



Securing Propofol

Position Statement

The American Association of Nurse Anesthetists (AANA) supports the well-being, safety, and professional self-care of Certified Registered Nurse Anesthetists and Student Registered Nurse Anesthetists. The AANA recognizes that anesthesia professionals have an increased occupational risk of substance use disorder, as well as the professional and personal consequences of substance use disorder.¹⁻⁴

Since the introduction of propofol into the healthcare market, the incidence of healthcare professionals' abuse of propofol continues to increase.⁵ Propofol is among the most commonly abused drugs by anesthesia professionals.⁶ This abuse is primarily due to ease of access, rapid onset of action, short duration of action, and feelings of elation and euphoria.^{2,5,7-18} Access to highly addictive drugs, including propofol, is a significant risk factor for substance use disorder among anesthesia and other healthcare professionals.^{2,3,5,10-15,19-21} Research also suggests that exposure to propofol aerosolized in the operating room may sensitize personnel to later abuse.^{5,22-24} Unfortunately, the first sign of propofol abuse or addiction is often death.^{12,13,16-19}

Because healthcare professionals who divert drugs, such as propofol, pose a risk to their patients, employers, coworkers, and themselves, the AANA takes a strong position on the need to secure propofol within facilities.²⁵

Position

Recommendation for Classification by Federal Drug Enforcement Administration

- Since 2010, it has been the AANA's position that, due to the risk of abuse, propofol warrants, at a minimum, Schedule IV controlled substance classification.^{7,12,20,26,27}

Recommendations for Facilities

- The AANA strongly recommends that facilities with propofol on formulary develop and implement methods to reduce the likelihood of propofol diversion, such as placing propofol in a secure environment only accessible by those professionals identified in a medication management policy.
- Establish a comprehensive workplace substance use disorder policy, which includes propofol, and addresses drug storage, abuse and diversion, methods to prevent drug diversion, and reentry to clinical practice.^{1,10,25,28} Propofol should be addressed in this comprehensive policy.
 - Detailed information on [Drug Diversion Prevention Strategies](#) and [Reentry to Clinical Practice](#) is listed in *Addressing Substance Use Disorder for Anesthesia Professionals, Position Statement and Policy Considerations*.¹
- Educate all healthcare professionals on the nature and scope of drug diversion and impairment in the workplace, signs and behaviors of drug diversion and impairment, appropriate response, and proper ways to report drug diversion and impairment.^{1,21,25}
 - Detailed information on [Identifying Those at Risk](#) and [Signs and Behaviors of Impairment and Drug Diversion](#) is listed in *Addressing Substance Use Disorder for Anesthesia Professionals, Position Statement and Policy Considerations*.¹
- When propofol diversion and abuse is suspected, use an extended drug testing panel and protocols that identify anesthesia drugs to include propofol.^{1,29}

AANA Resources

- Addressing Substance Use Disorder for Anesthesia Professionals, Position Statement and Policy Considerations
www.aana.com/AddressingSUD
- Substance Use Disorder Workplace Resources
www.aana.com/SUDWorkPlaceResources
- Peer Assistance
www.AANAPeerAssistance.com

