Mindful Practice

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Reflection and self-awareness help physicians to examine belief systems and values, deal with strong feelings, make difficult decisions, and resolve interpersonal conflict. Organized activities to foster self-awareness are part of many family medicine residency programs and some other residency and medical school curricula. Exemplary physicians seem to have a capacity for critical self-reflection that pervades all aspects of practice, including being present with the patient, solving problems, eliciting and transmitting information, making evidence-based decisions, performing technical skills, and defining their own values.

This process of critical self-reflection depends on the presence of mindfulness. A mindful practitioner attends, in a nonjudgmental way, to his or her own physical and mental processes during ordinary everyday tasks to act with clarity and insight. This article first describes the nature of professional knowledge, competence, and values and then presents current thinking about the philosophical, psychological, and practical aspects of mindfulness. It also explores how mindfulness is integral to the professional competence of physicians and suggests ways to cultivate mindfulness in medical training. In doing so, I recognize that mindful practice, although supported by empirical observation of clinical practice, educational research, philosophy, and cognitive science, is fundamentally personal and subjective.

Consider a situation that I recently faced with a patient who required an expanded view of professional knowledge and mindful reflection to achieve a satisfactory resolution. A 42-year-old mother of 2 small girls, despondent over job difficulties, was contemplating genetic screening for breast cancer as she approached the age at which her mother was diagnosed as having the same disease. Aside from the difficulties in taking an evidence-based approach to assigning quantitative risks and benefits to the genetic screening procedure (How much should I trust the available information?) and uncertainty about the effectiveness of medical or surgical interventions (Would knowing the results make a difference, and, if so, to whom?), the case raised important relationship-centered questions about values (What risks are worth taking?), the patient-physician relationship (What approach would be most helpful to the patient?), pragmatics (Is the geneticist competent and respectful?), and capacity (To what extent is the patient's desire for testing biased by her fears, depression, or incomplete understanding of the illness and tests?).

For me, book knowledge and clinical experience were insufficient. I had to rely on my personal knowledge of the

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This form of explicit knowledge is readily communicated, and can be easily translated into evidence-based practice.44 Experts take into account messy details, such as context, cost, convenience, and the values of the patient.36,43,45,46 Physician factors such as emotions,77 bias,48 prejudice,49 risk-aversion,50-55 tolerance for uncertainty,54,55 and personal knowledge about the patient also influence clinical judgment.50-55 Most of the processes described above remain relatively unconscious to the practitioner.

Clinical judgment is a science and an art.36 Even those who are uncomfortable with the notion of tacit knowledge recognize that it is impossible to make explicit all aspects of professional competence.43 Evidence-based decision models are very powerful tools, but clinicians do not always use them, especially in complex situations.30,56 Information necessary to construct explicit models is frequently incomplete or conflicting. Some important tacit knowledge about the patient, such as personality, simply does not fit into predefined categories. To clinicians, these models may resemble computer-generated symphonies in the style of Mozart—correct but lifeless.40

### Professional Knowledge and Self-awareness

Eraut57,58 defines 4 types of professionally relevant knowledge, each of which can be tacit or explicit (TABLE 1). The most familiar is propositional knowledge, or what most people call fact: theories, concepts, and principles, usually acquired from books, electronic media, or instructors. Self-awareness of what one does not know and the appreciation for the transient nature of facts can direct ongoing learning.

Knowledge acquired through experience, or personal knowledge, is a collection of information, intuitions, and interpretations that guides professional practice.35 Consider the following example. Returning from vacation, I saw one of my patients who was infected with human immunodeficiency virus and said to the resident caring for him, “Mr Charles looks worse. Looks like he might have adrenal insufficiency.” The personal knowledge exemplified in this scenario differs from an anecdote because it is contextualized. I can say that Mr Charles looks worse because I know about him, and because I recognize a pattern of disease (weakness and skin color change). This knowledge enters into my mind in an inductive, impressionistic way, providing the gestalt or feel of a clinical situation in addition to the propositional facts.29 However, confusion between personal knowledge and anecdotal information results in both being neglected and discounted during medical training. An example of the uncrucial application of a decontextualized anecdote is when a physician who after...
missing a diagnosis of colon cancer, subsequently overtests all of his patients. In contrast, if he had raised tacit personal knowledge to awareness, it could have been subjected to critical reflection.

