

Addiction and Anesthesiology

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THE RISK TO HEALTH associated with the practice of anesthesia has been an object of much study and concern in our specialty. Most anesthesiologists are aware, for example, of the possible health hazards of occupational exposure to waste anesthetic gases.^{1,2} Many, however, are unaware that physicians have a substantially increased risk, compared with non-physicians, of developing a progressive, potentially fatal illness which, although treatable, is often not diagnosed in time to prevent serious disability or death. This illness is addiction, and anesthesiologists are among the physicians most often affected. Although addictive disease is probably the most common and dangerous occupational hazard associated with the practice of anesthesia, few of us know its signs and symptoms nor could we confidently advise a colleague who becomes affected. Most of us are even unable to give a useful definition of addiction. This paradox is part of the mystery and misunderstanding that surrounds addictive disease. The goal of this article is to describe drug addiction, its adverse consequences on our profession, and what can be done about it.

Definition, Prevalence, and Consequences of Addiction

The terms drug abuse and drug addiction often are used to describe excessive drug use, but they are not synonymous. Drug abuse may be defined as the use of a psychoactive chemical to the extent that it interferes with a person's health, economic, or social function. Drug addiction is abuse characterized by compulsion, loss of control, and continued use in spite of adverse consequences.³ Addiction usually connotes increased tolerance and with-

drawal reactions upon cessation of drug intake. However, physical dependence and addiction are not the same, and can exist separately as well as together. For example, patients who have received long-term narcotic treatment for relief of pain will have symptoms of physical dependence if narcotics are discontinued suddenly, but they usually do not have the compulsion to continue drug use if pain is no longer present. On the other hand, addicts who have been abstinent for a period of time and then return to active drug use demonstrate compulsion and other signs of addictive disease before physical dependence has developed.

Current clinical understanding and treatment of drug addiction generally is based on the disease model of chemical dependency.^{4,5} Addiction appears to be a complex illness with physical, psychological, and social components; its causes include both environmental and genetic factors.^{6,7} The illness is chronic, and, if untreated, often progresses to grave disability or death. With recognition and proper treatment, recovery is possible. In terms of their problems, response to treatment, and prognosis, alcoholic physicians do not differ significantly from other drug-impaired physicians. Alcoholism and other drug addictions may be manifestations of the same basic disorder. The disease model of addiction is useful because it accurately describes and predicts clinical behavior, and has led to the development of effective treatment strategies. Successful treatment usually focuses on addiction as a primary disease rather than as a manifestation of a character disorder or other psychiatric illness.

Because chemical dependency is often unrecognized, undiagnosed, and unreported, it is not possible to accurately measure its incidence or prevalence among physicians. Present data suggest that 10-14% of physicians are addicted to alcohol, to other drugs, or to both.⁸⁻¹¹ Physicians have the same risk of alcoholism as do non-physicians but are much more likely to become addicted to other drugs. Several studies place the prevalence of non-alcoholic drug addiction among physicians as 1-2%,^{9,12-14} three to seven times that estimated for the general population.¹⁵

Among physicians, anesthesiologists appear to be particularly at risk. Approximately 4% of all U. S. physicians are anesthesiologists. Yet, 9.6% (49 of 507) of physicians treated in the Medical Association of Georgia Disabled Doctor's Program, the largest such program in the

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TABLE 1. Distribution of Specialties of Addicted Physicians in Two Treatment Programs^{27,35}

	Addicted MDs, % (N = 178)	All U.S. MDs, %
General practice	21.9*	13
Anesthesiology	13.5*	4
Internal medicine	11.8	15
OB/GYN	9.6	6
Psychiatry	7.9	6
General surgery	4.5	7

* $P < 0.001$ vs. all U.S. MDs (chi-squared).

U. S., have been anesthesiologists.¹⁰ Two other programs that have published specialty designations of disabled physicians, the California Diversion Program and the DePaul Rehabilitation Hospital (Milwaukee) Impaired Physician Treatment Program report the prevalence of anesthesiologists to be 13.8 and 13%, respectively. Table 1 presents combined incidence data by specialty, for physicians treated in the two latter programs.

