Model Curriculum on Drug Abuse and Addiction for Residents in Anesthesiology

American Society of Anesthesiologists

Committee on Occupational Health
Chair, Arnold J. Berry, M.D., M.P.H.

Task Force on Chemical Dependence

Chair, William P. Arnold III, M.D.
Terrence D. Bogard, M.D.
Ronald L. Harter, M.D.
Philip R. Hanlon, M.D.
Jonathan D. Katz, M.D.
Stephen H. Jackson, M.D.
James J. Jacque, M.D.
John H. Lecky, M.D.
Terrence T. McGraw, M.D.
Susan L. Polk, M.D.
Joan M. Ruffle, M.D.
Howard A. Trachtenberg, M.D.
Clarence F. Ward, M.D.

This document has been developed by the American Society of Anesthesiologists (ASA) Committee on Occupational Health and its Task Force on Chemical Dependence but has not been reviewed or approved as a practice parameter or policy statement by the ASA House of Delegates. Variances from recommendations contained in this document may be acceptable based on the judgment of the responsible anesthesiologist. The recommendations are designed to encourage quality patient care and safety in the workplace but cannot guarantee a specific outcome. They are subject to revision from time to time as warranted by evolution of technology and practice.

(This document has been modified under the direction of Dr. Susan Polk from the curriculum developed by Jerry Matsumura, M.D. and Leslie Andes, M.D., for the California Society of Anesthesiologists as a curriculum for anesthesia residents. It incorporates comments and suggestions from Drs. William Arnold, Eric Hedberg, Diana McGregor, Jonathan Katz, Samuel Hughes and Stephen Jackson. It is meant to be the basis of an educational program for anesthesia residents and their spouses or significant others.)

Model Curriculum on Drug Abuse and Addiction for Residents in Anesthesiology.

Objectives:

Upon completion of this curriculum, the resident will:

1. Define and explain the following terms: addiction, abuse, chemical dependence, impairment, recovery, relapse, treatment and stress
2. Delineate the scope of physician impairment, including the incidence in anesthesiologists, the risks to the physician, patients and the institution and factors contributing to anesthesiologists being over-represented in treatment programs
3. Explain why addiction is a disease
4. Recognize signs and symptoms of addiction in anesthesiologists as they develop in the community, personal life and in the workplace
5. Plan and explain the process of intervention as it might relate to an addicted colleague
6. Outline the process and goals of treatment for an addicted anesthesiologist

7. Debate the issue of return to the specialty for a recovering anesthesiologist
8. Outline the requirements for a successful re-entry
9. Discuss the incidence, signs and implications of relapse in the recovering anesthesiologist
10. Explain methods for prevention of illicit drug use in the workplace
11. Identify and discuss common sources of stress for anesthesia residents and healthy coping mechanisms for each

Educational materials to be included:

1. Janssen : "Unmasking Addiction: Chemical Dependency in Anesthesiology"
2. Association of Anesthesiology Program Directors: "Wearing Masks"
3. Anesthesia Patient Safety Foundation: Patient Safety and Risk Management (No TR:099)

OUTLINE FOR LECTURE-DISCUSSIONS

I. Definitions:

A. Abuse --use of a psychoactive substance in a manner detrimental to the individual or society but not meeting criteria for dependence

B. Addiction --a primary, chronic medical DISEASE; manifested by compulsive use of an addictive drug, loss of control and irrepressible craving of the drug*

1. Etiology --multifactorial with contributions from the following factors
   - genetic
   - psychosocial
   - environmental
   - biological

2. Progressive and fatal if untreated

3. Characterized by:
   - impaired control over drug use, including alcohol
   - compulsion or craving
   - continued use in spite of adverse consequences
   - distortions of thinking, most notably DENIAL

C. Chemical dependency - a generic term relating to psychological or physical dependency or both on an exogenous substance

D. Dependence - one category of psychoactive substance use disorder
   - physical dependence
     - physiological state of adaptation to a specific psychoactive substance
     - characterized by the emergence of a withdrawal syndrome during abstinence
   - psychological dependence
     - subjective sense of need for a specific psychoactive substance
     - either for its positive effects or to avoid negative effects associated with its abstinence

E. Physician impairment
   - physician unable to fulfill professional duties in an acceptable manner
   - etiologies:
     - physical infirmity (including illness or injury)
     - mental illness
     - aging
     - psychosocial disorders
     - chemical use/abuse/dependence

F. Recovery
   - a lifelong process of overcoming both physical and psychological dependence on a psychoactive substance
   - goal: new lifestyle allowing for emotional and spiritual growth in sobriety

G. Relapse
   - recurrence of psychoactive substance-dependent behavior in an individual who has previously achieved and maintained abstinence for a significant period of time beyond withdrawal

H. Treatment

- application of planned procedures to identify and change patterns of behavior that are maladaptive, destructive and/or injurious to health
- goal: to restore appropriate levels of physical, psychological and/or social functioning

I. Stress

- occurs when one perceives that the demands or constraints of the situation are greater than the resources he or she has available
- physical, chemical or emotional factor that causes bodily or mental tension
- nonspecific adaptive response to any change, demand, pressure, challenge, threat or trauma
- may be a factor in disease expression when etiologic factors are present

II. Scope of the problem of chemical dependency (There is a reasonable chance that you will encounter a colleague with some type of impairment during your career.)

A. Incidence and substances used

- occupational hazard of being a physician, especially for anesthesiologists
- anesthesiologists are over-represented in addiction treatment programs at a rate about three times higher (12-15 percent of physicians in treatment programs) than would be expected based on percentage of U.S. anesthesiologists (4 percent)[1]
- apparent incidence in 1994-95 anesthesia residents was 0.40 percent with faculty incidence 0.10 percent (This represents a decline in incidence since the beginning of the study in 1986. [2])
- opioids are the drug of choice for anesthesiologists, but they may use any other drug known
- fentanyl and sufentanil most commonly used by anesthesiologists, then
- meperidine, morphine
- alcohol (mostly in older anesthesiologists; it takes a long time to produce apparent impairment)
- midazolam
- cocaine
- oral benzodiazepines
- propofol
- inhalation agents, especially sevoflurane

.

Bolus Doses	Common	Uncommon but reported
• fentanyl:	1-10 ml	50ml or more
• sufentanil:	2-3 ml	7ml or more
• meperidine	100-200 mg	1 gm or more

- routes -- every possible route of administration has been tried, most commonly used are:
- I.V. (Hidden veins are often used: feet, groin, thigh, penis)
- I.M.
- oral nasal
- rectal
- sublingual
- poly-drug abuse is common

-- Methods of obtaining abused drugs for anesthesiologists

- false recording on anesthesia record
- giving "breaks" and substituting syringes
- keeping wastage
- switching syringes during own cases
- "breakage" of ampules
- accessing ampules and resealing with other substance inside
- poor accountability

-- Time until detection

- fentanyl, 6-12 months

- sufentanil, 1-6 months
- other injected drugs, >1 year
- alcohol, >20 years usually

B. Risks to Physician

-- loss of life or health status

- high rate of mortality for anesthesia providers with addictive disease; compared to internists, anesthesiologists are at an increased risk of death from suicide by drug overdose (RR=2.21) and drug-related death (RR=2.79)[3]
- relapse rate is about 19 percent per year for anesthesiologists with a history of narcotic addiction (in the cohort evaluated) who have returned to practice[2]
- death may be the presenting symptom for relapse[4]

- loss of license, professional standing, position, career, marketability
- loss of family
- loss of self-esteem
- loss of ability to get health/disability insurance

C. Risks to Patient

- work is usually the last affected by addictive disease
- impaired physicians (untreated psychiatric or actively using) are at increased risk for malpractice claims. The risk normalizes after treatment and in recovery[5]
- Oklahoma State Medical Association showed dramatic reductions in volume and dollar value of claims filed after treatment
- California Diversion Program graduates had 4 percent rate of overall patient complaints versus 7 percent for all other licensed physicians [6]
- many addicted anesthesiologists have admitted they were either under the influence or in withdrawal while working

.