Process knowledge is knowing how to accomplish a task, such as gathering information, performing procedures, making decisions, and planning for the future. Process knowledge also includes metaprocessing, or the process of reflection on one's own mental processes. This is particularly important in practice, because “we do not observe nature as much as we observe nature exposed to our method of questioning.” Metaprocessing might be called thinking about thinking or feeling about feelings. It is both a concrete action (such as the modification in a trajectory of light in a mirror) and an act of self-observation in which the mind attends to its own actions (including the subject who is performing those actions). Metaprocessing allows the physician to uncover areas of unconscious incompetence, the blind spots wherein a physician might not know his or her deficiencies. Fortunately, clinicians can often readily identify these blind spots and gain insight into the influence of the observer, for example, when they review their own videotaped patient visits.

Eraut’s fourth type of professionally relevant knowledge, know-how, is knowing how to get things done. A resident working in a new setting may know that a diagnostic test is important, but may not know that the test will happen sooner with a friendly call to the radiologist. Learning the steps necessary for getting something done is important in professional development of physicians, but it is often relegated to the informal or hidden curriculum.

**Mindful Practice**

Mindfulness is a logical extension of the concept of reflective practice. The mindful practitioner is present in everyday experience, in all of its manifestations, including actions, thoughts, sensations, images, interpretations, and emotions. Mindfulness “leads the mind back from theories, attitudes and abstractions…to the situation of experience itself,” which prevents us from “falling prey to our own prejudices, opinions, projections, expectations” and enables us to free ourselves from the “straightjacket of unconsciousness.” Mindfulness is attending to the ordinary, the obvious, and the present. Johann Sebastian Bach is reported to have said, when asked how he found melodies: “The problem is not finding them, it’s—when getting up in the morning and out of bed—not stepping on them.”

Although mindfulness is a practice that derives from a philosophical-religious tradition, the underlying philosophy is fundamentally pragmatic and is based on the interdependence of action, cognition, memory, and emotion. These connections represent a relatively new idea in neuroscience research. Western approaches to the understanding of mental processes have historically separated mental activity from action in the world, and the schism between behavioral and psychodynamic psychology has reinforced some of this separation. However, in the East and in phenomenological traditions in the West, philosophy has linked cognition to emotion, memory, and action in the world.

The goals of mindful practice are to become more aware of one’s own mental processes, listen more attentively, become flexible, and recognize bias and judgments, and thereby act with principles and compassion (Table 2). Mindful practice involves a sense of “unfinishedness” curiosity about the unknown and humility in having an imperfect understanding of another’s suffering. Mindfulness is the opposite of multitasking. Mindfulness is a quality of the physician as person, without boundaries between technical, cognitive, emotional, and spiritual aspects of practice.

Mindful practitioners have an ability to observe the observed while observing the observer in the consulting room. This process, not often discussed in medical practice, is considered essential to musicians, whose task is to perform and listen at the same time, attending simultaneously to the technical challenges, emotional expression, and overall theoretical structure of the music. The accomplished musician performs midcourse corrections of finger movements, compares the sound produced with the imagined sound, and, at the same time, brings expressive spontaneity to the performance. However, if the musician were to attempt to control each finger movement while simultaneously analyzing the harmonic structures, rhythms, and silences that constitute expressive playing, playing would become impossible. Thus, focal awareness on the music is accompanied by subsidiary awareness of technique and analysis—a mix of peripheral vision and semiautomatic action that is highlighted only when the unexpected or difficult occurs.

In medicine, consider what a resident in a busy pediatric emergency department might do when he is unable to determine whether an ear examination is normal or abnormal and the attending physician is not immediately available. The resident has several options, consideration of which could be conscious or unconscious. The resident weighs the consequences of misdiagnosis for the patient, the humiliation of having to call an otolaryngology resident out of the clinic, the loss of self-esteem by having to admit incompetence, and the pride in being strong enough to admit his need to learn. An unmindful practitioner who is conscious of the dilemma might judge or blame himself or others. He might base...
Mindfulness implies examining the relationship between the knower and the known as suggested in the "I-Thou" relationship of Martin Buber or the "connected knowing" of ideas, people or things, suggested by Belenky and colleagues. Knowledge, then, does not exist independently but rather in relationship to the one observing and using it. Theories are seen as fragile approximations rather than reality itself. Suchman and Matthews have described this as the connexional dimension of medical practice, in which there is a tacit bond between patient and physician that transcends professional roles.