Chemical dependency among anesthesiologists is an occupational hazard that carries with it the risk of significant morbidity and mortality. In two studies of chemically dependent anesthesia personnel, there were 47 drug-related deaths among 479 identified individuals.^{13,14} Another indication of the seriousness of the problem comes from statistics relating addiction and physician suicide. Suicide is twice as common among physicians as non-physicians and has been reported to be the leading cause of premature death among physicians.^{16,§} Studies of the mortality of all of the 829 male members of the American Society of anesthesiologists who died between 1947 and 1976 indicate that suicide is the only cause of death for which the mortality rate is significantly higher among Society members than among male physicians or individuals of approximately comparable socioeconomic status who were Metropolitan Life Insurance Company policyholders.^{17,18} Anesthesiologists were three to four times more likely to die by suicide as were the individuals comprising these age-adjusted control groups. In these studies, further details surrounding the suicides were not investigated. However, others have reported that physicians who commit suicide are often chemically dependent.^{19,20} The association between addiction and physician mortality^{13,14} is an alarming indication of the health consequences of addiction among physicians.

Risk Factors

Why are physicians at increased risk for addiction? There are no definite answers to this question, but sig-

nificant factors are thought to include the availability of psychoactive drugs and certain aspects of medical training and practice which leave doctors vulnerable to self-medication.^{6,21-23} The practice of medicine involves a stressful life style with many demands and expectations. In spite of this, little time or attention is devoted to personal health maintenance or to the emotional well-being of physicians. Physicians are encouraged to be self-sufficient and to maintain very high personal standards. As a result, they often fail to recognize the need for mental or physical help when they themselves are ill. Another problem is the lack of education and training in non-drug alternatives to stress management. The ready availability of drugs and a prevailing attitude of "pharmacological optimism," which is an honest belief in the use of drugs as a form of healing without consideration of the potential for addiction,[†] can lead to self medication as a means of dealing with stress, anxiety, or physical discomfort.¹⁰ Self-prescription is a particularly common and dangerous practice that often precedes addiction, but its risks rarely are addressed in the medical school classroom.^{6,23-26} Sound advice is that physicians, whatever their rationalization, should not prescribe drugs for themselves that they believe will make them feel, sleep, or work better. A second major point relates to the use of potentially addictive drugs in the work environment. Anesthesiologists are accustomed to giving large doses of narcotics and other psychoactive drugs safely to critically ill patients. However, from the standpoint of addictive disease, even small doses of these drugs are potentially dangerous to operating room personnel. Thus, it is necessary to develop appropriate work habits and control procedures to reduce the unauthorized availability of these drugs.¹⁴

Principles of Treatment and Recovery

In the last 10 years there has been growing interest in the recognition and treatment of chemical dependency among physicians. The basis for the change in attitude of the medical profession toward this problem has been the realization that chemical dependency is a treatable disease, that educated, caring intervention by colleagues can lead to recovery, and that it is a professional responsibility to help colleagues impaired by this illness.¹²

According to the disease model of chemical dependency there is no cure for addiction. The result of successful treatment is called recovery. Recovery is a lifelong process that depends on the commitment to certain principles. These include acceptance by addicts of their lack of ability to control drug use, the practice of continued abstinence through constant vigilance and group support, and the willingness to accept help and direction from other re-

§ Ross M: Suicide among physicians. *Psychiatry in Medicine* 2:189-198, 1971.

† Smith DE: Personal communication.

TABLE 2. Treatment Outcome of Chemically Dependent Physicians

Study Authors	Number Entering Treatment	Follow-up At	% Abstinent and Returned to Practice	% Doing Poorly Died or Disappeared
Kliner <i>et al.</i> , 1980 ³⁹	85	1 yr	60%	35%
Talbot <i>et al.</i> , 1981 ³²	269	4 mo–5 yr	60%	—
Johnson and Connelly, 1981 ³⁰	43	9 mo–4½ yr	64%	32%
Shore, 1982 ³¹	27	1 mo–10 yr	81%	—
Herrington <i>et al.</i> , 1982 ²⁹	40	1 mo–2½ yr	82%	18%

covering persons. The result, recovery, is the ability to lead a comfortable and responsible life without the use of psychoactive chemicals. Recovery is perceived as a positive and life-enhancing process, and is not synonymous with abstinence or “white-knuckle” sobriety. Although a chemically dependent person may remain abstinent for a time, there is a high probability of relapse without the major life changes that accompany recovery.³