D. Potential liability risks to hospital staff or administration

- Many state laws require every hospital medical staff to have a committee that advocates for physician health and well-being. Members of the committee are protected from lawsuit if they are acting in good faith and in the best interest of the afflicted physician
- The Medical Staff Executive Committee (MSEC) has a more disciplinary or protective function, i.e., to protect the medical staff and patients. The Physician Assistance Committee may provide recommendations to the Medical Staff Executive Committee

III. Factors that may explain why anesthesiologists have been over-represented in treatment programs

- high addictive potential of fentanyl/sufentanil
- more rapid identification of substance use since consequences are more obvious
- diversion of sufentanil/fentanyl for illicit use is relatively easy since small doses initially provide an effect desired by the abuser
- access to drugs
- accustomed to giving large doses of mood-altering parenteral substances with immediate results
- specialty looks for addiction within itself; much more awareness in anesthesiology
- lack of "needle taboo"
- control-oriented: problems may develop when the environment does not conform to expectations
- curiosity about what drugs feel like for the patient. "Don't even try it once!"

IV. Physicians' risk for addictive disease equals that of the general population

- addiction is a disease and doctors are human beings
- genetic predisposition, polygenic and multifactorial
- family history of abuse or dysfunctional family interactions may contribute
- training can be extremely arduous and may cause alienation from support systems
- personal identity suppressed by identity as professional during training
- dehumanization and depersonalization of training diminish psychological resilience
- denial, inadequate education and lack of awareness and interest unless there is a crisis
- lack of fulfillment of career, lack of respect from colleagues, patients, health care management
- denial of emotions and inability to talk about feelings
- self medication to take away psychological or physical pain

- "pharmacological optimism"; physicians are comfortable using medications to change feeling or mood
- sense of uniqueness and invulnerability
- need to find a way to sleep
- excessive fatigue (contributes to stimulant use)

return to top

V. Why they use

- initially for different reasons: curiosity, fun, sleep, self-medication
- in the late stages, all addicted persons use drugs just to stay even and avoid the pain of withdrawal; they think they need to use or they will die

VI. Characteristics of addicted anesthesiologists [2]

- 50 percent <35 years old (bimodal distribution)
- Residents are over-represented. Often they are the last individuals in your department you would expect. A high proportion are members of Alpha Omega Alpha
- 67-88 percent are male
- 75-96 percent are White
- 76-90 percent opioids were drug of choice
- 33-50 percent polydrug users
- 33 percent with family history of addictive disease
- 65 percent were associated with academic departments (greater vigilance and younger age)[7]

VII. Addiction: A disease

- The only way to treat addicted colleagues is to recognize that they have an illness
- They are not immoral, evil, crazy, stupid or weak-willed.
- This allows for a diagnosis, evaluation and development of a therapeutic plan and re-entry into society.
- Brain reward regions involving the control of motivated behavior have been identified. All the highly addictive drugs mimic or enhance the actions of specific neurotransmitters (GABA, serotonin). Dopamine serves as a final common pathway in transmission from the forebrain (nucleus accumbens and ventral tegmental area) to end in the limbic and cortical regions[8]

VIII. Signs and symptoms of addictive disease

- The only pathognomic sign is witnessed self-administration of drugs. There is NO explanation for that activity other than one requiring treatment
- Denial is universal to friends, colleagues, family and faculty
- Symptoms appear first in the community, then the family and finally at work. Addicted physicians feel that as long as they can do their job, they do not have a problem.

A. Symptoms of opioid addiction in the hospital (anesthesiologists)

1. unusual changes in behavior -- wide mood swings, periods of depression, anger and irritability alternating with periods of euphoria

2. sign-out increasing quantities of narcotics and frequent breakage of narcotic vials

3. inappropriately high doses for procedure being performed

4. increasingly sloppy and unreadable charting

5. desire to work alone

6. refuse lunch relief or breaks

7. frequently relieve others

8. volunteer for extra cases (especially cardiac, where narcotics are being used in large quantities)

9. volunteer for extra call, come in early and leave late

10. at the hospital when off duty to stay near supply

11. frequent bathroom breaks

12. difficult to find between cases, often napping after using or unexplained absences

13. desire to administer narcotics personally in postanesthesia care unit

14. patients' pain out of proportion to narcotic record

15. wear long-sleeved gowns to hide needle marks and stay warm

16. pinpoint pupils

17. signs and symptoms of withdrawal, especially diaphoresis, tremors, mydriasis, rhinorrhea, myalgias, nausea and vomiting

18. weight loss and pale skin

19. undetected addicts found comatose

20. untreated addicts are found dead

21. quality of care issues -- malpractice, behind on charts

B. Signs found outside the hospital (all physicians)

1. unusual changes in behavior (wide mood swings with depression, anger and irritability, alternating with euphoria)

2. loneliness and isolation; addicts quickly withdraw from family, friends and leisure activity

3. Denial is the primary symptom of addiction. When confronted by a spouse, the addict may become defensive and vehemently reject accusations. They usually are very successful at being manipulative when confronted one-on-one.

4. increase in domestic strife, fights and arguments

5. Those addicted to hospital drugs spend increasing amount of time at hospital. Alcoholics exhibit frequent absenteeism

6. unexplained overspending, extramarital affairs, legal or work problems (especially DUI)

7. decreased sexual drive

8. pills, syringes and alcohol bottles found around the house

9. bloody swabs or tissues

10. locking self in bathroom

11. frequent smell of alcohol on breath (Alcohol alleviates withdrawal symptoms in narcotic addiction as well as most other anesthetic drugs)

12. pinpoint pupils

13. withdrawal signs and symptoms (especially sweating and tremors)

14. deterioration in personal appearance and physical health, especially weight loss

15. frequent accidents

16. numerous health complaints, with tendency for self-medication

17. Undetected addicts are found comatose or dead.

C. Disease progresses rapidly for fentanyl and sufentanil users, slower for other drugs and alcohol.

D. Signs noted do not necessarily mean they are addicts. Do not confront the suspected addict on your own


return to top

IX. What to do

A. Preparation: A little preparation goes a long way

- awareness through education and experience
- accepting this as a disease is the key to treating it properly
- have policies and procedures, contacts and referrals determined in advance, allowing one to think about it medically rather than emotionally in a crisis
- Earlier experience suggests that inconsistent or poorly thought out intervention, management and treatment

hinders short-term care and compromises long-term prognosis[9]

B. Educate the members of your department

- observation
- quality assurance

  - anesthesia record and narcotic utilization review

  - random testing of narcotic waste syringes

  - urine testing for cause

- Educating your staff about identifying chemical dependence is difficult; the early signs are subtle and diagnosis is not always obvious
- need a level of suspicion and be willing to believe it could be happening

C. When symptoms are identified

- MAINTAIN CONFIDENTIALITY
- information gathering (not an investigation)
- document facts and behavior
- confirm identified signs; do not rely on or convey rumor
- have compelling evidence sufficient to report to disciplinary authority if the individual refuses treatment
- corroboration with urine/blood testing

  .

