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FROM AN *AMA JOURNAL OF ETHICS* SPECIAL CONTRIBUTOR

Disagreements between Medical Specialty Boards and their Diplomates

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After physicians complete residency or fellowship, they apply to medical specialty boards for board certification. For example, anesthesiologists will apply to the American Board of Anesthesiology (ABA) for specialty board certification in anesthesiology. Diplomates, which is what board-certified physicians are called, may undergo further training to receive subspecialty board certification from the ABA in critical care medicine, hospice and palliative medicine, pain medicine, pediatric anesthesiology, or sleep medicine. Twenty-four medical specialty boards offer certification in more than 140 specialties and subspecialties. The American Board of Medical Specialties (ABMS) comprises representatives from these 24 member boards, and its purpose is to improve the quality and safety of health care by "supporting the continuous professional development of physician specialists" [1].

Board certification is an expectation in the United States. More than 75 percent of physicians in the United States are diplomates. The other 25 percent are mainly special cases: 9 percent are physicians over the age of 60, who trained at a time when board certification was less important, and another 7 percent are physicians under 40, some of whom are probably still undergoing the board certification process [2].

The concept of specialization and creating medical specialty boards to monitor specialists most likely came about in 1908, when Derrick T. Vail, Sr., gave his presidential address to the American Academy of Ophthalmology and Otolaryngology [3]. He proposed that specialties should have defined sets of knowledge and that physicians should only be licensed as specialists after demonstrating the required knowledge "before an examining board" [2]. This imprimatur would permit patients to choose physicians wisely and would most likely lead to specialists' garnering all the relevant cases in their towns; specialists would then develop greater clinical expertise and provide improved patient care. By limiting the number of specialists and creating a specialist system as described, specialists would be able to support themselves by practicing only their specialties.

Further events contributed to greater "quality control" in physicians' provision of medical care. In 1910, Abraham Flexner's report to the Carnegie Foundation for the Advancement of Teaching declared that higher standards were required for the people, the education, and the institutions in medical education [4]. In 1915, the National Board of Medical Examiners was founded to serve the public by providing meaningful assessments of medical students seeking to receive their medical degrees [5].

Implementing processes to safeguard the quality of physicians continued in 1917 with the establishment of the first medical specialty board, now known as the American Board of

Ophthalmology. Between 1917 and 1935, the number of medical specialty boards grew to nine [6]. In 1936, the American Medical Association (AMA) set the trend for future boards by establishing the American Board of Internal Medicine (ABIM) as an autonomous body, allowing it to prioritize patient care while being protected from the vicissitudes of politics and practice [7]. The ABIM certifies nearly 25 percent of all physicians.

Medical specialty boards are beholden to the patient. As Vail explained more than 100 years ago, board certification allows diplomates to distinguish themselves and patients to know more about their physicians [3]. The actions of medical specialty boards also improve the health of the public by decreasing the burden of disease, increasing individual productivity, and providing and more cost-effective care.

No system is perfect. Sometimes boards take steps that they later withdraw, such as in 1950, when for a period the ABA reserved the right to revoke board certification for failure to limit clinical practice to anesthesiology [8]. Sometimes boards need to take legitimate actions to which diplomates object. Two current disputes center on requirements for maintaining certification and limitations on practice.

Maintenance of Certification

In the past, physicians were board certified for life unless they violated a specific board policy, typically by committing a felony or having a medical license limited or revoked.

An important change in the last 20 or 30 years has been the development of the maintenance of certification (MOC) system, which "promotes lifelong learning and the enhancement of the clinical judgment and skills essential for high quality patient care" [9]. Time-limited certification and the need to recertify has developed over the years; for example, the American Board of Family Practice began time-limited certification in 1972, the ABIM in 1990, and the ABA in 2000 [7, 10]. When time-limited certification started, most boards required little more than obtaining continuing medical education credits and a test [7]. But with the development of MOC, requirements became more standardized across boards and continued to grow to include practice assessment (e.g., through patient or peer surveys), simulation, and activities related to patient safety and quality improvement.

The latest ABIM MOC iteration has spawned some pushback. ABIM will now report a physician is meeting MOC requirements if he or she is continuously engaged in MOC activities. Diplomates are required to complete a MOC activity every two years, acquire a certain number of points (given for activities) every five years, complete patient safety and patient voice modules every five years, and pass the MOC exam every 10 years [11]. The ABIM changed its MOC requirements because of the concern that merely "engaging in MOC" every 10 years was insufficient to keep up to date with clinical changes.

There are two main approaches that diplomates have taken in addressing concerns about changing MOC requirements: petitions and lawsuits.

Petitions. Since March 2014, more than 19,000 physicians have signed a petition requesting that the only requirement for recertification of ABIM diplomates be the

decennial exam [12]. Others have suggested that some of the ABIM's tactics, such as asking patients to consider encouraging their physicians to become board certified, constitute bullying. The petition also declared that MOC "adds significant time and expense to board certification" and that "scientific data indicating MOC provides benefit is lacking" [12].

In its response to this petition, the ABIM noted that the yearly cost for MOC was $200-$400, a fee that included access to the ABIM self-evaluation products for which physicians can earn continuing medical education credits. The annual fee also includes the cost of the first ten-year exam, which can be upwards of $1,500 in some specialties. The ABIM response estimated that its MOC requirements should take 5 to 20 hours annually to fulfill in nonexamination years and pointed out that "diplomates who complete them [MOC activities] report they are valuable" [13].

It seems that, while the ABIM is doing its best to maintain the commitment to ensure its member physicians are professional and skilled, the 19,000-plus physicians who signed the petition are tired of being subject to requirements they do not feel benefit patients. Both views have validity. The ABIM may underestimate the time and economic costs of fulfilling these requirements—remembering that the fees paid to the ABIM are only the beginning of the costs. The petitioning physicians may understate the value that ABIM's nudges have in maintaining their knowledge and skill.

Medical knowledge and practice changes more often than once every ten years, so requiring education and practice improvements between the decennial exams hardly seems worth arguing about. But it is reasonable to expect that designated education and practice improvement activities have evidence supporting their effectiveness, to make sure that diplomates' time is being used wisely, the goals are being achieved, and the costs of participation are not wasted [14]. In her recent *New York Times* op-ed article "Stop Wasting Doctors' Time," Danielle Ofri, MD, criticized the MOC requirements for ABIM diplomates, particularly the "practice assessments meant to improve care in your own practice that end up being just onerous" [15]. She points out that most of medical practice is like an open-book exam—and that it may make more sense to examine in a way similar to clinical practice.

Lawsuits. Another means of protest against boards' actions is seen in the ongoing case of *American Association of Physicians and Surgeons v. American Board of Medical Specialties* [16]. The American Association of Physicians and Surgeons (AAPS) suit claims that fulfilling MOC standards is burdensome, expensive and time-consuming, does not benefit patients, and has ramifications for physicians who do not meet MOC requirements such as "being excluded from hospitals and insurance plans" and "being publicly disparaged by ABMS as someone who is not 'Meeting MOC Requirements'" [16]. AAPS suggested that the ABMS is attempting to maximize revenue by requiring participation in MOC and by providing products that meet the requirements. AAPS also expressed concern that, because of MOC, patients will have less access to physicians due to both the aforementioned exclusion of some physicians from hospitals and the time spent completing MOC requirements. As of December 20, 2014, the parties are waiting on the court to rule on the ABMS motion to dismiss.

Putting aside the legitimacy of the argument, using litigation to challenge medical specialty boards' policies typically poisons future relationships and should be used only after nonlegal negotiations have failed.

Limitations on Clinical Practice

Diplomates have also objected when boards threaten revocation of certification for diplomates who do not limit clinical practice in prescribed ways. For example, gynecologists often manage the care of men at high risk for anal cancer because of similarities between treating anal and cervical cancer. The American Board of Gynecology (ABOG), feeling that managing the care of these men was outside of its mission of treating women and that its diplomates did not have proper training for the care of men, declared that gynecologists were not permitted to provide this care for men, although there was no evidence that gynecologists providing this care were harming patients. The result could have had damaging effects on research and clinical practice [17]. A hullabaloo followed. Particularly agitated were the male patients who lost their physicians. The public and professional outcry caused the ABOG to change its stance, in part to preserve the focus on its primary mission [18].

Boards have also prohibited diplomates from performing some legal actions out of concern for the specialty's reputation with patients. In 2010, the ABA determined that participation in lethal injection, as defined and prohibited by AMA policy, was grounds for revocation of board certification [19, 20]. The ABA explained that anesthesiologists in particular should not participate in lethal injection, because lethal injection superficially mimics anesthesia, leading to patients' distrust of their anesthesiologists. If this were true, causing this distrust would violate physicians' obligation to put patients' interests first. This prohibition avoided the outcry over ABOG's action, perhaps because the number of physicians affected was much smaller.

In its role of establishing professional standards and because of the similarities between lethal injection and anesthesia practice, it may be reasonable for the ABA to prohibit diplomates from performing this action. But that raises two questions: when is it legitimate for boards to prohibit diplomates from performing legal actions, and does prohibition of one legal action set the standard that a board can prohibit members from performing other legal medical actions merely out of concern for the specialty's reputation (that is, the fact that some people oppose the particular action on moral grounds) [21]? In that regard, this action is a sea change from modern board practice, and one that requires discussion and the development of ground rules for the revocation of board certification for legal actions.

Conclusion

Medical specialty boards contribute significantly to a successful health care system. But boards are not perfect, and they, with the best of intentions, do overreach. Once they overreach, it often sets a pattern that is hard to reverse. In general, boards seek to be inclusive, so diplomates are obligated to participate in shaping them. For diplomates deliberating about boards' actions, considerations of whether a board action makes sense should include asking whether the goals are valid and what supports that view. For

example, ensuring physician competence, because it relates to ensuring high-quality patient care, is clearly a valid goal demanded by professional ethics and state medical practice laws, while limiting gynecologists' activities may be a valid goal, depending on the level of qualitative and quantitative evidence of harms. Similarly, safeguarding a specialty's reputation is valid, but public discussion and sufficient evidence of harm should precede the prohibition of a legal action. Another consideration is whether there is evidence to indicate that the intervention will achieve relevant goals. Continuing medical education in all competencies is likely to improve patient care, but, given the time and opportunity costs of fulfilling MOC requirements, better data need to be used to determine which activities are most relevant.

Despite these hiccups, boards do a vital function well. New physicians who enter the system and get disenchanted (and they will get disenchanted) must remember that the driving force behind medical specialty boards is to meet the needs of the public.

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FROM THE EDITOR

Ethics and the Practice of Anesthesia

Anesthesia began in 1846, when an American dentist administered diethyl ether to a patient undergoing neck surgery [1]. Initially, anesthesia practice was limited to rendering patients unconscious and without pain or movement during surgery. Over the course of the next century, new knowledge, technology, and drugs enabled anesthesiologists to manage physiologic derangements caused by anesthetics and surgery [1]. Although the care of patients undergoing surgery remained the mainstay of anesthesia practice, it soon expanded to include the management of all types of pain.

Rapid technological growth and the expansion of anesthesia into obstetrics, pediatrics, pain management, and critical care raised many issues—social, legal, medical, and ethical. Danish anesthesiologist Bjørn Ibsen established the first intensive care unit in Copenhagen during the 1950s [2]. Given their adeptness in physiology, pharmacology, and resuscitation, anesthesiologists were well-positioned to develop critical care, which requires expertise in airway management, continuous monitoring, cardiovascular and respiratory support, pain control, and resuscitation. Although intensive care therapy reduced overall patient mortality and improved survival, many patients on mechanical ventilation and cardiovascular support suffering from irreversible brain damage did not recover [3, 4]. Critical care medicine raised enduring questions of when to withdraw therapy, whether physicians should provide clinically unindicated care, and when to declare an unconscious person dead [3, 4].

Anesthesiologist John Bonica, who is credited with establishing the first multidisciplinary pain clinic during the 1960s, indelibly shaped the future of medical ethics when he asserted that pain was a "fundamental element of human suffering" and that pain relief was a basic human right [4].

Anesthesiologists continue this tradition of leadership in ethics and medicine [5, 6]. This issue of the *AMA Journal of Ethics* explores the ethical issues that anesthesiologists confront in their daily practice. Three case commentaries raise questions about informed consent and therapeutic privilege, interprofessional communication, and chronic pain management. Katherine L. Zaleski, MD, a clinical fellow in anaesthesia at Boston Children's Hospital, and David B. Waisel, MD, associate professor of anaesthesia at Harvard Medical School, discuss whether physicians have more latitude in withholding relevant information when treating patients with severe anxiety. Gail A. Van Norman, MD, an anesthesiologist and bioethicist at the University of Washington, examines how abusive and disruptive behavior among physicians in the OR can interfere with teamwork and result in decreased patient safety. And Emory University anesthesiologist Anna Woodbury, MD, addresses conflicts between chronic pain patients and their physicians about how best to treat patients' refractory pain.

Two other essays also deal with the social and psychological aspects of pain management. Anita Gupta, DO, PharmD, an anesthesiologist at Drexel University, argues that solutions as simple as more effective communication can improve patients' experiences with pain management. And social psychologist Brian B. Drwecki, PhD, of Regis University, offers his views on how medical schools can partner with social scientists to study, and design educational interventions to reduce, the effects of racial bias in pain treatment in medical education.

Anesthesiologists care for patients at the extremes of health and illness, frequently employing life-sustaining technologies and procedures to restore health. Patients have the now widely recognized right to reject life-sustaining procedures, but this right once stood in conflict with the tradition of physician paternalism and authoritarianism derived from virtue-based ethics [5]. Critical care intensivists Allan B. Peetz, MD, and Nicholas Sadovnikoff, MD, of Brigham and Women's Hospital, and Michael F. O'Connor, MD, of the University of Chicago, discuss whether it is possible for patients to give true informed consent to extracorporeal life support. Stephen Jackson, MD, of Good Samaritan Hospital, discusses the historical evolution of do-not-resuscitate (DNR) orders, and the practice of automatically suspending them during anesthesia and surgery.

Recent initiatives in health policy reform have led anesthesiologists to develop the perioperative surgical home as a counterpart to the patient-centered medical home. Jason D. Hall, JD, Lee A. Goeddel, MD, MPH, and Thomas R. Vetter, MD, MPH, of the University of Alabama at Birmingham, where a model perioperative surgical home exists, consider the ethical implications of that model. University of Chicago anesthesiologist and American Society of Anesthesiologists (ASA) chief quality officer, Richard P. Dutton, MD, MBA, discusses two arms of the ASA—the Anesthesia Patient Safety Foundation and the Anesthesia Quality Institute—and their respective approaches to patient safety and care quality.

Other parts of this issue explore anesthesiology's history. In the podcast, University of Mississippi anesthesiologist and medical historian Douglas R. Bacon, MD, MA, discusses why anesthesia has been described as a uniquely American contribution to medicine. Kathryn E. McGoldrick, MD, an anesthesiologist at New York Medical College, narrates the evolution of professionalism in anesthesia over the past century. Donald Caton, MD, a medical historian and emeritus professor of anesthesiology at the University of Florida, reflects on how social values have both spurred and constrained the medical management of obstetric pain.

In a special contribution to this issue, David B. Waisel, MD, discusses the range of actions that board diplomates in any specialty take when they become disaffected or question a medical board's actions. To illustrate, he recounts that in 2010 the American Board of Anesthesiology became the first physician organization to support punitive actions (including revocation of certification) for physicians who participate in capital punishment [5] and that, more recently, the American Board of Obstetrics and Gynecology attempted to redefine the scope of obstetric-gynecology care by forbidding gynecologists to care for men (a move which has now been reversed) [7].

The goal of this issue of the *AMA Journal of Ethics* is to provide a practical introduction to ethical questions in anesthesia. Many other ethical issues and questions remain, particularly as anesthesia practice evolves in response to a changing health care system. Whether you are an ethicist, medical student, resident, nurse, or attending physician, we invite you to explore this issue of the *AMA Journal of Ethics* and consider these critical ethical questions in anesthesiology.

