The Disabled Anesthesiologist

Jonathan D. Katz, MD[a,b,*]

KEYWORDS

• Disability • Impairment • Substance use disorder • Burnout
• Americans with Disabilities Act

KEY POINTS

- As many as one-third of all physicians will experience some form of disabling illness or injury during their career.
- Cognitive disorders, such as learning disabilities among trainees and cognitive disorders among senior physicians, are among the most common etiologies of disability among physicians.
- Anesthesiologists have ethical obligations to patients to assure that their colleagues practice safely, but they also have ethical obligations to their colleagues with disabilities to provide accommodations whenever possible to allow them to continue to practice safely.
- When possible, accommodating anesthesiologists with disabilities provides significant benefits to patients, by including physicians that may better understand the disabled patient, and to the profession, by promoting diversity and reducing bias.
- Federal laws, including the Americans with Disabilities Act of 1990, assure anesthesiologists with disabilities an equal opportunity to pursue their professional goals.

INTRODUCTION

I would like to see the day when somebody would be appointed surgeon somewhere who had no hands, for the operative part is the least part of the work.
—Attributed to Harvey Cushing, MD, the father of neurosurgery, in a letter to Henry Christian, MD, November 20, 1911.[1]

A partially incapacitated left arm need not truncate an anesthesiologist's career
—Case report of the 1-armed anesthesiology resident.[2]

These 2 perspectives epitomize both the possibilities and the challenges that confront an anesthesiologist with a disability.[3] With proper planning and support,

[a] Department of Anesthesiology, Yale University School of Medicine, New Haven, CT, USA;
[b] Department of Anesthesiology, Quinnipiac University School of Medicine, Hamden, CT, USA
* Corresponding author. Department of Anesthesiology, Quinnipiac University School of Medicine, Hamden, CT.
E-mail address: Jonathan.Katz@Yale.edu

Anesthesiology Clin 42 (2024) 647–659
https://doi.org/10.1016/j.anclin.2024.01.007 **anesthesiology.theclinics.com**

many disabilities can be overcome and should not necessarily interfere with a dedicated physician's pursuit of a successful career.

"Disability" is a broad term that encompasses those illnesses of the body or mind that limit a person's ability to perform one or more of life's typical daily activities.[4] Disabilities can take many forms and have many different etiologies. They can involve vision, cognition, communication, mobility, mental health, hearing, self-care, and independent living, to name a few. Each of these conditions can be the result of a genetic disposition, an acute illness or injury, a progressive chronic disease, a mental illness, or a substance use disorder (SUD). They may be present from birth, occur before entering the study or practice of medicine, or develop during the course of one's medical career. They can be overt and obvious to all or more private and hidden. They can be acutely life-threatening or inconsequential regarding one's expected physical life span. Some disabilities elicit attitudes of empathy and compassion from friends and acquaintances (such as victims of trauma or incapacitating disease) while others may provoke less charitable reactions or stigmatization (such as SUDs or some forms of mental disease).

What can be a disabling illness to an individual in 1 situation might serve as a minor inconvenience to that same individual in another circumstance or to a different person with different expectations. For example, many in the community of the hearing impaired do not consider themselves disabled but rather empowered as members of a linguistic community able to interact using a different and effective alternative form of communication (sign language).[5]

The definition of disability becomes even more elusive when attempting to recognize it within a complex work environment such as the operating room where anesthesiologists commonly spend their professional time. Some disabilities are barely noticeable in routine life situations but can become insurmountable in the high-intensity, high-stakes, physically and emotionally challenging work environment of the operating room.

Disability" also does not equate to "impairment." The impaired physician is defined as "one who is unable to practice medicine with reasonable skill and safety to patients because of physical or mental illness including deterioration through the aging process, or loss of motor skill, or excessive use of drugs including alcohol.[6]

In this article, we will consider some of the potential sources of disabling illness or injury that might impact the practice of anesthesiology and efforts that can be made to provide appropriate accommodations and allow individuals with disabilities to continue to participate in their chosen profession.

