

Presidential Address of the American Orthopaedic Society for Sports Medicine

Education: Commodity or Responsibility?

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It has been a tremendous honor and privilege to have served as the president of our organization for this past year. Our Society is sound. It is growing and is becoming one of the most influential sports medicine societies in the world today. I have viewed my role this past year as a steward. With growth, any complex organization must have a unified and direct plan and not vacillate

with changing leadership every year. I hope I have served the Society well.

I learned long ago that there is little we accomplish in life all by ourselves. And so first I would like to thank those who have made this year possible. On a Society level, thank you to all of the staff of the AOSSM. We are a Society of 2000 members, with 7-figure budgets. For such a Society to be successful requires a strong organization. We are involved in education, in expanding research endeavors, in communication, and in improving member benefits. We also require an individual with tremendous organizational skills and vision to be a leader of that staff. So special thanks to our executive director, Irv Bomberger, who does a truly outstanding job for our Society. But organizations also need a heart as well as a mind, and for those of you who have had the opportunity to work with Camille Petrick, as I have through the years, I think you would agree that in many ways she represents our soul.

On a professional level, thanks to my peers at the Hospital for Special Surgery. I have had a successful academic career,

but in many ways it has been a team effort. Special thanks to Scott Rodeo, who has done a great job as my program director this year. Thanks to Vivien Goetz, who has been with me through thick and thin since the day I opened my office.

On a personal level, thanks to my parents—my late father, John, and my mom, Helen, who is here today. They provided me the opportunity for education. My brother, Rob, who in many ways provided me inspiration to be educated. And my family—my wife Cathy, my children, Laura and Philip, who provided me unending support so I could pursue my career—I will be forever grateful.

I have chosen to focus on education for today's address. In choosing this topic, I reflected on whether I actually have any qualifications to speak about education. On the positive side, I can list the fact that I am a product of education. I have been educated to the medical school level. I have been an educator to medical students, to residents, to fellows. I have functioned as the chair of the Education Committee for our Society and thus have worked at a national level. But in fact, I am not a professional educator. I have no qualifications or training in that field. I have never taken a course regarding theories of education; never formally taught in a school.

Currently, medical education is undergoing change, and it is affecting all medical education, from medical school to recertification. The quality and validity of our educational process are being questioned, both from within medicine and from outside medicine. It is individuals like me who are probably to some degree part of the problem that has developed, but hopefully we can potentially be part of the solution.

The AOSSM, like many medical specialty societies, was established with an educational mission. Our Society is involved in many endeavors: research, communication, fostering member benefits, but principally our roots come from our interest in, and our efforts at, continuing education. Education of practicing orthopaedists, both members and nonmembers, education of resident physicians, education of sports medicine fellows, education of the public in areas that relate to sports medicine and the care of the athlete. We are not unique in this educational process. Other societies, including our own AAOS, are involved as well, through course programs, publications, audiotape and videotape presentations, and in today's world, with increasing frequency, electronic media instruction.

But medical education is undergoing a change. There is new language being used to describe the educational effort. It is no longer sufficient to offer an educational process.

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Today the key word has become outcomes. Multiple forces are clamoring for medicine in general, and for us as orthopaedists in particular, to provide our outcomes data. Outcomes from our clinical practice, from our surgeries, from our patient care, but also from our educational effort, and sometimes seemingly in our lives. The process demands that we prove our outcomes. Competencies are the new vocabulary in medicine.

The Accreditation Council for Graduate Medical Education (ACGME) has defined 6 core competencies that will affect all of medical resident education and also all of recertification, so it affects most of you who are here today. They are patient care, medical knowledge, interpersonal and communication skills, professionalism, practice-based learning, and improvement in systems-based practice.¹ The ACGME, in its mission statement, states that “its goal is to apply current state of the art concepts from education and health care, to promote educational excellence in a changing health care environment”¹; thus its focus on educational outcomes as opposed to educational process. That statement is pretty hard with which to take issue. But as with any new initiative, one always risks losing one’s core values because of the changing process.

This is what I would like to spend some time speaking about today. How do we as members of the AOSSM adapt to the changing environment and not lose our identity? To do that, we need to answer 2 questions. First: What are our core values? Who are we? What is sports medicine? What is the role of the team physician all about? The second is our mission: What value is there in education? Why bother to educate at all? Once you answer those questions, I believe the rest, in fact, does become a process.