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ETHICS CASE

Opioids for Nonmalignant Chronic Pain

Commentary by Anna Woodbury, MD

Dr. Belay is an anesthesiologist and board-certified pain management specialist in a thriving private practice. She has grown concerned over the past month since hearing that a well-respected colleague came under scrutiny for "troubling prescribing patterns" based on the percentage of his patients prescribed long-acting opioids.

Dr. Belay receives a refill request for morphine from her patient Mr. Flora. He is a law professor at the local university who sustained a severe back injury six years earlier while replacing the catalytic converter in his award-winning antique car. Although he underwent spine surgery for the injury the same year, he has since suffered chronically worsening back pain that is frequently accompanied by a sharp pain that radiates along the leg. Before seeking the care of his pain specialist, he saw numerous orthopedic surgeons, chiropractors, physiatrists, neurologists, and physical therapists.

Dr. Belay informs him he is due for an appointment before she can provide a refill. During his appointment, Dr. Belay discusses her long-term plans of reducing Mr. Flora's reliance on opioid therapy by supplementing it with adjuvants, injection therapy, and possibly a spinal cord stimulator. She offers him a trial of the spinal cord stimulator, explaining that, if successful, it would reduce the amount of oral medication needed, pose fewer side effects, and provide better long-term control of his chronic pain.

Mr. Flora is aghast. He cries, "Cutting my back open is what caused this pain in the first place! And now you're telling me you want to cut me again to fix it?"

Dr. Belay tells him about the benefits and good outcomes for other patients who received spinal stimulation therapy, but Mr. Flora remains unwilling to consider these options and says he only wants a refill of his morphine.

Commentary

Often, patients with chronic pain have undergone multiple evaluations and treatments prior to seeing a pain management physician. These patients typically are frustrated with the medical system and feel like they have tried it all. If they have found something that works for them, they logically want to continue that regimen. In the case of opioids, this often leads to behaviors that can be misunderstood and misinterpreted as addiction with the desire for dose escalation. Although it is inappropriate to label all patients on opioids as addicts, physicians must also be cautious of the potential for overdose, abuse, and diversion of prescription drugs [1].

Is a Patient Who Demands Opioids an Addict?

A patient who is seeking opioid therapy is not necessarily an addict. There is a phenomenon known as pseudoaddiction that physicians must keep in mind when dealing with any chronic pain patient. Addiction results in a compulsive state of seeking out and using a substance despite harm to personal health and relationships. It is characterized by intense cravings, inability to quit, and continued use despite harmful effects. In pseudoaddiction, on the other hand, the patient is seeking opioid medications for pain relief, not with the intent of abuse. Because pain is primarily a subjective complaint, it is often difficult to determine whether a patient is seeking substances for abuse or simply seeking better pain control. In some ways, the medical field has created addicts by exposing patients to narcotic medications and by prescribing short-acting, euphoric, and addictive medications so freely. Diversion of these medications—often when children of the patients gain access to them and use them recreationally—leads to a rise in overdoses [2]. According to the Centers for Disease Control and Prevention, deaths from drug overdoses continue to rise, with 36,000 deaths in 2008 and most of these from prescription drugs [3].

However, the pendulum often swings too wildly in both directions whenever awareness is raised about a controversial issue. At some point in the last few decades, pain became "the fifth vital sign" to ensure that clinicians were not ignoring patients' pain complaints. That response could have contributed to the current predicament of overprescribing opioid medications without fully assessing or addressing the pain complaint [4, 5]. Knowing when opioid therapy is going to be beneficial rather than harmful involves a precarious balancing act. If physicians become too wary of prescribing pain-relieving medications, they could leave patients in chronic pain to suffer with no alternatives. Psychiatric comorbidities and chronic pain are often linked, and it is hard to tell which came first. Depression can lead to an increased perception of pain, but untreated, chronic pain can lead to depression. I have heard patients say, "If I don't have my fentanyl patch, I'm in so much pain that I want to die." And that statement can never be taken lightly. However, patients who are suicidal should not be prescribed opioid medications or other pharmaceutical agents that could potentially cause a fatal overdose. The complex interplay between the effects of pain, addiction, depression, and other comorbid conditions requires assessment on a case-by-case basis.

Prior to prescribing opioids, it is prudent, therefore, to administer the opioid risk tool (ORT) or a similar assessment to screen patients for the likelihood of prescription drug abuse [6]. The opioid risk tool examines five domains, including family history of substance abuse, personal history of substance abuse, age, history of preadolescent sexual abuse, and psychological disease. Patients are scored and fall into low-, moderate-, or high-risk groups. In general, patients between 16 and 45 years old with a strong history of family or personal substance abuse, psychiatric illness, or childhood sexual abuse tend to be at higher risk of prescription drug abuse and addiction. It would not be prudent to prescribe opioids to a high-risk patient given the potential for overdose, whether accidental or intentional.

If in the course of treatment it becomes apparent that Mr. Flora is truly addicted, then it would be appropriate for Dr. Belay to express her concerns about dependence and

recommend that he consult an addictionologist. These professionals are typically psychiatrists who specialize in drug or alcohol-related addiction.

Informing Patients about the Efficacy and Side Effects of Opioids

If addiction is not a concern, attention turns to finding the most effective and least harmful treatment. When nonaddicted, rational patients with the capacity to make decisions for themselves are presented with detailed information about the efficacy and side effects of opioid treatment, they might make an educated decision to discontinue opioid therapy themselves. Many patients are aware only of the potential for addiction or overdose and believe that they are not at risk for these behaviors. However, when given thorough information regarding the risks of long-term opioid therapy, patients often see the value of exploring other options rather than believing their physicians are avoiding prescribing narcotics simply for fear of litigation or regulatory action.

So, are opioids a good therapeutic choice for chronic pain? Unless a patient has been sustained on low-dose opioids with little or no need for escalation over time, the answer is no. While opioids do provide short-term benefit and can be helpful when the pain will resolve (e.g., following a fracture or immediately after surgery), there is no evidence of long-term benefit. In fact, studies suggest that many patients develop a tolerance to the medication over time, leading to the need for dose escalation with inadequate pain relief, more side effects, poor quality of life, and, often, long-term unemployment [7]. In one study, for example, opioid use was associated with greater disability than non-use after six months, despite adjusting for confounding factors [8]. While opioid rotation, which staves off tolerance, can sometimes help maintain a lower total necessary dose, eventually patients still tend to become resistant to the analgesic effects and experience worsening pain. In addition to the well-known potential for physical and psychologic dependence with long-term opioid use, which can progress to addiction, other negative effects include:

- *Opioid-induced hyperalgesia*. This increased sensitivity to pain—related to decreased endocytosis of the mu-opioid receptor and increased excitatory mechanisms such as N-methyl D-aspartate (NMDA) receptor activation [2, 9]—typically occurs with higher doses of opioids but can happen at lower doses as well. The preferred treatment, which usually works, is to cut the opioid dose by 50 percent [10, 11].
- *Constipation.* Opioids also act on mu-opioid receptors in the gastrointestinal tract, leading to decreased peristalsis and resulting in constipation.
- *Sexual dysfunction*. This occurs in at least 80 percent of both men and women on oral opioid therapy, due to drops in testosterone and estrogen levels that can decrease libido and cause erectile dysfunction and hypogonadism, even in those with intrathecal pumps [12-15].
- *Weight gain, decreased energy, and moodiness*. Dysregulation of both the hypothalamic-pituitary axis and thyroid hormone release can affect all three of these areas [15-19].
- *Lower-extremity edema*. Vasopressin dysfunction affects water retention [14, 15, 20].
- *Withdrawal syndrome*. If a physiological dependence is established (regardless of whether psychologic dependence is present), stopping opioid use abruptly can lead

to anxiety, agitation, diarrhea, nausea, and vomiting, among other unpleasant symptoms.

Recommendations

In addition to their side effects, opioids may not even be particularly effective for Mr. Flora's condition. His pain is likely due to post-laminectomy syndrome, but worsening of his symptoms could indicate either progressive disease or tolerance to morphine; opioids, while they can be used for the treatment of neuropathic and radicular pain syndromes such as his, are not first-line treatment [21, 22]. This is important information for him to know.

Dr. Belay should explain to Mr. Flora that neuropathic pain is classically hard to treat, but many medications specific to this condition are available, each one acting through a different mechanism. Sometimes it is a process of trial and error, and it may take a particular medication or a combination to adequately treat neuropathic pain. Neuropathic pain medications include anticonvulsants, tricyclic antidepressants, serotonin norepinephrine reuptake inhibitors, and even oral local anesthetics [21]. She must convey to him that it might be a long process to find the optimal therapy for him, but that opioids are not typically the best option for neuropathic pain given their high risk-benefit ratio [1].

Dr. Belay should ask whether Mr. Flora has tried gabapentin and at what dose. It may be worth trying again, depending on the dose used previously. Often, starting on too high a dose can cause adverse side effects and lead the patient to abruptly discontinue the medication. Similarly, starting on too low a dose without informing the patient that the medication will require slow dose increases to minimize side effects while working up to effectiveness can lead the patient to perceive that the medication doesn't work.

She should also consider that, while Mr. Flora has been to multiple specialists, he has not seen a cognitive behavioral therapist or psychiatrist. It is possible that life stressors are aggravating his pain symptoms. A cognitive behavioral therapist can help Mr. Flora learn to manage his pain through techniques such as distraction and meditation. Biofeedback can also be helpful in self-management of physiological responses to stress and pain. So can acupuncture; evidence supports its effectiveness in the treatment of some chronic pain conditions [23, 24]. Of course, Dr. Belay cannot force Mr. Flora to go to a specialist. However, she can express her concerns for his dependence on morphine and his refusal to try alternative treatment modalities, and she can recommend that he see an addictionologist to determine whether or not it would be appropriate for him to continue opioid use.

If, in the course of speaking with Mr. Flora, it becomes apparent that he has truly exhausted all conservative medical options (physical therapy, heat, ice, massage, anti-inflammatory medications, neuropathic pain medications, cognitive behavioral therapy, biofeedback, acupuncture, and minor interventional pain procedures such as epidural steroid, trigger-point, or facet injections) and is stable on an opioid regimen without concerns for increased risk based on the ORT or comorbidities such as obstructive sleep apnea, then it is reasonable to continue this class of medication.

One long-acting opioid medication that can be particularly beneficial in the treatment of chronic pain, including neuropathic pain, is methadone. Because methadone works not only through the opioid receptors but also through NMDA antagonism, it can be more potent than other opioids. Additionally, because of its pharmacokinetics, methadone does not provide the rush of euphoria and the roller-coaster effects of shorter-acting, fast-onset narcotics. These characteristics of methadone tend to make it less addictive than other opioids.

If Dr. Belay is uncomfortable in continuing to prescribe certain narcotics for Mr. Flora, she is within her rights to refuse to do so. However, Dr. Belay must balance her moral obligations to "do no harm" and to relieve suffering, and she should not abandon this patient. If Mr. Flora is an appropriate candidate for opioid therapy and, after a thorough discussion of the risks, benefits, and alternatives to opioid therapy, he insists that morphine is the only therapy he will accept, Dr. Belay could provide a list of physicians who are more comfortable prescribing it.

If Dr. Belay does decide to take on the responsibility of prescribing opioids for Mr. Flora, she will need to follow local and federal regulations regarding the prescribing of narcotic medications. Regulations may include a pain contract to discuss risks and benefits of opioid therapy and discourage patients from obtaining opioids from multiple sources and random urine drug screens to assess whether patients are taking the medications as prescribed or abusing any other substances. She will also need to monitor him regularly for any aberrant behavior.

And what about the stimulator? Ultimately, if the patient has adequate decision-making capacity, patient refusal is an absolute contraindication to any procedure. Although Dr. Belay may feel that spinal cord stimulation is a more appropriate long-term treatment for Mr. Flora's pain, ultimately it is Mr. Flora's choice what is done to his body. And any patient undergoing implantation of a spinal cord stimulator or intrathecal pump would require a psychological evaluation prior to placement of the device; Mr. Flora is clearly not psychologically ready for this procedure [25].

Mr. Flora clearly has attributed his chronic pain to his previous surgery and is skeptical of further surgery. And that is not necessarily unreasonable—surgery comes with its own set of risks. There is a risk of infection, bleeding, and nerve damage with every procedure. The stimulator could stop working due to lead migration or battery failure. Even an intrathecal pump that delivers opioids to the spinal opioid receptors, which minimizes systemic effects, does not completely eliminate them and tolerance can still develop. Furthermore, there are risks of pump malfunction or leakage, which could lead to a need for repeat surgery or a fatal overdose. An implantable device is not necessarily the best option. As with any treatment, the risks and benefits must be weighed for each individual patient.

However, Mr. Flora may not be opposed to trying other adjuvants or injections for his pain. Dr. Belay should assure Mr. Flora that no procedure will be performed on his body without his consent and focus more on discussing other interventions with him. Over time, as trust builds between the two, the possibility of spinal cord stimulation for his pain could be readdressed.

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ETHICS CASE

Withholding Information from an Anxiety-Prone Patient?

Commentary by Katherine L. Zaleski, MD, and David B. Waisel, MD

Ms. Chen is in general good health. The only medication she takes is duloxetine, a serotonin/norepinephrine reuptake inhibitor that her psychiatrist prescribed for generalized anxiety disorder. After experiencing increased pain for three months when straining and lifting objects, Ms. Chen made an appointment with her primary care physician, who took a history, examined Ms. Chen, and referred her to a general surgeon for further evaluation. The surgeon performed a physical exam and diagnostic workup that confirmed that Ms. Chen had an inguinal hernia and scheduled her for elective hernia repair the following week.

On the morning of the scheduled operation, Ms. Chen was greeted by Dr. Billings, a third-year resident in anesthesiology. The surgeon had informed Ms. Chen about the risks of the surgical procedure and had obtained her informed consent. But the nurse told Dr. Billings that Ms. Chen was "very worried about dying" and "barely made it through the surgery consent." On interviewing her, Dr. Billings noted that she was a highly anxious woman who was unable to remain still. After speaking with Ms. Chen, Dr. Billings reviewed her medical history and medications and confirmed that she was a good candidate for general anesthesia.

Given Ms. Chen's good health, low risk of adverse effects from general anesthetic, and current level of anxiety, Dr. Billings considered whether to inform Ms. Chen fully about all possible risks associated with general anesthesia, including the risk of death. She recalled an ethics grand rounds lecture in which an anesthesiologist invoked therapeutic privilege when choosing not to disclose full risk information to a psychiatric patient. Dr. Billings stepped out of the holding area to gather her thoughts. Unable to locate the attending physician, she considered whether withholding the risks of anesthesia from Ms. Chen would be a failure to obtain truly informed consent.

Commentary

The case of Ms. Chen and Dr. Billings is not rare. Anxiety is common in the preoperative period, with an estimated incidence of up to 80 percent [1]. With anxiety disorders and, more specifically, generalized anxiety disorder, affecting roughly 15 percent and 2-3 percent of the US population respectively [2, 3], preoperative situational anxiety is often superimposed upon an existing anxiety disorder. Although some degree of anxiety is considered to be a normal response in the preoperative period, it has been shown to have deleterious consequences for the postoperative course, including increased postoperative pain and infection risk, decreased wound healing, and long-term cognitive or behavioral changes [4-8].

As anesthesiologists, we see it as our responsibility to help mitigate this anxiety response as part of a comprehensive perioperative care plan. Our preoperative interaction, which includes a history and physical examination as well the informed consent process, has the potential to greatly assuage anxiety through the establishment of a therapeutic relationship and the correction of informational asymmetries. This is not the case, however, for all patients. We need to appreciate the nuances of informed consent and therapeutic privilege before we can decide whether it is appropriate for Dr. Billings to limit informed consent and invoke therapeutic privilege.

Informed consent, as we know it today, developed as a legal construct through a series of court cases that spanned the twentieth century. The courts' decisions upheld a patient's right to self-determination and found that operations performed without assent, initially, and then without consent, subsequently, were battery [9, 10]. By assenting, a patient agreed to proceed with a procedure without being sufficiently informed of specific risks and benefits to give consent. Interestingly, these decisions and the ethical principles they upheld were at odds with the codified beneficence-based medical ethics of the time. As the practice of medicine became more participatory and patient-centered, physicians increasingly recognized that the informed consent process was integral to patient care.

