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ADDICTIVE DISORDERS

## Successful Treatment of Physicians With Addictions

### *Addiction Impairs More Physicians Than Any Other Disease*

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Physicians generally display better health and have lower rates of all-cause mortality than the general population.<sup>1</sup> However, their education, nutrition, and lifestyle do not offer similar protection from substance abuse and dependence. Prevalence rates of alcohol abuse and dependence among physicians are about equal to those seen in the population as a whole, while prescription drug misuse and dependence rates are far higher.<sup>2,3</sup> Addiction impairs more physicians than any other disease.<sup>4</sup>

Defined as “a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. . . . [Addiction] is characterized by impaired control over drinking and/or drug use, preoccupation with the drug or alcohol, use of drugs or alcohol despite adverse consequences, and distortions in thinking, most notably denial.”<sup>5</sup> The recognition that addiction is a disease, rather than a character flaw or failure of willpower, has led to the development of

effective treatments and has helped reduce the stigma associated with rehabilitation and recovery. This model promotes the acceptance of treatment in persons with addiction disorder and results in increased satisfaction with care and improved prognosis.

This article briefly reviews the factors that contribute to physician addiction, why the need for treatment is so important, and what the barriers to treatment are. It concludes with the presentation of a model for successful treatment.

#### **Contributing factors**

The causes of physician addiction are not fully understood, although it appears that many factors can contribute to the development of this disorder. For example, the ready access that physicians have to drugs and their ability to self-prescribe have been suggested as potential pathways to addiction. Indeed, despite the fact that physicians are less likely than the general population<sup>6</sup> to smoke cigarettes<sup>7</sup> or use alcohol or illicit drugs,<sup>3,8</sup> rates of prescription drug abuse are higher among physicians.<sup>9</sup> Currently, more attention is being paid to this important issue, particularly within the field of anesthesiology.<sup>10,11</sup> Yet, not all physicians who have an addiction disorder abuse prescription drugs. Work-related stress has been pinpointed as another contributor to physician addiction, but physicians with addictions typically deny using substances to self-medicate and describe using them for euphoric effects.<sup>12</sup>

Building on research involving the role of reward neurocircuitry in addiction,<sup>13,14</sup> recent studies have provided support for the hypothesis that some physicians may be neurobiologically sensitized to develop addiction as a result of chronic exposure to small amounts of addictive substances that are aerosolized and can be inhaled or absorbed through the skin.<sup>15</sup> This hypothesis can help explain why opioid abuse and dependence occurs most commonly among anesthesiologists and surgeons.

#### CHECK POINTS

- ✓ Comorbid psychiatric disorders may negatively impact sustained recovery from addiction.
- ✓ Factors that contribute to relapse include environmental exposure to opioids, inadequate coping skills, interpersonal skills deficits, family dysfunction, continued denial regarding the nature and severity of the disorder, overconfidence, and shame and/or guilt.
- ✓ Random drug screening is an essential component of continued treatment and is the earliest warning sign that the physician is in need of more or different treatment.

While numerous pathways to abuse and dependence exist, this hypothesis has been useful because it can be tested and may explain why some physicians become addicted.<sup>15-17</sup> Physician addiction reminds us of the limitations of education as a protective factor against drug abuse. Finally, factors contributing to addiction in the general public, such as family history of addiction, comorbid psychiatric diagnosis, or early drug experimentation, may also influence the development of addiction among physicians.

#### Need for treatment

Regardless of the contributing factors, the importance of obtaining treatment for addicted physicians cannot be overstated. The potential consequences of neglecting substance use disorders extend beyond the physician to his or her patients, coworkers, and family members. Indeed, clinical experience suggests that disruption or discord in the physician's primary relationship (eg, spouse) is virtually always present in cases of addiction. The lives of family members are negatively affected, and children are at increased risk for psychological problems and substance use.<sup>18</sup>

In addition, drug abuse has been directly associated with physician suicide,<sup>19</sup> and accidental death may occur during periods of intoxication. The physician may also encounter legal difficulties secondary to substance use (eg, for driving under the influence or for domestic violence)<sup>20</sup> or risk the loss of his job or medical license.

