noxious stimuli and there was no evidence of needle puncture marks. A strong odor of ethanol was present on his breath. He was treated conservatively with supportive measures and allowed to sleep under observation by the crisis workers in an area

near the medical tent. Screen for sedative-hypnotic drugs was negative, but blood ethanol level was greater than 0.3%.

Case 5

A young male was found unconscious under a pickup truck when the truck was moved. Attempts were made to arouse him without success. Covered with mud, he was brought to the medical tent. On examination, he was found to have slow, deep respirations with otherwise normal vital signs. A tattoo, "JRI," was clearly visible on his forehead, which proved useful for identification purposes. The patient awakened in approximately one hour after conservative supportive therapy, but he would not reveal what drugs, if any, he had taken. Blood samples were negative for drugs and alcohol by TLC screening. Clear capsules containing white powder had been found in his pocket. An analysis of the capsules revealed a substituted phenylethylamine which was later confirmed to be 2,5-dimethoxyamphetamine hydrobromide.

Case 6

A young female was brought to the medical tent appearing intoxicated and complaining of pain in her right side after a fall. Her history was significant in that she had had her left kidney resected. Her urine was positive for blood and negative for drugs. She was evacuated immediately because of possible damage to her remaining kidney.

Case 7

A young female was brought to the medical tent unconscious but responsive to noxious stimuli. Urinalysis was negative for drugs and ethanol, but showed the presence of acetone and glucose. Blood sugar was estimated by Dextrostix[®] to be in excess of 400 mg %. The patient was given insulin with return to consciousness and was then stabilized.

Case 8

A young male presented himself at the medical tent, giving a history of alcohol intoxication. On examination, blood pressure was 160/80, pupils were dilated and reacted slowly to light, and there was a constant stare with continuous facial grimaces. The patient would assume any provoked position. Blood and urine analyzed for drugs and ethanol were negative. The patient gradually improved over the next eight hours. It was felt that he was in an acute toxic psychosis, resembling catatonia, from ingestion of a psychotomimetic agent.

Case 9

A young male was brought by stretcher to the medical tent and was found to be without respiration or pulse. Cardiopulmonary resuscitation was started immediately and naloxone 0.4 mg was given intravenously. After about 30 seconds the patient opened his eyes briefly and again lost consciousness. There was spontaneous resumption of respiration and pulse with a tachycardia of 120. A second injection of naloxone failed to bring about any change in the patient's condition. He was evacuated immediately by helicopter to a nearby hospital. En route, he again went into cardiopulmonary arrest, which was again reversed by naloxone but with no change in level of consciousness. The patient recovered at the hospital. It was later learned from his friends that he had been taking heroin as well as numerous other drugs.

Case 10

A young male was brought to the medical tent by his friends who stated that he had taken an overdose of methadone. He was without respiration or pulse. Cardiopulmonary resuscitation was initiated and naloxone 0.4 mg was administered intravenously. Within 30 seconds the patient was sitting up and asking where he was. An intravenous drop of naloxone 4 mg in 1000 cm³ 5% dextrose in water was started, and the patient was evacuated to the hospital.

Case 11

A young male was brought to the medical tent in moderate respiratory depression, comatose, but responsive to noxious stimuli. Naloxone was ordered since his friends indicated that he had been using narcotics. Medical supplies were almost exhausted and no syringes could be located. A homemade syringe was found in the patient's pocket, and naloxone 0.4 mg was administered intravenously with his own "set of works." The patient responded well.

Case 12

A young female was brought into the medical tent with a severe leg laceration. During the examination, she appeared intoxicated but repeatedly denied any drug usage. When approached for a blood sample, she immediately produced two secobarbital capsules for identification. She then admitted to having taken five of these capsules previously. She was held for observation until her sensorium cleared.

Case 13

A young male was brought to the medical tent by his girl friend. He was unconscious but responded to painful stimuli. The girl stated that he had been "doing ludes." When asked if she had any samples of the drug so that they could be analyzed, she hesitantly produced a bag of approximately 200 tablets, visually identified as methaqualone. At this point, the girl became aggressive and started screaming, "Please don't take them away; we'll need them when he wakes up."