At present, it is generally accepted that informed consent should be obtained from all patients with decision-making capacity undergoing any procedure more invasive than, for example, a lab draw or basic physical exam, provided that the situation is not so urgent that doing so would delay emergency treatment and cause harm. Patients show evidence of decision-making capacity by (a) being able to understand medical problems, proposed treatments, alternatives, options to refuse treatment, and foreseeable consequences of accepting or refusing proposed treatments and (b) being able to express a rational, internally consistent preference [11]. Decision-making capacity is different than competency, which is usually determined in a binary fashion (being competent or not being competent) by a court [11].

The informed consent discussion should include four components: (1) the facts of the patient's situation or condition, (2) the potential treatment options including no treatment, (3) the risks and benefits of the proposed treatment and nontreatment options, and (4) the physician's recommended course of action. The quantity and specificity of the information provided should be tailored to the preferences, needs, and understanding of the patient. Patients may refuse part or all of the information provided or may designate another person to participate in the care discussion on their behalf.

Although it is exceedingly controversial, some argue that, under very special circumstances, the physician may invoke therapeutic privilege and withhold information regarding a diagnosis or treatment *if disclosing it would pose a serious threat to the patient* [12]. The rationale is that, in such cases, the principles of beneficence (the physician should act in the best interest of the patient) and nonmaleficence (the physician should not harm the patient) supersede the principle of respect for patient autonomy.

Dr. Billings was correct to step back to collect her thoughts and to seek out her attending physician for advice regarding how best to manage the informed consent process for her

highly anxious patient. This is a good practice whenever faced with an unexpected hitch. She will need to consider a number of things before she can make a reasoned judgment about whether to proceed with the usual informed consent process or to invoke therapeutic privilege. First, she must decide whether Ms. Chen is in a reasonable mental and emotional state to provide informed consent. Second, she must determine the quantity and depth of information needed and wanted by Ms. Chen. Third, based on these things, she must assess the potential for immediate and serious harm to Ms. Chen that could result from the informed consent process. Considering these things separately creates a framework for Dr. Billings's decision-making process.

Is Ms. Chen in a Position to Give Informed Consent?

It is a matter of some debate whether anxiety or pain in the preoperative period creates sufficient duress to render a patient unable to fully participate in the informed consent process. A similar situation occurs with women who are in labor [13]. Provided that a patient is not under duress from lack of pain medication or alternative treatments and that she is not so distressed as to render her unable to understand the choices, communicate her concerns, or make decisions regarding her care, her consent can be obtained. In some cases, patients may be able to participate after receiving anti-anxiety medication if they retain decision-making capacity.

Prior to her arrival in the preoperative holding area, there is no question that Ms. Chen would have been considered to have decision-making capacity and would have been expected to participate actively in the informed consent process. Following her consent to surgery, however, her demeanor changed, and she became highly anxious and unable to sit still. Without engaging Ms. Chen further, Dr. Billings has no way of knowing whether she is able or willing to consent for herself. Often, it is not until patients are participating in the informed consent process that it becomes clear that they are not in a position to do so.

How Much Information Should Ms. Chen's Consent for Anesthesia Entail?

According to the most recently published AMA Code of Medical Ethics' opinion on informed consent [14], the quantity and specificity of the information provided should be tailored to the preferences, needs, and understanding of the patient. There is no specific distinction made between high- and low-risk patients, high- and low-risk procedures, or minor or major complications. Legally, in order to conform to the "reasonable patient" standard that is upheld in most states, the patient should be provided with all the information that a reasonable patient would consider material to making a decision. Information that is already known to a patient or is considered general knowledge does not necessarily need to be discussed. And the patient may choose not to be told some or all of the information.

If Ms. Chen is able to participate in the informed consent process, Dr. Billings should discuss her anesthetic options given her past medical history, planned surgery, and mental state. Included in this discussion should be the frequently occurring risks and benefits of these options as well as Dr. Billings's recommended anesthetic choice (i.e., general or local). The sharing of information should be a back-and-forth exchange between the patient and physician and not merely a listing of every possible risk and benefit. Given Ms. Chen's good health and the nonelevated risk of the proposed procedure, Dr. Billings should let Ms. Chen dictate how much information she wants about the more rare or serious risks. If she

explicitly states that she does not want to be told about the risk of death or other serious complications, Dr. Billings should respect that wish and not force the information upon her. It is important to remember that the back-and-forth exchange can be as informative for the clinician as it is for the patient. For example, general anesthesia was most likely chosen for Ms. Chen based on her preoperative diagnosis of anxiety, but, if in the course of the informed consent discussion, Ms. Chen clarifies that her fear of perioperative death is really a fear of not waking up from general anesthesia, a regional anesthetic may be her preference. Without the informed consent process, Ms. Chen may not have known about the availability of a regional anesthetic, and Dr. Billings may not have considered it to be an option for this particularly anxious patient.

Could Informed Consent Harm Ms. Chen?

Multiple studies that have attempted to determine and quantify the anxiety-generating effect of informed consent provide mixed results about whether a more detailed consent process is physiologically or psychologically harmful to a patient [15-19]. Conflicting results aside, these studies may not be applicable to any specific patient. Therefore, the first question that Dr. Billings should consider is whether the informed consent process itself will directly harm Ms. Chen. A mild increase in anxiety prior to surgery is both somewhat expected and generally acceptable, but could an extreme reaction lead to a myocardial infarction, hypertensive emergency, or active suicidal ideation? A more subtle question is whether the increased anxiety that the consent process entails could lead to a poorer surgical outcome. In the latter situation, it would be difficult to justify violating a patient's autonomy by withholding information that the patient has not given the physician permission to withhold. It is because of the first question—whether the increase in anxiety could lead to physical or psychological crisis—that the concept of therapeutic privilege exists.

Therapeutic privilege or exception is a concept that justifies withholding information regarding a diagnosis or treatment from a patient if the disclosure of that information could lead to direct harm to the patient. It is not a means to allow physicians to withhold information that may cause a patient to forgo a treatment course that a physician deems beneficial or even necessary (i.e., bypassing respect for patient autonomy in the name of beneficence). Neither is it a means to allow a physician to forgo a potentially uncomfortable discussion if the risks of a poor outcome are perceived to be low. The AMA Code of Medical Ethics' opinion on withholding information from patients [20] considers doing so without patients' knowledge or consent ethically unacceptable. It recommends that all attempts should be made to tailor the disclosure of information to meet the needs and preferences of the patient. The code does make allowances for partial or delayed disclosure provided that a plan is in place to prevent a permanent delay. Since Ms. Chen is otherwise healthy and not experiencing active suicidal ideation (the direct harm of concern in this case), invoking therapeutic privilege would not be an ethically sound decision in this situation. Every attempt should be made to uphold and foster Ms. Chen's autonomy unless it is clearly dangerous to do so.

Conclusion

In summary, after she considers these questions, Dr. Billings should make every attempt to engage Ms. Chen in the informed consent process. The depth and breadth of

information provided to Ms. Chen will depend on her preferences, needs, and ability to understand information given her current mental state. It may be that Ms. Chen will refuse part or all of the information that Dr. Billings offers to provide or that she will choose to designate a proxy to consent for her. In both of these cases, Dr. Billings should comply with Ms. Chen's wishes and feel confident that this does not represent a failure to obtain truly informed consent. There is also the possibility that Ms. Chen's anxiety will be partially assuaged by the knowledge of the low risk of death from general anesthesia or that the discussion will lead to an anesthetic plan that is more acceptable to her. In both of these cases, invoking therapeutic privilege would not only deprive Ms. Chen of her autonomy but also cut off an opportunity to provide her with the best care possible. If at any point during their interaction Dr. Billings thinks Ms. Chen's decision-making capacity is dwindling, it may be more ethically sound to cancel the nonurgent procedure, make provisions for Ms. Chen's safety, and reschedule for a later time rather than to invoke therapeutic privilege and move forward as planned.

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ETHICS CASE

Abusive and Disruptive Behavior in the Surgical Team

Commentary by Gail A. Van Norman, MD

With six years of experience under his belt, Dr. Richards was hired as an anesthesiologist at a small private hospital. His first patient, Mr. Jarvis, was scheduled to undergo surgical resection of an abdominal tumor. Dr. Richards interviewed Mr. Jarvis and went over his record with him, discovering that his patient was 64 years old and had chronic hypertension. The attending surgeon, Dr. Palmatti, was a well-respected general and endocrine surgeon with over 30 years' experience and the chief executive officer of the largest surgical group in the city. About an hour into the case, Dr. Palmatti instructed Dr. Richards to administer a fluid bolus and electrolytes.

Dr. Richards politely explained that the patient's urine output, intraoperative fluid management, blood loss, and arterial blood gas measurement all suggested that his fluids and electrolytes were in balance, so he recommended not administering fluid and electrolytes at this time.

Dr. Palmatti remarked that, in his experience as a surgeon, he had "never had an anesthesiologist display such blatant disregard for authority."

A nervous Dr. Richards responded, "While fluid administration in this patient would not likely have any significant negative consequence, Mr. Jarvis's numbers clearly suggest that fluids are not necessary. I feel as though there is slightly more room for harm than good."

Clearly irritated, Dr. Palmatti turned to Dr. Richards and asks, "Oh, you 'feel as though,' do you? And what exactly entitles you to question my 35 years of experience?"

Dr. Richards reassessed the patient's volume status and intraoperative fluid loss and considered what effect his refusal might have on his and the hospital's other anesthesiologists' standing with the surgeon and whether the risk of adverse effects was sufficiently minimal to permit administering unnecessary fluids.

Commentary

Too often, we may be inclined to trivialize, ignore, or retaliate for physician behaviors that strike at the heart of patient care by disrupting appropriate communication among members of the medical team, rather than addressing them. Reporting bullying behavior may be interpreted as showing weakness or an inability to hold one's ground in what amounts to an interpersonal power struggle. Failure to win the contest or to cope with harassment in some admirably cunning or decisive way may be seen to reflect adversely on the abused physician, his or her partners, or the specialty as a whole. And retaliation is a formula that is not only entirely unprofessional but also highly unlikely ultimately to

succeed. Dysfunctional responses to bullying can place the patient in direct danger because they corrupt the professional fabric of the perioperative team.

Dysfunctional Behavior in the Medical Team

In this clinical scenario, two types of dysfunctional physician behavior can be identified. One type is abusive behavior, which can be verbal (insults; condescension; or unwarranted attacks on the honesty, integrity, or competence of another) or physical (contact that is embarrassing, threatening, intimidating, or injurious and invades another's physical or psychological space) [1]. The other type is disruptive behavior, which alters clinical care in a way that is either not beneficial or actually harmful to the patient. Mean, abusive, and disruptive (MAD) behavior among medical professionals interferes with the cooperation, teamwork, and communication necessary to fulfill the obligation of physicians to put the patient's interests foremost. Dr. Palmetti's behavior exhibited both abusive elements ("What exactly entitles you to question my 35 years of experience?") and disruptive elements (Dr. Richards is about to alter patient care because of it).

MAD behavior among physicians is unethical [2] but distressingly common. In a 2004 survey, physician executives indicated that physician behavior caused problems within their institutions three to five times per year [3]. Nearly 95 percent reported that disrespect, refusal to complete tasks, yelling, and insults occurred on a regular basis among the physicians they supervised and more than 70 percent stated that behavior problems in their organizations nearly always involved the same physicians [3].

In another study of disruptive physicians, general surgeons were the most frequently identified by respondents as exhibiting disruptive behavior (26 percent), followed by neurosurgeons (20 percent), cardiac surgeons (13 percent), and orthopedic surgeons (10 percent) [4]. When the same authors presented a similar survey to staff at another institution, more than 67 percent of respondents reported thinking that MAD behavior sometimes, frequently, or constantly led to adverse events, with 71 percent of those indicating that medical errors had occurred and 51 percent of them citing reduced patient safety [4]. Another set of interviews of surgical team members identified increased errors and diminished patient safety as a major problem resulting from MAD behavior among surgeons in the perioperative setting [1].

However, the problem of MAD behavior is prevalent among anesthesiologists as well [5]. Almost half of respondents were aware of an adverse event that could have resulted from disruptive behavior in the perioperative setting and 62 percent indicated that the impact on patient outcomes could have been serious, very serious, or extremely serious [5].

Personality Disorders and Chronic MAD Behavior

Chronic MAD behavior is frequently part of a personality disorder that reflects a person's innate character and is not merely an exaggerated response to immediate environmental conditions. In one study of 39 physicians referred to a program for disruptive behavior, approximately 40 percent had abnormal personality profiles as measured by the Minnesota Multiphasic Personality Inventory-2 [6]. People with these profiles often lack insight and emotional intelligence. Such traits are not generally amenable to psychotherapy [7, 8]. Management of such personalities requires setting strict rules of

acceptable behavior and then imposing real and significant penalties for transgressions [7]. Physicians must assume that repeated episodes of MAD behavior will occur and that appropriate behavioral norms will have to be repeatedly reinforced.

Addressing MAD Behavior

The medical profession has been slow to respond to MAD behaviors with real sanctions. This may in part be due to the historic perception of medicine as a virtue-based profession and of its members as having achieved entry into the profession partly by being intrinsically virtuous or deserving in some way. MAD behavior is a "trivial problem" for such a person, who is engaged in a higher goal. And yet disrespect for others and poor self-control, which are core elements of MAD behavior, are completely contrary to the core aims of the ethical practice of medicine. Recognizing that such behavior increases the likelihood of medical errors and fosters interpersonal interactions that undermine patient care, the Joint Commission called in 2008 for MAD behavior to be treated as a "Sentinel Event Alert." Such behavior poses danger to patients by fostering an atmosphere in which medical errors become more likely and interpersonal interactions erode the primary goal of putting the patients' welfare foremost [9].

Today's ideal health care team is a heterogeneous group of people with a variety of personalities, motivations, backgrounds, genders, and value systems who represent different professions, each with their own knowledge and contributions to patient care. Although in the past, the surgeon was considered the captain of this team, that concept no longer holds ethically, medically, or even legally; the "captain of the ship" doctrine has been thrust aside [10].

Today, health care professionals work as members of a team, all charged with delivering high-quality care within their specialties and in cooperation with others. Yet disagreements, alternative perspectives, and tensions are bound to occur in any such team. When handled civilly, they should even be welcomed because they may bring new and potentially critical knowledge and strategies to bear on the problem at hand. Behaving civilly according to this definition does not merely mean being "polite" or "mannerly." Civility refers to an entire array of behaviors, perceptions, and attitudes that reinforce social norms, foster the kind of interpersonal trust that creates robust and complementary relationships in a cooperative community, and enable disparate individuals to set and reach common goals [7]. Abusive and disruptive behaviors erode this ability, the very core of a well-functioning health care team. The physician who responds to uncivil behavior in kind furthers the disintegration of the team.

Dealing effectively with MAD behavior is no easy task and requires concerted efforts on the part of individuals, departments, hospitals, and health care systems to support and reinforce actions that minimize its occurrence. Accrediting bodies now require that every patient care system have effective policies and procedures in place to investigate and quell abusive and disruptive behavior [9]. The process of managing MAD behavior has two essential parts: correcting the culture, policies, and procedures that promote it and corralling individuals who exhibit it.

The first step in system change is educating staff about the danger that MAD behavior poses to patients and establishing procedures that allow MAD behavior to be successfully dealt with. Procedures for bringing such behavior to the attention of the medical staff leadership should be simple and easily accessible. Those who bring such complaints must be free of fear of retaliation. Investigation must be prompt, carried out by a neutral party, and follow prescribed procedures and policies. All parties must be afforded respect and due process.