Once you as an individual, or we as a Society, answer these questions, then we can adapt to any situation in a positive manner. In answer to the second question, what value is there in education? I think it’s helpful to look at any educational process. Education, in general, is important for the health of any society—on a social level, a medical level, or any level. It provides for a sense of community. Not only is information passed on but so are social values and abilities to interact as humans. Medical education has existed for as long as physicians have existed. The process of transformation from the unknowing to the knowing is as old as the profession.

Early in the history of medical education, the process was essentially a mentorship. One studied with the master, whether it was the village healer or, later in history, the university professor. The process was essentially the same. Clearly, the level of knowledge and the application of science influenced the content. But fundamentally, the process has been similar for thousands of years. However, medical education is not perfect. Many of the perceived shortcomings in medical education, I believe, are in fact real. Society sees this, and it is demanding change, and the potential problem I see is that change will involve input from multiple sectors: professional educators, regulatory bodies for hospitals, third-party payers, and society in general.

The role of medical schools has changed over the past 40 years. In the early part of this century, since the

fundamental changes after the Flexnor Report, the primary role of medical schools followed a very simple model. The goal was medical education by medical faculty. The faculty planned the curriculum, admitted students, taught them, and tested them.

The unstructured education of the late 1800s transitioned into the formal education structure of the Johns Hopkins/William Osler model: the first real practice-based learning—bedside learning. But many medical schools underwent a change in their mission from preparing young people to practice medicine to that of research institutions and tertiary-care hospitals. The influences of health maintenance organizations and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) regulations have also affected how medical schools function.

After World War II, Congress greatly increased funding to the National Institutes of Health; research became the number-one priority. Institutional reputations became based on research productivity. Tenure, promotion—all depended on research productivity. The consequence was that teaching, in fact, suffered. Lectures, which were easy for faculty, became the primary format and were spread out over a large number of faculty. In the 1980s, with decreased federal funding for medical education and decreased availability of grant dollars, schools needed new sources of revenue and thus started to focus more on increasing the practice of medicine by the faculty. With the increasing pressures on clinical practice, the ability to spend time on research started to fall.

Eventually, we started to develop 2 forms of faculty practice: those on a research track and those on a clinical track. As fate would have it, the dominant track now is the clinical track. An emphasis is now being placed on trying to reestablish research tracks for practicing physicians. But along the way, no real educational tract was developed for physicians. They became too busy, and so education was left to others, often those on the bottom of the totem pole, such as interns, residents, nonphysicians.

An interesting statistic is that medical schools have increased in number from 88 in 1950 to 126 in 1999, but they have not increased at the rate that faculty have increased. The faculty-to-student ratio has more than doubled in the same time period. As a consequence, institutions with large faculty also have a large percentage of faculty who, in fact, never interact with students, never mind teach them. Many faculty have no investment in the educational process. Society sees this, and the response has been that we as physicians stand to lose control of educating other physicians. The ACGME is reacting to these influences with what it sees as a paradigm shift in education.

The emphasis, however, is really being pushed not on education but on the documentation of education and outcomes, and my concern is that documenting outcomes may, in fact, become the primary focus rather than education itself.

David Leach, the executive director of the ACGME, wrote in his February 2004 column about how we will in fact know that these changes are an improvement. He identified 4 assessment tools: (1) a focused assessment of performance by direct observation, (2) a portfolio of clinical experiences, (3) the 360° evaluation, and (4) cognitive testing. He felt

these techniques captured and demonstrated skills and experience over time. But if you think about these tools, other than terminology, what is fundamentally new in how one evaluates any other person? Be it in medicine or any other profession. In transitioning in this shift from process to outcomes measures, the educational system is going to develop a whole new process to document outcomes. As a consequence, there will be a need to develop a new business of education.

Education, like any field, always wants to do it better.

In an effort to improve educational processes in the past century, education looked to the business world and aspired to mimic it. In the 1900s, the concepts of scientific management in the industrial sector rapidly diffused into higher education.² In 1910, the Carnegie Foundation for the Advancement of Teaching contracted Morris Llewellyn Cook, an engineer, to study the efficiency of American universities. The result was a pressure on educational institutions to adopt practices from the business world considered modern and efficient. Why education has long sought to mimic business is something that we in fact should question. Our missions are different; so is our survivorship.

