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There Comes a Time When it is Necessary to *Question, to Argue, and to Challenge*

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“You may be disappointed if you fail, but you are doomed if you don’t try.” –
Beverly Sills

Exercise physiologists have only just recently taken on the idea that they are members of an evolving profession. Unlike other established professions, exercise physiology is in its infancy. After decades of dedicated research that has resulted in *expert knowledge* about health, fitness, rehabilitation, and athletics, exercise physiologists have begun to think about *self-regulation and licensure*. Some understand the professional responsibility of interacting with clients and patients. Others do not and, therefore, *altruism* is the least understood characteristic of the evolving profession of exercise physiology. There are other misunderstandings, too. For instance, most texts define exercise physiology as “...the acute and chronic adaptations to exercise...” [1] In truth, it is a statement about what some exercise physiologists do, not about “what is exercise physiology?” This is why the *American Society of Exercise Physiologists* developed its own definition of exercise physiology:

“Exercise Physiology is the identification of physiological mechanisms underlying physical activity, the comprehensive delivery of treatment services concerned with the analysis, improvement, and maintenance of health and fitness, rehabilitation of heart disease and other chronic diseases and/or disabilities, and the professional guidance and counsel of athletes and others interested in athletics, sports training, and human adaptability to acute and chronic exercise.”

From the beginning of the split of exercise physiology from physical education (not from physiology per se), there has always been the core interest in athletics. Some might think even a perverse interest, given the dawn of a new exercise physiology with important healthcare implications. Unfortunately, however, there has been relatively little discussion of exercise physiology outside the context of selected research topics that hardly anyone without an interest in research or a doctorate degree understands. For certain, this must be the reason for so much interest and involvement in sports and athletics. And, yet it is clear that these non-doctorate exercise specialists need more information about professionalism, professional development, and career opportunities.

For example, what does it mean to be a healthcare professional? Students who feel abused by the lack of classroom content about professionalism turn to other academic majors and other tactics for financial survival.

In just the past 10 years, the unprecedented influence of the supplement industry has driven everything about fitness, health, and athletics into a market dissemination of information that is not necessarily genuine professionalism. Instead of doing research on energy substrates to understand the defects when athletes choose not to eat a balanced diet, the objective now seems to be that of discerning just how much money can be made from market industry products. Managing exercise physiology has been put aside to better serve the market-competition in a billion-dollar industry and those who seek to maximize athletics through drugs and performance-enhancing supplements (i.e., assuming the latter works). This approach is distinctly questionable. It serves the interest of the supplement industry, but fails to place the needs of the athlete ahead of the bottom line and the industry's self-interest.

In the absence of an explicit ethical base that is the foundation of a profession, anyone can readily claim the right to do just about anything. This has caused some exercise physiologists to question what should be taught in sports nutrition. Is it ethical to teach that supplements should be used to run faster, jump higher, or get stronger? To what extent is athletic competition more important than exercise physiology, or is the exercise physiologist subservient to athletics? Where do sports nutritionists draw the line between good and bad science? Answers to these questions should help all exercise physiologists and the public to understand what some think is a self-serving ideology of sports nutritionists who use research to mask the reality of their true self-interest.

“...it is actually impossible to change people's attitudes...you can only influence them.” – Peter Urs Bender

For more than 30 years, sport nutrition has been a cornerstone of positive influence on exercise physiology. The occasionally dishonest salesman of some particular drug or supplement company was held in check by the honest, ethical behavior of exercise physiologists with an interest in nutrition. Williams' [2] classic text was evidence of what was to come in athletics and supplements, yet the content was mindful of cultivating an ethical awareness of good nutrition. This is also true of his more recent book [3]. Clearly, these books were not used as a marketing tool or an infomercial for the supplement industry. This is not the case with some of the books written today, which accounts for some of the increased interest in supplements. These latter books have helped to shape the attitudes, values, beliefs, and behaviors of athletes worldwide, which may not be the best thing to have happened.

In the sports nutritionist's view, the use of “supplements” isn't just the right of athletes, but part of the complicity of athletics. In this broad view of athletics in junior high to the professional level, sports supplementation undermines sports. The effect is to level the playing field, but is this perversion of values the truth? However unfriendly it may sound, the facts suggest otherwise where large sums of money are invested in the

marketing and promotion of supplements. This is so obvious by clicking on one of hundreds of Internet websites that sale supplements. Where is the empirical evidence? What are sports nutritionists doing to safeguard the athletes, both their physical health and values? What core professional values are at the center of sports nutrition except one more research study, presentation, publication, and recognition (and, of course, money)?