Hospitals and clinics are put at risk because intoxication is likely to compromise the physician's ability to provide competent care. Further, colleagues may provide substandard care as the result of incomplete or inaccurate charting by the impaired physician. Because patient safety must always be considered paramount, co-workers must take responsibility for the identification of physicians with addiction.<sup>21</sup> Identification of the problem represents the first step toward recovery.

## Barriers to treatment

Despite the many reasons to seek or encourage treatment, however, many barriers can prevent physicians who have a substance use disorder from obtaining the help they need.<sup>22</sup> First, a hallmark symptom of addiction is denial, which may be magnified in physicians, because they typically use sophisticated methods of rationalization and may develop elaborate justifications for their behavior. Many physicians have received little education regarding the nature of addiction and may falsely believe that they can manage the disease on their own. Personality traits, such as self-reliance, independence, and perseverance—which contribute to physicians' occupational success—may lead either to dismissal of the problem or to attempts at self-treatment.<sup>3</sup>

Many physicians with an addiction disorder are adept at hiding their addiction, and the problem can be difficult to identify. Unfortunately, even physicians who recognize their impairment may be reluctant to seek treatment because of concerns about the negative consequences of being identified. The perceived risks of seeking treatment may outweigh the perceived benefits for some, particularly when the physician feels as though he is still able to practice competently.

Physician colleagues have moral, ethical, and legal obligations to report any coworker whose impairment threatens patient safety,<sup>23,24</sup> but the disease is progressive and typically does not impair work performance until the more advanced stages.<sup>25,26</sup> Thus, impairment observed in the workplace suggests a serious problem. Workplace warning signs listed in **Table 1** should be considered sufficient evidence to warrant an immediate intervention.

Colleagues and family members may be hesitant to report a physician in whom they suspect drug or alcohol addiction because of concerns about the ramifications of making such a report.<sup>27</sup> Physician colleagues should note that it is not necessary to be certain of the exact DSM-IV diagnosis before making a referral; attempts at diagnostic certainty may delay treatment and can put the physician's colleague in the uncomfortable role of detective.

## Successful treatment

The avoidance of “punishment” and the promotion of “treatment” is critical to the success of programs for physicians who have an addiction disorder. Most states now have a Physician Health Program (PHP) to assist with the treatment of drug and/or alcohol abuse in physicians, and cooperation with the PHP generally prevents the physician from experiencing punitive measures. In addition, many states protect the confidentiality of physicians who willingly participate in the PHP and do not require that a report be made to the Board of Medicine.

Typically, the first step in the successful treatment of a physician with a substance use disorder is diagnosis and referral to a PHP. Guidelines for making such a referral are outlined in **Table 2**. The physician with a substance use disorder is most likely to be successful in a treatment program in which the staff members are familiar with treating health care professionals. These environments foster acceptance of the diagnosis and are helpful in reducing shame because of the presence of peers. However, it is not

Table 1 Signs of physician substance abuse/dependence in the workplace	
Job-related	<ul style="list-style-type: none"> <li>Tardiness or absenteeism; frequent breaks; missing appointments; unable to be contacted (eg, “broken beeper”); unexplained disappearances; avoiding supervisors</li> <li>Charting mistakes; medical mishaps; not keeping up with medical records</li> <li>Roundoff of inconsistent times; volunteering for extra shifts</li> <li>Memory lapses/forgetfulness</li> <li>Patient complaints; Board of Medicine complaints; lawsuits</li> </ul>
Diversion	<ul style="list-style-type: none"> <li>Missing or broken visits; failure to document wastage, or have wastage witnessed</li> <li>Paying extra attention to patients receiving mood-altering drugs; volunteering to give medications to patients</li> <li>Asking peers to prescribe for them; obtaining prescriptions for family members</li> </ul>
Physical	<ul style="list-style-type: none"> <li>Recurrent nonspecific health problems; flu-like symptoms</li> <li>Changes in sleep or eating patterns; weight loss or gain</li> <li>Appearance of overexhaustion; bloodshot or watery eyes</li> <li>Lack of coordination; hand tremors; stumbling</li> <li>Alcohol detectable on breath; long sleeves in hot climate (to hide injection sites)</li> <li>Changes in appearance; decreased hygiene</li> </ul>
Social	<ul style="list-style-type: none"> <li>Decreased social interaction with colleagues; isolation</li> <li>Conflicts with staff, patients, peers</li> <li>Excessive drinking/intoxication at social events; embarrassing or inappropriate behavior</li> </ul>
Emotional	<ul style="list-style-type: none"> <li>Depression; pessimism; hopelessness; suicidal ideation</li> <li>Irritability; mood swings</li> <li>Over-emotional; appearing overwhelmed</li> <li>Blunted affect</li> </ul>