Case 14

A young male, about age 14, appeared at the medical tent obviously intoxicated. He admitted that he had taken five to six methaqualone tablets. Half-awake, he spotted a friend staggering nearby, sat up, and said, "Hey, there's my buddy. He did 14 ludes and he's still standing. Far out!" No blood or urine samples were taken.

Case 15

A naked, bearded male wandered around the medical area for two days, continuously reciting Biblical passages. He was totally unresponsive to all the activity around him. Because he did not get in anyone's way, he was left alone since the medical staff was overburdened with emergency cases. One morning he disappeared and was not seen again. He was later identified as one of the doctors who had come to provide medical services, but he decided to become a Jesus freak instead and presently lives on a farm in New Mexico where he is raising "magic mushrooms."

Results

A total of 76 solid dose samples of drugs circulating at Summer Jam were brought to the toxicologists for analysis. These were collected by drug crisis volunteers working in the crowd, turned in to the medical facility by other individuals, or recovered from overdose patients receiving treatment. The results which were posted on the outside of the laboratory trailer were correlated by laboratory number and physical characteristics. Figure 1 shows a

		TRUE CONTENT											Total Samples				
		Amphetamine	LSD	MDA	Mescaline	Methaqualone	PCP	Psilocybin	Secobarbital	THC	Marijuana	Antihistamine		Ephedrine	DMA	Negative	
ALLEGED CONTENT	Amphetamine	2										1	1			4	
	LSD		10										1			11	
	MDA			2			1									3	
	Mescaline		12	1			1							9		23	
	Methaqualone					4										4	
	PCP						1									1	
	Psilocybin		2													2	
	Secobarbital								1							1	
	THC						14									14	
	Marijuana										1					1	
	Unknown		5			2	4								1	12	
	Totals		2	29	3		6	21		1		1	1	2	9	1	76

FIG. 1.—Survey of drugs circulating at Watkins Glen rock concert (alleged versus true content).

composite of the types of drugs encountered, comparing their alleged and actual contents. All samples were confirmed by repeat analysis using further TLC, gas chromatography, and ultraviolet absorption after the festival. General announcements of drug analysis results were limited to posting reports near the medical facility. It was felt that use of the public address system to publicize potentially hazardous drug preparations could have encouraged paranoia and hysteria among those individuals who had already ingested a compound of similar description.

Seventy-five percent of the drug samples investigated at the medical facility were found to be misrepresented. It must be noted, however, that most of the drugs turned in for analysis were of the psychoactive variety, which are known to have a high degree of misrepresentation throughout the drug culture. The chart, therefore, does not reflect the proportions of some of the significant drugs which were in heavy use at Summer Jam, such as the

sedative-hypnotics, primarily secobarbital and methaqualone, alcohol, and cannabis. In our experience, it is uncommon for the sedative-hypnotics to be misrepresented; they are usually commercial dosage forms or products. One sample of "bootleg Quaalude" was encountered, which was identified as methaqualone; subsequent analysis by gas chromatography later showed that this sample had a high percentage of impurity which is yet to be identified. Marijuana, though of variable strength, is not often adulterated and in most cases is in fact cannabis.

The samples of LSD were not found to be adulterated and appeared in the usual variety of tablets and blotter paper. One noteworthy type of "blotter acid" was that called "Mr. Natural." This consisted of a paper square impregnated with LSD and perforated into quarters, each of which was found to contain about 100 micrograms of the hallucinogen. The surface of the square was imprinted with the comic character, "Mr. Natural."

