Art, Chaos, Ethics, and Science (ACES): A Doctoring Curriculum for Emergency Medicine

Aneema A. Van Groenou, MD
Katherine Mary Bakes, MD

From the Permanente Medical Group, Hayward, CA (Van Groenou); and the Denver Health Medical Center, Morrison, CO (Bakes).

ACES (Art, Chaos, Ethics, and Science) is a curriculum developed by 2 residents and a faculty mentor at the Denver Health Medical Center Emergency Medicine Residency Program. The goal of the ACES curriculum is 2-fold: (1) to discuss areas of clinical consequence typically outside the scope of the regular academic curriculum, such as ethical dilemmas and the challenges of professionalism; and (2) to encourage reflection on our roles as caregivers on a personal, public health, and political level.
Each bimonthly "doctoring roundtable" session focuses on one of these goals, bringing local and national leaders in the field to the forum to enrich discussion. Attending physicians from academic and private settings within the residency, residents at all levels, rotating medical students, and, for the past year, emergency department nurses participate in the meetings. Thus far, regular voluntary participation has been the only measure of the ongoing program's success.
In this descriptive article, we discuss the aim of the program, the curriculum, and how the ACES program enriches the residency's educational goals. Recent accreditation requirements for residency training programs mandate educational experiences that allow residents to demonstrate competency in professionalism and ethical principles. The ACES curriculum developed a unique niche in our residency, creating an open forum for passionate discussion of challenging clinical encounters, unpressured reflection on ethics and decisionmaking, and constructive personal and professional development. [Ann Emerg Med. 2006;48:532-537.]

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INTRODUCTION

Emergency physicians work in a fast-paced and unpredictable environment in which demanding clinical cases require confident, decisive, and compassionate decisionmaking. Working at the front lines of medical practice also means managing gritty ethical and personal challenges. Developing this clinical acumen goes well beyond the manual aptitude of placing lines and delivering appropriate medication. It is a skill the Accreditation Council for Graduate Medical Education (ACGME) defines as professionalism.

The ACGME highlights the importance of professionalism as a residency requirement for accreditation. The institutional requirements specify that a residency provide the "knowledge, skills, attitudes, and educational experiences. . .in order for their residents to demonstrate professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population."[1]

In our emergency medicine residency program at Denver Health Medical Center, an occasional formal lecture and several sessions of our senior seminar series specifically address ethics and professionalism. But the bulk of our professional education is hands-on—residency is our *clinical* training, after all. Real patient cases, real-time decisions, and our senior physician's cautionary tales at the bedside educate us minute to minute, and these lessons stick.

The Art, Chaos, Ethics, and Science "ACES" curriculum grew out of this rich clinical experience. At Denver Health, residents train in a busy inner-city Level I trauma center with a large immigrant and indigent clientele. As residents, our skills are honed both on sheer volume and clinical rigor. Taking this valuable clinical exposure to the next level, the ACES curriculum further formalizes our education in ethics and professionalism by creating a forum to reflect on the lessons of difficult clinical cases.

LOGISTICS: MAKING THE CURRICULUM HAPPEN

Creating lively discussions at the ACES roundtable sessions required 3 things: first, advance advertising and thought-provoking readings to attract a healthy core of emergency department (ED) attending physicians, residents, students, and

nurses; second, a unique event or "hook" to spark the meeting itself beyond a regular discussion group; and third, a comfortable place to meet, with plenty of good food.

The reading packets, carefully selected by our ACES team of resident and attending physicians, include short stories, essays, medical journal articles, poems, cartoons, and even artwork. We search for work that will truly broaden the scope of our discussion, often by taking a wholly different perspective on an issue. So a poem about the intimate experience of being ill, a satire on the "art of pimping," an essay on giving AIDS care in remote Africa, a medieval painting of the human body, and a philosopher's musings on autonomy each can nurture the dialogue. These materials are distributed at least a week in advance of the event into department mailboxes. Even people unable to attend the meeting can enjoy the ACES packet. The coversheet includes the logistic details, the headliner speaker, and a few of the questions central to the issue. This packet is accompanied with e-mail and verbal announcements in the weeks leading up to the ACES roundtable.

