Professionalization of Exercise Physiology online
ISSN 1099-5862
Vol 14 No 2 February 2011
Advancing the Profession of Exercise Physiology

The Exercise Physiologist's Professional Practice

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UNDERSTANDING CELLULAR and molecular mechanisms of skeletal muscle plasticity may be exciting, but it doesn't help the college graduate locate a credible job in healthcare. Instead, the capacity to find a good paying job in the public sector relies less on research and more on professionalism. The problem is that talking about muscles adapting to different types of activities is basic to what is presented as exercise physiology. So students learn about power generation and output, and they learn about type 1 fibers being the slowest and type 2B fibers being the fastest [1]. They listen to lectures and take tests on the complex cascade of metabolic steps involved in the development of energy for muscle contraction.

Students are taught that physical inactivity, like smoking, high blood pressure, and elevated blood lipids, is an independent risk factor for cardiovascular morbidity and mortality [2]. They are taught that the metabolic syndrome is a function of people not being physically active [3]. If they were active, then, there would be an increased likelihood of preventing and managing type 2 diabetes mellitus [4]. Students are taught that physical activity increases oxygen consumption (VO_2) because increased activity of the muscles requires more oxygen to develop ATP for muscle contraction. This thinking is in

agreement with the decrease in heart rate (HR) and LDL cholesterol that results from an increase in regular exercise. Students are taught that regularly performed endurance exercise improves the cardiovascular system and muscle metabolism. They understand that regular exercise improves the delivery and extraction of oxygen to the muscles. Their exercise physiology teachers can be heard lecturing on the improved capillary-to-fiber ratio and the increased mitochondrial content as though the faculty members were actually involved in the research.

Maximum oxygen consumption (VO_2 max) is recognized as the single best indicator of an individual's cardiorespiratory endurance capacity [5], and there is good evidence that cardiac output (Q), as sustained by stroke volume (SV), has the greatest influence on VO_2 max. The increase in Q matched by an increase in the capillary network that supplies the active muscles is huge when it comes to matching the transit time of red blood cells through the capillaries with the tissues' need for O_2. With the increase in diffusion of O_2 from the erythrocytes into the muscle cells, the oxidative capacity of mitochondria is increased. The end result of the peripheral adaptations is an increase in the oxidation of fat that yields more energy for muscle contraction.

From the ASEP perspective, a specific aim of such research is to think in terms of healthcare, not fitness or even sports physiology. And yet, strangely enough the academic exercise physiologists think in terms of the students sitting for the instructor or personal trainer certifications or possibly they would be encouraged to become certified as a specialist or as someone who works in cardiac rehab. The truth is academic exercise physiologists see much of the value of scientific thinking as something centered specifically on the intrinsic value of doing research as oppose to helping students find credible jobs in the public sector. In fact, it is clear from the academic exercise physiologist's point of view that the student's college education is that which is centered on first what the professors are interested in and not what the students will need in their work after college. While there is little debate in this area, and while it is impressive to speak about genetic adaptations for improved oxygen utilization, increased

capillary density, and the athlete's heart, the question is this: Are the students taught that the academic content represents the backbone of the professional practice of exercise physiology? Unfortunately, after at least 50 or more years of quantitative assessment of muscle function, it is clear that very little of the actual research is being used by college graduates to make a living.

The question of whether the student's education is more aligned to benefit the professor versus the student is one reason for this article. To put it another way, it can be seen that the undergraduate degree has become a meaningless degree. Exactly why such a statement is important and true is founded in the reality of traditional sports medicine approach to academia and the college graduate's everyday association with clients and patients. Moreover, while it is obvious that other college graduates in the recognized healthcare field locate credible jobs, students of exercise science, human performance, and similar degree programs go on to graduate in hopes of finding a fitness instructor job, a cardiac rehabilitation job or they complete applications for graduate work in an entirely different field (such as physical therapy or nursing).