Once an occurrence of abusive or disruptive behavior has been confirmed, efforts to curb the behavior should begin on a collegial level first, involving medical leadership within the practice or department and then institutional medical leadership if necessary. Counseling (e.g., anger management therapy) to make behavioral compliance possible may be recommended, bearing in mind that the goal of such therapy is to compel behavioral compliance, not to promote psychological insight—which is usually beyond the capabilities of the personality who chronically engages in such behaviors.

Ultimately, the authority of regulatory agencies may be needed to quell the behavior: most state licensure agencies and many professional credentialing boards regard unprofessional conduct as cause for withdrawing the physician's license, board certification, or both, but the bar for such conduct may be set quite high—e.g., physical abuse, addiction, dishonesty, or a felony conviction [11].

How should Dr. Richards respond in the situation described? Immediate responses to MAD behavior must take into account the context and location of the interaction and the relative risks of immediate confrontation. Patient care and safety are first and foremost. Is the surgeon's demand merely an aggravation? Or is it likely to promote an adverse patient outcome? Engaging in a nearly pointless argument while performing critical patient care duties in the operating room certainly poses much higher risks to the patient than the administration of fluids, which, while perhaps unnecessary, is unlikely to lead to any serious complication. If, on the other hand, Dr. Richards believes that carrying out Dr. Palmetti's demands *would* endanger the patient, he should not do so. In that case, as a "junior" attending physician, he might consider requesting support from other colleagues in the operating room to reinforce his position.

In this case scenario, Dr. Richards respectfully communicated objective evidence that the treatment Dr. Palmatti demanded was unnecessary. Unfortunately, Dr. Palmatti chose not to supply an equally or more compelling rational argument but simply to insult and intimidate Dr. Richards. As galling as it may be, at this point the most ethical thing for Dr. Richards to do is to administer the fluids and plan to confront the surgeon's behavior outside of the operating room setting at a more appropriate time.

After the surgery, a civil approach would generally require the anesthesiologist to talk in a collegial way with the surgeon about uncivil behavior and why it poses a problem in the operating room. But in the case scenario above, there is clearly already an unequal relationship between the anesthesiologist and surgeon—the surgeon is older, more established in practice, and has more clinical experience. Depending on the response he expects from the surgeon, Dr. Richards may choose to approach the anesthesiology

service chief or chair instead. If these efforts fail, the issue should be addressed according to the policies and procedures of the hospital system involved—often by making a report to the administration regarding the behavior and asking for an investigation. Management of the behavior will generally entail setting strict behavioral requirements for the physician and continually monitoring his or her progress.

Controlling abusive behavior is an unpleasant task, but under no circumstances should it go unaddressed. In the patient care arena, appropriate staff behavior is essential to the ethical goals of medical care. Ultimately, if MAD behavior cannot be controlled, the interests of patient safety require that the physician be removed from patient care.

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MEDICAL EDUCATION

Education to Identify and Combat Racial Bias in Pain Treatment

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Reducing racial bias in pain treatment is a laudable and feasible goal that requires attention to and management of health care professionals' self-concept; an interdisciplinary approach to research that bridges knowledge and expertise across multiple fields; and a medical education system primed to take advantage of its unique position at the heart of health care professional formation and development. This paper provides support for a more complex understanding of the social and psychological factors driving racial bias in medicine and pain treatment, presents evidence that reducing racial biases is possible, and considers medical education's role in doing so.

Health Care Disparities Persist

Research indicates that health care disparities are, in part, driven by factors beyond health care professionals' control. For example, pharmacies in African American communities are less likely to carry certain analgesics [1, 2]; discrimination in the job market [3, 4] has made African Americans less able than members of other groups to purchase health care services [5]; and patient attitudes toward use of the health care system differ across racial and ethnic lines [6]. However, other factors, like decision-making processes, clearly are under the control of health care professionals. For example, members of minority groups have longer wait times in the ER [7-9], are less likely to receive catheterization when identical expressions of chest pain are presented [10], and are less likely to be recommended for evaluation at a transplant center or be placed on a transplant waiting list when suffering from end-stage renal disease [11]. African Americans receive lower-quality pain treatment [12, 13], even when covered by the same medical insurance [14, 15] and seeking treatment at the same emergency department [16] as patients of other races. Furthermore, it is important to note that individual-level biases are particularly apparent in experimental investigations in which race is systematically varied and health care professionals and students decide to provide lower-quality treatment to patients from racial minority groups [10, 17]. Clearly, racial bias in health care is not simply a function of uncontrollable, institutional biases—individuals' decision-making processes are also at play. Bearing in mind the familiar saying, "Focus on what you can control, not what you cannot," how can health care professionals mitigate racial health care disparities and the biases that drive them?

Default Strategies for Addressing Bias May Be Ineffective

Research indicates that most Americans possess an egalitarian, nonprejudiced self-concept [18]. However, feedback indicating that one's responses may be racially biased causes guilt and self-criticism [19] and in some cases creates withdrawal motivations that make people less likely to confront and ameliorate their racial prejudice [20-22]. In other cases, however, when people are made aware of potential interventions for reducing their

own racial bias, they engage with them [19, 20]. Recent research indicates that individuals expend energy when interacting with a person from a different race in an attempt to reduce prejudicial behaviors [23]. Unfortunately, these natural efforts at prejudice reduction (i.e., exerting willpower to suppress biased impulses) are not effective and can lead to greater expression of prejudice in the long run [24].

Health care professionals and students most likely share these aforementioned self-concepts and problems with prejudice, and it is possible that information regarding racial disparities in health care can lead these professionals to (a) protect their self-concepts by withdrawing and ignoring or denying their own biases or (b) attempt to reduce prejudice using ineffective methods. Both of these responses make it difficult for health care professionals and students to learn effective methods for controlling racial biases that are all too common in American society.

Racial Bias is Common

Research has unearthed evidence of racial bias in almost every important social institution—not only health care [7-17] but also education [25, 26], policing and the justice system [27], National Institutes of Health reviewer decision making [28], employee hiring and callback decisions [4], business loan approval decisions [29], car price negotiations [30], and professional sports—it has been documented that Major League Baseball umpires exhibit racial bias in calling balls and strikes [31] and that National Basketball Association referees exhibit racial bias in calling fouls [32]. Racial bias is clearly not only a problem for the health care system.

Although many people believe modern prejudice is limited to a few misguided individuals, recent research indicates that a vast majority of people harbor implicit, nonconscious racial biases [33, 34], and these biases have been shown to affect behavior in general [35] as well as health care decision making specifically [36]. Racial bias apparently permeates America's most important social institutions and influences the minds of its citizens. Health care professionals and students are not immune to these effects, and experimental and correlational studies support this claim. For example, African American actors portraying the same symptoms of chest pain to physicians were less likely to receive catheterization than European American actors [10], an experiment which illustrates that patient race directly influenced these very important treatment decisions. In a similar experimental study, nursing students provided lower quality pain treatment to African Americans than whites after viewing short video clips of real patients expressing real pain [17]. Patient race influenced how these nursing students decided to treat their patients. Evidence of the effects of bias also comes from a study of real-world treatment decisions involving end-stage renal disease in which physicians were 20 to 23 percent less likely to refer black patients than white patients for a transplant evaluation [11].

Are Health Care Professionals Racist?

Some will conclude from the last section that health care professionals (and Americans in general) are racist. This assertion is unwarranted considering the connotations and history of this term. "Racism" is generally used to refer to active, willful acts of discrimination and harm. It would be a mistake to conclude that racial disparities in medicine are purposefully propagated. A more guarded evaluation is supported by research indicating that

contemporary racial bias in the US is largely nonconscious. That is, most individuals who are biased are unaware of their biases, and, if given a choice, would not consciously harm others [37-40]. And, while health care professionals most likely engage in the same self-concept protection as the rest of the populace, it is unlikely that they are aware of their own personal biases or the institutional-level biases within the health care system [41], much less that they intend to harm their patients. Nonetheless, the withdrawal and avoidance tendencies described above may lead health care professionals to disengage and ignore this very serious problem even though their perspectives are needed to develop solutions for reducing health care disparities that affect the lives of millions of Americans.

Racial Bias Can Be Reduced and Eliminated

What actions can be taken to reduce the effects of racial bias in health care professions? Social psychology research provides evidence that reducing racially biased behaviors, emotions, and thoughts is possible. For example, one of the most effective methods for reducing prejudice is equal-status contact, which involves members from different racial and ethnic groups interacting as equals in situations of shared power [42, 43]. As early as 1958, Muzafer Sherif showed that (a) competition and power differentials can lead to intergroup prejudices and (b) cross-group cooperation toward superordinate goals that appeal to individuals from two competing groups but cannot be accomplished without cooperation between them can eliminate these tendencies [44]. In the late 1970s, these findings were used to successfully reduce racial tensions in an Austin, Texas, school district [45]. Subsequent research indicates that equal-status contact has numerous benefits: it reduces stereotyping and engenders empathy, understanding, and perceptions of equality [46].

In addition to equal-status contact, numerous other methods exist for successfully reducing racial biases [47]. For example, interventions as simple as exposure to counter-stereotypic African American exemplars, competing on teams with members of other groups, and repeatedly practicing associating positive words with members of other racial groups were all shown to successfully reduce nonconscious biases, across multiple labs [47]. Clearly, racial biases can be untrained.

Now, the question remains, will these interventions prove successful in reducing racial biases in health care? In my own research using a perspective-taking intervention, nursing students in the experimental group were simply asked to "attempt to imagine how each of your patients feels while you are examining them" while engaged in a treatment simulation [17]. The disparity between the experimental group's pain treatment of African Americans and whites was approximately 50 percent lower than that of nurses in the control group. Racial bias can clearly be reduced in medical decision making as well.

Required Factors for Studying and Reducing Bias in Medical Education: Collaboration, Data, and Time

Racial health care disparities are a reality, and it is this author's opinion that the racial biases of health care professionals are driving numerous health care disparities. Some of the research presented in the previous sections supports this claim; however, I also acknowledge that more definitive evidence is needed to support it. Nonetheless, the infrastructure does not currently exist to examine this question, let alone develop

interventions capable of eliminating the racial biases that we know exist. In the paragraphs that follow, I argue that medical education is in a prime position to develop this infrastructure, which will require collaboration, data, and time.

Collaboration. Satisfactory experimental evidence of the effectiveness of potential bias-reducing interventions in real-life clinical settings necessitates research with health care professionals and students. Conducting studies of this nature requires access to health care professionals, a health care facility, measures of health care professional behavior and patient pain, and, of course, funding; in sum, research of this nature requires collaboration across multiple fields. The only way that, as a graduate student in psychology at the University of Wisconsin-Madison, I was able to begin my research into racial biases of nursing students when delivering pain treatment was through a collaborative effort with Sandra Ward and the University of Wisconsin-Madison School of Nursing. Cross-discipline collaborations like these are needed if we hope to succeed in reducing racial health care disparities.

Data. It appears that very few medical education programs currently collect the data necessary to understand and ameliorate racial disparities. One potential solution is participant research pools. In general, a participant pool is simply a sample of convenience developed by providing students academic credit for participation in research studies. This common practice in psychology departments across the country provides a cost-effective method for testing hypotheses about human behavior [48]. If medical schools, nursing schools, and other health-oriented education programs required students to participate in these subject pools, two specific advantages could be gained. First is the scientific advantage of being better able to examine hypotheses regarding myriad medical decision-making processes (including the effects of racial bias). Second are the pedagogical advantages of (a) identifying areas of improvement and (b) testing the efficacy of interventions aimed at remediating the identified problem. For example, a medical school could test for racial bias in its students, and, if biases are found, develop effective interventions in collaboration with social scientists.

Time. It goes without saying that academicians, administrators, and educators in all fields are overworked. Discovering the causes of racial biases, testing potential solutions, and then implementing curriculum changes require even more work for the faculty and students involved. Nonetheless, it is important work to accomplish, and colleagues in the social sciences could be of use here. Specifically, for many of us, this type of research does not present an additional burden but rather an opportunity to (a) conduct the highest-quality work in an area that we find fascinating and (b) work to ameliorate an unsettling social problem. Administrators and health care education professionals must apply time and resources to this important social problem. Racial bias in treatment decisions can be solved with collaboration, data, and time.

Conclusion

Racial disparities in health care and pain treatment are real. Patients are suffering, and research indicates that racial bias permeates American society. Prejudice of the nonconscious sort is the rule, not the exception. Although people have a tendency to avoid

confronting their own biases and do not know how to ameliorate them, evidence from the social sciences suggests that racial biases can be reduced.

Nonetheless, the infrastructure required to systematically examine and develop interventions capable of reducing the racial biases of health care students and professionals is not currently in place. Collaboration, data, and time are needed to solve this problem. Medical education is the vehicle of health care professional formation and development, and this vehicle may prove to be the most valuable tool in reducing racial bias in one of America's most important social institutions. Although racial bias is intertwined with numerous facets of American culture and society, medical education can hold itself to a higher standard and provide a model for other social institutions in which racial bias exists. Whether or not readers agree with the mechanisms of change proposed in this article, we can all agree that the stakes for patients are great and that changes are needed.

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IN THE LITERATURE

Perioperative Do-Not-Resuscitate Orders

Stephen Jackson, MD

Truog R. "Do not resuscitate" orders during anesthesia and surgery. *Anesthesiology*. 1991;74(3):606-608.

American Society of Anesthesiologists Committee on Ethics. Ethical guidelines for the anesthesia care of patients with do-not-resuscitate orders or other directives that limit treatment. Approved by the ASA House of Delegates on October 17, 2001, and last amended on October 16, 2013. http://www.asahq.org/~/media/sites/asahq/files/public/resources/standards-guidelines/ethical-guidelines-for-the-anesthesia-care-of-patients.pdf.

In 1990, the United States Congress passed the Patient Self-Determination Act in response to public concerns over the medical profession's lingering authoritarianism and paternalism in decision making about life-sustaining therapies. This law requires that patients receiving medical care in federally reimbursed facilities be informed of their rights under state law to consent to and refuse medical therapy [1]. It is notable that this federal law focuses on a patient's right to refuse medical treatment, including life-sustaining therapy, thus tacitly recognizing that without the opportunity for informed refusal, there can be no informed consent [2, 3].

The do-not-resuscitate (DNR) order, a medical and legal document that reflects the patient's decision and desire to reject life-sustaining interventions, is predicated on the concept that patients (or their surrogates) may choose to forgo certain resuscitative procedures—and their possible benefits—because they reject the possible burdens associated with them. These burdens may be related to either the resuscitation attempt itself (as with fractured ribs) or the decrement in functional or cognitive capacity that may occur despite a "successful" resuscitation.

A significant number of patients with DNR orders, however, agree to have surgery and other procedures, many of them palliative in nature. Common examples are tracheostomy, gastrostomy, bronchoscopy, catheterization for central venous access or pain management, and repair of a broken hip or release of a bowel obstruction. Historically DNR orders were suspended during such procedures.

Robert Truog: Individualized, Rather than Automatic, Suspension

The year after the Patient Self-Determination Act passed, Robert Truog wrote a seminal paper analyzing the (then) routine management of existing DNR orders for patients who were about to undergo anesthesia and surgery or an invasive procedure [4]. Truog called

attention to the fact that automatically suspending a patient's DNR order when he or she entered the operating room violated the federal act. This disregard for patient autonomy was starting to be challenged not only by patient-rights advocates but also by bioethicists. Indeed, consensus was mounting that automatic suspension of DNR orders could not be ethically justified [5-15].

Conflicts between anesthesia and an existing DNR order. As Truog points out, it is assuredly unpleasant and uncomfortable to provide anesthesia care for a patient with a DNR order. After all, patients who have DNR orders in place are usually in the terminal phase of a disease. Moreover, they are likely more susceptible to the adverse or depressive effects of anesthetic drugs and maneuvers. However, "many feel it is inappropriate for a patient to die as a direct result of an anesthetic complication" [16]. Yet, according to Truog, even if a life-threatening complication is iatrogenic, this in and of itself is not a reason to override a DNR order. If there is a valid reason for suspending existing DNR orders during anesthesia and surgery, then it "must be found within the unique nature of anesthetic practice" [16].