Planning the hooks for each meeting is the key to ACES' success. As the curriculum section below details, ACES has been able to attract a variety of speakers, from leaders in the field to leaders at our hospital. Several sessions have taken a more creative route by luring participants with a surprise, such as a real patient coming to the beginning of the meeting to share his or her experience. At the first ACES meeting of the academic year, called "The Evolution of a Physician," we stunned residents by presenting each with an envelope containing his or her own residency application essay. The reaction was palpable: what a distance we have come! With each hook, our goal is to make the ACES topic come alive.

Creating the supportive and intimate atmosphere for these confidential—what is shared in ACES stays in ACES—sessions means getting out of the hospital. ACES meetings are therefore primarily held in volunteer physicians' homes that can accommodate the 30 or so attendees. Our program director has secured funding (approximately $2,000 a year for 5 to 6 meetings) to provide catered food and beverages. Although social time and dinner warm the tone, the approximately 2-hour sessions are called to order by the facilitator so that discussion can start over dessert.

The ACES moderator introduces the session, evoking the readings and laying a historical and philosophic context, and then periodically guides the discussion toward the fundamental challenges—and frustrations—of medical practice. Participants say the lively discussions overflow into conversations outside ACES, build teamwork, and energize their clinical interactions.

ACES ROUNDTABLE SESSIONS

The sessions include the following detailed curriculum topics: "The Evolution of a Physician," "The Difficult Patient and Difficult Doctoring," "Sex, Drugs, and a Doctor's Role: Moral Neutrality in Medicine," "Frontline Ethics: Truth-Telling, Deception, and Giving Yourself a Stress Ulcer," "The Privilege and Frustration of Caring for People," "The Caregiver Detox Party," "Professionalism, Leadership, and Ethics," "The Cost of Caring: The Financial Realities of Health Care for the Indigent," "Making Mistakes," "Death in the ED," and "Residency, the Universe, and Everything: How to Have a Life During and After Residency."

ETHICS AND PROFESSIONALISM

The first goal of the ACES curriculum is to broaden the opportunities to discuss issues of clinical consequence, such as ethical dilemmas and the challenges of professionalism. Attracting physicians (and, in the past year, ED nurses) at all levels of training, discussions thrived on a wealth of clinical stories, lessons learned, and practice techniques shared. The true wisdom of professionalism emerges from the blood, sweat, laughter, and tears of clinical stories. Taking away the pressure of a clinical setting allows the conversation to develop more fully and to dwell on sensitive subjects.

We choose our ACES subject matter carefully. In the past 2 years, a number of ACES sessions specifically addressed ethics in the clinical setting. In one session, called "Sex, Drugs, and a Doctor's Role: Moral Neutrality in Medicine," we invited a physician-turned-ethicist, John Patrick, MD, to speak about the role of moral judgment in medical practice. Facilitating the discussion helped raise important issues, including: How do your beliefs shape you as a physician? How do you care for people when you do not approve of how they care for themselves? How do you educate patients' "bad" behavior without "judging" them? Is judgment wrong in a clinical setting? The session explored these questions in the context of smoking, physical and chemical restraints, abortion, homosexuality, obesity, sexual promiscuity, and medical noncompliance.

Readings, distributed in advance of the meeting, voice different perspectives and are referenced often during the active discussion. The poem *What the Doctor Said* by Carver[2] offers a patient's voice in response to a physician's fatal "judgment;" the essay *Washing the Dishes to Wash the Dishes* by Hanh[3] gives a monk's thoughts on doing "dirty" work without judgment; and a Burns's[4] cartoon shows a physician telling a squirrel, "Of course your back hurts. You sleep on a bench." We concluded the conversation by reading Carver's[2] poem, which reminds us touchingly of how these large questions are not at all abstract.

Another ACES session devoted to ethics and professionalism was called "Frontline Ethics: Truth-Telling, Deception, and Giving Yourself a Stress Ulcer." Using the *JAMA* article titled "Physician's Attitudes Toward Using Deception to Resolve Difficult Ethical Problems"[5] to initiate the discussion, we examined how we convey truth in the ED. The central questions we probed included: How do we use a version of the truth to explain data, prognosis, and defensive medicine to a patient? In what cases do we face issues of truth-telling every day (diagnosing pelvic inflammatory disease, talking with an adolescent's parents, persuading consultants to talk with patients)? To what extent do we use the costumes of our

profession and medical script to create distance from our patients' diagnoses and pain?