Of the 12 largest business firms in 1900, only 1 still existed in 2000. But each one of the 12 largest public and private universities in 1900 still exists today. Business styles continually change, and historically, educational styles follow business styles by about a decade, usually being instituted after business has moved on to the next one. Robert Birnbaum, in his text on educational management, terms these *fads*. What are fads? He defines them as “management innovations usually borrowed from other settings and applied without full consideration of their limitations.”^{2(p5)} He states, “They are at once both complex and simplistic, usually suggesting ideas that seem brilliantly original yet at the same time so commonsensical as to make us wonder why we didn’t think of them ourselves. They also seem so straight forward and obvious that they defy disagreement.”^{2(p5)} You would have to be a complete cynic to fail to see the benefit of the change and wish for the status quo. One example is as follows: In 1954, a new management theory was put forth by Peter Drucker suggesting that complex organizations should be managed by controlling results.³ These concepts were further elaborated in a book, *Management by Objectives*, the title of which gave name to this movement. Management by objectives (MBO), in essence, was not focused on activities or processes but was in fact focused on outcomes. It became the standard in most government agencies in the early 1970s.

The late President Richard M. Nixon pushed the technique onto the federal government through the Federal Office of Management and Budget. Education was not far behind, and in the early 1970s the Department of Health, Education and Welfare, as well as others, encouraged the spread of this system of management. Unfortunately, in the business world MBO did not work. It was difficult to write performance objectives; quantitative goals would often overwhelm quality goals. Interestingly, there was almost no research evidence about the effectiveness of MBO as a style of management, and it fell from the business world by the

mid-1970s. But education is much slower to respond. In a quote from the current ACGME outcomes project available online, they write, “The U.S. Department of Education spearheaded a movement in the early 1980s aimed at greater inclusion of outcomes assessment in the accreditation process.”¹ Where did this come from? This came from an unproven business process abandoned by the business world, and now, medicine is about to embark on an extensive, all-encompassing fundamental change in the way medical educational is brought forward, based on business outcomes theory. Robert Birnbaum pointed out that over the 4 decades from the 1960s to the 2000s, there was a parade of various management processes in the business world.² They were followed typically a decade later by the educational sector. Zero-based budgeting, strategic planning, benchmarking, total quality management, business process reengineering, 360° evaluations, performance indicators—all verbiage that has filtered from the business world to the educational world.

Unfortunately, educational goals are often not as clear, or as well defined, as business goals. Therefore, should we use business performance indicators to measure, evaluate, and quantify progress in education?

The current educational approach is the feeling that if you cannot measure it, it is of no value. The reality is that some of the most critical educational goals are difficult, if not impossible, to measure. That is the paradox of education. Often the best products—learning, perpetuating knowledge, culture—are a part of education that defies measurement of their quality and quantity. They are, I believe, indeterminate. The consequence is that you will measure the more superficial and therefore more easily measured aspects of the educational process; these wind up gaining more significance since they are things that, in fact, you can quantify. In addition, one also runs the risk that the passion for measurement distorts the educational effort. You come to value that which you can measure.

The potential risk is that obsessive measurement may actually reduce social legitimacy for medical education. Physicians of the past were often held in high esteem by some sort of sense of respect rather than by evaluation and inspection. Society had faith in physicians to the extent that they believed that physicians did what they were supposed to do. This esteem has unfortunately eroded. The response is to try and get it back by strict adherence to measurement of competencies.

So how do we adapt to the changing environment and not lose our educational identity? One solution, I believe, is to protect the core of our educational mission, which goes back to the first question I asked. Who are we? What is a team physician? What does it mean to care for the athlete, no matter what age or level of ability? We as a Society have defined that. We feel there is a body of knowledge and skill that separates us—enough that we have enacted our own subspecialty certificate.

We may need to adopt new educational techniques, endorse the new language of reform, enact change to remain credible, but we should not enact major renovations lest we lose the internal credibility on which our educational effec-

tiveness depends. This applies to sports medicine, not just the AOSSM. Education is not proprietary. But as we move forward with these educational changes, we must be careful to not be consumed by the market to sell education.

We seek education for many reasons—sometimes learning for learning's sake, as in the traditional liberal arts education. Often, however, we as humans seek education as a way to better ourselves, not for altruistic reasons but practical ones: to increase our skills, to make us more marketable, to improve our lot in life, hopes of better jobs, incomes, and a better life. To some degree, education is a commodity that you purchase to help yourself. But the risk exists that education in this high-tech, Internet world stands to become a greater commodity.