Truog argues that several aspects of anesthetic treatment justify suspension of DNR orders during surgery, but that the specifics of that suspension must be individualized and discussed with patients. For one, Truog argues, general anesthesia or sedation (even light or moderate sedation) can result in the need for resuscitation from depression of vital functions. Furthermore, as stated previously, terminally ill patients often possess a degree of physiological dysfunction that predisposes them to hemodynamic or pulmonary instability or collapse when exposed to the depressive effects of anesthesia. It is therefore conceptually challenging to differentiate resuscitative maneuvers inherent to standard anesthesia practice from "resuscitation." One could reasonably infer, then, that informed consent for anesthesia includes consent to the full benefits of standard anesthetic practice and is therefore, in effect, a consent for resuscitation and inconsistent with the continuation of an existing DNR order.

Importantly, some patients who enter the operating or procedural room with an existing DNR order might prefer an attempt at resuscitation after an arrest that is judged likely to be reversible. In fact, there is a much greater likelihood of quickly and successfully reversing a cardiopulmonary arrest related to the anesthesia or the procedure than one caused by a spontaneous event such as a myocardial infarction [4]. As Truog states, "*every* arrest that occurs under anesthesia must be considered the result of an intervention, and thereby potentially reversible, until proven otherwise" [17]. Therefore, an all-purpose preexisting DNR is not necessarily applicable during an anesthetic.

Topics to be discussed with patients, rather than dictated by policy. Truog recommends that this question of whether spontaneous and iatrogenic arrests are to be handled differently should be factored into the preanesthesia discussion about whether to retain the existing DNR order. From a patient's point of view the cause of the arrest may be irrelevant because it does not significantly alter the factors that prompted the request for a DNR order—preoperative functional status and threshold for further burdens while dying.

Truog also advocates that both the anesthesiologist and proceduralist discuss with the patient (and among themselves) the potentially prolonged adverse physiological effects of

the anesthetic and surgery. Excluding pulmonary effects, these generally resolve within several hours after surgery, after which time any resuscitation or continued physiologic support is to be withdrawn [3, 4]. Because recovery of respiratory function may take as long as several days, ventilatory support can be continued as long as there is evidence of sustained improvement in pulmonary function. Appropriately, Truog dispenses with concerns about whether it is better to withhold care than to begin and then withdraw it by reminding the reader that there is uniform agreement among bioethicists that withdrawing and withholding life support are morally equivalent [4, 18].

While Truog ultimately concludes that existing DNR orders *may* not be applicable or ethically appropriate during surgery, he advocates for preanesthetic discussion and personalizing decisions about resuscitation-related matters, rather than imposing one-size-fits-all policies on patients.

American Society of Anesthesiologists Committee on Ethics Guidance

The year after Truog's article was published, the American Society of Anesthesiologists (ASA) reestablished its Committee on Ethics, whose first task was to develop an opinion and guidelines relevant to this matter. Within a year this extraordinary committee had produced "Ethical Guidelines for the Anesthesia Care of Patients with Do-Not-Resuscitate Orders or Other Directives that Limit Treatment," which was adopted by the ASA in the fall of 1993 [19]. The current version states that "policies automatically suspending DNR orders…may not sufficiently address a patient's rights to self-determination in a responsible and ethical manner. Such policies…should be reviewed and revised" [20].

The essence of these guidelines is a required reconsideration or reevaluation and renegotiation of the DNR order. With the committee's prompting, the ASA guidelines were adopted in spirit, if not verbatim, by the American College of Surgeons [21] and the Association of Operating Room Nurses [22]. As a result, all three professional organizations now advocate for the fundamental right of self-determination for competent patients to define and limit what treatment will be provided to them in the operating or procedural suite.

These guidelines set forth two options for a patient with an existing DNR order. The patient could opt for a full attempt at resuscitation, thus suspending any existing DNR directive during the procedure and a defined duration afterward. If, however, the patient decided to reject a full suspension of the existing DNR order, he or she could choose a procedure-oriented, limited attempt at resuscitation and indicate what procedures it would entail. By completing a kind of checklist, patients could designate which specific resuscitative procedures they would permit or reject—for example, chest compressions, defibrillation, tracheal intubation, mechanical ventilation, fluid resuscitation, or cardiovascular drugs.

Nonetheless, while offering the advantage of avoiding some ambiguities by precisely describing what resuscitation functions were to be permitted, this procedure-oriented approach failed to address context-dependent preferences or the patient's desired outcome, thus leaving anesthesiologists who followed these guidelines with incomplete information about how to implement the information on the checklist.

Bearing this flaw in mind, and pursuant to a new proposal by Truog, Waisel, and Burns [23], the ASA Committee on Ethics revised the guidelines in 1998 to incorporate a third option: a limited attempt at resuscitation with regard to a patient's goals and values [19]. This new three-pronged guideline permitted the anesthesiologist to consider the patient's goals and values as a guide to decision making with respect to attempts to resuscitate. Patients now could define desired perioperative resuscitation in terms of outcomes rather than procedures, leaving more decisions about specific resuscitative procedures to the anesthesiologist's (and proceduralist's) judgment. The context of a cardiac arrest or hemodynamic deterioration now could play a more significant role in determining the clinician's response. Although this option gave the anesthesiologist an enhanced understanding of the rights of autonomous patients, it concomitantly imposed a pragmatic and ethical requisite upon the anesthesiologist and proceduralist to understand a patient's values and objectives [24, 25].

This third option is, indeed, a challenging ethical responsibility for the typical anesthesiologist, who manifests discomfort and inexperience in discussing issues of death and dying with patients about whom he or she has limited knowledge and with whom only a nascent therapeutic relationship exists. Admittedly, given the production pressures of modern-day practice, it is not an easy task to achieve a level of intimacy, knowledge, loyalty, and trust that would be conducive to a comprehensive understanding of a patient's goals, values, and objectives. Notwithstanding the opportunities presented by this third option, one can question whether a patient's right to self-determination is best honored by a goals-directed process that has the *potential* to introduce, rather than eliminate, ambiguities in decisions about therapeutic interventions [24]. Additionally, there clearly exists a psychological reluctance within the operating room community to invite death into their domain [26], and, as we have seen, a terminally ill patient's request for surgical or other procedures is considered by many to be inconsistent with an existing DNR order.

Yet, despite these concerns, the ethically appropriate preoperative DNR discussion relating to a robust informed consent process is one that achieves, as far as is practical, a fully informed patient decision and consent by clarifying the three options and making them well understood. These patients have highly specific goals and objectives—usually the palliation of distressing symptoms—and would want the benefits of the procedure only when certain burdens, such as a lengthy postoperative intensive care or living with further decline in cognitive or functional capacities, are not placed upon them [25].

To prevent conflicts, not only anesthesiologists but also surgeons and nurses must agree beforehand about how to manage these ethically, psychologically, and emotionally perplexing scenarios.

Legal Considerations

The possibility of legal action or investigation always exists when withholding or withdrawing care at the end of a patient's life. However, standard and accepted practices of communication, collaboration, and documentation provide safe harbor when adhering to a properly executed DNR order [27]. On the other hand, unwanted physical intervention constitutes a battery offense, and there are instances of physicians, nurses, and hospitals

having been found culpable when patients have been resuscitated against their wishes ("wrongful life" suits) [27]. Overall, it is most prudent to act ethically by honoring an informed patient's directive.

Conclusion

Perhaps Truog, in his seminal article's concluding paragraph, best summarizes the ethical need for a robust, interactive, and flexible approach to resuscitation orders that takes into account individual patients' and physicians' perspectives:

> Ethical analysis rarely provides concrete solutions to complex medical problems. At best, it clarifies the relevant issues and delineates areas of conflict.… Traditional medical practice…respond[s] individually and compassionately to the unique needs of each patient. Policies are designed to promote uniformity and generally are not well suited to situations that depend heavily on individual preferences and values. Rigid policies related to the management of DNR orders during anesthesia and surgery would restrict rather than enhance the options of patients and physicians in facing this difficult issue. With the increasing recognition of the autonomy of the competent patient in medical decision making, it would be inappropriate not to seek the patient's guidance and provide as much latitude as possible within the constraints of the physician's own ethical standards [28].

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Is Informed Consent for Extracorporeal Life Support Even Possible?

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Extracorporeal membrane oxygenation (ECMO), the most common form of extracorporeal life support (ECLS) technology, is an increasingly common way of providing life support to patients in severe cardiac or respiratory failure. In the vast majority of instances, informed consent, as it is commonly understood, cannot be obtained from either the patient or a proxy agent. The obstacles to obtaining informed consent are multiple and include the following: informed consent cannot be obtained from a patient who is unconscious; time pressure prevents the obtaining of informed consent from a patient with severe respiratory failure and dyspnea; and, in almost all cases involving ECLS, time pressure precludes the kind of education and conversation that are integral to the informed consent process.

During the twentieth century, the practice of medicine in the United States changed from physician decision making to reliance on patients' informed consent. Prior to the modern era, physicians decided what evaluation and treatment were appropriate for a patient and rendered it. Patients were expected to accept whatever treatment their physicians provided without question. As might be expected, this practice led to rare but sometimes spectacular abuses and has been supplanted by the contemporary approach, in which informed consent is obtained from an autonomous patient or surrogate [1].

Autonomous Informed Consent and its Conditions

The informed consent process is an exercise of a person's autonomy. In the ideal scenario, a physician proposing an intervention has a detailed discussion with the patient in which the following requisites are met: "threshold elements" of patient voluntariness and competence, "informational elements" of physician disclosure and recommendation and patient understanding, and "consent elements" of patient decision and authorization [2]. In both clinical medicine and medical research, the medical team must educate the patient about his or her medical problems, options for treatment, and the risks and benefits of each option. The more complex the medical condition or treatment, the longer and more complex the education and conversation have to be.

Any physician or researcher who has obtained informed consent knows that the actual process of informed consent is far more complicated in practice than in theory. How much education is enough? How much explanation is enough? Do all possible alternatives need to be identified? How well does the patient need to understand his or her condition and treatment to be competent to offer consent? In practice, obtaining informed consent in medicine often devolves into explaining the patient's condition and the proposed treatment, and, in almost all instances, the practice falls far short of the ideal, even for the

most simple of medical conditions and treatments. When the decision pertains to an intervention like ECLS, there are additional barriers to model informed consent.

Problems with Informed Consent in General

Several factors affect informed consent in most or all medical decisions.

Misunderstanding. A problem affecting many instances of informed consent, in a variety of circumstances, has to do with inadequate understanding on the patient's part. More than 20 years ago, Paul Stuart Appelbaum and his colleagues described the process of "consenting" research subjects for a trial. Their description revealed how the process falls short of the ideal (a fully informed person exercising perfectly free agency) [3]. Nevertheless, the narrative and scenario were typical then and now. When Appelbaum et al. evaluated the subjects' comprehension of what they had consented to, they discovered that most subjects lacked even a basic understanding of the study to which they had consented. The body of the literature that evaluates informed consent supports that misunderstanding is the rule rather than the exception [4, 5].

Emotional distortion. Emotion and intellect have an enormous impact on the process of informed consent and its outcome. Acute illness typically provokes anxiety or other strong emotions in patients that can significantly degrade their cognitive function, leading to misinterpretation of information that would be included in an informed consent process. Appelbaum and colleagues describe patients whose understanding of their consent is compromised by these emotions and their attendant disruption of cognition [3].

Patient beliefs about expertise. Another relevant misconception that distances actual informed consent from theoretical informed consent may exist in the form of patient beliefs about expertise. In 2000, McKneally and Martin [6] surveyed a cohort of 36 patients who opted to undergo an esophagectomy for esophageal cancer after (ostensibly) a normal surgical informed consent process. The researchers combined ethnography with more conventional social science research approaches to define and categorize the beliefs and experiences involved in the patients' decisions to proceed with invasive surgery for a life-threatening condition. Their findings are surprising: rather than a standard ethical or legal framework of informed consent, the patients' responses seem to describe something else entirely. The authors write, "Patients did not perceive themselves to be making an informed decision"—giving consent as it is commonly theorized—but instead "viewed themselves as accepting an expert recommendation"—that is, "entrusting" their welfare to their surgeons [7]. They explain,

> The patients in our study universally described their trust in the competence and willingness of their surgeons to make good treatment decisions on their behalf and to care for them with vigilance. Trust has been defined as the "reliance on others' competence and willingness to look after rather than harm things one cares about which are entrusted to their care"; trust provides an "alternative to vigilance and rational calculation of risks, benefits, and alternatives" [7].

A likely explanation for the gap between models of consent and the experience of opting to proceed with a treatment is the central role of cultural and socialized beliefs that McKneally and Martin identified as part of the concept of entrustment. These include:

1. cultural belief in surgical cure for cancer (which may also apply to invasive life-saving procedures like ECLS),
2. "enhancement of trust through the referral process" (i.e., the "understand[ing] that their specialist surgeon embodied the highest available level of skill and expertise" [8]),
3. idealization of their surgeons,
4. belief that they (the patients) possessed insufficient expertise to make good decisions based on medical information,
5. resignation to risks of (the particular) treatment, and
6. belief that they were not so much making an informed decision as accepting an expert recommendation [6].

These beliefs about expertise were not only a part of the informed consent process; they were essential parts of it.

All this suggests that theoretical models of consent may not apply in the making of many medical decisions, and that ECLS in particular is so complex that understanding of what is being proposed may not be possible.

Condition-Dependent Factors that Interfere with Informed Consent

Situational factors more specific to ECLS and other acute, life-threatening conditions can also cause problems with informed consent.

Time pressure. When patients are in cardiac arrest or circulatory collapse, they are dead. Those patients cannot be educated about either their condition or their options for treatment. In most instances, consent is assumed. Even when a competent proxy agent is available for a consent discussion, time pressure compels it to be dramatically foreshortened. In this context, a practitioner explaining and obtaining consent is almost certain to convey a sense of urgency to a patient's proxy agent, who is almost certain to sense that the choices are ECLS or nothing. In the setting of severe respiratory failure, more time may be available for a consent discussion—in most instances, the patient, usually sedated to the point of incompetence to give consent, will already be on life support, attached to a ventilator—but the proxy agent is still likely to sense both urgency and a lack of alternatives.

In most instances, physicians proposing monumental interventions to patients take great care to educate the patient about the implications of consenting to the treatment. Patients contemplating bone marrow transplants, liver transplants, lung transplants, and artificial hearts may be introduced to patients who have undergone these interventions and learn a great deal about both the benefits and the complications of these procedures from their peers. These experiences may allow patients in these settings to come far closer to realizing the ideal informed consent of an autonomous patient. Contrarily, absent these encounters, it is reasonable to suppose that it would be difficult or impossible for patients undergoing these procedures or others like them to truly understand the benefits and complications of the procedure and "how it feels."

Life-threatening emergencies and saving life at all costs. When delaying action to engage in such a discussion—or even to find the right person(s) with whom to have such a discussion—would seriously threaten the patient's life through inaction, choosing the course that favors preserving life is considered ethically appropriate. So-called emergency consent takes this approach, with the assumption that once the clinical situation has been stabilized, a formal, if retrospective, consent discussion can then be held, with the option of withdrawing the life-sustaining interventions or therapies being given full consideration if consistent with the patient's previously expressed preferences. Complicating this approach, however, is the fact that, once it is started, the withdrawal of a life-sustaining therapy may be psychologically more difficult to endorse than withholding it in the first place, despite the widely accepted ethical equivalence of withholding and withdrawing life-sustaining therapies in accordance with the patient's preferences and values.

What the patient considers material and relevant to the decision in the context of duress/anxiety/stress (i.e., "save my life at all costs") may not be what he or she would consider material in a calmer frame of mind. The type of emotion (e.g., anger, anxiety, terror, depression) and its intensity influence the prioritizing of facts and the processing of knowledge in ways that can compromise understanding or comprehension [9, 10]. Furthermore, the duress experienced during an emergency (such as in indications for ECLS) presents special challenges to the informed consent process [11]. The aim of "saving life" has strong emotional appeal and appears obviously preferable to the alternative. It isn't natural under duress (or perhaps practical, depending on the nature of the emergency) for the patient to ask deeper questions about the quality of the life being preserved.