The need for professionalism is at an all-time high. Exercise physiologists need to clarify their assumed rights to unravel moral precepts on the backs of athletes driven to win at all costs. Members of the evolving profession will do well to ponder the potential long-term consequences of failing to address this issue. Ultimately, there must be standards created for sports nutrition. A code of ethics is imperative and long overdue. The establishment of an educational rationale for “how to teach sports nutrition” can go a long way in protecting athletes. In other words, sports nutritionists should understand the importance of a moral commitment to the enhancement of physical performance through ethically accepted and acknowledged guidelines and procedures. Action along these lines may lead to a process of professional acceptance. All exercise physiologists should be involved and devoted to this kind of professional thinking.

The word “profession” means “speaking forth” [4]. Exercise physiologists should speak out and express their concerns, especially the risks to the future of exercise physiology if sports nutrition is left to market-driven influences. Exercise physiology, like other healthcare professions, is a shared experience based on ethical thinking [5]. The process of professional development requires negotiation and a moral base. Where self-interest and ethical ideals conflict and tension are evident, there is also the hope of exchange of ideas and knowledge. The time line is critical for exercise physiologists to affirm their commitment to ethical thinking on behalf of their clients and patients. This is at the heart of professionalism. This responsibility is what distinguishes genuine academic exercise physiology professionals from industry consultants, research directors, and self-declared experts.

Exercise physiology is a healthcare profession. It is responsible to the public, not to just athletes. At one end of the spectrum is health and at the other end is rehabilitation. It is the exercise physiologist’s responsibility to know both ends of the spectrum and to know everything in between. This thinking is at the heart of the ASEP standards of professional practice. The *American Society of Exercise Physiologists* exists, in part, to proclaim this truth. It also exists to protect and refine the standards on behalf of its members and the public. In principle, isn’t this exactly the sign of alliance between academia and professional organizations? The alliance anticipates conflicts of interest, and it helps with the perceptions and attitudes that associate with it. In other words, the issue fundamentally boils down to the responsibility of individual researchers [6] to avoid such close ties with industry as to set the stage for bad science. As one investigator of a sponsoring company said:

“In terms of risk to the profession, there was some concern that industry was shaping the direction of future research and that industry-supported research could be vulnerable to publication delays or suppression of results. This thinking is the

most obvious by-product of consultant work. Few investigators have the ability to handle conflicts of interest. And, there are few guidelines that help consultants understand how to deal with the magnitude of the financial interest and the degree to which their involvement within the industry is problematic. There is no end to the manipulation in the number and/or type of researchers involved, research design and adverse reactions, and/or control over publication when investigations are fueled by industry money. One particularly unethical procedure is when the company "...writes the reports for publication, circulating draft manuscripts to the investigators who will be listed as authors." [7]

It is next to impossible to instill professionalism when a professional medical writer (ghostwriter) is employed by a company to write an article that is favorable to the company's product. Is this kind of thing new? No, it is actually very common and it is growing! The link to industry is one sign that research is no longer what most investigators were educated to recognize or to do. There are simply too many conflicts of interest. Instilling professionalism among researchers who receive gifts that are accompanied by restrictions that require support of the industry does not work or, at least, it is much harder to do. Yet the problem of shaping athletics with drugs and supplements is right there in front of everyone. Ultimately, society has to disagree with the super heroes in sports nutrition who argue on behalf of sports supplements. It is simply not in the best interest of athletes to encourage anything other than a well-balanced diet [8].

How exercise physiologists could not understand that supplementation is a step in the wrong direction and, therefore, ethically inappropriate is hard to figure out. It is an unfortunate part of the culture of the exercise physiologist's drive to have a positive influence on athletics. Clearly, a major segment of society believes that it is wrong and unethical. Strangely, the problem is right in the middle of the exercise physiology transition from a discipline to a profession. How could exercise physiologists not see it and say, "Wait a minute, this is wrong, and exercise physiologists can't do that?" In cases where there is obvious mis-management of the published data, how can exercise physiologists read the papers and not say, "Wait a minute, exercise physiologists have got to stop publishing rationales that argue on behalf of drugs and sports supplements." What kind of culture is it in exercise physiology that permits this kind of behavior to occur, and no one raises a hand and says, "Stop, it can't go on any longer."

Instilling professionalism is never an easy job. There is a beginning, as in the ASEP effort, and then it continues thereafter. Ultimately many exercise physiologists know that many of the sports nutrition articles are little more than advertisements. They know what is going on. But, since exercise physiology is a relatively new area of academic study with a short history (compared to medicine, law, and nursing), there isn't the culture to guide important mental transactions in what is right or wrong. Instead, what happens is that several super "personalities" come together to argue on behalf of their right to think as they will. However, when super heroes convince athletes, coaches, trainers, and other exercise physiologists that their thinking is correct and that no one should question them, it's a problem for everyone. The fact is, as Steele and Harmon have stated: "There comes a time when it is necessary *to question, to argue, to challenge.*" [9, p. 20]

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