Mindlessness: Gaps Between Knowledge, Values, and Actions

Physicians make moment-to-moment value-laden decisions that entail cognitive and emotional factors. They decide how much effort to expend in pursuit of knowledge, how much pain medication to prescribe, how much time to spend with each patient, and when to return patients' telephone calls. These rapid decisions, usually based on personal knowledge, level of skill, efficiency, and values, ultimately result in actions. Thus, objectives for the practice of medicine calling on physicians should include the ability to perform or know about important aspects of medical care as well as the requirement to actually use those practices in daily work.

Self-awareness is essential to the expression of core values in medicine, such as empathy, compassion, and altruism. To be empathic, I must witness and understand the patient’s suffering and my reactions to the patient’s suffering to distinguish the patient’s experience from my own. Then I can communicate my understanding and be compassionate, to use my presence to relieve suffering and to put the patient’s interests first. Perhaps lack of self-awareness is why physicians more often espouse these values than demonstrate them and why they tend to be less patient-centered and confuse their own perspectives with those of the patient in situations that involve conflict and strong emotions.

Curiosity is central both to caring about the patient and to solving problems. Fitzgerald describes a trainee who reported a patient as having had a history of "BKA" (below-the-knee amputation) without noting that the patient, in fact, had both feet. A transcriptionist had mistranscribed DKA (diabetic ketoacidosis) and the assertion went unchallenged. The student’s lack of curiosity, or overconcreteness, led to mistaking the chart for the patient. Similarly, caring requires an interest in the patient as a person rather than as an abstraction of disease. For example, Stetten described how his physicians were uninterested in his adaptation to blindness while they attempted to treat his macular degeneration; they saw the disease but not the person.
Mindlessness accounts for many deviations from professionalism, which seem to occur more often in emotionally charged situations, during situations of uncertainty, and under pressure to resolve problems. For example, many medical students and residents, and presumably practitioners as well, report findings that were not observed and do not seek correction for errors. Actions diverge from professional knowledge and values because of attempts to be efficient, a desire to please supervisors, feelings of embarrassment, and a sense of being overwhelmed. Practitioners may not think to apply knowledge gained in a classroom context (such as an ethics course) in a stressful clinical environment. Deviations often involve avoidance of difficult issues, rationalization, externalization, or frank denial rather than the healthy processing of emotional feelings toward patients.

**Levels of Mindful Practice**

To guide physicians' professional development, I would like to propose 5 levels of mindfulness, each of which subsumes the previous level and is subject to verification in future observational studies (Table 3). At the extreme of mindless practice, the practitioner's response is denial (level 0). By making the problem “out there,” the practitioner may avoid responsibility and reflection or describe the situation (or the patient) in ways that are contrary to the evidence.

Level 1 describes practitioners who do not necessarily use reflection but take some responsibility for the situation and solve it by conforming to an external standard of behavior. For example, a practitioner might deal with his attraction to a patient by reciting a mantra, such as “sexual intimacy with patients is wrong,” but may not seek understanding of the factors that put physicians at risk for misconduct.

Level 2 describes medical decision analysis based on the assumption that explicit cognitive models guide physician behavior and the key to change is the transfer of information. While curiosity and reflection are required to generate hypotheses and important questions, physicians at this level ignore personal knowledge, tacit knowledge, and emotions. Level 3 includes curiosity about feelings, thoughts, and behaviors without attempting to suppress or label them as good or bad. By including emotions and personal knowledge, the clinician has more tools available to promote patient care. Level 4, insight, has 3 facets: understanding the nature of the problem, understanding how one attempts to solve it, and understanding the interconnectedness between the practitioner and the knowledge that he or she possesses.

Insight facilitates the calibration of mental processes, in addition to correction of the external problem. Finally, practitioners at level 5 can use their insight to generalize, overcome similar challenges in the future, incorporate new behaviors and attitudes, express compassion, and be present.

**Becoming Mindful**

Recent articles have described a variety of ways for becoming more self-aware. Individually, practitioners might keep a journal, practice meditation, review videotapes of sessions with their patients, and use learning contracts. In medical education, self-evaluation forms for students and residents have been important adjuncts to the evaluation process. Learners can compare their perceptions with those of a teacher or mentor. Peer evaluations have been useful in bringing awareness to aspects of professionalism and social skills for students, residents, and practicing physicians.

Critical incident reports written by practitioners about mistakes, impairment, ethical dilemmas, and difficult situations can be discussed in small group settings and raise awareness about common situations and one's reactions to them. Sharing of family information and cultural background, using genograms or illness narratives, can help practitioners learn about the expectations, biases, strengths, and tendencies that influence clinical care. These approaches, historically focused on the emotional aspects of medical practice and the patient-physician relationship, usually consist of exercises separated in space and time from actual clinical practice. Mindfulness training goes one step further. It applies to all aspects of practice, from looking up references to performing physical examinations, from putting sutures to giving bad news.