For students to fully benefit from their college education it is important to know that the lecture content in their exercise physiology courses should be used to help their clients and patients. This raises the question: When was the last time that you heard an exercise physiologists, even an employee with an actual degree in exercise physiology, share a conversation with a client or patient about the issues that underlie the metabolic syndrome? When have you heard an academic exercise physiologist or a recent college graduate talk about the professional practice of exercise physiology? Sure, exercise physiologists may occasionally talk about the negative health consequences of a sedentary lifestyle, an unhealthy diet, and being overweight or obese. Even then, if they were to actually have a designated time period to discuss these things, when and how often do they actually test clients and/or patients? Do they work with metabolic carts after college as they might have in the exercise physiology laboratory (assuming they have one)? Similarly, when working with a client or a patient, is it common

practice to perform a graded exercise test along with a meaningful assessment of the cardiovascular system, including estimating Q by CO_2 rebreathing [6]? When was the last time a college graduate calculated SV or tissue extraction (a-vO_2 diff) or discussed the same with his/her client or patient?

Talking about, even lecturing on the growing body of evidence that points to the role of aerobic exercise in staying healthy is entirely different from when it is recognized as central to the "practice" of a profession. Thus, it is not surprising that until ASEP was founded in 1997, there was little if any discussion about the practice of exercise physiology. Yet, collectively, all the content from the students' academic courses mean relatively little without connecting it to the contemporary pathway and synthesis of healthcare information. As an example, note the following statement on Physical Therapy webpage of Sacred Heart University [6]: "The Program in Physical Therapy prepares graduates for professional practice in physical therapy as general practitioners who demonstrate self-directed, ongoing learning, an understanding of self in the context of professional role, competency in clinical practice, a commitment to the application of professional skills, knowledge of self in service to others, and a commitment to effect positive change within the greater community." Clearly, the graduates are prepared for a "professional practice in physical therapy." This is not the case with the graduates of exercise physiology or should I say exercise science students.

In other words, students of "exercise science" programs who often graduate thinking that they are exercise physiologists enter a healthcare world of which they are extremely unprepared for. The outcome is both sad and disappointing in terms of wasted tuition dollars and time spent in college courses that are 90% the same courses students of the 60s and 70s took while majoring in health and physical education. Note specifically the wording used on the Sacred Heart's webpage, "The program and its faculty believe that the Program Mission can best be accomplished through a professional curriculum…should place at its center the process of clinical problem-solving as a construct for: (1) the acquisition of

knowledge, attitudes, and skills; and (2) for the process of clinical decision-making in professional practice." Such thinking and planning set the stage for graduates who enter a healthcare career of credible options. This is not the case with exercise science or exercise physiology. Academic exercise physiologists do not think in terms of what they teach as part of a professional practice.

Just to press the point, please read the final statement taken from the Program Mission: "The application of the clinical problem solving process is dependent not only upon knowledge of one's patient, but also on the ability to analyze, synthesize, and evaluate the profession's body of knowledge through effective use of the professional literature and current information technologies. We believe that the problem-based model of learning provides the optimal tools for developing graduates who value self-directed learning, who are prepared for the clinical decision-making demanded in professional practice, and who anticipate and respond to changes in the health care delivery system." Here again, the academic program prepares the DPT for a career in healthcare. This is not true for the exercise science graduate and, at the present time, it is not true for the students of exercise physiology.

Interestingly, the Sacred Heart's "…Bachelor of Science in Exercise Science is designed for students interested in studying all aspects related to human movement including physiology, biomechanics, strength and conditioning, neural control, health and fitness, cardiac/pulmonary rehabilitation, wellness and nutrition." Note that there is no mention of the students of exercise science actually getting a credible job after college! Second, "The curriculum is also designed to provide students with a foundation in health science, which is consistent in all areas of allied health." Actually, the sentence is little more than just words. For example, after the students are provided "…a foundation in health science, which is consistent in all areas of allied health." What then? Does the foundation give the graduates respect? Are they provided a career in healthcare? No.