COMMON SOURCES OF DISABILITY

Identifying an individual as "disabled" is a complex determination that carries with it personal, professional, and social ramifications. The identification is sufficiently problematic that, on occasion, it has required a ruling from the US Supreme Court to determine whether an individual is disabled and if their disability should prevent them from practicing medicine.[7]

Almost everyone at some point in their life will experience a brief or an extended period of disability. At any given time, as many as 66 million Americans, 26% of the adult population, are living with some form of disability.[8] Americans with disabilities are the largest minority group in the United States.

Physicians are not immune. It has been reported that as many as 10.2% of medical students[9] and 3.1% of practicing physicians[10] are experiencing some degree of disability at any given time. At least one-third of all physicians will experience a temporary or permanent disabling illness or injury at some point during their professional careers.[11] The case has been made that disabled students and practicing health care

professionals should be viewed as constituent parts of the diversity, equity, and inclusion agenda of medical schools and health care organizations.[12]

As a generalization, disabilities fall into 4 categories: physical/motor (weakness, paralysis), physical/sensory (hearing loss, visual impairment), cognitive (attention-deficit disorder, dyslexia, dementia), and psychiatric (anxiety, psychosis, SUD). The specific impairments most frequently reported among the general American public that have the greatest potential to affect an anesthesiologist's practice are hearing (15%),[13] mobility (13.0%), cognition (10.6%), and vision (4.6%).[14]

There are few reports that cite prevalence statistics for various forms of disability among those working in the health care field. More closely studied have been the occurrences of disability among students at American medical schools. One study found that during the academic year 2021 to 2022, 5.9% of those students who responded to a survey self-reported disability.[15] This was more than double the findings from a similar survey conducted by the same group of investigators in 2016.[16] The most frequently cited disabilities were attention-deficit/hyperactivity disorder (ADHD), learning disabilities, and psychological disabilities (this category included a wide variety of diagnoses, ranging from anxiety disorder to schizophrenia and other psychotic diseases). A more recent report, employing a different data base that canvassed only second-year medical students, reported a 10.2% self-identified disability rate.[9]

A substantial number of postgraduate medical trainees also self-identify as having a disability. In a 2021 survey, 9.3% of first-year residents responded "yes" to the question of whether they were a person with a disability.[17] This represented a 24% increase in self-identified disability among residents as compared to a similar study published in 2021.[18] The most common types of disability identified in this study were ADHD, learning disabilities, psychological disabilities, and partial or complete deafness. In this report, 6.4% of residents in anesthesiology self-identified as having at least 1 type of disability.[18]

Less information is available regarding the prevalence of disability among attending physicians. A recent study by Nouri and colleagues[10] used data collected from a representative sample of 6000 physicians who were asked to self-report any disabilities from a list of 8 possible categories using definitions found in the Americans with Disabilities Act of 1990(ADA). One hundred seventy-eight (3.1%) of the respondents self-identified as having a disability. Among these, the most common categories were chronic health conditions (30.1%), mobility limitations (28.4%), and psychological disorders (14.2%). Twenty-eight physicians (15.7%) reported multiple disabilities.

Hearing Loss

Noise-induced hearing loss among health care workers has been well documented.[19] Hospitals and especially critical care areas are among the noisier institutional environments. This is especially true in intensive care units and operating rooms where noise from surgical instruments, monitors, alarms, alerts, ventilators, and heating, ventilation, and air conditioning systems and the background noise produced by the continuous flow of conversation among the occupants of these units all work together to produce a cacophony of sound. The resultant noise approaches that of the cafeteria at mealtime and frequently exceeds safety limits established by federal regulations.[20]

Several studies have identified a heightened risk of hearing loss among staff who work in the noisiest operating rooms—such as those where total joint replacements are performed.[21] Substantial hearing loss has also been reported among anesthesiologists who, by the very nature of the typical anesthetizing location, work in close proximity to many of the major sources of noise in the operating room. In 1 study, it was demonstrated that 66% of anesthesiologists had abnormal audiograms, and those

younger than age 55 years had a hearing acuity significantly worse than that of the general population.[22]

In addition to the personal health consequences of noise-induced hearing loss, it can also pose a challenge to performing some of the anesthesiologist's tasks. In a report on hearing loss among anesthesiologists, it was found that in many cases the hearing deficits were sufficient to interfere with detection of some of the alarms and alerts built into the operating room monitors.[22] Excessive background noise, such as loud music, along with muffling of voices and facial cues caused by surgical masks, can add to the difficulties for hearing-impaired anesthesiologists.