Mindfulness can link evidence-based and relationship-centered care and help to overcome the limitations of both approaches. The success of evidence-based approaches depends on the ability of the practitioner to decide which issues require further investigation and how to frame a question. These, in turn, require that the practitioner identify his or her own biases and the influences of the patient-physician relationship on framing of the question to investigate. This personal knowledge should also be considered a form of evidence and could be integrated into decision making to incorporate patients' preferences. Evidence-based data that are not specific to one patient-physician relationship would then be applied in a more mindful way.

Seminars about difficult topics such as HIV management, delivery of bad news, medical mistakes, professionalism, and adherence to treatment can foster reflection and raise practitioners' awareness of their own emotions and biases, while, at the same time, attending to the practicalities of the patient's problem. However, the ability to reflect in a classroom environment is not equivalent to reflection in a stressful clinical environment. For example, ethics courses might increase students' knowledge base and improve their ability to solve difficult problems, but ethics courses do not necessarily produce physicians whose behavior is...
havior is more ethical than it would be otherwise. Clinician-mentors can help students put ideas into action by modeling a moment-to-moment awareness of their own knowledge and emotions that inform their decisions when values are on the line. Professionals can learn to articulate their personal knowledge by observing their own actions (How do I respond to uncertainty? How do I present risks? How do I self-correct when doing a difficult technical procedure?) Professional knowledge is defined, then, not by its validity, but by how it is used.23

There is an inherent paradox in teaching or writing about mindfulness. The teacher’s task is to invoke a state of mindfulness in the learner, and, thus, the teacher can only act as a guide, not a transmitter of knowledge. In a recent example of a resident about to face a dreaded follow-up visit with an angry patient who thought that earlier treatment of his hepatitis C might have prevented his end-stage cirrhosis, the mentor’s role was complex. He had to help the resident identify his feelings of guilt and defensiveness that might interfere with communicating effectively with the patient, determine the risks and benefits of liver transplantation, and explore the patient’s wishes regarding end-of-life care. The mentor’s approach was to help the resident identify how he psychologically prepares for each visit with a patient, a “centering” process that had been previously tacit, which usually is not explicit for most practitioners, and to use it more effectively. The mentor helped the resident observe himself, effecting a transition from unconscious incompetence to critical reflection and allowing him to come to a satisfactory decision with the patient based on both objective evidence and personal knowledge.

Barriers to mindfulness are numerous in medical training, even in reformed curricula. Fatigue, dogmatism, and an emphasis on behavior (rather than on consciousness)203 close the mind to ideas and feelings. Unexamined negative emotions lead to emotional distance and arrogance. McWhinney identified 3 additional barriers: unexamined negative emotions, failure of imagination, and literal-mindedness (I. R. McWhinney, MD, oral presentation, London, Ontario, October 6, 1995). Failure of imagination limits the curiosity that is the first step in any process of inquiry. Concrete literal-mindedness may serve simple diagnostic processes well, but impedes creative problem solving and limits the physician’s view of the patient. Lack of opportunities to learn how to become mindful in practice and the lack of forums to deal with fears and anxieties create further barriers. Finally, some clinicians may fear that mindfulness is the same as excessive self-absorption that would delay necessary clinical actions. They would need to be educated that navel-gazing is antithetical to mindful practice, which has as its goal clarity and attention to the tasks at hand.

Conclusions
Mindfulness, critical reflection, learning, and patient care all “begin with the self as the first, but not the only, object of knowledge.”106 Mindful practice extends beyond examining the affective domains and involves critical reflection on action, tacit personal knowledge, and values in all realms of clinical practice, teaching, and research. Mindfulness is a discipline and an attitude of mind. It requires critical informed curiosity and courage to see the world as it is rather than how one would have it be. Mindful practitioners tolerate making conscious their previously unconscious actions and errors. The goal of mindfulness is compassionate informed action in the world, to use a wide array of data, make correct decisions, understand the patient, and relieve suffering.

Mindful practice requires mentoring and guidance. Recognition of one’s limitations and areas of incompetence can be emotionally difficult and can invite avoidance in even highly motivated practitioners. Although mindfulness is an individual and subjective process, each of us can identify practitioners who embody these attributes, learn from them, and identify unique ways of being self-aware. Educators can take on the task of helping trainees become more mindful by explicitly modeling their means for cultivating awareness.

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