Causes of death of 441 members of the ASA who died between 1947 to 1966. Compared with control populations of white men from the United States and a group of male life-insurance policy holders, anesthesiologists had increased death rates as a result of malignancy of the lymphoid and reticuloendothelial tissues and from suicide. In a follow-up study, causes of death for 211 ASA members from 1967 through 1971 were compared with that of male life-insurance policy holders. Although the overall age-adjusted death rate for anesthesiologists was less than that of the control group, the rate of suicide was 3 times greater. Contrary to the previous report, there was not an increased risk of malignancy. Subsequently, in consultation with an ad hoc committee of the ASA, Lew compared cause-specific death rates of anesthesiologists (ASA members from 1954 through 1976) with rates for all physicians. The overall death rate of male and female anesthesiologists was less than that of all physicians, but a high rate of suicide was found for anesthesiologists younger than 55 yr.

The current study compared cause-specific death rates in anesthesiologists from 1979 to 1995 with those of internal medicine physicians. All-cause mortality did not differ between the two groups, and the standardized mortality ratio for all causes of death in anesthesiologists was 0.48, indicating an approximate 50% lower overall mortality rate for anesthesiologists compared with the general population. When compared with the control group of internists, anesthesiologists had an increased mortality risk that was attributable to suicide, drug-related deaths, other external causes, HIV-related deaths, and cerebrovascular disease.

Studies to assess occupational health are complicated by method issues, such as response bias when workers self-report medical conditions. Use of hospital records to document illness provides more accurate information, but these reports may be difficult and costly to obtain. Alexander et al. assessed causes of death, documented by data in the National Death Index, as markers for disease, and they linked these records to the Physician Master File maintained by the American Medical Association. When attempting to determine the potential causes of rare outcomes (premature death in physicians), linkage and analysis of large databases offer several advantages. Primarily, these databases obtain an answer faster and at less cost than does performing a prospective study when prolonged follow-up is necessary. For example, the Framingham Heart Study, which has been in existence for more than 50 yr, has required extensive outlays of capital and resources. The use of a
cohort of practicing anesthesiologists who were alive as of January 1979 represented the population of interest, with a sample size of more than 40,000 anesthesiologists. Even with this large sample, the finding of a 34% excess risk of death of accidental poisoning compared with the risk of the general population did not reach statistical significance, suggesting that an even larger sample or a longer period of follow-up would be necessary to detect small, but real, increases in risk.

National databases also offer distinct advantages for tracking occupational health because of the ability to capture information about individuals despite the increasing mobility of the population. Physicians frequently move at least once between residency and initial employment, and perhaps several additional times after beginning practice. In a prospective evaluation, such physicians could be lost to follow-up, but the approach taken by the authors showed a high follow-up rate.

With the development of an increasing number of national databases, many questions can be investigated. The key to success in these endeavors is the ability to accurately link a particular person’s data within separate databases. The authors of the current study are to be commended for their ability to use a sophisticated matching scheme to accomplish this task.

When using a medical database, it is important to determine the robustness of the outcomes of interest. For example, data from insurance claims have inherent inaccuracies because of problems with medical coding. Therefore, Alexander et al. focused on a clearly defined outcome: mortality. However, the reported cause of death may not be related to an occupationally acquired illness. Therefore, cause-specific mortality rates may have underestimated the prevalence of nonfatal work-related conditions. To address the concern that exposure to trace levels of anesthetic gases may be associated with abnormal reproductive outcomes or other adverse health effects, a previous ASA-sponsored study used a questionnaire to gather data about the health of operating-room personnel. Therefore, information about nonfatal medical conditions was sought. In contrast, by using death records, the current study does not provide data about all occupationally associated health conditions, but if this limitation is recognized, the results afford us the opportunity to address some of the health problems associated with the practice of anesthesiology.

When interpreting the results of the current trial, it is important to recognize the true value of the assessment of large databases: their ability to identify important relations that generate further hypotheses and study. The current study supports the lack of an association between cancer rates in anesthesiologists and occupational exposure, but it clearly identifies important issues that necessitate further study and interventions that might prevent these causes of premature death.

One note of caution: When interpreting the current findings, it is important to remember that the cohort used for analysis had a smaller and younger group of female than male anesthesiologists. The absolute number of female deaths in this cohort was very low. Therefore, subsequent study will be necessary after a period of time, as suggested by the authors.

In the 1970s, the primary focus for investigation in this area was related to health effects from exposure to trace anesthetic gases. It is clear that some health threats are related to conditions more difficult to measure and quantify. In a 1974 editorial that accompanied the report from the ASA-sponsored study of occupational disease among operating-room personnel, Greene notes that the increased health risks demonstrated by Cohen et al. may be related instead to other factors associated with administration of anesthetics, including emotional stresses and strains, hours of work, or some other yet undefined factor. Since then, routine use of scavenging devices has successfully reduced levels of trace anesthetic gases in anesthetizing locations; safety protocols have limited exposure of personnel to X-rays and ionizing radiation; and federal standards and guidelines have been promulgated to prevent exposure to infectious agents, such as bloodborne pathogens and tuberculosis.

Our profession is to be congratulated for addressing these major conditions that affect the health of anesthesiologists, but it is now time to focus on other problems confronting our specialty—the challenges of chemical dependence and physician well-being. The current mortality study and the studies described herein have consistently identified suicide and drug-related deaths as significant occupational hazards. There have been corroborating data documenting substance abuse and deaths attributable to chemical dependence in residents in anesthesia training programs and in practicing anesthesiologists. Anesthesiologists were found to be overrepresented in a population of physicians undergoing therapy for chemical dependence at one treatment facility. Although some have questioned whether anesthesiologists have a higher rate of chemical dependence than the general population or physicians in other medical specialties, the more appropriate question should be: “How can we reduce the incidence of this disease in members of our specialty?”

A number of excellent initiatives have already been undertaken. The ASA has conducted many outstanding educational programs and has published brochures and videotapes that contain current information about chemical dependence. The Residency Review Committee for Anesthesiology of the Accreditation Council for Graduate Medical Education has instituted a requirement that anesthesia training programs use written policies and educational programs that address substance abuse. The American Board of Anesthesiologists has implemented a policy regarding alcoholism and substance abuse. Im-

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proved policies for accounting and verification of returned drugs have been instituted in most facilities to limit diversion of controlled substances. Additionally, state medical societies, medical schools, and other organizations provide programs to educate and treat physicians with a history of substance abuse.

Several disturbing findings are contained in the data from Alexander et al. that suggest that these ongoing strategies to prevent and treat substance abuse have not adequately addressed the root causes. The greatest rate of drug-related deaths in anesthesiologists occurred during the first 5 yr after graduation. The deaths of younger anesthesiologists resulted in a lower mean age of death of anesthesiologists compared with internists. From a societal perspective, drug-related causes of death resulted in more than 2,000 yr of life lost before age 65 for members of our specialty. Of greater importance are the personal losses suffered by the spouses, parents, children, siblings, friends, and colleagues.

Anesthesiology has successfully addressed a number of occupationally related hazards during the past 2 decades and has been nationally recognized for its initiatives to make anesthesia safer for patients. The current data confirm previous information that suicide and chemical dependence are unsolved problems among anesthesiologists. It is time that we take a leadership role in the areas of physician well-being and define and correct the root causes of substance abuse. If not now, when?

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