Hearing loss can also interfere with the accurate communication between surgical team members. The ability of noise to disrupt communication was demonstrated in a study in which the auditory processing functions of surgeons were significantly diminished by music and operating-room noise.[23] And 84% of anesthesiologists in 1 study reported that excessive noise levels in their operating rooms negatively affected their work.[24] Communication failures, in part the result of hearing impairment and exacerbated by the high background noise in the operating room, have been identified as a risk factor for error and poor patient outcomes by The Joint Commission.[25]

Mobility Limitation

Whereas various forms of learning disabilities are the most frequently reported sources of disability among medical students and residents, mobility limitations are more common among senior physicians. In the Nouri[10] study cited earlier, mobility limitation was the second largest disability category reported. Despite its frequency, there has been limited reporting on this form of disability among physicians.

How much of a handicap a mobility limitation can impose upon an anesthesiologist depends upon the environment in which he or she works. Dr Alon Winnie, a pioneer in the development of regional anesthesia and the University of Illinois Anesthesiology Department Chair, enjoyed a storied career despite being confined to a wheelchair throughout his training and practice after suffering from polio.[26] The unique requirements of a particular anesthetizing location will determine an individual's suitability for that assignment.

Substance Use Disorder

Impairment from SUD is an important source of disability among health care providers in general and specifically among anesthesiologists (See the article by Fitzsimons GM in this issue). It has been estimated that 10% to 15% of all health care professionals will develop SUD at some time during their career.[27] Although the overall prevalence of SUD among anesthesiologists probably does not differ significantly from that of other physicians, anesthesiologists are more likely to become addicted to potent intravenous anesthetic agents such as fentanyl[28] or propofol.[29] These more potent agents have a heightened potential to impart a chronic impairment that persists beyond the acute phase of intoxication. And the current use of illicit drugs, with or without addiction, is not a protected disability under federal or state antidiscrimination laws.

Burnout

Burnout syndrome is defined as an occupational phenomenon resulting from chronic workplace stress that has not been adequately mitigated. It is characterized by feelings of exhaustion, increased mental distancing from one's job, and feelings of negativism or cynicism about one's job. It is associated with reduced professional work efficacy.[30] Although burnout syndrome is not specifically listed among the common sources of disability, many of its components are frequently implicated. Several

reports have indicated a prevalence rate approaching 50% among physicians across all specialties who self-reported at least 1 symptom of burnout.[31] A study involving members of the American Society of Anesthesiologists (ASA) found that 18.9% were experiencing burnout syndrome and 67.7% were at increased risk for burnout.[32] These prevalences were elevated by 37% and 14.4%, respectively, when compared to a previous study reporting findings collected in 2020.[33] In the more recent study, 62.8% experienced emotional exhaustion; 43.2%, depersonalization; and 30.9%, reduced feelings of personal accomplishment.[32] The investigators of the study commented that workplace issues, such as lack of workplace support, prolonged work weeks, staffing shortages, and lack of a workplace confidant, were the primary factors associated with a greater risk for burnout. Each of the contributing factors had been exacerbated in the intervening years between the 2 studies, in part by circumstances imposed by the coronavirus disease 2019 pandemic.

The consequences of untreated burnout are extensive and well documented.[31] They include decreased patient safety, decreased professionalism, and diminished physician quality of life. Avoiding and/or mitigating burnout is therefore not merely a kindness to physicians but imperative for ensuring beneficence and nonmaleficence toward patients.

The ASA has published a statement on burnout among anesthesiologists.[34] In it, they stress the adverse role that burnout can play in anesthesiologists' professional and personal lives. A number of mitigation strategies are suggested, including added attention to physical and psychological safety in the workplace and the recognition that burnout should be considered both an individual and a systems problem.