Table 2 Steps for intervening if physician addiction is suspected	
1.	Contact the state PHP; take advantage of your access to this important resource
2.	Recruit others to assist you; avoid confronting the physician alone
3.	Express positive regard for the physician's abilities; demonstrate your respect for the individual
4.	Describe specific, observable problem behaviors of concern; consider using a script to assist with this step
5.	Avoid accusation or blame; be kind and empathic
6.	Avoid negotiating, arguing, or bargaining; do not engage the individual in attempts to avoid the intervention
7.	Present a specific plan of action for assessment and treatment; consider working with the state PHP to develop a plan first
8.	Indicate clearly the consequences of not following through with the plan; do not be afraid to use coercion—it works!
9.	Insist on immediate action; do not consider requests for “one more chance”
10.	Provide for safe transition and transportation to the next step in the plan; typically, assist the physician in attending a professional assessment

PHP: Physician Health Program.

advisable to attempt treatment for a physician with an addiction within his own medical community. Transference issues, concerns about limits of confidentiality, and personal bias can interfere with disclosure and limit-setting or can create professional conflicts.<sup>28,29</sup>

### Case Vignette

Dr X is a 45-year-old anesthesiologist with no family history of addiction. He denied smoking, but endorsed occasional drinking (typically fine wines) as well as experimentation with marijuana during college. An honors student throughout high school and college, Dr X went on to medical school and was selected for a very competitive anesthesiology residency program. During residency, he was routinely evaluated as one of the top trainees and went on to join a major anesthesiology group. Ten years into practice, he first self-administered sufentanil intranasally. Within 3 days, Dr X had progressed to self-injecting up to 30 mL of sufentanil per day. As a result, he would awaken with symptoms of withdrawal at 3 am every day. After injecting, he would go to work. After more than 6 months of daily use, he overdosed in the hospital. He was stabilized and admitted to a center specializing in the treatment of chemically dependent professionals. After 3 months of inpatient treatment, Dr X was discharged; he continued to be monitored by a state PHP under a 5-year contract. The contract included agreement to frequent random urine testing (results of all tests were negative) and participation in outpatient support groups. Dr X has been in recovery for more than 5 years and is currently practicing addiction medicine.

Our PHP program and many like it are led by recovering physicians certified in addiction psychiatry or addiction medicine. For treatment to be most successful, the initial evaluation should focus on assessing drug and alcohol abuse, as well as getting the physician into a facility that can evaluate him over time and throughout detoxification and early recovery. Although suicidal ideation and suicide planning should be assessed, the initial psychiatric evaluation is often complicated by drug intoxication or withdrawal effects, shame, and guilt. Subsequent evaluations should include postdetoxification assessment for comorbid psychiatric conditions.<sup>30</sup> The prevalence rate of comorbidity is estimated to be 25% to 75% among physicians with addictions,<sup>31,32</sup> and comorbidity may affect treatment planning and prognosis.

Following the assessment, the addiction specialist/team makes recommendations regarding the setting and conditions of treatment. Since physicians with a substance use disorder are not typical of addicts in general, it is not useful to apply standard professional guidelines (eg, the American Society of Addiction Medicine dimensional assessment guidelines<sup>33</sup>). Rather, because of the public health consequences of relapse, most physicians who are addicted are treated more aggressively and for longer periods than are nonphysicians. Ideal evaluation and treatment most often occur in a specialized program for professionals. For some, detoxification is needed, but it is not sufficient for treatment and recovery.