One of the most sensitive of the ACES roundtables on ethics and professionalism tackled the important issue of "Making Mistakes: Confronting the Truth, Suffering Insecurity, and Moving On." We invited attending physicians who were willing to share a story of making a mistake that changed their perspective and practice. For the residents, this deeply human exchange furthered our education by creating a forum for discussing professionalism at its vulnerable core.

The session was introduced by quoting startling statistics on the frequency of medical mistakes from an article titled "Incidence and Types of Adverse Events and Negligent Care in Utah and Colorado"[6] and the Harvard study on the incidence of adverse events and negligence in hospitalized patients.[7] The residency had also purchased copies for the residents of the book *Internal Bleeding* by Wachter and Shojania[8] on America's epidemic of medical mistakes.

Residents in particular are well aware of how mistakes are made: the weekly Morbidity and Mortality conference focuses the magnifying glass on our daily practice. The ACES roundtable drew from residents' own experiences of presenting cases at Morbidity and Mortality conferences to introduce the notions of how a public review changes one's perspective of the case and how preparing for the presentation reveals other culpable—and perhaps unspeakable—factors, such as working with an inexperienced nurse or student, one's own exhaustion or illness, or simply being overwhelmed by other cases.

Gawande's[9,10] articles from *The New Yorker*, titled "When Doctors Make Mistakes" and "The Learning Curve," illuminate the patient's perspective, revealing the systemic fact that physicians-in-training "practice" on patients. So to err is not only human: it is expected. But in no other field are the consequences of error so grave, so to speak, or so human.

No lecture or book chapter could so aptly highlight how making a mistake affects one's confidence; how a single mistake may affect interactions with patients, consultants, and even spouses for days or weeks; or how difficult it is to take responsibility for one's mistake or oversight. This provocative ACES roundtable session spurred many conversations well after the organized meeting ended.

OUR ROLE AS CAREGIVERS

The second goal of the ACES curriculum is to encourage reflection on our roles as caregivers on a personal, public health, and political level. The aim of these discussions is to get the larger perspective on how emergency medicine practice fits into the hospital, the greater community, and, more intimately, a family. The ED provides a significant service to the larger community by providing health care for all and is also a significant gateway for patients, insured and not, into the hospital. This front-line role shapes our relationships with patients, certainly, but also with consultants, administrators, financial managers, public health personnel, community organizations, and even Hollywood. Our front-line role in the ED affects us on a personal scale as well, affecting our sleep patterns, our perspectives on politics and people, our health, and our closest relationships.

Peter Rosen, MD, one of the fathers of the field, introduced the roundtable titled "Leadership, the Past, Present, and the Future of Emergency Medicine." His stories of establishing the focus of the emerging field sparked a discussion of the many faces of leadership in the ED.

The session was anticipated by a reading from *Shackleton's Way: Leadership Lessons from the Great Antarctic Explorer*,[11] a perspective on a leader in extreme circumstances, handling a near-insurmountable disaster and working with a group of independent-minded adventurers to create a successful team. This celebrated survival story was contrasted to another historic event at sea in the 19th century in which mutinous sailors ultimately ended up adrift on a flimsy raft and resorted to cannibalism. At the ACES discussion, we distributed color reproductions of French painter Gericault's painting (1819, Musee du Louvre, Paris) of the *Raft of the Medusa*,[12] which vividly evoked the consequences of failed leadership.

Leadership in the ED also requires awareness of the community that we serve. Several ACES sessions sought to acquaint the staff with the realities of our patients as people outside the "patient" role and outside the semisterile setting of the hospital. An ACES annual event, called the "Care for CARES Drive," collected new socks, hats, and gloves to deliver to Denver Health's CARES (Comprehensive Addictions Rehabilitation and Evaluation Services) facility. Each year, the ACES sessions around the December holidays started with delivering the clothing and a tour of the CARES facility. One such session, called "Difficult Patients and Difficult Doctoring," was advertised to the residents with a CAGE[13] questionnaire—a pneumonic developed to screen for alcoholism—of our own, which included the following: Have you ever felt the need to cut out of the ED in the middle of a shift and scream? Have you ever felt annoyed by dirty, drunk, and disagreeable patients? Are you feeling guilty about not spending time with your family this holiday? Have you been needing an eye-opening experience to replenish your compassion?

After the revealing tour, the ACES discussion asked the physicians these creative CAGE questions and tackled these central issues: What makes a patient difficult? Which patients push your buttons and why? How does seeing a patient as a "diagnosis" affect how we do or do not see them as people? The discussion also referred to the assigned reading, a powerful essay by Broyard,[14] called *Doctor, Talk to Me*, about why patients may "act difficult" when faced with illness.