As expected, much of the LSD was being passed off as mescaline. True mescaline is rarely found in clandestine tablets, capsules, or powders [4-6]. Another misrepresentation of mescaline was detected in nine collected samples. This was a white powder in clear gelatin capsules and was reportedly available in large quantities from California youths. Symptoms reported by users generally were nausea and vomiting and "inability to handle the trip." One unconscious youth was found with a quantity of these capsules in his pocket. It was suspected that this compound could be paramethoxyamphetamine, which had been reported as a new hallucinogen appearing in several parts of the country. Analysis at the concert proved inconclusive. Marquis reagent produced an olive-green color, but TLC was unable to provide a match with the amphetamines, mescaline, MDA, or PMA. The compound did react with ninhydrin and iodoplatinate spray reagents. It was tentatively reported as a substituted phenethylamine. Later analysis at the hospital toxicology laboratory against a known standard mixture of additional phenethylamines revealed this compound to match 2,5-dimethoxyamphetamine. This was also confirmed at the Drug Enforcement Administration Special Testing Laboratory in McLean, Va. as the hydrobromide salt of 2,5-dimethoxyamphetamine.

The high incidence of phencyclidine (PCP) appearing as a misrepresentation of synthetic THC continued at Summer Jam as it has throughout the country. It was documented in 26% of the samples received for analysis at the concert. These were an assortment of colored tablets or powders usually in foil or capsules. Volunteers working the crowd reported many thousands of "hits" of THC being sold by drug dealers. Many individuals were seen at the medical tents presenting classic symptoms of phencyclidine intoxication. The drug is an animal tranquilizer related structurally to ketamine. In humans it produces anesthesia with sensory dissociation and hallucinations. The chief complaints of users were numbness of the arms and legs, difficulty with speech, and paranoid hallucinations, especially a preoccupation with death. Many appeared acutely disoriented and intoxicated. Treatment was usually supportive and reassuring in nature. If the patient appeared extremely agitated, diazepam was used cautiously with respect to the depressant qualities of phencyclidine. Special care was taken to avoid administering phenothiazines, which can precipitate severe hypotension when given with phencyclidine.

The overwhelming number of people requiring medical attention coupled with the sustained shortage of medical personnel precluded complete record keeping and documentation of cases. Table 2 shows percent breakdown of 363 cases seen in the main medical facility through Thursday and part of Friday. It is felt that this represents an accurate percentage of the types of medical problems encountered throughout the festival, although total figures were not available. About 60 patients required helicopter evacuation to one of the nearby hospitals. Tables 3 and 4 show statistics on medical cases related to the concert released by these cooperating hospitals.

TABLE 2—*Distribution of medical problems of 363 patients at Summer Jam main medical tent for the 24-hour period from Thursday afternoon to Friday afternoon, 26-27 July 1973. [No other records available.]*

Medical Problem	Distribution, %
Trauma including lacerations, sprains, fractures, bruises, and blisters	46
Burns from sun and other causes	12
Drug reactions and overdoses	8
General aches and pains including teeth, chest, and head pains	6
Allergies including rashes, asthma, insect bites, and hay fever	6
Seizure disorders	5
Lost people	4
Ear, nose, or throat problems including sore throat, upper respiratory infection, and earaches	4
Gastrointestinal complaints including vomiting, nausea, cramps, and diarrhea	3
Gynecological problems	1
Eye problems	1
Dehydration	1
Infections	1
Splinters	1
Diabetes	0.5
Urinary tract infections including venereal disease	0.5

TABLE 3—*Admissions to Arnot-Ogden Hospital, Elmira, N.Y. from Watkins Glen Summer Jam, 26-30 July 1973, showing distribution of the 51 emergency medical cases.*

Drug overdoses	10	Diabetes	1
Head injuries	9	Stroke	1
Severe fractures	6	Seizure disorder	1
Severe lacerations	5	Sprain	1
Acute abdominal pain	5	Chest pain	1
Dislocations	2	Gynecological problem (self-induced abortion)	1
Stabbings	2	Admissions with no diagnosis	3
Asthma	2		
Back pain	1		

Conclusion

The experiences of the field toxicology laboratory at the Watkins Glen rock concert have been described. The types of medical emergencies encountered, including the high incidence of trauma, were predictable in view of past experience and were treated successfully, with helicopter evacuation required for about 60 patients. It is significant that no deaths were recorded at the concert medical facilities nor at the receiving hospitals in the area. The death of a sky diver who suffered an equipment malfunction while jumping over the concert area was not considered directly related to the medical problems at the rock concert.