Physicians will lobby for a level of care that minimizes the disruption of their daily life. However, it is generally not advisable to grant the physician's request for treatment in the least restrictive environment, but rather to maximize the treatment dose and duration to improve effectiveness and reduce the likelihood of relapse and further damage to health, family, and the ability to practice. Depending on the response to treatment, physicians typically undergo 3 to 6 months of intensive treatment in a structured program and 5 years of urine testing with controlled, contingency-managed outpatient follow-up.

While in treatment, physicians participate in a number of therapeutic activities designed to help them understand and accept their addiction, implement and maintain sobriety, repair relationships, prevent relapse, and facilitate their return to productivity. Sobriety, while essential, is not in any way synonymous with recovery. Typically, attendance at educational lectures is complemented by participation in both individual and group cognitive-behavioral therapy sessions. Group dynamics can be

a powerful component of treatment by providing the physician with additional opportunities to confront denial and learn from the experiences of others.

In addition, it is beneficial for physicians to participate in a regular “professionals” meeting, which is moderated by an addiction specialist and is attended by professionals living in the community who have successfully completed treatment and are in recovery. This experience provides those in treatment with encouragement and hope as well as role models who can be mentors in the recovery process. Family programs and family therapy are typically considered essential to treatment as well.<sup>35</sup> In fact, psychological treatment may also be recommended for the children of physicians with addiction.<sup>36</sup>

Introduction to a 12-step recovery program such as Alcoholics Anonymous or Narcotics Anonymous is important to the maintenance of sobriety in the future, and it helps the recovering physician to develop a support network. Research has repeatedly demonstrated the effectiveness of this approach.<sup>36-38</sup> However, it should be noted that referral to Alcoholics Anonymous is less effective than intensive treatment, even if participation in the intensive program is forced.<sup>39</sup> As a result, participation in a 12-step program should be viewed as part of a more comprehensive treatment plan.

In order to successfully return to practice after the intensive treatment program, it is imperative that the physician undergo a full performance-based assessment of his competency to complete job-related tasks in his specialty. The evaluators should feel confident that the physician has the ability to practice with “reasonable skill and safety” before the physician is allowed to return to work. In addition, the physician and treatment providers should collaborate with their state’s PHP to develop a contract specifying the conditions for retaining his medical license. Research has demonstrated that the medical license may be useful as a bargaining chip in helping the physician to maintain sobriety.<sup>40</sup> **Table 3** lists several key components that should be included in a PHP “return-to-work” contract.

Table 3	Typical components of a return-to-work contract
1. Sobriety: avoidance of all mood-altering drugs	• Includes over-the-counter drugs that can cause stimulation/irritation
2. Random drug testing: weekly urine screens; may decrease in frequency over time	• Physician calls “800 number” each day to determine testing status
	• Typically screens for the physician’s most frequent drugs of abuse using specially designed panels
	• Hair testing may also be used
	• Positive tests reviewed by medical review officer and immediate evaluation
3. Participation in weekly monitored group sessions: allows for direct behavioral observation	• Meetings facilitated by addiction counselor and attended by other physicians under contract
	• Attendance is rarely excused
	• Unexcused absence is considered a serious violation and may result in on-the-spot drug testing and re-evaluation
4. Alcoholics Anonymous or Narcotics Anonymous attendance: required or strongly encouraged	
5. Attendance at weekly professional group encouraged	• Typically refers to Caduceus group or International Doctors in Alcoholics Anonymous
6. Practice monitoring: usually if ordered by the Board of Medicine	
	• Might include prescription monitoring for controlled substances
7. Professional follow-up with an addiction specialist	
8. Psychotherapy: individual or family therapy, as indicated	
9. Psychiatric follow-up: for medication management or therapy, as indicated	

Most physician treatment programs use time in treatment, residential care, contingency management, Caduceus meetings, urine testing, cognitive-behavioral therapy, life skills, and stress management; however, they generally do not use medications. Medications can be helpful and added to contracts in cases of recidivism. We have used acamprosate, naltrexone, and buprenorphine in some physicians to facilitate treatment. However, while naltrexone may prevent relapse in opioid-dependent physicians, it does not replace learning how and why to say no.<sup>41</sup> Methadone treatment is not generally recommended by PHPs for physicians who have an addiction disorder.<sup>42</sup>