Cognitive Disorders

Reports of disability have historically focused almost exclusively upon physical and sensory disabilities. The passage of the ADA and subsequent amendments has greatly expanded the categories of disability to include learning, psychological, and various chronic health conditions. Learning disabilities such as ADHD and dyslexia are now recognized to be among the leading sources of disability among learners in the medical professions.[15]

Among more senior physicians, varying degrees of cognitive impairment, such as dementia, are among the leading sources of physician disability. According to 1 study, close to 30% of all US physicians aged 70 or older suffer from mild cognitive impairment or dementia.[35] And in a report on the results of cognitive testing conducted in accordance with a late-career practitioner policy, 12.7% of the clinicians aged 70 years and older had sufficient cognitive deficits that they were considered to be at risk for unsafe practice.[36] Late-career physicians who are being tested for cause are more likely to be suffering from cognitive impairment.[37] Compared to a control group of physicians, those whose competency was being questioned scored significantly worse on 3 cognitive global functioning scores (processing accuracy, processing speed, and cognitive proficiency) and 4 of 5 specific neuropsychological domains (attention/mental control, spatial abilities, reasoning, and calculation). A total of one-quarter of those being screened as part of a competency evaluation scored in a range consistent with a diagnosis of cognitive impairment.

Advanced Age

Is advanced chronologic age a disability? The answer is *no*. Normal chronologic aging is commonly associated with many important physical, functional, psychological, spiritual, and social changes.[38] However, a notable observation is the wide variability among individuals in how they experience and manifest these aging processes.

Some of the changes that commonly accompany aging have the potential to limit an anesthesiologist's practice. These include decreased short-term memory and intellectual quickness, slowing of reaction time and learning, and decreased fluid intelligence. In addition, older individuals are more susceptible to pathologic processes that can adversely impact cognition, such as Alzheimer's and cerebrovascular disease. On the other hand, many senior physicians enjoy continued growth in "crystalized memory" that permits ready access to knowledge and skills acquired from a lifetime of medical practice. Often, long-term memory is spared and many of the cognitive limitations mentioned earlier are offset by improvements brought by experience, enhanced wisdom, and judgment.

Among the physical changes of potential importance to the practice of anesthesiology are decreases in visual and auditory acuity and reduction in cardiovascular and musculoskeletal strength and resiliency. These can impose a challenge in meeting the not inconsequential, physical demands of the specialty. Prolonged work hours, sleep deprivation, and night call can be particularly difficult for the aging anesthesiologist.[39]

The literature examining the relationship between practitioners' age and measures of clinical competence is inconsistent. Several studies have demonstrated, on average, a decreased performance among late-career physicians when compared to their younger colleagues on various metrics of *medical knowledge* and adherence to treatment guidelines.[40] However, studies that compare actual *clinical outcomes* between age groups have revealed conflicting findings. Surgical outcomes have been most intensively studied and, depending upon confounding factors (the nature and complexity of the surgical procedure, the surgical volume of the surgeons enrolled in the study, the defined end points of the study), different studies have found improved, no difference, or worse outcomes among senior surgeons when compared to younger colleagues.[41,42] The role played by the maintenance of case volume in continued clinical excellence was illustrated in a study that found no excess mortality among hospitalized patients of older (>60 years of age) physicians *except* among patients of older doctors with low clinical volumes.[43]

One study that reported a similar comparison among anesthesiologists in different age groups found that older anesthesiologists (age 65 and older) experienced a 1.5-times greater rate of malpractice litigation than their younger colleagues.[44] Not only was the rate of litigation greater in the older age group, but so was the severity of the patient injury.

A very controversial topic is that of late-career practitioner policies that require cognitive screening for credentialing of health care workers older than a defined age (65–75 years of age, depending upon the institution). These have been developed and instituted in many of the larger medical centers in the United States.[36] However, their validity and fairness have been questioned and their legality is currently being challenged in a lawsuit brought by the US Equal Employment Opportunity Commission.[45]

The assertion that advanced age is *not* a disability is further reinforced by federal and state laws that protect senior employees from discrimination based solely upon age.

ETHICAL CONSIDERATIONS

All codes of medical ethics emphasize the principles of beneficence and nonmaleficence and the primacy of patient welfare over all other considerations in the physician-patient relationship. Those who are privileged to work in the medical professions are charged with the ethical duty to treat disease in such a manner as "to help, or at least to do no harm (*primum non nocere*)."