Traditional education has always come at a price. You pay for it either with time as an apprentice or with money in the form of tuition. But as I sought a medical education in the late 1970s, I felt that I experienced something different, at least in some parts. Education, in whatever form it was, was given away without question. Individuals taught. As I moved forward in my profession, I continued the process I witnessed around me, that is, giving away education without question. We all lecture frequently without remuneration. We teach students in our hospitals, residents in our programs, our peers at our society meetings and courses, our communities, the public. I'm not so naive as to believe that this is all altruistic. It often provides rewards to the educator; it helps practice development, makes one known in his or her field. In an extreme case, it may be only a means to an end. But for the most part I think it is well intentioned, teaching for teaching's sake, sharing knowledge. The fundamental way we became team physicians was to follow such a teacher on the sidelines, in the rain, in the locker room, in the clinic, in the office, in the operating room. Granted the system had its weaknesses; there were no outcomes measures. There was no evaluation of the student. It was a process, and frankly, who knew if the student actually learned?

So our dilemma today is that the old way is currently not valid—our new way of testing and becoming a team physician is yet to be defined. So the new needs assessment is that a new process is needed to be developed.

The risk is the commoditization of sports medicine education.

With subspecialty certification, there comes a need for education. Self-assessment exams are being developed to prepare for these. Multiple forms of educational material need to be developed: the examination itself and study courses, including formal courses that we attend as well as online educational material. Text, CDs, and DVDs, both from the Academy as well as from our own Society.

Frankly, these are viewed as potentially significant sources of revenue for the sponsoring body. It costs significant dollars to develop these materials, so it is reasonable to expect the consumer to pay for them. There is a very fine line between developing educational material because it is the right thing to do and developing it because it is potentially a very lucrative commodity. So what is our role as a Society, and what is the right response? Having given this a lot of thought, I think we on the Society level are on the

right path. The role of our Society with regard to education is in fact, to some degree, a business, a commodity. It is appropriate that these educational tools developed by this Society be distributed in such a fashion. But there is also a strong effort in favor of education for education's sake, as witnessed by our attempt to provide course material free of charge to sports medicine fellows in training through educational grants. The Society is developing an online fellowship to provide AOSSM course material free of charge to sports fellows in training. High technology meets traditional medical education. We are following in the path of those who have taught us.

I feel that it is critical, if we as physicians are to remain true to our profession, that we maintain some control of our educational mission. Not necessarily from the standpoint of process or measurement because, as we have seen, it is moving in a direction that we, as a small Society or as individual physicians, cannot control. But we need to control it in spirit. The spirit of what it is to be a team physician. The care given to athletes of all ages and all abilities. It is the basic mission of our Society. Someone taught us and, learning theories notwithstanding, there is an evolution and a process that takes place and, in my opinion, transcends measurement. I would not know how to objectively measure it, but I know it when I see it, and I think our patients and hopefully our Society will see it as well. With all due respect to jargon, fads, outcomes, I do think that excellence shines through. I believe that our Society was based on that premise.

Original members brought those ideals to this Society when it was founded, and as younger members we were exposed to them, learned them, and still practice them. We must be careful not to lose that. Current medical education is moving toward professional medical educators. Medical education will essentially be written by PhDs, developing programs based on adult learning theories. The truth is, no one knows what the best method of education or the best method of evaluation is. But external forces, government, health care—quality monitoring agencies, health care insurers, and society in general are demanding outcomes. Medicine, through its professional educators, is responding without any real proof that what we will do in the next decade is in fact any better than anything that we have done before it. A quote by Dr Harold Barrows: "The critical performance of a physician, whether novice or expert, is a complex combination of knowledge, technical skill, interpersonal interaction, communication and clinical reasoning all operating simultaneously." There is an element of art involved in the practice of medicine that complicates assessment of competence. Evaluators do not necessarily agree on what is important in any one given clinical situation. How do you break them down into 6 parts and measure independent competencies? Changes are not always bad. There is value in professional education. It is helpful. It will make us better, and it may validate learning. The risk of not having it driven by physicians, however, is that it will be subject to fads, to whatever current theory is prevalent, and therefore, it will vacillate with others directing the course of medical education. Many different things will be desired: expertise, perfection, professionalism, caring, communication. Unfortunately,

regulatory bodies will utilize these various comments to help mold our education mission.

You as members of our Society have an option. You can look at yourselves simply as consumers, to purchase, with time or dollars, the commodities being developed by the Society. Or you can view yourself as educators, as team physicians, as individuals who have learned from others and who have a desire and willingness to share that with the next generation. I am sure you will choose wisely and correctly.

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