Finally, with the addition of 5 years of treatment and urine testing, most addiction-treatment programs for physicians report 5-year sobriety, return to work, and return to function of greater than 70%, even for physicians who are addicted to crack cocaine or opioids.<sup>43</sup> Outcomes are defined over a 5-year period and confirmed by random drug screening. A program without random drug testing may not even exist in the United States. We see testing as an essential component of continued treatment for the recovering physician<sup>44</sup> and the earliest warning sign that the physician is in need of more or different treatment.

Urine testing, coordinated by treatment contract with contingency management, is supervised by the PHP. In many states, the physician calls an 800 number daily and is randomized to urine test or no test but given at least 1 urine test weekly. This behavioral intervention is a powerful tool in keeping the

disease and the consequences of use in the present.<sup>45</sup> Research has shown that 96% of physicians who undergo urine testing remain drug-free, while only 64% of those who are not subject to testing maintain their sobriety.<sup>46</sup> Drug screening should include personalized testing for the drugs most commonly used by the physician. In addition, blood tests or hair testing may prove beneficial.

## Conclusion

Fortunately, with appropriate treatment and adequate monitoring, the prognosis for physicians recovering from addiction is quite good. Sustained recovery may be negatively affected in physicians with comorbid psychiatric disorders, and prognosis is worse for those who have a family history of addiction, abuse opioids, or use multiple drugs.<sup>2,47,48</sup> Environmental exposure to potent opioids may be a factor in determining relapse.<sup>15-17,49</sup> Additional factors that contribute to relapse include inadequate coping skills, interpersonal skill deficits, family dysfunction, continued denial regarding the nature and severity of addiction, overconfidence, and shame and/or guilt.<sup>36,50</sup>

Research repeatedly has shown that physicians generally fare much better than the general public following addiction treatment.<sup>51-54</sup> Although accommodations may be needed (eg, decreasing hours or eliminating night shifts),<sup>51</sup> approximately 75% to 85% are able to return to work,<sup>36,55</sup> do not use drugs, and lead a productive life.<sup>56</sup> As a result, it has been suggested that this PHP treatment approach (including drug screening<sup>57</sup>) should be implemented as the standard of care for all individuals with suspected addiction, not just physicians.

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## References

1. Torre DM, Wang NY, Meoni LA, et al. Suicide compared to other causes of mortality in physicians. *Suicide Life Threat Behav.* 2005;35:146-153.
2. O'Connor PG, Spickard A Jr. Physician impairment by substance abuse. *Med Clin North Am.* 1997;81:1037-1052.
3. Hughes PH, Brandenburg N, Baldwin DC Jr, et al. Prevalence of substance use among US Physicians. *JAMA.* 1992;267:2333-2339.
4. Talbott GD, Wright C. Chemical dependency in health care professionals. *Occup Med.* 1987;2:581-591.
5. Morse RM, Flavin DK. The definition of alcoholism. The Joint Committee of the National Council on Alcoholism and Drug Dependence and the American Society of Addiction Medicine to Study the Definition and Criteria for the Diagnosis of Alcoholism. *JAMA.* 1992;268:1012-1014.
6. SAMHSA. Results from the 2005 National Survey on Drug Use and Health: national findings. Rockville, MD: Office of Applied Studies NSDUH Series H-30 2006; US Dept of Health and Human Services; 2006. DHHS publication SMA 06-4194.
7. Nelson DE, Giovino GA, Emont SL, et al. Trends in cigarette smoking among US physicians and nurses. *JAMA.* 1994;271:1273-1275.
8. Kenna GA, Wood MD. Alcohol use by healthcare professionals. *Drug Alcohol Depend.* 2004;75:107-116.
9. Hughes PH, Storr C, Baldwin DC Jr, et al. Patterns of substance use in the medical profession. *Md Med J.* 1992;41:311-314.
10. Luck S, Hedrick J. The alarming trend of substance abuse in anesthesia providers. *J Perianesth*

*Nurs.* 2004;19:308-311.