As 1 step toward accomplishing this lofty goal, professional organizations that represent physicians require that their members maintain their own health and wellness. For example, the Code of Medical Ethics of the American Medical Association (AMA) states that "physicians whose health or wellness is compromised should take measures to mitigate the problem, seek appropriate help as necessary, and engage in an honest self-assessment of their ability to continue practicing."[46]

The American College of Physicians sets a similar standard, stating that any impaired physician whose capabilities are in doubt must refrain from assuming patient responsibilities and seek assistance in caring for his/her patients.[47]

The ASA Guidelines for the Ethical Practice of Anesthesiology requires of members of the ASA that they maintain physical and mental health and "special sensory capabilities."[48] The ASA also urges that anesthesiologists seek medical care if there is any doubt about their health and that they modify or cease practice during any period of medical evaluation and treatment.

The primary obligation toward patient safety does not stop at the door of the individual patient. Every physician bears the added responsibility for protection of the public from those physicians considered to be a threat to public health, supporting principles of beneficence and nonmaleficence toward both patients and colleagues. Physicians are obliged to report to appropriate authorities a colleague about whom he/she has reasonable concerns regarding impaired medical practice. According to the AMA's Code of Medical Ethics, physicians must "take cognizance of a colleague's inability to practice medicine adequately" if that colleague is compromised by physical or mental illness.[46] Similarly, the ASA Guidelines for the Ethical Practice of Anesthesiology requires that members advise impaired colleagues to modify or discontinue their practice and to "observe and report to appropriate authorities any negligent practices or conditions which may present a hazard to patients or healthcare facility personnel."[48]

Finally, physicians are also ethically obliged to assist and otherwise support colleagues who are seeking help with physical or cognitive limitations or recovering from a disabling illness. For example, physicians should actively aid efforts of impaired colleagues in identifying and engaging appropriate sources of help. The ASA Guidelines specify that members are responsible for assisting in rehabilitation of a colleague who is returning to practice.[48] The AMA Council on Ethical and Judicial Affairs emphasizes that accommodations that enable physicians with disabilities to safely continue in the practice of medicine offers benefits to the physician, but is also beneficent to patients, and can strengthen the physician-patient relationship through greater empathy with patients who suffer disabilities.[49] Accommodation also benefits the profession as a whole, by promoting empathy and reducing bias. In the words of Ouellette,[50] "one way to counter bias against outsiders [disabled patients] is to make them insiders [physicians]."

LEGAL CONSIDERATIONS

Disability is a protected class under several federal nondiscrimination laws.[51] Potential occurrences of disability discrimination involving physicians can occur during (1) admission and retention by medical schools and postgraduation training programs; (2) hiring, firing, and other conditions of employment; (3) staff privileging; and (4) licensure.

Three federal laws that directly impact disability in the workplace are the Rehabilitation Act of 1973,[52] the Age Discrimination in Employment Act of 1967,[53] and the ADA.[3] These laws prohibit discrimination by *covered* employers based solely

upon an employee's disability. All components of employment are included, such as hiring, compensation, advancement, and firing. Title II of the ADA focusses on medical licensure and prohibits any governmental agency from excluding a disabled individual from government programs, such as medical licensure. Title III of the ADA protects applicants to public and private institutions such as medical schools. Although these laws do not specifically address the hospital-physician relationship, including hospital privileges, case law and regulatory guidance have supported the opinion that these are considered equivalent to the employer-employee relationship.

The laws further require that employers provide "reasonable accommodations" as long as they do not cause them "undue hardship" (See the following section on "suggested accommodations"). Reasonable accommodations in the context of jobs in the health care industry include ensuring physical access, acquiring assistive devices where appropriate, and adjusting training procedures as needed.

There are important exceptions and limitations to the protections provided by these laws. Only employers who meet certain criteria must conform to them. For example, businesses that have less than 15 employees are, in general, exempt from the requirement to comply with the terms of the ADA. Also, the required "reasonable accommodations" cannot be unduly costly, disruptive, or fundamentally alter the nature or operation of the business.