Our perspective on our role as caregivers was further elucidated by another ACES roundtable, called "The Privilege and Frustration of Caring for People." A heated debate was sparked by a 15-minute talk from a real patient who had received care at our ED. Her perspective brought home how different the goals of a patient and a provider can be, causing physicians and nurses to reflect on how being a patient changes

us as caregivers. The patient's comments evoked concern, anger, pride, and empathy. The session concluded by a resident reading her humorous personal account, *The Princess and the Plum: A Tale of Medical Misadventure.*[15]

Often, the circumstances of emergency medicine practice, not simply the difficulty of individual cases, are our greatest challenges. The economics of health care greatly influence our practice. The ACES roundtable called "The Cost of Caring: The Financial Realities of Health Care for the Indigent" highlighted this aspect of emergency care. We invited the chief executive officer of Denver Health Medical Center, Patty Gabow, MD, to discuss how our own hospital is able to handle 42% uninsured patients and 37% uncompensated care and still remain "in the black" (though on a less than 1% margin) financially.

Certainly, these cost concerns are not abstract when they affect what brand of medication a physician can prescribe or where a patient can follow up. The seminar was initiated by a quiz on the state of health care (How many Americans are uninsured? [45 million] How many of these are children? [1 in 4] How many are noncitizens? [1 in 5]) The answers to the quiz segued into these issues: How does cost affect our care? What is the cost of a warm bed in the ED? How do you feel about caring for people who cannot pay? The readings preceding the session, such as Williams's[16] poem *The Poor*, demonstrated the unique challenges for physicians treating the indigent.

At the end of the day, these day-to-day stresses can be hard to leave behind when signing out and heading home. Practicing emergency medicine can strain personal relationships. With this reality in mind, several ACES seminars focused on the private impact of working in such a fast-paced field, with its intimate exposure to the extremes of human suffering and the physical toll of a round-the-clock unpredictable job. One such ACES seminar was called "Residency, the Universe, and Everything: How to Have a Life During and After Residency." We invited residents, faculty, and alumni *and* their spouses and children to discuss these topics: Residency changes us as people—how does this affect our relationships? In what ways do we bring our work home? What about our medical training surprises our significant others? What would they like to change? And, most important, does life really get better after residency?

We concluded the lively session—our spouses had a lot to say—with people sharing readings that have inspired them and even a couple of pieces written by physicians themselves on the experience of medical training. One reading, by a recent graduate, highlighted the top 10 things she had learned in residency. She shared her humorous insights in the form of "Top 10" pieces of advice for younger physicians in training: 10. Say yes when you really want to say no (a strategy for gaining your health care team's respect); 5. Treat your patients like they are your family (a reminder that our larger goal is always to give good care); 4. Remember, lots of people want to be you (encouragement during an overwhelming shift); 3. Ask questions; this is your last chance! (good advice before heading into the real world of single coverage); 2. It is more important to be hard-working and calm than it is to be smart, witty, or well-read (a reflection on the qualities that make a good emergency physician); and 1. They can't stop the clock! (the ultimate advantage of shift work).

In essence, the doctoring roundtable meetings seek to enhance a sense of community by encouraging reflection on and sharing of our stories. Having the attending physicians participate also cements role model relationships. When we founded the ACES program, at the back of our minds was the hope that an open forum would deepen our professional education, expose us to a broader world of art and literature relevant to our experiences, and build a sense of camaraderie.

FUTURE DIRECTIONS FOR ACES

Proving the value of the ACES sessions—to formalize the ACES curriculum to meet residency educational goals—will require further study. So far, entirely volunteer participation in the 2-year program implies that the roundtable discussions (6 meetings per year) are valuable to a healthy number (usually 20 to 30) of emergency medicine residents, medical students (5 to 8) ED nurses and technicians, and (typically 3 to 5) emergency medicine faculty—or at least more valuable than an evening out or more sleep!

Recent accreditation requirements mandate that residents demonstrate competency in professionalism—no easy task.[17] At this point, only evaluations from medical students and attending physicians indirectly reflect on a resident's professional and ethical performance. Instituting a more formal professionalism curriculum could help meet this ACGME objective. On another level, emphasizing professional development may inspire residents by providing better support and strengthening mentor relationships, and, in the longer term, decrease burnout.