11. Merlo LJ, Gold MS. Prescription opioid abuse and dependence among physicians: hypotheses and treatment. *Harv Rev Psychiatry.* 2008;16:181-194.
12. Kleber HD. The impaired physician: changes from the traditional view. *J Subst Abuse Treat.* 1984;1:137-140.
13. Koob GF, Le Moal M. Plasticity of reward neurocircuitry and the dark side of drug addiction. *Nat Neurosci.* 2005;8:1442-1444.
14. Le Moal M, Koob GF. Drug addiction: pathways to the disease and pathophysiological perspectives. *Euro Neuropsychopharm.* 2007;17:377-393.
15. Gold MS, Byars JA, Frost-Pineda K. Occupational exposure and addictions for physicians: case studies and theoretical implications. *Psych Clin North Am.* 2004;27:745-753.
16. Gold MS, et al. Fentanyl is present in the air and operating room surfaces. *J Addict Dis.* 2006;25:141-144.
17. 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;66:874-882.
18. Emshoff JG, Price AW. Prevention and intervention strategies with children of alcoholics. *Pediatrics.* 1999; 103:1112-1121.
19. Roy A. Suicide in doctors. *Psychiatr Clin North Am.* 1985;8:377-387.
20. Graham C. Poland wrestles with the problem of drunken doctors. *Lancet.* 2006;368:190-191.
21. Taub S, Morin K, Goldrich MS, et al. Physician health and wellness. *Occup Med (Lond).* 2006;56:77-82.
22. Pomm RM, Harmon L. Evaluation and posttreatment monitoring of the impaired physician. *Psychiatr Ann.* 2004;34:786-789.
23. Council on Ethical and Judicial Affairs of the American Medical Association. *Reporting Impaired, Incompetent, or Unethical Colleagues, in Reports of the Council on Ethical and Judicial Affairs.* Chicago: American Medical Association; January 1992.
24. Angres D, Busch K. The Chemically-dependent physician: clinical and legal considerations. In: Miller RD, ed. *Legal Implications of Hospital Policies and Procedures.* San Francisco: Jossey-Bass; 1989:21-32.
25. Breiner SJ. The impaired physician. *J Med Educ.* 1979;54:673.
26. Vaillant GE, Clark W, Cyrus C, et al. Prospective study of alcohol treatment. Eight year follow-up. *Am J Med.* 1983;75:455-463.
27. Farber NJ, Gilibert SG, Aboff BM, et al. Physicians willingness to report impaired colleagues. *Soc Sci Med.* 2005;61:1772-1775.
28. Skipper GE. Treating the chemically dependent health professional. *J Addict Dis.* 1997;16:67-73.
29. Roback HB, Moore RF, Waterhouse GJ, Martin PR. Confidentiality dilemmas in group psychotherapy with substance-dependent physicians. *Am J Psychiatry.* 1996;153:1250-1260.
30. McGovern MP, Angres DH, Leon S. Differential therapeutics and the impaired physician: patient-treatment matching by specificity and intensity. *J Addict Dis.* 1998;17:93-107.
31. Angres DH, McGovern MP, Shaw MF, Rawal P. Psychiatric comorbidity and physicians with substance use disorders: a comparison between the 1980s and 1990s. *J Addict Dis.* 2003;22:79-87.
32. Wijesinghe CP, Dunne F. Substance use and other psychiatric disorders in impaired practitioners. *Psychiatr Q.* 2001;72:181-189.
33. American Society of Addiction Medicine. *Patient Placement Criteria.* Chevy Chase, MD: American Society of Addiction Medicine; 2000.
34. Enders LE, Mercier JM. Treating chemical dependency: the need for including the family. *Int J Addict.* 1993;28:507-519.
35. Eells MA. Interventions with alcoholics and their families. *Nurs Clin North Am.* 1986;21:493-504.
36. Gallegos KV, Lubin BH, Bowers C, et al. Relapse and recovery: five to ten year follow-up study of chemically dependent physicians—the Georgia experience. *Md Med J.* 1992;41:315-319.