References

1. Addressing Substance Use Disorder for Anesthesia Professionals, Position Statement and Policy Considerations. Park Ridge, IL: American Association of Nurse Anesthetists; 2016.
2. Tezcan AH, Ornek DH, Ozlu O, et al. Abuse potential assessment of propofol by its subjective effects after sedation. *Pak J Med Sci*. 2014;30(6):1247-1252.
3. Bonnet U, Scherbaum N. Craving dominates propofol addiction of an affected physician. *J Psychoactive Drugs*. 2012;44(2):186-190.
4. Bozimowski G, Groh C, Rouen P, Dosch M. The prevalence and patterns of substance abuse among nurse anesthesia students. *AANA J*. 2014;82(4):277-283.
5. Earley PH, Finver T. Addiction to propofol: a study of 22 treatment cases. *J Addict Med*. 2013;7(3):169-176.
6. Wright EL, McGuinness T, Moneyham LD, Schumacher JE, Zwierling A, Stullenbarger NE. Opioid abuse among nurse anesthetists and anesthesiologists. *AANA J*. 2012;80(2):120-128.
7. Schedules of Controlled Substances: Placement of Propofol Into Schedule IV, 75 Fed Reg. Oct 27, 2010: 66195-66199.
8. Koopmann A, von der Goltz C, Hermann D, Kiefer F. Propofol addiction initiated by anesthetic use. *Am J Psychiatry*. 2011;168(2):211-212.
9. Roussin A, Montastruc JL, Lapeyre-Mestre M. Pharmacological and clinical evidences on the potential for abuse and dependence of propofol: a review of the literature. *Fundam Clin Pharmacol*. 2007;21(5):459-466.
10. Lee J. Propofol abuse in professionals. *J Korean Med Sci*. 2012;27(12):1451-1452.
11. Klaus G, Rona K, Kristof I, Toro K. Evaluation of a fatal propofol intoxication due to self administration. *J Forensic Leg Med*. 2009;16(5):287-289.
12. Welliver M, Bertrand A, Garza J, Baker K. Two new case reports of propofol abuse and a pattern analysis of the literature. *Int J Adv Nurs Studies*. 2012;1(1):22-42.
13. Wischmeyer PE, Johnson BR, Wilson JE, et al. A survey of propofol abuse in academic anesthesia programs. *Anesth Analg*. 2007;105(4):1066-1071, table of contents.
14. Jungerman FS, Palhares-Alves HN, Carmona MJ, Conti NB, Malbergier A. Anesthetic drug abuse by anesthesiologists. *Rev Bras Anesthesiol*. 2012;62(3):375-386.
15. Kranioti EF, Mavroforou A, Mylonakis P, Michalodimitrakis M. Lethal self administration of propofol (Diprivan). A case report and review of the literature. *Forensic Sci Int*. 2007;167(1):56-58.
16. Kirby RR, Colaw JM, Douglas MM. Death from propofol: accident, suicide, or murder? *Anesth Analg*. 2009;108(4):1182-1184.
17. Riezzo I, Centini F, Neri M, et al. Brugada-like EKG pattern and myocardial effects in a chronic propofol abuser. *Clin Toxicol (Phila)*. 2009;47(4):358-363.
18. Colucci AP, Gagliano-Candela R, Aventaggiato L, et al. Suicide by self-administration of a drug mixture (propofol, midazolam, and zolpidem) in an anesthesiologist: the first case report in Italy. *J Forensic Sci*. 2013;58(3):837-841.
19. Drug Enforcement Administration. Office of Diversion Control. Drug & Chemical Evaluation Section. Propofol. 2013; https://www.deadiversion.usdoj.gov/drug_chem_info/propofol.pdf. Accessed February 15, 2017.
20. Welliver M. Propofol alert! *Gastroenterol Nurs*. 2011;34(5):398-399.

21. Lee S. Guilty, or not guilty?: a short story of propofol abuse. *Korean J Anesthesiol.* 2013;65(5):377-378.
22. Li KY, Xiao C, Xiong M, Delphin E, Ye JH. Nanomolar propofol stimulates glutamate transmission to dopamine neurons: a possible mechanism of abuse potential? *J Pharmacol Exp Ther.* 2008;325(1):165-174.
23. Merlo LJ, Goldberger BA, Kolodner D, Fitzgerald K, Gold MS. Fentanyl and propofol exposure in the operating room: sensitization hypotheses and further data. *J Addict Dis.* 2008;27(3):67-76.
24. McAuliffe PF, Gold MS, Bajpai L, et al. Second-hand exposure to aerosolized intravenous anesthetics propofol and fentanyl may cause sensitization and subsequent opiate addiction among anesthesiologists and surgeons. *Med Hypotheses.* 2006;66(5):874-882.
25. Berge KH, Dillon KR, Sikkink KM, Taylor TK, Lanier WL. Diversion of drugs within health care facilities, a multiple-victim crime: patterns of diversion, scope, consequences, detection, and prevention. *Mayo Clin Proc.* 2012;87(7):674-682.
26. U.S. Drug Enforcement Administration. Controlled Substances Act. 21 CFR 13 § 811 and § 812.
27. Kim DK. Propofol use for sedation or sedation for propofol use? *J Anesth.* 2012;26(2):289-291.
28. Devine B, Gutierrez K, Rogers R. Drug diversion by anesthesiologists: identification through intensive auditing. *Am J Health Syst Pharm.* 2012;69(7):552, 556.
29. Jones JT. Advances in Drug Testing for Substance Abuse Alternative Programs. *J Nurs Regul.* 2016;6(4):62-67.

Adopted by AANA Board of Directors June 2009.
Revised by AANA Board of Directors September 2009.
Revised by AANA Board of Directors November 2012.
Revised by AANA Board of Directors April 2017.

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