D. Convene your well-being (physician assistance) committee

- very helpful to have an anesthesiologist on the committee before a crisis occurs
- consult a local addictionologist with experience treating/referring physicians
- Before you need it, you should have the telephone number and contact person of at least one pre-selected addiction treatment program with experience in treating anesthesiologists.

  .

E) Intervention -- With concern, compassion and firmness (no hidden agendas)

- this is a life-changing event for both the intervening physicians and the patient. It must be done with preparation and extreme care

- DO NOT make the diagnosis yourself. You are REFERRING THEM FOR A MEDICAL EVALUATION, not punishment for a crime

- transportation, escort and intake must be ready before the intervention!

- GOAL: To get them a multidisciplinary medical evaluation by a team of experts at an experienced inpatient or residential treatment program (usually necessary for anesthesiologists and always a good idea for any physician)

- DO NOT INTERVENE ONE-ON-ONE! Utilize your hospital committee or call the state medical society for assistance. You may include the family if they are not in denial

- every state medical society has professional assistance available to help with intervention and treatment options

- must be done as soon as you have firm evidence that drugs are being diverted

- advocacy oriented, no confrontation

- present evidence. You do not need proof to a level of "beyond a reasonable doubt"; the evidence only needs to be clear and convincing to the committee

- do not allow any deviation from prior decisions

- resort to threat of license discipline, IF necessary. (Diversion of drugs is a federal offense and is also a felony in every state. Diversion of controlled substances results in revocation of medical license. Entering voluntary treatment avoids that punishment)

- newly identified addicted physicians are at a HIGH risk of suicide when confronted. Do NOT leave them alone until they are in a treatment program!

- Expect hostility, threat of lawsuit, denial. USUALLY IT DOES NOT HAPPEN, but be ready with your license hammer

return to top

X. Reporting

- Admission to alcohol or drug addiction treatment is not itself reportable if it can be a medical leave of absence
- It is unlikely that there will be liability for the reporter if action was in good faith
- National Practitioner Data Bank Reporting is mandated if:

  -- adverse actions are taken by medical societies, hospital boards and licensure boards

  -- medical malpractice payments (Health Care Quality Improvement Act, Public Law 990660, 11/86)

  -- exceptions exist for voluntary admission to treatment program

XI. Treatment: Keep in contact with the physician and the treatment team.

A. Goals of treatment

- safe detoxification (alcohol, sedatives and narcotic withdrawal are life-threatening)
- development of a chemical-free lifestyle, incorporating principles of recovery and social and occupational rehabilitation
- Includes exposure and assimilation into the 12-step self-help or other accepted programs

B. There is no cure for addiction. The result of successful treatment is called RECOVERY -- a lifelong process that depends on a commitment to the following principles:

- acceptance by addicts of their lack of ability to control drug use
- practice of continued abstinence through constant vigilance and group support
- willingness to accept help and direction from other recovering persons.

C. The goal of recovery is the ability to lead a comfortable and responsible life without the use of drugs. Recovery is a positive, life-enhancing process and NOT white-knuckle sobriety, otherwise relapse is almost certain

D. Effective treatment programs are multidisciplinary

- addictionologist
- chemical dependence counselors
- family therapist -- involvement of the family is crucial to long-term recovery
- psychiatrists -- about one-third of patients have comorbid conditions requiring psychiatric care
- psychologists
- primary care physicians
- clergy
- social workers
- nutritionists

E. Most effective treatment

- requires a thorough understanding of the disease
- provides long-term care and follow-up
- regular participation in recovery groups
- 60-94 percent recovery for physicians

return to top

XII. Re-entry: A VERY CONTROVERSIAL TOPIC.

The general rule is that reentry into anesthesiology is decided on a case-by-case basis. It is suggested that the recommendations of a qualified, experienced treatment program for physicians be followed. Some programs almost never counsel re-entry into anesthesiology, especially for residents.

Re-entry classification developed by the Talbott Recovery Program is followed by many state programs (i.e., Georgia, California, Oregon, Arizona, Nevada, Illinois)[10]

Category I Certain return to anesthesiology immediately after treatment

- tremendous love for or career investment in anesthesiology
- accepts and understands the disease

- exhibits bonding with Alcoholics Anonymous (AA) or Narcotics Anonymous (NA)
- healthy and strong family support
- commitment to recovery contract (five years)
- balanced lifestyle
- no evidence of dual diagnosis
- treatment team/representative supports return to anesthesiology

* Department of Anesthesiology and hospital are supportive of return and will create accommodations for the returning anesthesiologist. Many departments will not allow a new resident to return, but will counsel them to a new specialty. Most departments will not hire a new resident with a history of substance abuse

.Category II Possible return to anesthesiology (need to take one to two years off, then decide)

- relapsed with recovery underway
- dysfunctional but improving family
- involved, but not bonded with AA/NA
- healthy attraction to anesthesiology
- improving recovery skills
- some denial remains
- mood swings without other psychiatric diagnosis

Category III: Redirected into another specialty

- prolonged intravenous use
- prior treatment failure and relapses
- disease clearly remains active
- the patient went into anesthesia to get the drugs
- dysfunctional family
- noncompliant with recovery contract
- poor recovery skills
- no bonding with AA/NA
- obvious and severe psychiatric diagnosis

A. Successful reentry requires the following:

- Recovering physician must have completed an effective, structured treatment program that includes involvement of family or significant others.
- well motivated, honest, minimal denial with a good recovery program
- returning to a supportive environment for self-esteem and career
- re-entry agreement implemented before starting work
- re-entry agreement: Continuing Care Contract would have a minimum of:

  -- three-year to five-year monitoring period

  -- include recovering addict, medical staff committee, state society/diversion

  Program/treatment center

  -- supervised administration of naltrexone three times a week for at least six months

  -- abstain from all mood-altering substances

  -- attend a minimum of four self-help (AA/NA) group meetings per week

  -- random, monitored urine drug screens

  -- weekly aftercare or outpatient treatment for a few months

  -- select primary care physician who prescribes all medications

  -- condition monitor with face-to-face regular interaction
- strongly recommend:

  -- no night/weekend call for three months

  -- not handle narcotics for three months

  -- random testing of returned syringes for drug content

XIII. Relapse

A. Can be LETHAL with I.V. narcotic users. Death may be the identifying symptom (25 percent in Menk's study)[4]

B. Addiction is a chronic, relapsing disease

C. Have a plan to monitor for and deal with relapse

D. Not all relapses are the same, but all should be treated

E. Relapses do not necessarily predict a bad outcome; self-limited, short-term relapse usually responds to intensification of recovery program (as opposed to a complete disappearance)

F. Overall relapse rate appears to be about 14 percent per year for residents and practitioners and about 19 percent per year for those with a history of addiction to opioids [2]

G. California Diversion Program experience with addicted anesthesiologists is unique in that it has accurate five-year follow-up data and report completion of a five-year program rate of 69 percent versus 73 percent for all other specialties. Twenty-six percent of the anesthesiologists who completed the program had a relapse, as opposed to 40 percent of other physicians. Sixty percent of residents completed the program, equal to success rate of other specialties. [11]