The goals of treatment include the development of a chemically free life style that incorporates the principles of recovery as well as social and occupational rehabilitation. Successful treatment of the chemically dependent physician involves a multidisciplinary approach by chemical dependency specialists, psychiatrists, psychologists, and other health professionals. Detoxification and the intensive education required in early recovery often are accomplished best during in-patient treatment. Psychiatric evaluation is necessary to identify the minority of individuals who have significant psychiatric disease as well as addictive disease. The initial treatment phase also includes the development of a long-term recovery program. Active, on-going participation in such a program is necessary to achieve the optimum rate of recovery. The most important elements in this program are facilitated group psychotherapy with other chemically dependent persons, individual and family therapy with a psychiatrist or psychologist familiar with the dynamics and treatment of addictive disease, and participation in self-help fellowships such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). The programs of AA and NA have been highly successful in developing and sustaining the life changes necessary for recovery.^{27,28}

The use of specific blocking drugs has a limited but important role in the treatment of chemically dependent persons. Disulfiram (Antabuse) blocks the metabolism of ethyl alcohol with the resultant build-up of the intermediate metabolite, acetaldehyde. This leads to a highly unpleasant reaction when alcohol is ingested. Naltrexone is an opiate antagonist related to naloxone (Narcan®). A single oral dose blocks the psychopharmacologic effects of narcotics for 72 hours. Unlike disulfiram, naltrexone does not produce an unpleasant reaction if narcotics are taken; there is no response at all to narcotics. The use of these drugs does not substitute for recovery. However, for some individuals, they may contribute to the early

recovery process by serving as a barrier to an episode of compulsive drug use which could trigger a relapse. Naltrexone, in particular, may be an extremely valuable adjunct in the treatment of opiate-dependent physicians for whom the drug of abuse is available in the work environment.** Having taken it, recovering physicians know that the effects of narcotics will be blocked for 2–3 days and, thus, are able to prescribe and administer narcotics without the temptation to self-administer them. Since it has no agonist properties, naltrexone raises no legal barriers to practice. In fact, its use may provide a certain legal and professional margin of safety since a person who has taken naltrexone cannot become impaired by narcotics while the antagonist is active.

Treatment Outcome of Chemically Dependent Physicians

Since the establishment of AA in 1935, over one million people are estimated to have recovered from addiction to alcohol and other drugs.²⁸ It is only recently, however, that effective treatment programs based on the disease concept of chemical dependency have been offered to physicians. Table 2 presents the treatment outcome of different programs. The number of physicians treated represents only a small fraction of the total number of impaired physicians. Moreover, many of these individuals came to treatment because of the consequences of advanced chemical dependency. Consequently, the data probably underestimate the rate of recovery that would be seen if the disease were treated at an early stage. In spite of the limitations of these data, it is clear that treatment is effective. The majority of physicians who entered treatment were abstinent and had returned to practice at the time of follow-up. The most effective treatment is based on the disease concept of addiction and provides long-term care and follow-up, with regular participation in recovery groups and an effective monitoring system. With these elements, 60–80% (table 2) of physicians can be expected to recover from addiction.

Since addiction is a chronic disease, relapse is common.

** Ling W, Wesson DR: Naltrexone in the treatment of opiate dependent physicians. California Society for Treatment of Alcoholism and Other Dependencies News 7:1–7, 1980.

TABLE 3. Signs of Addiction

Social
Withdrawal from leisure activities, friends, family
Uncharacteristic or inappropriate behavior in social gatherings
Impulsive behavior, <i>e.g.</i> , overspending, gambling
Domestic turmoil, <i>e.g.</i> , separation from spouse, child abuse, sexual problems
Change in behavior of spouse or children
Legal problems, <i>e.g.</i> , arrest for driving while intoxicated
Health
Deterioration in personal hygiene
Accidents
Numerous health complaints; frequent need for medical attention for unrelated illnesses
Professional
Unreliability, <i>e.g.</i> , missed appointments, inappropriate response to emergency calls, absences, poor record keeping
Complaints by patients or staff, subject of hospital gossip
Overprescription of meds, excessive ordering of drugs from mail-order houses
Unstable employment history, <i>e.g.</i> , several relocations
Working at a level below qualifications

Relapse, however, does not mean that treatment has failed. Data from a number of different programs show approximately 40% of the physicians who entered treatment subsequently relapsed. Half of these had major relapses, returning to active drug use and terminating treatment. The other half had minor relapses involving a brief episode of drug use but, as a result of early intervention and intensification of the treatment and monitoring programs, they were motivated to stay in treatment and continued in recovery.²⁹⁻³¹ Physicians who continue in treatment have an excellent prognosis. Talbott has followed one group of 100 recovering physicians for four years and another similar group for two years. The recovery rates for these groups are 86% and 93%, respectively, with recovery defined as continued sobriety and return to family, job, and community.²³

In summary, important facts about treatment of addicted physicians are: 1) addiction in physicians is a treatable illness; 2) with treatment, the recovery rate is 60-80%; 3) recovery is a lifelong process; 4) relapses are common, particularly in early recovery, but they do not necessarily predict a negative treatment outcome; and 5) a significant fraction of chemically dependent physicians die, disappear, or do poorly in spite of treatment.