37. Galanter M, Talbott D, Gallegos K, Rubenstone E. Combined Alcoholics Anonymous and professional care for addicted physicians. *Am J Psychiatry*. 1990;147:64-68.
38. Moos RH, Moos BS. Paths of entry into Alcoholics Anonymous: consequences for participation and remission. *Alcohol Clin Exp Res*. 2005;29:1858-1868.
39. Walsh DC, Hingson RW, Merrigan DM, et al. A randomized trial of treatment options for alcohol-abusing workers. *N Engl J Med*. 1991;325:775-782.
40. Crowley TJ. Doctors drug abuse reduced during contingency-contracting treatment. *Alcohol Drug Res*. 1985-1986;6:299-307.
41. Washton AM, Gold MS, Pottash AC. Naltrexone in addicted physicians and business executives. *NIDA Res Monogr*. 1984;55:185-190.
42. Vinson S, Graham NA, Gold MS. Socioeconomic inequities often translate into health inequalities. *J Natl Med Assoc*. 2006;98:816-817.
43. Gold MS, Pomm R, Frost-Pineda K. Urine testing confirmed, 5-year outcomes of impaired physicians. World Psychiatric Association; November 2004; Florence, Italy.
44. Gold MS, Frost-Pineda K. Problem doctors: is there a system level solution? *Ann Intern Med*. 2006;144:861-862.
45. Jacobs WS, Repetto M, Vinson S, et al. Random urine testing as an intervention for drug addiction. *Psychiatr Ann*. 2004;34:781-784.
46. Shore JH. The Oregon experience with impaired physicians on probation. An eight year follow-up. *JAMA*. 1987;257:2931-2934.
47. Domino KB, Hornbein TF, Polissar NL, et al. Risk factors for relapse in health care professionals with substance use disorders. *JAMA*. 2005;293:1453-1460.
48. Gossop M, Stephens S, Stewart D, et al. Health care professionals referred for treatment of alcohol and drug problems. *Alcohol Alcohol*. 2001;36:160-164.
49. Gold MS, Frost-Pineda K, Melker RJ. Physician suicide and drug abuse. *Am J Psychiatry*. 2005;162:1390.
50. Talbott GD, Martin CA. Relapse and recovery: special issues for chemically dependent physicians. *J Med Assoc Ga*. 1984;73:763-769.
51. Gallegos KV, Keppler JP, Wilson PO. Returning to work after rehabilitation: aftercare, follow-up, and workplace reliability. *Occup Med*. 1989;4:357-371.
52. Morse RM, Martin MA, Swenson WM, Niven RG. Prognosis of physicians treated for alcoholism and drug dependence. *JAMA*. 1984;251:743-746.
53. Femino J, Nirenberg TD. Treatment outcome studies on physician impairment: a review of the literature. *R I Med*. 1994;77:345-350.
54. Herrington RE, Benzer DG, Jacobson GR, Hawkins MK. Treating substance-use disorders among physicians. *JAMA*. 1982;247:2253-2257.
55. Alpern F, Correnti CE, Dolan TE, et al. A survey of recovering Maryland physicians. *Md Med J*. 1992;41:301-303.
56. Boisubain EV, Levine RE. Identifying and assisting the impaired physician. *Am J Med Sci*. 2001;322:31-36.
57. Gold MS, Frost-Pineda K, Goldberger BA, DuPont RL. Physicians and drug screening. *J Adolesc Health*. 2006;39:154-155.

### **Evidence-Based References**

- DuPont RL, McLellan AT, White WL, et al. Setting the standard for recovery: Physicians Health Programs. *J Subst Abuse Treat*. 2009;36:159-171.
- Gallegos KV, Lubin BH, Bowers C, et al. Relapse and recovery: five to ten year follow-up study of chemically dependent physicians the Georgia experience. *Md Med J*. 1992;41:315-319.
- White WL, DuPont RL, Skipper GE. Physicians health programs: what counselors can learn from these remarkable programs. *Counselor: Mag Addict Prof*. 2007; 8:42-47.