H. Medical Society of New Jersey's Physician Health Program compared 32 anesthesiologists to 36 other recovering physicians for an average of 7.5 years over a 12-year period. Relapse rate for anesthesiologists was 40 percent versus 44 percent for controls. Sustained recovery rates for longer than two years were 81 percent for anesthesiologists and 86 percent for other physicians [12]

I. Why are there differences in reported relapse rates? Although the scientific accuracy of some studies have been questioned, other explanations include differences in definitions of relapse, duration of follow-up and treatment given. However, for the most part, addicted anesthesiologists have previously been lumped into one group when in fact there are differences between them (see above classification)

XIV. Enabling and codependency

A. Family, friends and peers may make excuses for the impaired physician and will often covertly enable physician to keep using or to continue practicing while the disease progresses for the following reasons:

- lack of understanding of the disease
- denial
- codependency -- have a secondary gain by having the physician remain ill. Usually they get their sense of self-worth by being necessary help for the physician

B. Do not want to deal with the problem

XV. Reducing the risks

A. Prevention of the disease is not possible without genetic engineering and complete restructuring of family/social dynamics. However, we could probably decrease the incidence, reduce the morbidity and mortality of the disease with earlier identification and take steps toward improvement of physician emotional and physical health

1. AVAILABLE HELP
   - Each department should have at least one designated, educated member to whom all can go for help or information

2. ACCOUNTABILITY
   - satellite pharmacy
   - monitoring narcotic check-out, utilization and waste
   - random testing of syringes

3. EDUCATION
   - medical students and residents: "These drugs are so powerful, you may become addicted with just one use: Do not even try it once!"
   - awareness of the disease
   - Family and significant others should also be educated both to heighten awareness and to provide support

4. STRESS MANAGEMENT

- Dysfunctional coping with stress may contribute to this disease by encouraging self-medication or escape
- Improperly dealing with stress through chemical coping ("pharmacological optimism") may provide the exposure to precipitate addiction in a predisposed individual
- Setting a maximum number of hours or call on re-entry will provide necessary time to work on recovery
- Excessive stress can be counterproductive and is unhealthy for anyone
- "Feelings groups" (informal meetings to discuss job and emotional stresses) are an outlet for feelings. These cost nothing and should be a part of the risk management plan

XVI. Relationship between stress and impairment

A. Examples of stressors for anesthesiologists

- worries about job satisfaction and security
- responsibilities of working in the operating room
- production pressure
- insecurities in teaching students and residents
- fears of litigation
- peer relationships
- administrative decision-making
- sleep deprivation leads to impairment of short-term memory and low mood states. Sixty percent of respondents to a 1988 Anesthesia Patient Safety Foundation Survey admitted to committing an error in anesthetic care due to fatigue [13]
- financial indebtedness
- relationships with spouses, family and friends
- relocation to begin training with subsequent loss of support systems
- unclear organizational priorities, expectations
- discrimination in medicine (sex, race, disabilities)

B. Physiologic and psychological responses to stress [14]

- operating room is a high-stress environment
- stress can contribute to hypertension, coronary artery disease, peptic ulcer disease, colitis, sympathetic-related diseases, headache, muscle tension syndromes, chronic lumbar and cervical spine syndromes, spontaneous abortion, depression of the immune system and premature aging
- inability to remain "connected" emotionally, leading to emotional withdrawal and eventually "burnout" and depersonalization of patients
- behavioral aberrations including substance abuse, accident proneness and impulsive or aggressive actions

I. Three categories of stress with solutions that can be accomplished in the training program

A. Situational: arises from characteristics of the training program

Type	Solutions
Time Constraints, Fatigue	• Careful program planning
	• Mandated time off and protected time
	• Formal instruction about time management
Excessive Workload	• Establish reasonable caseload
	• Graduated complexity of medical problems seen
Burdensome Clerical and Administrative Duties	• Appropriate support staff and facility support
	• Formal instruction about administrative roles
Inadequate Learning Environment	• Nurturing environment
	• Formal instruction to improve staff teaching skills
	• Regular evaluation of staff and residents, feedback
	• Protected study time

B) Personal: evolve from the resident's developmental tasks and may not be shared by others

Type	Solutions
Family	• Social activities and family group meetings
	• Maternity and paternity policies
Financial	• Early formal instruction about financial planning
	• Defined program policy on moonlighting
Isolation	• Orientation, group sessions
	• "Big Sibling" program between resident levels
	• Social activities in and outside program
Psychosocial/Medical Problems	• Established policies for early identification
	• Counseling, schedule changes, leave of absence
Inadequate Coping Skills	• Formal instruction
	• Individual counseling

C) Professional: result from the process of professionalization and the physician's role in society

Type	Solutions
Responsibility for Patient Care	• Orient about expectations at all levels
	• Clarify resident responsibilities
Supervision of Students and More Junior Residents	• Formal instruction on teaching and team leadership
Information Overload	• Formal instruction on critical review of medical literature
	• Journal Club with residents and faculty
Career Planning	• Formal counseling in career opportunities, practice establishment
	• Assistance in preparing curriculum vitae

D. Attributes and abilities of well-adjusted physicians

- demonstration of excellent reasoning, diagnostic and clinical skills and appropriate medical knowledge
- expression of integrity, respect and compassion in the care of patients and their families
- development of attitudes, behavior and interpersonal skills essential in relating to and educating patients
- maintenance of primary responsibility for the patient's health needs
- show maturity and social competence in adapting to career
- maturity includes such attributes as humility, self-control, self-confidence and integrity
- social competence evolves from the physician's ability to communicate and to act appropriately in various circumstances
- development of qualities of patience, stamina and personal energy
- acquiring these attributes takes time and requires help from many resources
- potential role models for residents: program director, advisor, other attending physicians or senior residents
- qualities of stress-hardy people: "The 4-Cs" [15]

  -- commitment

  -- challenge

  -- control

  -- connection
- two kinds of people who have problems with stress: overcontrollers and undercontrollers

E. Healthy ways to deal with stress

1. develop a sense of self-worth aside from being a physician so leisure time is as fulfilling as work

a) stay healthy through exercise and good nutrition

b) learn a new skill or develop an intellectual interest outside of medicine

c) spend time in cultural activities (symphony, movies, museums)

d) develop friendships with people not involved in medicine

e) join clubs

f) do something creative: It may be relaxing as well as lending a voice to feelings that need expression

2. spiritual enhancement -- do some thinking about the purpose of your life on this planet

3. seek the support of others -- friends, significant others, mentors and other role models and therapists

4. conversely, if there are lots of demands on your time, spend some time alone

5. learn to express your feelings -- keep a journal or diary or see a therapist

a) do not put up with abuse you do not deserve; you must respect and accept yourself

b) understand that you cannot please everyone

c) learn to ask for what you need

6. stay flexible and open to change and new experiences

7. maintain your sense of humor

a) do not take things too seriously

b) realize that tomorrow is another day, life goes on, etc.

c) laughter may have some health effects not yet delineated

8. happiness comes from balancing work, fun and rest; remember that you deserve to be happy

a) a feeling of control over one's life can be important in happiness

9. take time off from work. It is estimated that drug abuse, drinking and mental illness resulting from overwork cost the United States $80 billion per year

10. develop a positive outlook -- optimists (defined as those who distort reality to create the illusion that they can achieve positive outcomes) have greater happiness, achievements and health.