Identification, Intervention, Treatment Referral, and Rehabilitation

Since denial is a symptom of addiction, chemically dependent physicians are usually unable to recognize their illness and to seek help.^{29,30,32-34} Their entry into treatment depends on direct assistance from others. Unfor-

tunately, although the colleagues and family of sick physicians may be aware of the signs of addictive disease, they often join in denying or concealing the illness.²⁵ This further isolates addicted physicians from treatment, enables drug use to continue, and contributes to the damage done by disease progression. If physicians are to meet their responsibility to impaired colleagues, denial and other negative responses must be replaced with understanding, confrontation, and assistance.³⁵

To recognize addictive disease it is necessary to know its signs and symptoms. The illness produces characteristic changes in the affected physician's community and family life, health, physical status, and medical practice, the latter often the last to be affected (table 3). These signs are not specific for addictive disease; however, their occurrence, particularly in the setting of known drug or alcohol use, should raise the question of chemical dependence.

Once the disease is recognized, the next step is to interrupt its progressive and destructive effects and to offer the affected person constructive assistance. This process is called intervention. Intervention is based on the idea that chemically dependent physicians can be made to recognize their disease if people close to them confront them with the details of their illness in a caring, factual, non-judgmental manner.^{36,††} Intervention can be accomplished by an individual or by a group of family members and colleagues. In a carefully planned session, specific observed facts illustrating the problem are presented. The person or persons carrying out the intervention should be aware of treatment options so that chemically dependent physicians, having recognized their illness, can promptly be offered the alternative of treatment. It is inappropriate to attempt any confrontation casually. Family and collegial interventions should be coordinated by a person skilled in intervention techniques. Intervention has been found to be a very successful method to get chemically dependent physicians into treatment.^{32,36}

There are many treatment options open to impaired physicians. The most important principle in treatment referral is to make use of consultants who have the experience necessary to plan treatment and after-care programs that suit the special needs of physicians.^{29,32,‡‡} Since chemical dependency is a serious and complex disease, afflicted physicians should receive the same level of expert care as they would if they had any other life-threatening process. Experts in the field of treatment of impaired physicians usually can be reached by contacting state medical societies.

†† Newsom JA, Chappel JN: The impaired physician—what the family physician should know. *Seminars in Family Medicine* 1:311-319, 1980.

‡‡ Smith DE: Substance abuse among physicians—unique aspects of treatment. *Proceedings of the California Medical Association Annual Conference*, 1978.

Rehabilitation is returning recovering physicians to their previous level of function. The opportunity to return to medical practice is a powerful motivation for chemically dependent physicians to recover and contributes to the high probability that they will do so, if treated. On the other hand, physicians who lose the ability to practice because of disability are at greatly increased risk of suicide. Of the 43 Oregon physicians on probation and not practicing in 1977, eight committed suicide and two made serious suicide attempts.²⁰ Part of the responsibility of physicians to assist their chemically dependent colleagues is to see that recovering physicians are given the opportunity to return to work. Of course, re-employment must be consistent with, and dependent on continued recovery. Guidelines should be formulated that will protect patients, the hospital, and the recovering physician and his colleagues from the consequences of a relapse. The following are some points that might be included^{§§}: 1) agreement to completely abstain from the chemical which the individual is dependent upon and to take no drugs that are not agreed on as a part of the recovery program; 2) random chemical screening; 3) use of naltrexone and/or disulfiram; 4) willingness to work in a supervised or specific setting including a "chemical-free" environment in early recovery; 5) verified regular attendance at recovery support groups; 6) free and open communication between the employer and the recovery support group; and 7) the consequences of relapse should be clearly outlined in advance. These points should be negotiated on an individual basis and reviewed periodically.