There also are clearly defined criteria that must be met for the employee to fall into the protected class. The disabled individual in question must be an "employee" which has strict legal definitions. For example, a partner or a shareholder in a group practice may not meet the criteria necessary to be considered an employee and therefore might be ineligible for protection under these laws. Also, the legal relationship of the physician with their hospital or health care organization can determine whether a disabled non-staff physician's application for hospital privileges is protected under these laws.[54] The disabled physician must be otherwise qualified and meet other eligibility requirements to fall into the protected class. And finally, and most importantly, in the case of health care workers, any individual who poses a direct threat to the health and safety of the community is not considered a "qualified person" and is not protected under disability law.[7] For example, any physician who is currently illegally using drugs is not protected by these laws. The determination of whether an employee poses a direct threat to public health must consider (1) the duration of the risk, (2) the nature and severity of the potential harm, (3) the likelihood that the potential harm will occur, and (4) the imminence of the potential harm.[55]

In addition to federal laws, there are many legal obligations at the state level that must be met. All states have a primary requirement that the practitioner remain physically, mentally, and emotionally competent in his or her profession. If medical incompetence is suspected, the practitioner is required to self-report to the state medical board and/or report their colleague whose fitness to practice is in question. Virtually all state medical societies and licensing boards have a Physician Health Program to provide a mechanism to permit confidential reporting with immunity from legal action.

ACCOMMODATIONS

The laws against disability-based discrimination are unique among civil rights legislation in that they not only prohibit discriminatory actions but also require that employers take affirmative steps to ensure equal opportunity to individuals with disabilities. The only major caveats in meeting these requirements are that the employee must be

"qualified" and the accommodations must be *"reasonable"* and not inflict *"undue hardship"* upon the employer. Each of these highlighted terms has precise legal definitions that are detailed within the guidance accompanying the laws.[56]

Increasing attention is being drawn to those reasonable accommodations that can be made in medical education that will enable more individuals with disabilities to enter the medical field and to successfully practice medicine.[57] For example, the Accreditation Council for Graduate Medical Education (ACGME) has expanded its definition of diversity to include disability and added disability-focused program mandates into accreditation standards for residency programs.[58] However, despite clearly stated policies from the ACGME, the Liaison Committee on Medical Education, and the Association of American Medical Colleges, barriers to appropriate accommodations can remain difficult to overcome for medical students and residents.[59]

Concurrent with greater recognition of nonapparent disabilities such as learning disorders, there has been increased attention to how reasonable accommodations can be extended to individuals who suffer from these disorders.[60] An excellent example of what can be accomplished when appropriate workplace accommodations are provided is a case report of a resident in anesthesiology with ADHD who successfully completed his training and has continued with a distinguished career as an academic anesthesiologist.[61]

Providing appropriate accommodations for practicing anesthesiologists with various forms of disability can be difficult and costly.[62] A major challenge for all involved is to recognize the correct balance between the profession's fundamental obligation to provide efficient and safe patient care while maintaining a realistic appreciation of the essential physical and cognitive requirements of being an anesthesiologist.[7] Attention must also be paid to fairness for all so that those with disabilities are provided an equal, but not a superior, opportunity to their colleagues.

For anesthesiologists with disabilities, impediments to training and practice come in many forms. An important first step is the removal of physical and attitudinal barriers. This includes providing wheelchair accessibility in the workplace (clinic or operating room), and to restrooms. Another achievable accommodation is to limit the amount of unnecessary noise (such as loud music) in the operating room that makes hearing alarms and important communications difficult. A review of other accommodations can be found in an article by Steinberg.[62–64]

SUMMARY

A significant number of anesthesiologists will experience a disabling illness or injury, of varying severity and duration, during their professional career. All anesthesiologists have legal, moral, and ethical obligations to themselves, to their colleagues, and most importantly, to their patients regarding how a disability is managed in their professional life. With proper guidance, and employing appropriate legally mandated accommodations, many disabilities can be overcome and successful careers in anesthesiology can be enjoyed.

CLINICS CARE POINTS

- Physicians are no less vulnerable than the general public to falling victim to a disabling illness or injury.
- The degree of impairment experienced by an anesthesiologist as a result of a disability can vary significantly depending upon a number of factors, including the work environment.

- Federal laws and ethical considerations all play a role in how a disability can impact an anesthesiologist's career trajectory.
- How an anesthesiologist who has suffered a disability is able to continue to safely practice is dependent upon the understanding and support provided by his/her colleagues.
- Patient safety remains the primary responsibility of all involved in the professional development of an anesthesiologist who has suffered a disabling injury or illness.

DISCLOSURE

The author has no financial conflicts of interest to report.

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