11. realize that you may make mistakes

12. learn to say no; do not take on too many things at one time

13. develop better interpersonal skills

a) learn to deal with conflict effectively

b) treat others with respect

c) deal with anger

d) learn to solve problems rather than assign blame

e) maintain perspective

f) listen

g) do not give up

h) use humor

i) focus on the problem at hand, avoid personal criticism

j) avoid passive-aggressive behavior

k) be honest

l) do not hold grudges

m) try to resolve problems

STUDY QUESTIONS

1. A 28-year-old CA-1 resident who previously exhibited a "good work ethic" has become more interested in getting out on time and is noted to have increasing episodes of tardiness and is appearing more disheveled especially on Mondays. The resident has used up his sick days for the year.

What medical illnesses may be contributing to these early "symptoms?"

Differential includes alcoholism, depression, stress, marital/personal problems, chronic fatigue syndrome, excessive moonlighting or any combination of these

How would you approach this resident to gather more information?

Ask if other attendings without an agenda have observed that he comes in late and leaves early as possible.

Speak with the resident -- Is he ill, moonlighting? Are their other problems (legal, DUI, accidents)? If he does not have a reasonable answer, then you must help him find one.

Speak with wife -- Is he moonlighting, is he ill? Has she observed any of the following: alcohol on breath, slurred speech, inappropriate behavior, excessive alcohol consumption in social situations or at home, blood on clothing or in bathroom, needles or syringes?

Evaluation by addiction medicine specialist, psychologist or counselor is indicated if illness or moonlighting do not seem to be the answer.

Liver function test: GGT as a screen, CDT to confirm (Carbohydrate Deficient Transferrin, variant of transferrin, with prolonged ETOH ingestion, the carbohydrate component is not attached to some of the transferrin, 50-60gm of alcohol per day will elevate in 80 percent to 95 percent of men. Lower sensitivity for females, since naturally occurring level of CDT is higher in females in combination with GGT, greater than 95 percent specificity and sensitivity (Anton & Moak. Alcohol Clin Exp Res. *1994; 18:799-812)*

Urine screen

CAGE tests (Ever felt you should CUT down on drinking?, ANNOYED by people criticizing your drinking? Ever felt GUILTY about drinking? Ever need EYE opener? Continued use despite adverse consequences)

2. A 30-year-old chief resident who previously had been a high achiever with respect to test scores, clinical performance and ability to get along with people has become even more interested in being on-call and in the hospital. The resident is taking extra weekend and night call from other residents, getting scheduled for many cardiac cases and has been seen in the hospital extra early and extra late. While not receiving any complaints, your fellow staff attendings have noted that this resident has been less outgoing and refuses breaks, while always offering to give breaks.

Does this behavior raise any particular suspicions?

Symptoms of substance abuse in anesthesiologists:

i) unusual changes in behavior: wide mood swings, periods of depression, anger and irritability alternating with periods of euphoria

ii) signing out increasing quantities of narcotics and frequent breakage of narcotic vials

iii) inappropriately high doses for procedure being performed

iv) increasingly sloppy charting and unreadable

v) desire to work alone

vi) refuse lunch relief or breaks

vii) frequently relieve others

viii) volunteer for extra cases (especially cardiac where narcotics are being used in large quantities)

ix) volunteer for extra call, come in early and leave late

x) at the hospital when off duty to stay near their supply

xi) frequent bathroom breaks

xii) difficult to find between cases, often napping after using or unexplained absences

xiii) desire to administer narcotics in postanesthesia care unit

xiv) patients' pain out of proportion to narcotic received

xv) wear long-sleeved gowns to hide needle marks and stay warm

xvi) pinpoint pupils

xvii) symptoms of withdrawal, especially diaphoresis, tremors, mydriasis, rhinorrhea, myalgias, nausea and vomiting

xviii) weight loss and pale skin

xix) undetected /untreated addicts found comatose/dead

xx) QA issues: malpractice, behind on charts

What level of action or information gathering (discretely and maintaining confidentiality for both parties as much as possible) do these symptoms warrant?

-- discretely maintaining confidentiality for all parties as much as possible

-- information gathering (not an investigation)

-- document facts and behavior

-- confirm identified signs and eliminate rumor

-- better to have sufficient information to report to disciplinary authority if the individual -- refuses treatment

-- corroboration with urine/blood testing

-- test syringes for contents

Would you seek consultation from any outside sources at this time?

Consult your hospital or Medical Society physician well-being committee, arrange for outside evaluation, plan for admission to a professional's treatment program should it be needed

What would you like to ask from the wife/significant others?

i) unusual changes in behavior (wide mood swings with depression, anger and irritability alternating with euphoria)

ii) loneliness and isolation; addicts quickly withdraw from family friends and leisure activity

iii) Denial is the primary symptom of addiction. When confronted by a spouse, the addict may become defensive and vehemently reject accusations and usually is very successfully manipulative one-on-one.

iv) increase in domestic strife, fights and arguments

v) for those addicted to hospital drugs, spends increasing amount of time at hospital; for alcoholic, it means absenteeism and calling in sick

vi) unexplained overspending, extramarital affairs, legal or work problems

vii) sexual drive may decrease

viii) pills, syringes and alcohol bottles found around the house

ix) bloody swabs or tissues

x) locking self in bathroom

xi) frequent smell of alcohol on breath

xii) pinpoint pupils

xiii) withdrawal symptoms (especially sweating and tremors)

xiv) deterioration in personal appearance and physical health, especially weight loss

xv) frequent accidents

xvi) numerous health complaints, with tendency for self-medication

xvii) undetected addicts are found comatose or dead

If the circumstances required your department to do the intervention, how would you proceed?

i) Convene your hospital well being committee

-- having anesthesiologist on the committee pre-crisis is very helpful

-- consult a local addictionologist with experience treating/referring addicted physicians

-- pre-crisis have phone number of experienced resource people (i.e., CMA Hotline, ASA, state society and hospital well-being committees)

ii) Intervention -- with concern, compassion and firmness (no hidden agendas)

-- do NOT make the diagnosis yourself. You are REFERRING THEM FOR A MEDICAL EVALUATION, not punishment for a crime

-- transportation, escort and bed must be ready before the intervention!

-- GOAL: to get a multidisciplinary medical evaluation by team of experts at an experienced inpatient treatment program (necessary for opioid addicted anesthesiologist)

-- many versus one to overwhelm: DO NOT INTERVENE ONE ON ONE! At least two staff members; the more the better. Include the family if they are not in denial

-- although the intervention itself should not be delayed, the process of intervening should neither be rushed nor done in haste

-- advocacy oriented, not confrontation

-- evidence is presented. You do not need proof to a level of "beyond a reasonable doubt"; the evidence only needs to be clear and convincing to the committee

-- demand urine /blood testing

-- do not allow any deviation from prior decisions

-- recalcitrant addicts may agree with the interventionist's recommendations if threatened with loss of licensure or being reported to law enforcement agencies:

DIVERTING DRUGS IS A FELONY

-- Opiate withdrawal is relatively tolerable, but identified addicted physicians are at a

HIGH risk of suicide at this time. Do NOT leave them alone!