There is evidence that recovering physicians can safely return to work using the principles described above. A clear demonstration of this comes from data of the California Diversion Program. This is an individualized treatment and rehabilitation program for chemically dependent physicians based on established recovery principles that stresses return to work in early recovery. Of the 117 physicians in the program between January 1980 and June 1982, 109 were able to continue their practice while undergoing treatment.³⁷ The recovering physicians were followed carefully with a multilevel monitoring system and there were no known examples where a participating physician did not provide proper patient care. Another example comes from the Medical Association of Georgia's Disabled Doctors Program, which alone has returned more than 200 physicians to practice since 1975.³² Anesthesiologists have the same recovery rate as physicians in other specialties and many also have successfully returned to their practices.^{¶¶}

A workable system of rehabilitation not only is in the best interest of the recovering physician but it also may provide maximum safety to patients. One reason is that, untreated, chemical dependence is more hazardous than when treated. If chemically dependent physicians know that they will permanently lose their practice if they are identified, they will resist detection and become yet more impaired. This, in turn, places their patients at increased risk. On the other hand, once abstinence and recovery have begun, chemically dependent physicians are no longer impaired and should be able to practice safely. Another reason why a strong rehabilitation program favors patient safety is that these programs have strict re-entry guidelines. Thus, if relapse occurs, it should be detected quickly and harmful consequences prevented. It is, therefore, unnecessary and counterproductive for a recovering physician to be denied the opportunity to return to practice under the appropriate circumstances. Recognizing this, the medical profession should firmly endorse the policy that physicians should not lose their licenses or their practices because of chemical dependency without first being offered the alternative of treatment and rehabilitation.

The Role of Organized Medicine and Licensing Bodies

Specific organizations exist within the medical community to provide counseling in identification, treatment, and rehabilitation of impaired physicians. In 1972, the AMA Council on Mental Health recommended that each state or county medical society establish an impaired physician's assistance committee.¹² All states now have such committees. These committees provide immediate, confidential advice and information to impaired physicians, their colleagues, and families. In most states, committee members include experts in the treatment of addictive disease as well as recovering physicians, and are skilled in identifying the chemically dependent physician, in organizing an intervention, and in helping to design an appropriate program of treatment and rehabilitation.

An important and sensitive question is when should state licensing authorities be notified that a physician is chemically dependent. Laws in some states require reporting as soon as the condition becomes known. These laws were intended to protect the public but, unfortunately, have only served to cripple voluntary impaired physician programs, which are based on confidentiality.³⁸ Some states do not require that chemically dependent physicians be reported to the licensing authority. Thus, the physician who has good evidence that a colleague is chemically dependent may lack direction on how to proceed. A reasonable guideline is that the principles of intervention and treatment referral should be followed.

§§ Herrington RE, Jacobson GR, Hauser RC: Substance abuse disorders—issues in returning to practice. *Hospital Medical Staff* 2:1982.

¶¶ Herrington RE: Personal communication; Talbot GD: Personal communication; Wesson DR: Personal communication.

However, if the physician refuses to enter treatment and there is a risk to patients, they should be reported to the appropriate licensing or medical quality assurance agency.***†††⁹

In California, unique legislation provides an opportunity for impaired physicians who have been reported to the state licensing agency to be diverted from disciplinary action into a statewide treatment program. The success of the California Diversion Program with respect to getting impaired physicians into treatment and returning them to practice in early recovery emphasizes the value of offering treatment as an alternative to discipline for chemically dependent physicians.³⁵

In addition to committees at state and county levels, individual hospitals should have realistic and effective internal mechanisms to identify and assist addicted physicians. In fact, hospital medical staffs are required by the peer review and credentials processes, to insure optimum professional performance of member physicians. Failure to do this has resulted in civil liability actions against the hospital and the entire medical staff.††† Clearly, early identification, treatment, and rehabilitation are in the best interest of the hospital, the patient, and the impaired physician. To accomplish these goals, hospital medical staffs should establish committees specifically directed to problems of the impaired physician. They should provide recommendations and assistance to the impaired physician and the referral source. They also should educate members of the hospital community about physician health and well-being, the nature of addictive disease, appropriate responses to impaired colleagues, as well as resources available for prevention, treatment, rehabilitation, and continuing education.

Conclusion

The 1979 survey¹⁸ of the causes of death of anesthesiologists concludes that the high mortality rate for suicide appears to be the only major health problem among American anesthesiologists. In fact, it may be more accurate to say that the major health problem associated with the practice of anesthesia is chemical dependency. Physicians with chemical dependency, however, have a high probability of productive recovery. As our awareness

of the nature and importance of addictive disease increases, as appropriate attention becomes directed toward its prevention, and as our chemically dependent colleagues are given modern and effective treatment, we should no longer have to accept the harmful consequences of the untreated illness.

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