Complexity. When interventions are complex, patients may be especially likely not to understand what they are consenting to. A classic example of a complex and ultimately misunderstood intervention is the first artificial heart placed in a heart transplant patient by Denton Cooley [11]. The resultant legal battle exemplified how problematic explaining and understanding highly complex medical interventions can be. Most practitioners have met well-educated patients who underwent any of a number of monumental interventions but indicated that they had no idea of what they had consented to and regretted having done so. Patients may not understand that, at the simplest level, consent for ECLS entails consent for the insertion of at least one large-bore venous cannula, and most often a large-bore arterial cannula. Consent for ECLS in the setting of cardiac arrest is implicit consent for all of the associated life support measures, which include intubation and mechanical ventilation, vasoactive support, and often renal replacement therapy. These therapies may all be required to allow sufficient time for a patient to demonstrate some recovery, which can take days or weeks.

Lack of information. Deepening the difficulty of ensuring adequately informed consent is the lack of prognostic certainty associated with the institution of such rescue interventions. Depending on the cause of the patient's decline, the outlook may be grim indeed, but there is almost always a small, difficult-to-identify subset of patients who will make a substantial and meaningful recovery. This uncertainty leads to great challenges when attempting to conduct an informed consent discussion with patients or (much more

commonly) their health care (proxy) agents regarding continuing versus withdrawing the very intervention that has already rescued the patients from nearly certain death.

In addition, these "extreme" therapies are often done within a research context. Lack of knowledge regarding the prognosis, risks, and likelihoods of success or failure is a natural part of the conditions under which these treatments are employed. This also creates additional problems with understanding.

Therapeutic misconception. In consent for research studies, a misunderstanding that often invalidates consent arises from a basic tension between the goals of the scientific method and the duties of a physician to the patient. Patients often presume that their physicians will choose what is best for them even when the research and scientific method demand otherwise—a phenomenon termed the therapeutic misconception [3].

Appelbaum points out the importance of socialization in this problem of therapeutic misconception:

> Most people have been socialized to believe that physicians (at least ethical ones) always provide personal care. It may therefore be very difficult, perhaps nearly impossible to persuade subjects that this encounter is different, particularly if the researcher is also the treating physician, who has previously satisfied the subject's expectations of personal care [3].

It is reasonable to regard the therapeutic misconception as a consequence of the history of paternalism in medicine.

All these problems interfere with creating the conditions for the adequately informed and freely made decision that is supposed to constitute informed consent, and all of them are present when using ECLS.

Informed Consent and ECLS

The world of medicine has long accepted that standard informed consent is not possible in many emergency situations. When the concepts of autonomy and informed consent were first advocated, emergency interventions were few and fairly simple. Modern technology has created emergency care that is invasive, complex, expensive, and might continue for days or weeks. Informed consent, as it is classically understood, cannot be realistically obtained from patients being considered for ECLS for cardiac arrest and could be problematic even in respiratory failure. Extracorporeal life support for cardiac arrest has created a new set of quandaries that may require years of deliberation to fully understand.

The recent resurgence in enthusiasm for ECLS technologies has led to the widespread adoption of an intervention that throws the concept of informed consent into even greater confusion. Extracorporeal life support therapies are generally called upon in the context of severe, life-threatening conditions, and, like other life-sustaining therapies, the initial decision to use them is frequently emergent and does not allow for a robust informed consent discussion.

And, while interventions such as conventional mechanical ventilation can be followed by an informed consent discussion guided by the known statistical outcomes of patients who had these interventions, such is not the case with ECLS, the clinical applications of which are still in their infancy and the outcomes of which are uncertain. It is abundantly clear that these therapies can be instituted to forestall certain death in cases of both respiratory and circulatory failure, but the prognosis once they are in place cannot be guided by the minimal experience with these therapies to date.

Conclusion

To summarize, robust informed consent is regarded as the ideal mechanism by which to protect patient autonomy when deciding upon medical interventions. Emergent conditions limit timely informed consent, and the use of a drastic, experimental, and complex intervention such as ECLS makes it difficult for practitioners to prognosticate and patients to understand what they are agreeing to. Informed consent for ECLS is not realistically possible; the ethical implications of this fact should be taken into account as its use becomes yet more widespread.

An argument can be made that the results of the employment of ECLS are so uncertain that the technology should be regarded entirely as experimental and used exclusively as research. In this context, informed consent would in some ways be more straightforward, as the expected outcomes of experimental therapies are by definition unknown.

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STATE OF THE ART AND SCIENCE

Ethical Tenets of Perioperative Care: "Finding My Surgical Way Home"

Jason D. Hall, JD, Lee A. Goeddel, MD, MPH, and Thomas R. Vetter, MD, MPH

In the course of their daily practice, anesthesiologists are confronted with a number of conventional ethical issues connected to situations ranging from informed consent to end-of-life decision making [1]. The specialty of anesthesiology has recently evolved to include not only critical care and pain medicine but also perioperative medicine. The full spectrum of perioperative expertise is manifest in the perioperative surgical home (PSH), a new and innovative care model initially developed and now being widely advocated by the American Society of Anesthesiologists (ASA) in close collaboration with vital surgical, nursing, health care administrative, and payer stakeholders [2]. The PSH is a patient-centered, institution-led, interdisciplinary, team-based, coordinated, and—where possible—standardized care model that guides the patient from presurgical decision making to postdischarge care [3, 4]. The PSH seeks to improve the surgery experience and outcomes and to add measurable value to the highest-cost segment of health care.

The PSH holds significant potential to make health care more patient-centered [3]. Within its broad scope of responsibility, this innovative care model, if given the resources, can effectively address ethical issues in surgical patient care. In this paper, after describing the fundamentals of the PSH, we discuss two controversial and highly charged issues with significant ethical ramifications for anesthesiologists: patient-centered decision making and futility of care.

An Overview of the Perioperative Surgical Home

Multiple variants of the PSH will be implemented based upon institutional infrastructure, resources, and other factors [3-5]. Our prototypic PSH model at the University of Alabama at Birmingham (UAB) integrates the heretofore frequently fragmented preoperative, intraoperative, postoperative, and postdischarge phases of patient care [3]. It is based on the anesthesiologist's serving as the surgical patient's perioperativist—the primary physician who coordinates care with other team members to provide seamless continuity from preoperative evaluation to postoperative care. In the UAB PSH model, an anesthesiologist works in tandem with a nurse practitioner and a registered nurse (or social worker) case coordinator to provide, coordinate, and integrate pre-, intra-, and postoperative care. This team is readily available to address the patient's questions or concerns about his or her care and oversees the patient's transitional and rehabilitation plans on hospital discharge [3].

The UAB PSH model also involves a multimodal approach, often referred to as "fast-track surgery," in which not only surgeons, anesthesiologists, and nurses but also pharmacists, physical/occupational therapists, nutritionists, and social workers are equal participants of

the perioperative care team. Fast-track surgery focuses on enhancing recovery and reducing morbidity by implementing existing and new evidence-based, best practices in surgery and anesthesia, including analgesia, reduction of surgical stress, fluid and blood management, nutrition, and ambulation [6-8].

The Ethical Obligation to Maximize the Quality of a Patient's Health Care Decision Making
Receiving life-altering news about one's health is typically daunting. Deciding how best to proceed in such a situation commits a person who is already weakened by poor health and the stress of this life-changing news to a complicated process with multiple ethical implications.

For today's health care system to appropriately serve patients facing complex health care decisions, it must move beyond mere diagnosis and treatment. The health care system should not only deliver high-quality treatment but also empower patients to make health care decisions that align most closely with their desires, values, and cultural background. Two concepts are central to this discussion: (a) patient-centered health care and (b) shared medical decision making.

Patient-centered health care is a movement within modern medicine that aspires to tailor care to the needs, desires, and dynamics of each individual patient [9]. The Patient Protection and Affordable Care Act of 2010 mandated the use of quality care measures and, in certain circumstances, patient-centered assessments [10]. Shared medical decision making is a patient-centered process that responds to the complexity of health care decisions. As much as the patient desires, it encourages family, friends, or other caregivers to participate in making medical decisions that best fit the patient's goals and values [11]. The physician plays a critical role in the shared medical decision making process as a guide, teacher, and facilitator.

Although in some situations the patient may be clear about what decision to make, often the decision is not so easy. Consider, for example, the case of Mr. D, a 72-year-old African American man scheduled for radical nephrectomy for gross hematuria and renal mass, likely renal cell carcinoma, noted on a computed tomography (CT) scan to be invading the inferior vena cava. His past medical history is significant for hypertension, diabetes mellitus, and chronic obstructive pulmonary disease. His current medications include metoprolol, metformin, and aspirin. His electrocardiogram indicates left ventricular hypertrophy and an inferior infarct, age undetermined. Physical examination reveals a heart rate of 90, blood pressure of 190/100 mm Hg, BMI of 32, and harsh IV/VI mid-systolic ejection murmur over the "aortic area" or right second intercostal space, with radiation into the right neck. According to Mr. D's daughter, he is easily fatigued and essentially sedentary. Upon further questioning, Mr. D admits to recent progressive dyspnea and increasing angina. Recent laboratories include a fasting serum glucose of 220 mg/dL and creatinine of 2.5 mg/dL.

It is difficult, for instance, to accurately predict what Mr. D's life expectancy would be without surgery and to pinpoint his perioperative risk of morbidity and mortality. Most perioperative anesthesiologists would estimate that his risk is high due to preoperative evidence of multisystem disease involving the cardiac, renal, and endocrine systems as

well as local vascular invasion of the tumor. These factors put Mr. D at considerable risk for significant intraoperative blood loss, the need for massive transfusion, resulting coagulopathy, and prolonged postoperative mechanical ventilation. The evidence of a prior myocardial infarction and physical findings consistent with aortic stenosis indicates that, without valve replacement or balloon valvuloplasty prior to any further surgical interventions, he is at high risk of further myocardial ischemia and infarction or death with any anesthetic and the physiological stress of surgery.

Difficult questions need be asked: What does Mr. D. know? Does he understand the risks of these interventions? Does he appreciate that he will need multiple procedures, possibly followed by a prolonged intensive care unit (ICU) stay? Has he been offered palliative care solutions that might prolong his current quality of life?

In today's health care system, it is common that patients in situations similar to that of Mr. D proceed to the operating room without having meaningfully engaged in discussions of benefits and risks. Recent research clearly demonstrates deficiencies in the quality of medical decision making. One study evaluated patients' ability to restate the most basic information about a surgical procedure they had authorized. Thirteen percent of patients could not state the surgery to be performed, the surgical indication, the risks, or the alternatives. Thirty-three percent of patients stated that the decision did not address their preferences, values, or goals [12]. As physicians strive to provide competent care that respects patient dignity and thus adheres to the American Medical Association (AMA) *Code of Medical Ethics* [13], we must strive to optimize the quality of medical decision making whenever and however possible.

It is easy to speculate on but difficult to substantiate the reasons for these deficiencies in patient-centered health care decision making. To be sure, risk estimates are difficult for any physician to make. Patient-centered discussions and decision processes require a significant time investment, which may not carry reimbursement in a health care environment subject to cost-cutting attempts at every turn. Other stresses on physicians may discourage patient-centered decision making, including the threat of civil lawsuit and pressure to sustain high patient throughput in conventional fee-for-service health care systems. The latter may dissuade some physicians from discourse that leads patients to decide against more invasive operative treatments and in favor of palliative care options that may, at least currently, mean less favorable payment for their physicians.

The Role of the Perioperative Surgical Home in Patient-Centered Care and Shared Decision Making

Regardless of what has caused the current deficiencies in patient-centered care and shared decision making, the PSH offers unique opportunities for improvement. As stated above, it coordinates all aspects of perioperative care. It is a single entity through which all patients should pass before proceeding to surgery. Given the resources and infrastructure, it also is in the position to champion the ethically important process of patient-centered decision making. The PSH could generate a concise interpretable message for the patient from all relevant clinicians and then provide the space and time for the patient and the patient's chosen advocates to deliberate and interact with clinicians to make higher-quality patient-centered health care decisions. In this way, the PSH would provide a checkpoint

within today's health care system to minimize clinically futile surgery. When disagreement occurs—for instance, if the anesthesiologist, cardiologist, and surgeon disagree about the perioperative risk for a patient like Mr. D or how best to proceed—the PSH might serve as a viable forum for expeditious and respectful deliberation. Despite the many unknowns that face Mr. D and his anesthesia, surgical, and nursing team, the PSH model provides a higher likelihood that Mr. D will be empowered to make a higher-quality decision.

Conclusion

Decision making is so important and central to the patient experience that it is deserving of more resources and one central location that can allow for decision excellence. The PSH is a place not only to enact evidence-based clinical therapies but also to manage such vital care decisions. As a patient-centered care model emphasizing shared medical decision making, the PSH would provide patients like Mr. D the opportunity to prioritize their own values and goals of care. Through the PSH, such patients would have the opportunity to carefully consider the likely outcomes of each treatment modality in relation to their values and goals of care. In concert with the PSH health care team, their families, and other chosen representatives, patients would reach a patient-centered treatment decision that respects their values and reflects their goals of care, genuinely represents a shared decision, and provides for an optimal quality-of-life outcome from their perspective.

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POLICY FORUM

Quality Improvement and Patient Safety Organizations in Anesthesiology

Richard P. Dutton, MD, MBA

Quality Improvement in Anesthesiology

Anesthesiology is the medical specialty that provides anesthesia during surgery and other invasive procedures, in critical care, and in management of acute and chronic pain. Through its core expertise of keeping patients safe and comfortable during invasive or painful procedures, anesthesiology enables the activities of every surgical discipline and an increasing percentage of nonsurgical specialties as well, including complex cardiac catheter-driven procedures. Like every specialty, the practice of anesthesiology is undergoing rapid change in the Information Age, which has presented the American Society of Anesthesiologists (ASA) with the need to create new mechanisms for continuous quality improvement. This essay explores the creation of the Anesthesia Patient Safety Foundation (APSF) in 1985, the creation of the Anesthesia Quality Institute (AQI) in 2008, and the subsequent progress that has resulted from the synergy between the two organizations.

The Anesthesia Patient Safety Foundation

Traditionally, anesthesiology has been associated with efforts to advance patient safety. This begins with the discovery and dissemination of general anesthesia itself. The paper reporting the first public demonstration of ether anesthesia was recently hailed by the *New England Journal of Medicine* as the most influential article of their 200-year history [1]. Harvey Cushing famously recorded outcomes of the anesthetics he performed as a medical student, and specialty pioneer Emory Rovenstine kept a punch-card file of the anesthetics he performed as chairman at the University of Wisconsin in the 1930s, decades before the invention of modern computers [2]. In 1954, Harvard anesthesiologists Henry Beecher and Donald Todd reported a landmark multiyear, multicenter study of perioperative mortality in university operating rooms, documenting a rate of anesthesia-related in-hospital mortality of 1 in 1,560 surgical cases [3]. This paper established a benchmark for reductions in anesthesia-related mortality in the modern era, and the authors' call for safety improvements doubtless contributed to the development of patient physiologic monitors; introduction of newer, safer, and more specific medications; and a culture of self-reflection and continuous, evidence-based quality improvement.

In 1985, the Anesthesia Patient Safety Foundation (APSF) was established as "the first independent multidisciplinary organization (practitioners, equipment and drug manufacturers, and many related professionals) created expressly to help avoid preventable adverse clinical outcomes, especially those related to human error" [4]. The APSF mission statement "that no patient shall be harmed by anesthesia" perfectly captures their goal [5]. The APSF, which became a model for the National Patient Safety

Foundation, brought together anesthesiologists, nurse anesthetists, pre- and postoperative nurses, equipment manufacturers, and human factors experts to collect and analyze data on critical incidents occurring during anesthesia and to develop equipment and drugs to improve patient safety. Since 1985, the APSF has funded safety research, published numerous educational materials, and worked with anesthesia equipment manufacturers to design safer machines, more intuitive monitors, and better pharmacologic agents.