-- alcohol and sedative-hypnotic withdrawal can be life threatening

-- expect hostility, threat of lawsuit, denial

iii. professional assistance is available to help with intervention (private consultants, treatment programs, addictionologists)

-- get them to sign agreement to be monitored by the state monitoring group: they are usually more open minded at this time

3. A 35-year-old second-year clinical instructor has had three automobile accidents within a four-month period. The last was on his way to work, resulting in admission to the neurosurgical intensive care unit with a concussion. A urine drug screen shows cocaine and marijuana present.

What would be your department's next step?

If he is still unconscious, get a blood drug screen. If he can talk coherently and can understand, explain his options to him. Proceed as in the previous question. Your department may demand immediate entry into treatment given the circumstances (coming to work while impaired if blood tests so indicate). The alternative is reporting to the licensing authority, but only if he refuses recommendations to seek treatment. (However, in this scenario, the individual is already known to the police and may have previously been reported.)

Would you have concerns about potential defamation suits?

It would be the least of the worries. Maintain good documentation and confidentiality. The goals are for the best interest for the physician's health and well-being. The physician is not likely to want to go through the public exposure himself, and if he truly has the addiction and gets proper treatment, it will not be a problem.

What are your duties with respect to reporting to the state medical board?

In some states:

-- admission to alcohol or drug addiction treatment is not itself reportable, especially if voluntary

-- there is no liability for the reporters if they acted in good faith

Know your state laws before acting. If unsure, contact the medical society (not the state medical board) in your state for advice.

National Practitioner Data Bank reporting for adverse actions are taken by medical societies, medical staff and licensure boards, so it would not be reportable if voluntary.

How do you identify a quality treatment program?

Your state medical society will usually be able to identify a known program for medical professionals. If not, nationally known programs with a lot of experience with anesthesiologists can be found through the ASA Substance Abuse Hotline (847) 825-5586.

Most everyone recommends at least six to eight weeks residential (not necessarily inpatient) treatment with extended follow-up and a program that includes other medical professionals as patients.

What insurance coverage for treatment of drug addiction is available through your department's medical policy? Does it differ for residents?

This is widely variable, but often not nearly enough to cover the charges. Many hospitals use discretionary funds for mental health treatment. No matter how expensive for the individual, however, it is not as expensive as the alternative loss of license or of life.

4. A resident who had been admitted for fentanyl addiction has been treated and the addiction treatment team feels that the resident should be allowed to re-enter anesthesiology residency.

Do you feel that this is appropriate?

You are not the expert

Can you refuse re-entry at this point?

Yes you can, but you should follow the recommendations of the experts.

Can you fire this resident at this point?

Only if there was a clause in the contract allowing it. Then, the resident would have been given due process

What are the implications of the Americans with Disabilities Act?

If you fired the resident at this point, you may be liable under the Act. Your hospital legal counsel should be involved in the decision.

What issues do you think would make this an appropriate recommendation?

Re-entry classification developed by the Talbott Recovery Program is followed by many state programs such as Georgia, Oregon, Arizona and Nevada.

Category I: Certain return to anesthesiology immediately after treatment

--accepts and understands the disease

--exhibits bonding with AA/NA

--healthy and strong family support

--commitment to recovery contract (five years)

--balanced lifestyle

--no evidence of dual diagnosis

--treatment team/ representative supports return to anesthesiology

Category II: possible return to anesthesiology, need to take one to two years off

--relapsed with recovery underway

--dysfunctional but improving family

--involved with but not bonded with AA/NA

--healthy attraction to anesthesiology

--improving recovery skills

--some denial remains

--mood swings without other psychiatric disease

Category III: redirected into another specialty

--prolonged intravenous drug use

--prior treatment failure and relapses

--disease clearly remains active

--disease is *attraction to anesthesia -- went into anesthesia to get the drugs*

--dysfunctional family

--noncompliant with recovery contract

--poor recovery skills

--no bonding with AA/NA

--obvious and severe psychiatric disease

If you concur and allow the resident to re-enter, how can you make the resident's re-entry more conducive to a successful recovery program?

Successful re-entry requires the following

--Recovering physician must have completed an effective, structured treatment program that includes involvement of significant others.

--Well motivated, honest, minimal denial with a good recovery program

--Returning to a supportive environment -- for self-esteem and career

--Re-entry agreement implemented before starting work

Strongly recommend

--no night/weekend call for three months

--not handle narcotics for three months

--supervised administration of naltrexone three times a week for six months

--random testing of returned syringes for drug content

What would you include in a re-entry agreement?

Re-entry agreement: Continuing Care Contract would have a minimum of:

--three- to five-year monitoring period

--include sponsor or hospital contact person, medical staff committee, state society/ diversion program/ treatment center

--abstain from all mood-altering substances

--attend a minimum of four self-help (AA/NA) group meetings per week

--random, monitored urine drug screens

--weekly aftercare or outpatient treatment for a few months

--select primary care physician who will prescribe all medications including those obtainable over the counter

--condition monitor with face-to-face regular interaction

What are your departmental policies? *List them below.*

5. After completing treatment and successfully re-entering the residency program, this resident is completing his/her training and applying for positions in anesthesiology.

How will you handle writing letters of recommendation? How much information do you give to prospective employers or partners?

There are as many opinions on this as there are people. However, it is usually not a problem. If the resident is working on a good program of recovery, he/she should have no problem volunteering the information to the next employer/partner/group. Of course, it is not prudent to make it the first piece of information you give somebody.

Speak to the resident and ask what his/her intentions are. If he/she has no idea,

tell him/her that it is his/her responsibility to provide his/her future employer/partner/group the information about his/her disease and recovery. If he/she does not like this, explain to him/her that it will come up on every medical staff application, medical license application for other states and health plan application (on the average about 20-30 every two years). It will also be a question on his/her DEA renewal. Remind him/her that the program of recovery requires rigorous honesty. The bottom line is that at some point his/her employer/partner/group will find out, and it is best that it comes from him/herself early and with the support of past chairs and attending staff. ASA legal counsel believes the program director has a moral and legal obligation to be honest in recommending graduates for future positions, but hopefully it will not have to come to this point.

The resident should plan on applying for positions in anesthesiology as anyone else would. Once a position meets his/her approval, then he/she has to consider when to tell the prospective employee/partner/group. If the group was not going to hire him/her, then they do not need to know. If they choose not to take him/her based solely on the history of addiction, the recovering physician may be able to seek recourse through the Americans with Disabilities Act. However, a physician in good recovery would probably not carry out or even threaten the process. A person with good recovery would realize that it is probably a job he/she would be better off not accepting. This is a key point: The addicted physician should find, and will find, a working environment that will accept his/her past history and support his/her recovery.

When it comes time to tell his/her prospective group, it should be done face to face with the recruitment committee or at least a couple of the members. He/she should have a written statement describing his/her treatment, treating physician and recovery related activities as well as letters from his/her chair and monitoring physician. The prospective employer may wonder why he/she did not bring it up earlier in the process. He/she may apologize for possibly wasting the potential employer's time, but it will not impact his/her ability to be a competent anesthesiologist. In addition, if the potential employers were not going to consider him/her based on his/her abilities as presented, there was no reason for them to know about his/her past history. Lastly, he/she will give them the opportunity, without threat of lawsuit, to withdraw their offer for a position. If they cannot handle this particular issue about him, he/she will be better suited in another practice group.

