



## Drug Addiction Among Anesthesia Providers

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**DOI:** 10.31080/ASMS.2020.04.0545

**Received:** January 21, 2020;

**Published:** January 29, 2020

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### Abstract

Substance abuse and addiction among anesthesiologists exists during whole history of this profession but is still purely understood. This issue is multifactorial and consists with professional and non-professional aspects. Addictive doctors must be treated in special centers in which the diagnosis, treatment and monitoring is based on careful individual attention. Professional rehabilitation is difficult because risk of relapse is high. Decision about the reentering of anesthesiologists in the workplace should be made on a case-by-case basis.

**Keywords:** Drug Addiction; Anesthesia Providers

### Introduction

Drug addiction is a medical and social problem during centuries. It affects practically all groups of people worldwide and in some cases among them are well known, popular persons too. Physicians are not exclusion from these groups. They are prescribing addictive drugs for the patient needs and on the same time it can serve as a risk factor of addiction not only for the patients but for the doctors too. Especially it is related to anesthesia providers. Historically, the problem of addiction among anesthesia providers exists since beginning of using the first anesthetics (nitrous oxide, chloroform, cocaine). For example, it is well known about the cocaine addiction of one of the greatest surgeon and anesthesia provider – W. Halsted [5]. Problem of addiction among anesthesia providers exists currently too and can affect not only health and professional career of physician but also – security of the patient.

### Professional factors of addiction

More than 60 years ago the American Medical Association has made the definition of alcoholism as an illness and lately it has ex-

tended to on all drugs [1]. These drugs are routinely using in medical practice and serve as a factor of addiction but prevalence of this disease among doctors is still unknown. Most of the published data on this subject are related to physicians, which are working in the United States, where their treatment is typically overseen by a physician health program [13]. It had been suggested that drug abuse is at least as prevalent as among the general population - approximately 10% to 12% of physicians will develop a substance use disorder during their careers, a rate similar to or exceeding that of the general population [12]. In USA alcoholism is a significant problem among surgeons [3] Anesthesiologists (as well as any physician) may suffer from addiction to any number of substances but they are at greater risk of drug addiction than other physicians. Predisposing professional factors are the proximity to large quantities of highly addictive drugs, the relative ease of diverting particularly small quantities of these agents for personal use, the high stress environment in which anesthesiologists work, and exposure in the workplace that sensitizes the reward pathways in the brain and thus promotes substance abuse. Gold., *et al.* and McAuliffe.,

*et al.* [7,8] have hypothesized that anesthesiologists may become sensitized to occupationally acquired opioids through the inhalation of picograms of these potent agents in the operating room air.

Anesthesia medications have documented addictive potential. Frequently used drugs by anesthesiologists are: alcohol, marijuana, midazolam, oral opioids, propofol and inhalation agents, but drug of choice is fentanyl, which is contributed to addiction in 64% of cases [10]. Presence of these drugs in work environment contributes to the potential for abuse among the anesthesia providers.

Drug addiction among anesthesiologists is difficult to identify and diagnose. For this purposes it is important the knowledge of specific signs and symptoms of addiction in the hospital: 1. behavioral changes – depression, anger, irritability, euphoria. 2. Increased using of opioids in daily practice in inappropriately high doses, breakage of narcotic vials. 3. Sloppy in attention to work, and trying to work alone, especially for extra cases in which is possible to use large amount of opioids. 4. Likes to be in hospital as longer, as possible, and on the same time - unexplained absences. 5. Frequently is using bathroom.

Despite of these specific signs, in most cases addictive anesthesiologists are not recognizing. According to survey, conducted for the establishment of drug abuse prevalence among anesthesia personnel, addiction is more frequent among residents then faculty members 1.6% vs 1% [9]. Relative to all other specialties, anesthesiologists are overrepresented in chemical dependency treatment populations and in monitoring programs. Although they account for 5% of all physicians, anesthesiologists constitute 13% to 15% of populations receiving treatment for chemical dependency in centers specializing in the treatment of physicians and in programs that monitor such physicians after treatment [6].

### Treatment and rehabilitation

Addiction is an illness and therefore prophylaxis, treatment and rehabilitation is mandatory with careful attention to the interests of affected people. When addicted is a physician and especially anesthesiologist, specific problems are arising. At first, this is a presence of addictive drugs in workplace. This problem is more important for beginners. They are in a more risks of death and suicide during first five years after graduation and thereafter the rate of the fatal consequences decreases. Factor which affects mortality rate

among younger physicians, is the use of more potent anesthetics [14]. Another problem is that anesthesiologists are using different methods for obtaining abused drugs: false recording on anesthesia cards; giving “breaks” and substituting syringes; keeping wastage; switching syringes during own cases; “breakage” of ampoules; accessing ampoules and resealing with other substance inside; poor accountability. Against this methods of drug obtaining is the mandatory education and increased control for controlled substances, but these measures are not effective in cases of substance abuse by anesthesiologists. Consequently, these factors can influence on the process of treatment and rehabilitation [9]. Theoretically chemical dependence can be related to biochemical, genetic, psychiatric and exposure-related factors. According to these theories we can define the addiction risk among anesthesia personnel and on this basis create the individual plan of prophylaxis, treatment and rehabilitation. For example, exists a considerable association between chemical dependence and other psychopathology and successful treatment for addiction is less likely when co-morbid psychopathology is not treated [2].