Evaluating the ACES curriculum in light of the goals of improving competency in professionalism and improving resident support calls for further study. One possible direction would be to trace resident attitudes and behaviors in a longitudinal study from internship through graduation and correlate these with ACES curriculum participation. Several studies establish a baseline of the effects of residency training on sleepiness,[18] posttraumatic stress,[19] and empathy and mood scores[20]; in each study, residents fare worse later in residency.

A study of ACES curriculum participants mirroring an established study such as that of Bellini and Shea[20] could compare the potential effect of ACES to the existing literature that shows that measures of empathy (using a self-report survey called the Interpersonal Reactivity Index)[21] decline and mood scores (measured by the Profiles of Mood States[22]) deteriorate during residency. The Interpersonal Reactivity Index asks participants to rate themselves on such statements as "Sometimes I don't feel very sorry for other people when they are having problems," "If I'm sure I'm right about something, I don't waste much time listening to other people's arguments," and "I sometimes feel helpless when I'm in the middle of a very

emotional situation." Answers are rated on several scales: perspective-taking, fantasy, empathetic concern, and personal distress. In the quick-thinking and emotionally charged environment of the ED, development of perspective and empathy is particularly relevant. Because the ACES curriculum specifically strives to broaden our perspective on teamwork and patient care, a longitudinal study using the Interpersonal Reactivity Index could show that regular participation may result in less of a decline in empathy scores during residency.

An Institute for Ethics study in 1998 found that there is an inverse relationship between residents' witnessing unprofessional behavior in the hospital and their overall satisfaction with their residency.[23] Conversely, a potential ACES study could relate ACES curriculum participation with residency satisfaction. Perhaps a stronger resident support system and a formalized professionalism curriculum that specifically addresses the unique stresses of emergency medicine practice could improve residency satisfaction.

Recent evidence suggests that the more experienced residents are better equipped to deal with ethical dilemmas in simulated critical patient encounters.[24] Because ACES creates a discussion environment in which caregivers at various levels of training, from medical student to program director, are sharing experiences of challenging patient care, ACES participation may accelerate clinical maturity in ethical decisionmaking. A study evaluating ACES participation in light of maturity in patient care, perhaps in a simulated-encounter format, would provide demonstrable evidence of the value of such a curriculum.

As a resident-driven curriculum, ACES continues to develop. The curriculum we compiled outlines a number of possible future ACES roundtable sessions. These as-yet-unexplored avenues, gleaned from resident interest (a discussion of cross-cultural issues in the ED) or the latest news (such as the Schiavo case's sparking a discussion of end-of-life decisionmaking in the ED) also mark an exciting road ahead.

Although most residency programs devote significant resources to ensuring that residents are fluent in the content-based requirements of emergency medicine practice, few have formalized programs to assist residents in developing professionalism. The dearth of training in this area has not gone unnoticed by physicians in training. A recent study conducted at the University of New Mexico surveyed medical students and residents about their own experiences, and only 18% of responders found current professionalism and ethics preparation sufficient.[25,26] The ACES curriculum may be one option to specifically address the challenges resident physicians face and expand this area of training.

A solid foundation in professionalism, though important to all medical specialties, is even more critical in emergency medicine because of its unique challenges. The ED exposes physicians to the unpredictable, emotionally charged, medically ambiguous, truly emergency, and sometimes actually dangerous environment of crisis. No schedule or membership stands between emergency physicians and our duty to treat anyone at any time. For this reason, emergency medicine attracts a unique individual, one who has the basic instincts to face the front line. Residency training, while advancing medical skills, can also cultivate the aptitude to ensure a satisfying, successful, and long emergency medicine career, which is where the ACES "doctoring roundtables" can complement residency training.

As the ACGME aptly recognizes in its curricular requirements, professional and ethical behavior at the front lines of medicine is one of the true satisfactions of our field. Caring for people in our communities reliably, responsibly, and with humility is an emergency physician's noble calling. Practicing with such integrity entails a lifetime of learning. Our hope is that the ACES curriculum, embracing the ACES of our profession, can offer some mighty first lessons.

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Address for reprints: Katherine Mary Bakes, MD, Denver Health Medical Center, 16747 Foxwood Lane, Morrison, CO 80465; 303-697-8491, fax 303-436-7541; E-mail Katherine.Bakes@dhha.org.

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