If the resident admits that he/she is going to withhold the information, then consider his/her recovery program weak. This would indicate a higher potential for relapse and your responsibility would then be to inform his/her prospective employer/partner/group at the risk of being sued. But the resident would probably not want the public exposure. If it gets to this point, consult your legal counsel.

If the resident has only returned for residency for a limited time, what recommendations might you make to the resident?

It is probably a good idea for the resident to stay at his/her residency program an extra year as a junior staff. It will look good to his/her next employer/partner /group that the department felt confident in this resident to ask him/her to stay on staff. It will also buy him/her time in recovery to get some of his/her state licensing requirements reduced. He/she will not have to ask for as many nights to not be "on-call" in the new job.

6. At 2 a.m., an on-call junior attending makes a call to say that one of the CA-2 residents was found unconscious lying next to an anesthesia machine. The resident stated he was just sampling the smell of sevoflurane after reading that it did not have a pungent odor.

> What do you do?
>
> *Though it looks different on the surface, this is no different than any other scenario previously discussed. Breathing anesthesia gases, especially while on call, is a pathological activity that indicates a propensity to experiment with and divert drugs. An evaluation is easily mandated.*
>
> What level of referral do you feel is appropriate in this situation?
>
> *Just as much as if the resident were found with a syringe of fentanyl in his arm. No explanation other than impairment that can be accepted.*

7. What can you do to assist your department to reduce the morbidity and mortality from the effects of addictive disease?

PREPARE

- awareness though education and experience

- accepting addiction as a disease is key to treating it properly

- have departmental policies, contacts and referrals determined in advance. This allows you to think medically rather than

emotionally in a crisis situation.

Experience suggests that inconsistent or poorly thought-out intervention, management and treatment hindered short-term care and may compromise long-term prognosis.

EDUCATE

- observation

- quality assurance

-anesthesia record and narcotic utilization review

-random testing of narcotic waste syringes

-urine testing for cause

- your staff needs to know what they are looking for and what they are seeing when it is happening

-need a level of suspicion and willingness to believe it could be happening

---

SAMPLE RE-ENTRY AGREEMENT

Whereas _____ is enrolled and participating in the State Physicians'Health Program and is in the process of recovery from chemical dependency, the Department of Anesthesiology and _____ Medical Center through the Medical Staff Executive Committee (MSEC) [or Graduate Medical Education Committee] and the Physician's Health and Well-Being Committee (PHWBC) desire to offer _____ the opportunity to perform his or her medical duties, while at the same time desiring to maintain an acceptable standard of care to its patients and in consideration of health and safety reasons present the following agreement that is considered confidential and will be treated as such:

_____ agrees to

1. Obey all federal, state and local laws and rules governing the practice of medicine in the state of _____ and immediately report by telephone to the PHWBC Chair (or condition monitor) any arrest or conviction of any offense.

2. Immediately report in person or telephone to the PHWBC Chair (or condition monitor) any relapses (use of any mood-altering substance) before confrontation or scientific evidence of use.

3. Not self-prescribe any medications including those available over-the-counter. Abstain from the use of all mood-altering substances.

4. At the direction of the PHWBC, be willing to submit to additional administrative, medical or psychological examinations if deemed necessary. The results of these examinations will be submitted to the PHWBC.

5. Provide biological fluid samples under the direct observation of a monitor and if indicated submit to alcohol breathalyzer testing on a random or requested basis to a designated PHWBC monitor. The laboratory analysis of these tests will be submitted to the PHWBC.

6. Be financially responsible for any expenses related to this re-entry contract (i.e., laboratory studies or professional fees). Costs of laboratory testing will be the individual's responsibility.

7. Have all confidential communications between the PHWBC and the recovering physician privileged except as deemed appropriate and necessary to be communicated to the MSEC or future employer/ associates. However, any information concerning unprofessional conduct gained from sources outside of the PHWBC may result in disciplinary action by the MSEC.

8. Terminate medical staff privileges at _____ Medical Center and immediately admit to a treatment program recommended by the PHWBC that has experience in treating addicted physicians for evaluation and to follow their recommendations for treatment, as mandated by the MSEC due to any of the following circumstances:

a) Practicing medicine while under the influence of any mood-altering drug or any laboratory evidence of drug or alcohol use.

b) Refusing to comply with the re-entry agreement with the PHWBC or the State Physicians' Health Program.

c) Refusing to submit to biological fluid testing or breath analysis.

9. Accept that the MSEC has the authority to suspend the medical staff privileges and/or require intensification of treatment of the recovering physician and/or will recommend further action by the State Physicians' Health Program if any of the above circumstances occur. If suspended, I agree to comply with the above.

10. Provide documentation from previous treatment programs and treating physicians or therapists that appropriate treatment has been given and that return to practice is an indicated part of recovery.

11. Meet with a designated member of the PHWBC a minimum of twice a month.

12. Allow free and open communication between the treating physician/therapist, State Physicians' Health Program, the recovery support network and those persons responsible for verifying compliance with the re-entry agreement.

13. Allow my spouse to be involved in my recovery program to an extent acceptable to the PHWBC.

14. All cases to be proctored for the next _____.

15. Call schedule arrangements:_____ .

As an express condition for participation, I, _____ hereby release and forever discharge the PHWBC at _____ from any claims, demands, obligations, costs incurred, expenditures, damages or causes of actions of any nature whatsoever arising out of, related to or in any way connected with any disclosure, release, act or omission in connection with the PHWBC and acknowledge receipt of a copy of this agreement.

No amendment or variation of the terms of this agreement shall be valid unless made in writing and signed by both parties. This agreement will be reviewed for renewal and/or alteration on _____ by PHWBC.

_____ _____

Recovering physician PHWBC Chair

_____

Date signed

REFERENCES

1. Talbott GD, Gallegos KV, Wilson PO, Porter TL. The Medical Association of Georgia's impaired physicians program review of the first 1,000 physicians: Analysis of specialty. *JAMA*. 1987; 257:2927-2930.

2. Arnold, WP. 1995 substance abuse survey in anesthesiology training programs: A brief summary. *ASA Newsl*. 1995; 59(10):12-13,18. (Full report in preparation)

3. Alexander BH, Checkoway H, Nagahama SI, Domino KB. Cause-specific mortality risks of anesthesiologists. *Anesthesiology*. 2000; 93:922-930.

4. Menk EJ, Baumgarten RK, Kingsley CP, et al. Success of re-entry into anesthesiology training programs by residents with a history of substance abuse. *JAMA*. 1990; 263:3060-3062.

5. Walzer RS. Impaired physicians: An overview and update of the legal issues.
J Leg Med. 1990; 11:131-198.

6. California Medical Association. Guidelines for Physicians' Well-Being Committees, Updated annually, Available from Riverside County Medical Association.

7. Silverstein JH, Silva DA, Iberti TJ. Opioid addiction in anesthesiology.*Anesthesiology*. 1993; 79:354-375.

8. Leshner AI. Understanding drug addiction: Implications for treatment. *Hospital Practice*. 1996; 31:47-59.

9. Lecky JH, Aukburg SJ, Conahan III TJ, et al. A departmental policy addressing chemical substance abuse. *Anesthesiology*. 1986; 65:414-417.