After the identification of symptoms and establishing of diagnosis, it is mandatory the explanation to a doctor the specific behavioral changes, present any evidence of substance abuse and define a plan of future action, confidentiality must be maintained. For initial diagnosis of addiction and monitoring of the treatment results and relapse, urine testing is still the cornerstone. Except this, for this purposes is reasonable the use of hair, which can serve as a chronic exposure marker [15]. In cases of intravenous opioid addiction hospitalization at a specialized physician treatment center is preferable. In this centers 12-step recovery method, anonymous recovery program can be used [10]. Treatment is based on the use of detoxification therapy, naloxone and naltrexone [16]. After the discharging from the treatment center, recovering physician must be under the surveillance of addiction psychiatrist which will continue regular individual or group therapy. Treatment and rehabilitation is related to the occupational issue. For full recovery anesthesiologist is needing in professional rehabilitation but is it reasonable to return in that workplace where the addiction had begun? Some authors agree a careful re-entry to professional life, but others are against it, because the risk of relapse is high, especially when former addicted anesthesiologist is returning for work in the operating room [17]. According to study conducted in USA, success rate of professional rehabilitation is depending under substance

of abuse. It is less among them which are abusing opioids (34% success, 66% relapse, after which 25% died). Abusing other drugs or alcohol is not so dangerous (70% success, 30% relapse, after which only one (13%) died) [18]. Therefore it is not surprising, that some programs recommending careful reentering to the operating room: during the first 3-month night and weekend calls and the handling of opioids should be excluded. Other factor, which can affect the reentering by this program too and arises the risk of relapse is that in most workplaces controlled substances are opioids, ketamine, ataractics, but not propofol and volatile anesthetics.

Current data about the possibilities of reentering in anesthesia practice or changing profession is controversial. Psychiatric comorbidities, social, environmental, genetic, biochemical factors, behavioral manifestations, level and years of training, legal issues can affect this process [2]. Decision about the returning of anesthesiologist in to the clinical practice must be made on a case-by-case basis, only after the careful rating of all possible affecting factors [4,11].

## Conclusion

Drug addiction among anesthesiologists is a historically existing issue. There are specific professional factors of addiction but there are non-specific medical and social factors too. Diagnosis, treatment and rehabilitation of affected doctors needs in individual approaches.

## Bibliography

1. Report of the Board of Trustees. *Journal of the American Medical Association* 162 (1956): 750.
2. Bryson EO and Silverstein JH. "Addiction and substance abuse in anesthesiology". *Anesthesiology* 109.5 (2008): 905-917.
3. Oreskovich MR., et al. "Prevalence of alcohol use disorders among American surgeons". *The Archives of Surgery* 147.2 (2012): 168-174.
4. Oreskovich MR and Ryan MC. "Anesthesiologists recovering from chemical dependency: can they safely return to the operating room?" *Mayo Clinic Proceedings* 84.7 (2009): 576-580.
5. Markel H. *An Anatomy of Addiction: Sigmund Freud, William Halsted, and the Miracle Drug Cocaine* Hardcover – Deckle Edge (2011).
6. Paris RT and Canavan DI. "Physician substance abuse impairment: anesthesiologists vs. other specialties". *Journal of Addictive Diseases* 18.1 (1999): 1-7.
7. Gold MS., et al. "Fentanyl abuse and dependence: further evidence for second hand exposure hypothesis". *Journal of Addictive Diseases* 25.1 (2006): 15-21.
8. McAuliffe PF., et al. "Second-hand exposure to aerosolized intravenous anesthetics propofol and fentanyl may cause sensitization and subsequent opiate addiction among anesthesiologists and surgeons". *Medical Hypotheses* 66.5 (2006): 874-882.
9. Booth JV., et al. "Substance abuse among physicians: a survey of academic anesthesiology programs". *Anesthesia and Analgesia* 95 (2002): 1024-1030.
10. Mayall RM. "Substance abuse in anaesthetists". *BJA Education* 16.7 (2016): 236 -241.
11. Jungerman FS., et al. "Anesthetic drug abuse by anesthesiologist". *Revista Brasileira de Anestesiologia* 62.3 (2012).
12. McLellan AT., et al. "Five year outcomes in a cohort study of physicians treated for substance use disorders in the United States". *British Medical Journal* 337 (2008): a2038.
13. Merlo LJ., et al. *Substance use disorders in physicians: epidemiology, clinical manifestations, identification, and engagement* UpToDate (2019).
14. Alexander BH., et al. "Cause-specific mortality risks of anesthesiologists". *Anesthesiology* 93.4 (2000): 922-930.
15. Henderson GI. "Mechanism of drug incorporation into hair". *Forensic Science International* 63 (1993): 19-29.
16. Killeen TK., et al. "Effectiveness of naltrexone in a community treatment program". *Alcoholism: Clinical and Experimental Research* 28 (2004): 1710-1717.
17. Berge KH., et al. "The anesthesiology communitys approach to opioid- and anesthetic-abusing personnel: time to change course". *Anesthesiology* 109.5 (2008): 762-764.
18. Menk EJ., et al. "Success of reentry into anesthesiology training programs by residents with a history of substance abuse". *Journal of the American Medical Association* 263.22 (1990): 3060-3062.

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