Toxicological analysis of acutely overdosed patients and samples of circulating drugs in the crowd revealed a high incidence of alcohol, sedative-hypnotic drugs, and phencyclidine (PCP) in use. Cannabis smoking was commonplace, but this was not documented as a problem requiring medical attention. The predominance of these particular varieties of drugs is consistent with drug usage patterns as they currently exist. By comparison, the drug

TABLE 4—*Some hospital admissions to indicate types of medical emergencies during Watkins Glen Summer Jam, through the courtesy of Schuyler County Hospital, Montour Falls, N.Y.*

Skull fracture and cerebral concussion
Hematoma left upper eyelid
Fractured ribs and fractured acetabulum
Respiratory infection and drug overdose
Overdose of Valium®
Dislocated left elbow
Drug overdose
Multiple injuries
Amputation, mid-finger
Acute alcoholism and fractured right wrist
Ulcerative colitis with permanent ileostomy
Stab wound, throat and drug intoxication
Food poisoning
Barbiturate overdose
Appendicitis, appendectomy
Acute diabetic ketoacidosis
Fractured tibia and fibula
LSD reaction
Fell off cliff—multiple bruises, sprained cervical spine
Cerebral concussion and contusions
Drug overdose
Fractured tibia and fibula
Laceration, facial and contusion, lung
Methadone overdose
Automobile accident—multiple injuries
Fractured left radius and ulna
Contusion, Left chest wall
Concussion
Hyperventilation syndrome and fatigue
Automobile accident—multiple injuries
Gastrointestinal bleeding
Drug overdose and contusion, back
Laceration, forehead
Injury to head
Cerebral concussion and laceration, left temple
Abrasion, shoulder and hip
Laceration, throat and wrists (self-inflicted) and tear gas exposure

usage at Woodstock in 1969 was predominantly cannabis and LSD. Thousands were treated for bad LSD reactions at Woodstock while Watkins Glen statistics showed that of the approximate 1000 drug-related medical problems, which represented about 10% of the medical cases seen, most were of the “downer” variety and required intensive medical treatment rather than reassurance and “talkdown.”

The services of a toxicology laboratory supporting the medical facility are valuable to confirm the types of drugs in use at a particular concert and as an aid to evaluate the acute drug overdoses seen in the medical tent. It has been demonstrated that toxicology can meet a definite medical need in the field under the most primitive conditions and still produce reliable results. This is especially necessary at rock concerts held in rural parts of the country. It is felt that the laboratory and drug-related support at a concert should be kept in perspective with the total medical facility. The physicians working at a rock concert should be aware of current drug usage patterns, and with this knowledge be able to anticipate most of the drug-related problems in relation to other medical problems, such as acute trauma.

For example, it would have been a gross error to expect a high degree of hallucinogenic drug usage at Watkins Glen and thus overstock the medical facility with "talkdown" experts when most of the drug-related problems were of the sedative-hypnotic nature. Communication with a toxicologist in the area prior to a concert can be valuable in the planning of a medical facility.

The training of medical personnel prior to a particular concert is paramount; drug knowledge is essential, but it should be kept in proper perspective with other medical training. The onsite laboratory should be set up dependent upon the needs of the particular area where the concert is to be held, whether it be urban or rural, to perform drug identifications and other selected clinical laboratory analysis. Prior investigation of existing local facilities would indicate whether an onsite laboratory would be necessary or whether a local hospital with such facilities could be used.

A direct result of the experiences at Watkins Glen was the convening of a symposium on "Medical Care at Large Youth Gatherings" sponsored by the National Institute of Drug Abuse and the Drug Abuse Council. The toxicological experiences at Watkins Glen provided input to this symposium, whose objective was to discuss and plan guidelines for medical care at these events. A suggested protocol in the form of a manual will be available in late 1974. It is the basic feeling of the authors and others present at this symposium that proper medical care is a basic human right and should be available at large youth gatherings, notwithstanding the broad moralistic attitudes which customarily surround these events. It is felt that toxicologists have a responsibility to uphold in the proper planning of medical care at these large youth gatherings.

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