10. Angres DH, Talbott GD, Bettinardi-Angres K. *Healing the Healer*. Madison, CT: Psychosocial Press; 1998.

11. Pelton C, Ikeda RM. The California Physicians Diversion Program's experience with recovering anesthesiologists. *Journal of Psychoactive Drugs*. 1991; 23:427-431.

12. Paris RT, Canavan DI. Physician substance abuse impairment: Anesthesiologists vs other specialties. *J Addictive Diseases*. 1999; 18:1-7.

13. Gravenstein JS. APSF study reveals long work hours in anesthesia; 60% of respondents admit fatigue caused errors. *Anesthesia Patient Safety Foundation Newsletter*. 1990-91; Vol. 4.

14. Jackson SH. The role of stress in anesthetists' health and well-being. *Acta Anesthiol Scand*. 1999; 43:583-602.

15. Scott CD, Hawk J. Heal Thyself: The Health of Health Care Professionals. New York, NY: Brunner/Mazel; 1986.

OTHER READING FOR THE INTERESTED

Aach RD, Girard DE, Humphrey H, et al. Alcohol and other substance abuse and impairment among physicians in residency training. *Ann Intern Med*. 1992; 116:245-254.

Adler GR, Potts FE III, Kirby RR, et al. Narcotics control in anesthesia training. *JAMA*. 1985; 253:3133-3136.

Alcoholics Anonymous New York: Alcoholics Anonymous World Services; 1976
(available from most AA groups).

American Medical Association: Information for Physicians, National
Practitioner Data Bank, NC030190 Chicago: American Medical Association; 1990.

Angres DH, Talbott GD, Bettinardi-Angres K. *Healing the Healer: The Addicted Physician*. Madison, CT: Psychosocial Press. 1998.

Arnold, WP. Survey of substance abuse in anesthesiology training programs:

Preliminary report of the third year. *ASA Newsl*. 1993; 57(12):21-22.

Bissel L, Jones RW. The alcoholic physician. *Am J Psych*. 1976; 133:1142-1146.

Bruce DL, Eide A, Smith NJ, et al. A prospective survey of anesthesiologist mortality, 1967-1971. *Anesthesiology*. 1974; 41:71-74.

Crawshaw R, Bruce JA, Eraker PL, et al. An epidemic of suicide among physicians on probation. *JAMA*. 1980; 243:19,1915-1918.

Chappel J. Physicians' attitudes toward distressed colleagues. *West J Med*. 1981.

Coombs RH. Drug-Impaired Professionals. Cambridge, Massachusetts: Harvard University Press; 1997.

Farley WJ, Talbott GD. Anesthesiology and addiction. *Anesth Analg*. 1983; 62:465-466.

Gallegos, Karl V, Browne CH, et al. Addiction in anesthesiology. *QRB*. 1988; 14:116-122.

Gravenstein JS, Kory WP, Marks RG. Drug abuse by anesthesia personnel. *Anesth Analg*. 1983; 62:467-472.

Hankes L, Bissell L. Health Professionals Substance Abuse: A Comprehensive Textbook. Lowinson JH, Ruiz P, Millman RB, eds. Baltimore, MD: Williams and Wilkins. 1992: 897-908.

Herrington RE, Benzer DJ, Jacobsen GR, Wawkins MK. Treating substance abuse disorders among physicians. *JAMA*. 1982; 247:2253-2256.

Hyman SE. The addicted brain. *Harvard Alumni Medical Bulletin*. Winter 1995:29-32.

Ikeda R, Pelton C. Diversion programs for impaired physicians. *West J Med*. 1990; 152:617-621.

Jackson, SH. Stress and the Anesthesiologist. Seminars in Anesthesia, XII. 1993 (4):282-289.

Jellinek EM. The Disease Concept of Alcoholism. New Brunswick, NJ: Hillhouse Press; 1960.

Larkin L. Impaired colleagues. *American Medical News*. 1991; Nov 11:13-14.

Lutsky I, Hopwood M, Abram E. Psychoactive substance use among American anesthesiologists: A 30-year retrospective study. *Can J Anesth*. 1993; 40:(10) 915-921.

Matsumura JS. Substance abuse and anesthesiology training. *JAMA*. 1990; 264:2741-2742.

McAuliffe WE, Santangelo S, Magnuson E, et al. Risk factors of drug impairment in random samples of physicians and medical students. *Int J Addict*. 1987; 22:825-841.

Narcotics Anonymous. Van Nuys, CA: World Services Office. 1984 (available from most NA groups).

Nelson PB, Schmidt KM, Nelson N. Stress Analysis System. Nelson Learning Systems. San Francisco, California; 1983.

Nestler EJ. Molecular mechanisms of drug addiction. *J Neurosci*. 1992; 12:2439-3450.

NIAAA Media Advisory. Naltrexone approved for alcoholism treatment. January 17, 1995.

Orioli M, Jaffe DT, Scott CD. Stress Map: Personal diary. (1991) Newsmarket Press, 18 East 48th Street, New York, NY 10017. (212) 832-3575.

Scott M, Fisher KS. The evolving legal context for drug testing programs. *Anesthesiology*. 1990; 73:1022-1027.

Shore JH. Oregon experience with impaired physicians on probation: An eight-year follow-up. *JAMA*. 1987; 257:(21)2931-2934.

Silvarajan M, Posner KL, Caplan RA, et al. Substance abuse among anesthesiologists: (correspondence) *Anesthesiology*. 1993; 80:704.

Spiegelman WG, Saunders L, Mazze RI. Addiction and anesthesiology. *Anesthesiology*. 1984; 60:335-341.

Steinberg J. The role of AA in treatment and recovery of impaired professionals. *MD Med J*. 1987; 36:241-244.

StockwellT, Towne C. Anxiety and stress management. In: Hester RK, Miller WR, eds. Handbook of alcoholism treatment approaches: Effective alternatives. Elmsford, NY: Pergamon; 1989:222-230.

Talbott GD. The impaired physician and intervention: A key to recovery. J *FL Med Assoc*. 1982; 69:793-797.

Udel MM. Chemical abuse/depedence: Physicians' occupational hazard. *J Med Assoc GA*. 1984; 73:775-778.

Unmasking Addiction: Chemical Dependency in Anesthesiology (available from Titusville, New Jersey: Janssen Pharmaceutica. 1991).

Vaillant GE, Brighton JR, McArthur C. Physicians' use of mood-altering Drugs. *N Engl J Med*. 1970; 282:365-370.

Verghese A. *The Tennis Partner*. First ed. Harperperennial Library; 1999.

Volpicelli JR, Alterman AI, Hayashida CP, O'Brien CP. Naltrexone in the treatment of alcohol dependence. *Arch Gen Psych*. 1992; 49:876-880.

Ward, CF, Ward GC, Saidman LJ. Drug abuse in anesthesia training programs: A survey: 1970 through 1980. *JAMA*. 1983; 250:922-925.

Ward CF. Substance abuse: Now, and for some time to come. (Editorial) *Anesthesiology*. 1992; 77:619-622.

Washton AM, Pottash AC, Gold MS. Naltrexone in addicted business executives and physicians. *J Clin Psychiatry*. 1984; 45:39-41.

Wearing Masks -- the Potential for Drug Addiction in Anesthesia. Sponsored by the Association of Anesthesia Program Directors, Park Ridge, Illinois; 1993.

White RK, Kitlowski EJ. Physicians in recovery. *MD Med J*. 1988; 37:183-189.