The ASA Closed Claims Project

The Closed Claims Project (CCP), funded by the American Society of Anesthesiologists, was initiated in the 1980s to facilitate understanding of liability in anesthesia practice and to improve patient safety by working with malpractice insurance companies to review cases of adverse events that involved anesthesiologists [6]. Although the CCP cannot determine the rates at which adverse events occur (the denominators are unknown), it has provided the profession for years with a compendium of the worst outcomes that can occur in anesthesia cases. Cross-pollination of thinking and leadership between the CCP and the APSF has led to 20 years of safety improvement projects, including recent changes to anesthesia machine design, prevention of OR fires, and identification of risk factors for postoperative visual loss [7].

The Anesthesia Quality Institute

The rapid introduction of digital record-keeping into clinical anesthesia in the 2000s created new possibilities for improving care that coincided with increasing public and government interest in quantifying the performance of physicians. In 2008, the ASA House of Delegates approved the creation of a new, related organization, the Anesthesia Quality Institute (AQI), "to be the primary source of information for quality improvement in the clinical practice of anesthesiology" [8]. The initial AQI board of directors included academics and private practitioners and anesthesiologists with interest and experience in quality management and information technology. I was hired to direct the AQI in 2009 and now lead a staff of 15 scientists, technicians, and administrators as the chief quality officer. In 2013, the AQI became the centerpiece of the ASA's Quality Division, which includes another half-dozen employees in the Departments of Quality and Regulatory Affairs, Health Policy Research, and Methodology.

The AQI launched its first "product" on January 1, 2010: the National Anesthesia Clinical Outcomes Registry (NACOR). From an initial cohort of six participating practices, NACOR now includes more than 22 million records from more than 30,000 anesthesia clinicians working in 3,000 ORs, ambulatory surgery centers, and other procedural environments. In 2015, NACOR will capture information from about 25 percent of all the anesthesia cases performed in the United States. NACOR is built on the universal availability of a core dataset of demographic and procedural information contained in electronic billing records, augmented when available by outcome measures and even complete electronic health record documentation from practices using Anesthesia Information Management Systems (AIMS) [9]. It anticipates the day when every vital sign, every procedure, and every dose of medication is automatically recorded.

The primary purpose of NACOR is to facilitate local quality improvement activities by showing anesthesia groups what they do and how well they do it. NACOR's most important reports concern patient demographics and outcomes displayed as trends over time, which every group and clinician can use to improve performance. NACOR also provides groups with national and peer-group benchmarks that they can use to understand their strengths and weaknesses relative to those of other groups and facilities. National benchmarking can then identify both high and low outliers in performance, leading to study of the exceptional clinicians and "export" of their systems to others. The aggregate data in NACOR is useful not only for understanding local performance and enabling local quality improvement but also for academic study, informing ASA's advocacy efforts and identifying gaps in knowledge that can be targeted with new educational products [10].

The Difference between Safety and Quality

The difference between the APSF and the AQI is the difference between safety and quality. One theory holds that safety is an infinite absolute: any complex process—such as delivery of anesthesia—can be made infinitely safer. A dose of an intravenous medication can be checked, rechecked, and re-rechecked, and each step will add a progressively smaller increment of safety. Quality improvement, on the other hand, takes into account the incremental cost of each change in practice and asks, "How much quality can we afford?"

Quality improvement, therefore, is the application of finite resources (people and time) to an infinite problem. Quality management begins with data collection and benchmarking to identify opportunities for improvement, and then addresses these opportunities in sequence from the most to the least significant. The ideal quality management program continuously improves patient safety by gathering data, identifying variance in practice, introducing change, and remeasuring. This cycle of continuous quality improvement leads to progressive, incremental advance in performance.

Collaboration and Interaction

Anesthesiology benefits from both the APSF and the AQI and from the interaction between them. The APSF continues to identify important concerns in the safe practice of anesthesia, and the AQI participates in its meetings and discussions. Furthermore, the ASA CCP is now a registry of the AQI, allowing extension of digital archiving and online data collection in accordance with data collection modules designed by the AQI. Finally, comparison of serious adverse outcomes in the CCP with patients at risk as defined in NACOR has provided the specialty with new understanding, as in a recent examination of claims related to massive hemorrhage compared to national statistics on the number of patients at risk in various surgical and procedural categories [11].

Beginning in 2015, the APSF and the AQI will combine to offer a fellowship in anesthesia patient safety, providing one year of funding to an anesthesiologist interested in the scientific study of risks and outcomes [12]. Fellowship awardees will learn the history and operations of each organization, attend national-level meetings, and use the available resources to complete a year-long safety improvement project in their home institutions.

The intention of this fellowship is to develop the leaders of the next generation of anesthesia safety experts.

A related project, the Anesthesia Leadership Registry, is the AQI's newest data collection program. This is a simple listing of anesthesiologists nationwide who are active outside of the OR, whether leading hospital units and committees, working for the pharmacology and device industries, or participating in federal regulatory efforts. Anesthesiologists play leadership roles in many aspects of modern health care; the AQI's goal is to recognize those who do, celebrate their activities, and provide a platform for networking and mentorship. The AQI is working with other organizations, including the APSF, to populate this registry. The goal is to make anesthesiology *the* specialty for medical students interested in becoming the hospital and health care leaders of tomorrow.

Summary
Anesthesiology has historically promoted the continuous improvement of patient care through the identification of rare complications and serious adverse events, the systematized collection of data from routine care, educational products, and efforts to improve anesthesia equipment. Moreover, the APSF and the AQI have created a synergistic partnership for continuous quality improvement that combines both the micro and macro collection of self-reflective data and is a model for other specialties.

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MEDICINE AND SOCIETY

The Influence of Social Values on Obstetric Anesthesia

Donald Caton, MD

In retrospect, my timing was awful. The year was 1969. Anticipating an academic career in obstetric anesthesia, I had just completed a residency in anesthesiology and a two-year postdoctoral fellowship in reproductive physiology. At that time one of a handful of physicians in the country with that special interest, I had been hired to start such a program at the University of Florida. Clinically and academically I felt prepared, but I did not anticipate the response to my work. I quickly learned that many women vehemently opposed anesthesia for childbirth.

Part of this resistance reflected the times. The '60s had been a turbulent decade punctuated by a series of popular movements: civil rights, welfare expansion, environmental protection, and women's liberation. Reactions against anesthesia for childbirth, however, seemed particularly strong and persistent. Moreover, that reaction included not just patients but many who worked in labor and delivery. Clearly, something important was going on that my training in medicine and physiology had not prepared me to handle. Reviewing the history of anesthesia for childbirth might provide some insight into this controversy, I thought. I had leanings toward medical history anyway, but this seemed a time it might be of use.

A Brief History of Obstetric Anesthesia

Ostensibly, the natural childbirth movement began shortly after World War II, with the work of English obstetrician Grantly Dick-Read. His bestselling book, *Childbirth without Fear* [1], assured women that a painful labor and delivery came largely from fear, which induced bodily changes that opposed the natural forces of delivery. Eliminate fear, he said, and pain would diminish if not disappear. Fernand Lamaze, a French obstetrician, reinforced Dick-Read's ideas with his system of "painless birth." Coincidentally, there was a growing movement toward "home deliveries" by midwives.

Much of the trend toward "natural birth" was (and is) a response to the public perception that childbirth had been overly medicalized. Indeed, during the previous half century there had been a trend toward deliveries that included hospitalization, the routine use of forceps, and an episiotomy, a pattern of practice that necessitated analgesics and sedatives during labor and anesthesia for delivery, all of this followed by a two-week recuperation in the hospital [2]. And the development of techniques for monitoring fetal heart rate and measuring the pH of scalp blood increased the frequency of caesarian sections. The natural childbirth movement challenged the benefits of these practices, including the use of anesthesia for normal deliveries [3].

Controversy over the use of anesthesia for childbirth had begun long before the mid-twentieth century. Anesthesia for surgery entered medical practice in October, 1846. Anesthesia for obstetrics began soon thereafter, when Edinburgh obstetrician James Young Simpson anesthetized a woman before delivering her child. Not one to hide his accomplishments, he announced it almost immediately [3]. Reactions from physicians were mixed. Some hailed the innovation but most prominent obstetricians urged caution, concerned as they were about anesthesia's effects on uterine contractions, on the newborn, and on the risk of postpartum infection and hemorrhage [3]. Many, in fact, believed that contractions and pain were inseparable—prescient in light of objections that arose during the natural childbirth movement a century later. Thus, on the basis of medical information available in the nineteenth century, most obstetricians advised against using anesthesia for normal deliveries.

Moreover, during the last half of the nineteenth century, most women still delivered babies at home with midwives, who did not administer anesthesia. Even if a physician were involved, few could, or would, remain at the bedside for hours to administer di-ethyl ether or chloroform with each contraction. In consequence, 55 years after the introduction of obstetrical anesthesia, most women still delivered babies as they had done for millennia, cared for by a midwife, at home and in pain [2].

Change came after 1900, but not from any resolution of the medical issues—they had not even been addressed, much less resolved. The major stimulus for change emerged from a social movement—women's rights—which began when Elizabeth Cady Stanton and Lucretia Mott convened a meeting in 1847 in Seneca Falls, New York. The focus of the meeting was the economic and political rights of women, but reformers realized that women could not achieve parity unless they were well educated and healthy. A major deterrent to good health, they believed, were the cumulative effects of repeated pregnancies. Accordingly, as they campaigned for the vote, they also sought ways to improve women's health. Specific goals included founding schools dedicated to the education of women physicians, improved teaching of obstetrics in all medical schools, replacement of midwives with obstetricians, and hospitalization for delivery followed by several weeks of recuperation [2]. In this context, the use of anesthesia for childbirth raised an issue. At that time there was a widespread belief that the experience of pain, including the pain of childbirth, in and of itself had cumulative and permanent debilitating effects on a person's health. With these reforms—and others—obstetrical outcomes did improve: as numbers of trained obstetricians increased, they displaced midwives but they also developed some of the very patterns of practice that became anathema to the natural childbirth movement a century later. Thus, although the primary focus of the nineteenth-century women's movement had been political and economic, it also stimulated significant change in medical education and obstetrical care [2].

Although it was personally satisfying to explore the development of the medical and social response to obstetrical pain, I soon found it was also useful. When first I tried to explain the medical rationale for obstetrical anesthesia to lay people, I often evoked an argument. In contrast, the same material presented as history usually stimulated interest and discussion. Twentieth-century advocates of a natural birth who believed that the medicalization of childbirth had been forced on them by physicians did not necessarily

know the extent to which an earlier generation of activists had shaped obstetrical practice. This history also surprised many physicians. Trained to trust the efficacy of controlled studies, clinical trials, and statistics, many were unaware of the extent to which contemporary obstetrical practice had been shaped by the personal, social, and political goals of the nineteenth-century women's movement. Mercifully, putting a twentieth-century medical practice into its historical context seemed to free discussions from rancor and passion.

Changing Social Values

What could explain the activists' shift from campaigning for obstetric anesthesia to strong resistance just a century later? Here again the change may reflect a wider shift in social values.

The introduction of surgical anesthesia in 1846 evoked an ebullient response from physicians. For example, Edward H. Clark, professor of *materia medica* at Harvard, said that "anesthetic agents…enabled the physicians at his will to compel pain to disappear and distress to be quiet" [4]. Silas Weir Mitchel, an influential physician at the University of Pennsylvania, wrote, "It is indeed possible to eliminate all pain" [5]. By the mid-nineteenth century, this enthusiasm and optimism were not limited to the medical community. In his essay "Utilitarianism," published in 1863, English political philosopher John Stuart Mill suggested that

> no one whose opinion deserves a moment's consideration, can doubt that most of the great positive evils of the world … are in themselves removable and will, if human affairs continue to improve, be completely extinguished by the wisdom of society…. Even the most intractable of enemies, disease, may be indefinitely reduced [6].

In the Gifford lectures of 1901-1902, American philosopher William James commented on this outlook,

> A strange moral transformation has within the past century swept over our Western world. We no longer think that we are called on to face physical pain with equanimity…. The way in which our ancestors looked upon pain as an eternal ingredient of the world's order, and both caused and suffered it as a matter-of-course portion of their day's work, fills us with amazement [7].

Confidence in science, medicine, and the ability of society to improve itself appeared unbounded. The drive of early feminists to improve obstetrical care and eliminate pain coincided with this trend.

Given the optimistic atmosphere of the nineteenth century, when obstetric anesthesia came into vogue, it is interesting to consider comments regarding pain in the decades that natural childbirth began its ascendency. Descriptions of the significance of pain seem very different. Writers often suggested that pain might have important social, if not personal, value. For example, Ernest Hemingway wrote to his friend F. Scott Fitzgerald, "You

especially have to hurt like hell before you can write seriously. But when you get the damned hurt, use it—don't cheat with it. Be faithful to it as a scientist" [8]. Similarly, poet A. Alvarez wrote, "If secularized man were kept going only by the pleasure principle, the human race would already be extinct" [9], and novelist Wallace Stegner said, "Pain makes things valuable" [10]. These and other writers suggest that pain may spark creativity, create meaning, or foster the development of human bonds. Perhaps just such a belief contributed to the natural childbirth movement. Perhaps women, like Welsh poet T. S. Thomas, sought in their birthing experience "the poem in the pain" [11]. In any event, the history of the movement serves as an important reminder that the practice of medicine is not shaped solely by science but also by the personal and social needs of the people it serves [12].

Shortly before I retired, I overheard a conversation between two experienced, equally competent, labor room nurses that epitomized the conflicting attitudes about pain I had encountered in my practice and had found in my readings in history and literature. One, pregnant and somewhat uncomfortable, quipped that she wished she could have an epidural sometime in the seventh month and carry it through delivery. The other responded that she had chosen to have no anesthesia for either of her pregnancies. She wanted to experience "everything."

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HISTORY OF MEDICINE

The History of Professionalism in Anesthesiology

Kathryn E. McGoldrick, MD

Historical Background

Medical historian Roy Porter wrote in his superb book, *The Greatest Benefit of Mankind*, that the Hippocratic Oath presaged the western model of a profession (an occupation characterized by the profession of an oath) as a morally self-regulating discipline dedicated to serving others [1]. Since the Middle Ages, the word "profession" has denoted an occupation that is given many privileges by society in return for the obligation to serve it. Professionalism, therefore, is a term used to describe certain attitudes, values, and behaviors that are demanded of physicians. It is at its core the ethical and moral commitment to excellence, altruism, integrity, collaboration, lifelong learning, and deep respect for other human beings. Professionalism requires the physician to fully understand that the most important individual in the special patient-doctor relationship is the patient. Toward that end, the physician strives to deliver the best possible care congruent with the patient's beliefs, values, and needs. This patient-centeredness is a vital factor in motivating the physician to maintain the highest standards of care, engage in rigorous ongoing education, actively participate in medical organizations, and strive to seek clinical innovations.

A concatenation of factors gradually led to the "discovery" of anesthesia in the mid-nineteenth century. Arguably the first was use of the somniferous sponge in the thirteenth century. Then, in 1540, Valerius Cordis, the great physician and botanist who authored *Dispensatorium*, described a revolutionary technique to synthesize ether, which involved adding sulfuric acid to ethyl alcohol. Contributions to the development of anesthesia included the experiments of William Harvey (1578-1657), culminating in the discovery of the systemic circulation; identification and characterization of new gases by Joseph Priestley (1733-1804); the use of those gases, most notably by the Bristol Pneumatic Institute, to treat diseases; and the 1820s movement opposing all types of human suffering promoted by surgeon Henry Hill Hickman (1800-1830), in conjunction with England's Romantic Movement in the arts and literature, with its attention to individuality, pain, and suffering [2].

