

COMMENTARY

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On my first night on duty in the intensive care unit as a new medical intern a patient arrived in severe diabetic ketoacidosis. Her pH was 6.8, her potassium was 2.5, and her blood sugar was 1000. She was in coma, and I was petrified.

Of course, I pretty much knew the science. I had mastered the Krebs Cycle yet again for my Boards, and could have lectured any first-year medical student on the pathophysiology of ketoacidosis. But, that wouldn't help me or my patient much right then. I had a potential disaster on my hands, and both logic and memory were failing me. Would this patient die, or live? I needed help.

Rescue arrived in the form of my Senior Resident, a gracious, warm young man, who quite literally put his arm around my shoulder, sat me down in the ICU staff office, and said, "OK, let's get organized. First, let's list the problems..."

Ten minutes later, my panic had lifted. I had a plan -- methodical, clear, and specific -- written down on a piece of paper with columns headed, "Airway," "Potassium," "Fluids," "Hyperglycemia," and so on. Step by step, I put the plan into action. Four hours later, the patient awoke and smiled.

The next day, I transcribed the plan into my little "black book," which was already bulging full of such algorithms and memory-joggers, gifts from the experts who taught me. I carried that book with me throughout my training, and for years afterward. My memory helped me, but the rules and plans I wrote down helped me, too.

Even in those days, medicine was changing too quickly, and there was far too much to know to rely on memory as the mainstay system for storage and retrieval of facts and plans. In the 30 years since that night in the ICU, the rate of production of new knowledge and the complexity of what we ought to know to put at our patients' service has grown by an order of magnitude. New clinical knowledge and new technologies have significantly improved the possibilities for quality health care outcomes. Physicians who want to put those assets to the best possible use for their patients face the daunting task of keeping up to date on the best scientific evidence in their medical decision-making. And, if memory was somewhat unreliable back then, it is totally inadequate now. Over-reliance on memory may well explain why, as the Institute of Medicine has documented in its report on *Crossing the Quality Chasm* and elsewhere, "overuse" of unnecessary care and "underuse" of effective care may be so rampant in our well-intentioned care systems. "Evidence-based medicine" is not just a catch phrase; it is a promise we want to make to our patients -- to use all the care -- and only the care -- that can help them.

Luckily, knowledge management in medicine has progressed faster and farther than I could have imagined thirty years ago. Today, we have learned how to store and retrieve immense volumes of useful knowledge in both written and electronic form. We have learned that the job of reading, understanding, and synthesizing the flood of information pouring from our clinical research enterprises need not be a solo act. In fact, we have learned that it *cannot* be a solo act, because that knowledge is coming too fast from too many directions to make its mastery a personal goal.

Through modern clinical epidemiology, technology assessment, and clinical research, we have developed powerful new tools to assemble, digest, and judge the evidence-base for clinical practice. Rational care plans can emerge, based firmly in scientific evidence, and drawing on research published in hundreds of journals that serve as the basis for the expert opinions and guidance of professional medical societies. Intermediaries have emerged – some call them “cybrarians” -- to write and update the convenient, helpful, reliable “black books” of digested knowledge, much like those that we all kept at our side in training days.

Knee-jerk critiques attack some of these tools as “cookbook medicine,” somehow having learned to fear algorithms and evidence-based care plans as handcuffs. Used unwisely, they can be so, since the patients’ interests depend on specific, local adjustments as well as on putting formal science into practice.

But it is unfair, illogical, and hazardous to reject evidence-based standards and syntheses of research as encouraging unthinking practice. On the contrary, the hard work of hundreds of editors, investigators, and medical writers, assembled in clear digests is a resource of tremendous value, supplying knowledge and support that no individual doctor could hope to arrange for himself or herself. Wise physicians will use such digests to increase the reliability with which they use clinically relevant scientific evidence in their daily work, and to continually challenge and update their habits as new evidence becomes available. Wise physicians will not resist evidence-based practice; they will insist on it.

Many digests of clinical science are now available to physicians and nurses, but none is better than *Clinical Evidence*. This remarkable publication harnesses the full capacities of the British Medical Journal Publishing Group in a widespread and well-supported network of carefully trained and closely guided reviewers. It offers the assembled conclusions from the world’s medical literature in a format designed to be especially helpful to the front-line practitioner, who faces both undiagnosed complaints and known diagnoses, and who wants advice not just on what to do, but on the degree of scientific certainty about a range of possible choices for tests and treatments. Equally important, *Clinical Evidence* is updated continually.

Using *Clinical Evidence* to guide decisions is not “cookbook medicine.” Or, then again, maybe it is – “Julia Child” medicine, to be exact. The best of chefs keep the great cookbooks close at hand – not to stop their thinking, but to start it. So, too, will the best of doctors and nurses want close at hand the best guides they can find to the knowledge that can help their patients. My old black book of hints is somewhere in the basement. It can safely stay there, because now I have *Clinical Evidence* on the office shelf.

Medicine is much more complex today than it was thirty years ago. Within that complexity are inspiring opportunities for better health and human survival. This is an important moment for all of us in medicine to rededicate ourselves to the scientific basis of our professionalism and to avail ourselves of the information support systems so vital to the full expression of our commitment to provide the highest possible quality health care to our patients.