Although Sir Humphry Davy (1778-1829) introduced nitrous oxide into medical practice in 1799 and, in 1800, suggested possible anesthetic qualities of the gas [3], the first successful public demonstration of surgical anesthesia did not occur until 1846. Explanations for this 46-year delay have been proffered by David A. E. Shephard [4], Norman Bergman [5], Nicholas M. Greene [6], Donald Caton [7], and others. Clearly, delay in the introduction of valid observations and scientific innovation into clinical practice is not unusual. Claude Bernard, for example, alluded to the paralytic effect of curare in 1857 [8],

although the drug was not used clinically as a neuromuscular blocking agent until the 1940s. It is likely that Davy considered nitrous oxide an anodyne rather than a definitive solution to the problem of pain in surgical operations [5].

Moreover, contemporary societal attitudes about pain needed to change before surgical anesthesia could be accepted, and amelioration of pain was not a social goal in the era of Davy and Hickman. Many viewed management of pain as interference with a divine plan [6]. Although Jeremy Bentham and John Stuart Mill were able to effect a more positive view about pain management, the belief that blunting of pain was morally wrong had been present in society for years [7]. In addition, mesmerism was widely practiced in the 1830s and 1840s, and an argument could be made against using potentially dangerous chemicals when a less risky alternative was available. As Shephard concludes, societal attitudes and medical circumstances were not propitious for surgical anesthesia to be introduced and accepted until 1846 [4].

Anesthesiology began as a craft or trade rather than a true profession, associated as it was with surgery and dentistry, which at that time had neither the technical facility nor the systematic scientific underpinnings to be considered "professional" [2]. The early years of anesthesia's history in the United States were also blemished by petty squabbles and rivalries about who should be credited for the "discovery" of surgical anesthesia [9], inadequate attention to scientific principles, and egregiously unsafe practices such as the administration of asphyxial concentrations of nitrous oxide, rather than the patient-centered ethos professionalism demands. Anesthesiology was also lacking other important elements of professionalism—standards of care, innovations in clinical science, rigorous educational programs, and professional organizations to discover and disseminate information.

The status of anesthesiology in Europe was not vastly better than in the United States during the latter half of the nineteenth century. The premature death of England's John Snow (1813-1858), a technically facile anesthetist who was also well versed in experimentation, epidemiology, and the scientific literature, left a leadership void for many years. Anesthetists in England focused on devices and instruments rather than on fundamental advances in research that could lead to new drugs and applications.

During most of the nineteenth century, the vast majority of notable advances in the science of anesthesiology were achieved by basic scientists [10]. Among physiologists, Pierre Jean Marie Flourens, François Magendie, and Claude Bernard are respected for their work on the effects and site of action of anesthetic gases. Pharmacologists and chemists, including Joseph Friedrich von Mering, Hans Meyer, and Charles Overton, synthesized novel drugs and investigated the properties that enabled a chemical to function as an anesthetic. Surgeons, obstetricians, and dentists contributed the bulk of clinical advances in the field [10]. Most of the practicing anesthetists functioned primarily as technicians who made meager contributions to advancing the scientific underpinnings of the discipline. But in the late nineteenth century, this would begin to change.

Emergence of the Triumvirate

Although nurses, rather than doctors, had been administering anesthetics [2], physician anesthetists gradually ascended to prominence. At the very end of the nineteenth century and in the first few years of the twentieth, doctors began to be appointed professors of anesthesia in medical schools and chiefs of anesthesia in hospitals [2]. In his history, anesthesiologist Leroy Vandam identified three anesthesiologists of this period whose impact "merit[s] special notice" [11]: Ralph M. Waters, Francis H. McMechan, and Elmer I. McKesson.

Although Ralph Milton Waters (1883-1979) was widely recognized for designing the "to and fro" carbon dioxide canister and for introducing cyclopropane as an anesthetic, his most pivotal contribution was probably the inculcation and development of professionalism in anesthesia. When Waters was brought in to create a separate department of anesthesiology at the University of Wisconsin in 1927, the condition of anesthesiology was primitive. There were few journals and no professional societies to define standards, disseminate important information, and promote research [10].

Waters was a bold and astute visionary who realized that, if anesthesiology was to become a true profession, the following developments were critical: a systematic body of knowledge must be taught to students; organizations must establish, implement, and oversee standards of education and practice; research programs must be nurtured with close links to basic science and clinical care; meetings must be conducted regularly to foster dissemination of new information and promote discussion of patient care issues; and, most critically, practitioners of anesthesiology must be dedicated to the service of the public and to seeking improvements in their academic and clinical practice [10].

Waters insisted on high-level anesthesia training programs for medical students and graduates. The residency program that he instituted in Madison was rigorous, consisting of three years of demanding training. Under his direction, at least 27 alumni of the Department of Anesthesia at Wisconsin went on to become department heads, including Virginia Apgar [2].

Despite his strengths, Waters held some of the prejudices of his times, specifically with regard to women in medicine. Indeed, in a 1932 letter Waters wrote, "…MD ladies…are useless in the profession. I am through with them. Ladies are nice socially but not (as) professionals" [12].

Nonetheless, Waters had a genius for networking, forming enduring friendships with many gifted leaders who facilitated his visionary goals. He worked with such luminaries as the basic scientist Chauncey Leake and the educators Arthur Guedel and Emery Rovenstine [10]. In addition, Waters joined with John Silas Lundy and Paul Meyer Wood to eventually establish appropriate specialty certification in anesthesiology when the American Board of Anesthesiology (ABA) separated from the American Board of Surgery to become an independent entity in 1940 [13], an important step toward professionalization.

Vandam identifies two illustrious associates of Waters's as particularly influencing him and anesthesiology: Francis H. McMechan and Elmer I. McKesson. Francis Hoeffer McMechan (1879-1939) was the consummate organizer, with an agile mind and a dramatic, forceful

personality. Ankylosing rheumatoid arthritis terminated his promising clinical career, so he focused on organizational and editorial activities. In 1912, he helped form the American Association of Anesthetists. Owing to McMechan's persuasion, the *American Journal of Surgery*, in 1914, began publication of the *Quarterly Supplement of Anesthesia and Analgesia*, which endured until 1926. Waters recollected that, at a time when there was little in the way of textbooks or journals about anesthesiology, he felt "considerable joy" upon finding the *Quarterly Supplement*. Vandam speculates that Waters's first paper, "Why the Professional Anesthetist?" was "probably inspired by conversations with McMechan" [14]. In 1915, McMechan cofounded, with W. H. Long and Ira McKesson, what ultimately became the International Anesthesia Research Society. Beginning in 1922, the society published *Current Researches in Anesthesia and Analgesia*, the first journal in the United States devoted exclusively to anesthesia, with McMechan as editor [2].

Elmer I. McKesson (1880-1935), known as "Ira," made the kind of scientific contributions to anesthesiology that many nineteenth-century anesthesiologists had not pursued. In addition to being a capable anesthesiologist, he founded the Toledo Technical Appliance Company and produced many notable inventions: the first on-demand interflow nitrous oxide and oxygen machine, with percentage calibration of the two gases; oxygen tents; suction machines; and his Nargraf machine of 1930, which was capable of producing a semiautomated record of inspired oxygen, tidal volume, and inspiratory gas pressure. In his "spare" time, McKesson helped found the University of Toledo and served as professor of physiology and physiologic chemistry [2].

Anesthesiology…and Beyond

The extraordinary contributions of three remarkable anesthesiologists extended well beyond the confines of anesthesiology and advanced the practice of medicine globally. These trailblazers in science, public health, and ethics were Robert A. Hingson, Virginia Apgar, and Henry K. Beecher.

Concerned about the pain that women endured in childbirth, Robert Andrew Hingson (1913-1996) and obstetrician Waldo B. Edwards designed the 19-gauge Hingson-Edwards caudal malleable stainless steel needle to provide continuous caudal analgesia [15]. Hingson also suggested that continuous caudal block could be used for battlefield and other trauma surgery. No doubt his most far-reaching, potentially life-saving contribution was the Hypospray, which he and an engineer designed in the 1940s [16]. While at Staten Island, Hingson had treated a merchant seaman who sustained a high-pressure trauma that forced diesel oil transdermally into his hand without a visible surface wound. Using this observation, Hingson developed a small jet injector whose high pressure forced fluid subcutaneously, without breaking the epidermis. Subsequently, the instrument was used worldwide to immunize millions of people against influenza, typhoid, cholera, smallpox, and polio. The recipient of countless international humanitarian awards, Robert Hingson was also nominated for the Nobel Peace Prize [17].

Virginia Apgar (1909-1974) went to the University of Wisconsin as a "visitor" in Waters's program on January 2, 1937 [12]. In 1938, she became the first director of the Division of Anesthesia and attending anesthetist at Columbia. Apgar devoted herself to the previously neglected area of obstetric anesthesia. She became a world-famous pioneer in the clinical

use of and research into aspects of obstetrical anesthesia. She also developed a brilliantly simple, rapid method to assess the status of the newborn, focusing on heart rate, respiratory effort, muscle tone, reflex irritability, and color [18]. Using the Apgar score and other measures, Apgar and her team soon discovered that maternal and neonatal outcomes improved with the use of regional, rather than general, anesthesia for delivery. Thus, they initiated the salutary transition to regional anesthesia for obstetrics.

Apgar became clinical professor of pediatrics (teratology) at Cornell University Medical College and director of the campaign of the National Foundation (previously the March of Dimes) to prevent birth defects [19]. In addition, she was an outspoken advocate for universal vaccination during the rubella pandemic of 1964-1965 [20]. Apgar was awarded the American Society of Anesthesiologists' Distinguished Service Award, its highest honor, in 1961, the first woman to be so acknowledged [21].

Henry Knowles Beecher (1904-1976) made significant contributions to professionalism and medical ethics. Born Harry Unangst in Peck, Kansas, he changed his name to Beecher in his 20s, allegedly to capitalize on the name recognition of the great nineteenth century abolitionist and preacher Lyman Beecher, his preacher son Henry Ward Beecher, and his daughter, the influential author Harriet Beecher Stowe. Beecher was brilliant, driven, complex, and controversial, thriving on contrarian opinions. Although he had no formal training in anesthesiology, Beecher was named the Henry Isaiah Dorr Professor of Anaesthesia at Harvard Medical School in 1941 [22].

He proceeded over the next three decades to mold the environment in which every specialty in medicine is practiced. He advocated for the use of placebos in all drug trials, effectively becoming the father of the prospective, double-blind, placebo-controlled clinical trial. His and Donald P. Todd's watershed exploration of the factors contributing to perioperative mortality in the early 1950s was one of the first multicenter studies performed in the United States [23]. His landmark 1966 article identified unethical practices in medical experimentation and established the need for protocols and review boards for human experimentation [24]. His insistence on informed consent for clinical research was crucial in enabling acceptance of the concept of patient autonomy despite a previously established paternalistic culture. Moreover, his focus on brain, rather than cardiac, death redefined the endpoint of life and greatly facilitated the growth of organ transplantation [10].

Ironically, in 2007, a German television documentary claimed that, during the 1950s, Beecher was involved in human drug experiments in secret Central Intelligence Agency prisons in western Germany [25]. It was alleged, although without irrefutable evidence, that Beecher consulted frequently with the CIA staff and recommended testing of several drugs, possibly including mescaline, without the prisoners' consent. If this allegation is accurate, it is tempting to speculate that Beecher reflected on this experience and, with time, came to realize the necessity of informed consent in clinical experimentation.

Conclusion

A fascinating combination of ideas, events, influences, and individuals enabled anesthesiology to progress from a craft or trade to a profession. The evolution of

professionalism occurred with the establishment of professional societies, the birth and growth of formal training programs and academic departments, and the initiation of accreditation processes. The ingenuity and integrity fostered by observant, creative minds in the rich history of anesthesiology are inspiration for advances to come, while instances of scientific folly and human foibles caution against future repetition.

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SECOND THOUGHTS

The Importance of Good Communication in Treating Patients' Pain

Anita Gupta, DO, PharmD

Friday 4 O' Clock in the Pain Clinic

Friday at 4 p.m. our pain clinic phone rang; it was the daughter of one of my patients, crying and telling me that her mother had died following a grueling course of treatment only a year before for widely metastatic breast cancer. The daughter had called me to share the news, saying she was truly grateful for all of the care I had given during her mother's struggle with intractable cancer pain.

Her mother had been a stoic patient who seldom complained of any symptoms of pain, but I felt she was suffering both physically and emotionally. The patient's monthly encounters with me were often uneventful, simple, and short exchanges about medications. When I received the phone call from her daughter, I wondered how it was that I was able to make such an impact. I think my patient felt so connected to me and satisfied with her overall care because our relationship was one of good communication and sympathy. The call from her daughter underscored that good communication, both spoken and unspoken, can be the best medicine for our patients.

The Dilemma of Treating Pain

Nearly a third of Americans experience long-lasting pain—the kind that lingers for weeks to months [1]. Chronic pain costs the United States at least $558 billion a year in medical bills, sick days, and lost productivity, which happens to be more than the annual cost of heart disease [2]. All kinds of ailments can trigger lingering pain, from arthritis to cancer, spine problems to digestive disorders, injuries to surgery. Chronic pain can also be a disease all its own. And chronic pain patients feel stigmatized rather than helped by a health care system poorly prepared to treat them [3].

Pain is difficult to treat for a number of reasons. Doctors worry about overprescribing narcotic painkillers, but that is not the only problem they face. Law enforcement efforts to fight the serious problem of prescription drug abuse can be a barrier to pain care. And now restrictive insurance policies may not cover the often costly pain specialist visits and associated treatments. To further muddle the issue, few doctors are trained to manage pain, and most medical students only have a few required didactics on treating it.

Whatever the cause, effective pain management is a moral imperative, and the Institute of Medicine is urging the government, medical groups, and insurers to take a series of steps to transform the field [3].

How Good Communication Can Treat Pain

Communication with patients is therapeutic and has even been shown to be as effective as medications in the management of chronic pain [4]. In my experience, clinicians' ability to communicate effectively with patients requires more than skill in conducting patient interviews. Assuring patients that you believe they are in pain often nullifies altogether the debate about whether the pain truly exists. Accepting a patient's pain and frustration without showing irritation or intolerance can yield enormous emotional benefits for patients with painful conditions. I believe many patients have pain without a clear physical cause. The pain is often rooted deeply in conditions that the physician cannot readily see. Being responsive and empathetic helps both the physician and the patient handle the condition positively. These skills allow the physician to understand the patient's point of view and incorporate it into the treatment [5]. Conversing in this caring, empathetic fashion and engaging in shared decision making with patients also tremendously empowers those who are suffering pain.

There are barriers to effective patient-physician communication, however. The growing demands of clinical productivity [6], increasing paperwork, and electronic medical records encourage clinicians only to check the boxes on the screen [7], which can inhibit effective communication—especially problematic for those with complex chronic pain diagnoses. Developing effective patient-physician communication requires a substantial commitment in an increasingly challenging environment with declining clinical reimbursements and increasing expenses.

Simple Ways to Better Communicate with a Patient in Pain

I follow the Golden Rule in how I treat my patients, and I teach medical students do so the same: do unto others as you would want them to do unto you. It is simple but often forgotten amid the daily complexities of being a physician. Furthermore, it may well be that, in the long term, effective communication skills save time by increasing patient adherence to treatment, reducing the need for follow-up calls and visits. In accordance with the Golden Rule, physicians can take the following steps to improve communication:

- When entering the room of patients in pain, always tell them that you are there to help comfort them and to do your best to relieve their pain.
- Remain calm and show empathy.
- Express concerns for the patient's feelings.
- Use "I" statements. For example, "I would really like you to take this medication. I want to help you," versus "You really need to take this medication. We have ordered it for you, because we all care about you." "You" statements often sound accusatory and can quickly alienate patients by provoking defensiveness and hostility. Use patient-centered interviewing and caring communication skills in daily practice.
- Encourage patients to write down their questions in preparation for appointments. An organized list of questions can facilitate conversation on topics important to the patient. A form for writing down questions can be given to patients on their arrival at the office.
- Advocate for increasing the duration of visits to provide the opportunity to address multiple patient concerns. Increased time for visits is crucial in efforts to improve

patient-centered interviewing, shared decision-making, and improved patient-physician communication.

Even though it seems like a physical problem with a purely technical solution, treating the *patient* is an equally important part of treating *pain*.

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Suggested Readings and Resources

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