Third, “Graduates from the exercise science major are prepared to pursue either employment opportunities or additional schooling in all areas of allied health (i.e., physical therapy, occupational therapy, physician's assistant, medical school, or graduate studies in Exercise Science).” No! The students are NOT “…prepared to pursue…employment opportunities…in all areas of allied health….” Unless the students graduate with a physical therapy degree, which is unlikely since they are graduating with an exercise science degree, then, they cannot pursue employment in physical therapy. The same is true for occupational therapy. My question is, given that the statements are untrue and misleading, why hasn’t the legal system taken the statements off the Internet? Perhaps, the answer is simply that no one has taken the time to question the years of mis-management of the exercise science major and related majors.

The bottom line is that if a college degree isn’t helpful in finding a credible job after college, then, it is a useless degree. Might as well save the tuition dollars and invest them. For more untruths and misinformation about exercise science on the Internet, you will find many examples of the following:

- “Many students with this major are preparing to enter graduate programs in their career area of interest, while others may seek positions in pharmaceutical sales, or sales or marketing of medical, fitness, and sports related equipment. Others seek employment as rehabilitation specialists in hospitals." [7] Why graduate school? Because there are no jobs as an exercise “scientist.” Also, the truth is that a very small percent of graduates find a job in pharmaceutical sales and marketing.
- "The primary objective of the Exercise Science Program is to assist students in preparing themselves for success in graduate study…." [8] Again, “more graduate school” because there are few credible jobs as an exercise science major.
- "Our graduates are currently employed as athletic trainers, work in hospitals as cardiac rehabilitation specialists, program design in corporate fitness facilities, serve as personal trainers and work in commercial health

and fitness centers." [9] No, exercise science majors are not employed as athletic trainers. Yes, exercise science graduates work in cardiac rehab but more often than not the job is part-time with little to no health benefits.

- "The applied exercise science major prepares students for leadership roles in a number of career opportunities, including clinical exercise settings and corporate and hospital wellness programs, or as personal fitness trainers, exercise specialists, and strength and conditioning coaches. Students are well prepared for graduate programs in exercise physiology, biomechanics, exercise and sport psychology, or health and wellness." [10] Do you know what exercise specialists and personal trainers or so-called strength coaches are paid? Forget about buying a house, raising a family, and saving money to send the children to college. Here is an example of a job at Illinois State University, "The Coordinator will assist the Assistant Director-Fitness with planning, programming, publicizing, and administering the Group Fitness and/or Personal Training Programs." The salary is $32,000 to $36,000 with a master's degree. Six years of college to get a $34,000 a year job!
- "The Exercise Science curriculum prepares graduates with the knowledge and practical experience necessary for employment as strength and conditioning specialists, personal trainers, corporate and community fitness leaders, and cardiac rehabilitation exercise specialists." [11] How many high schools hire strength and conditioning specialist? None! How many personal trainers are there with weekend-warrior certifications? Too many. Who hires community fitness leaders?
- "Students wishing to enter the job market with a B.S. degree in exercise science may be prepared for entry level positions with corporate and community fitness programs, health clubs, YMCAs and similar fitness related organizations." [12] YMCAs and similar programs do not pay very well. As an example, in La Crosse, WI, the **Fitness Director** will be responsible for all fitness classes at the YMCA-North branch as well as

off-site locations. Primary duties will include supervising, training and developing staff, coordinating the fitness schedule, managing the department budget, ensuring member satisfaction and taking an active role in new YMCA initiatives including LIVESTRONG at the YMCA and YMCA Diabetes Prevention Program. Salary $31,000. And yet, the college graduate is still responsible for the $40,000 or even $80,000 in student loans!

- "The major is designed to prepare students for careers and work in exercise and sport sciences, and allied fields." [13] Think about it. How many exercise and sport science jobs are advertised in the Sunday job section of the newspaper? On the other hand, are their physical therapy and nursing jobs advertisement in the paper? You bet!
- "Capital University [exercise science] graduates can find employment as personal trainers and fitness directors in a variety of settings. [14] Think about it. A graduate from the National Personal Training Institute in Brooklyn Park, MN (who is required to have a minimum of 200 hours of practical experience) is just as likely to be hired as a personal trainer as a 4-year college graduate!
- 'The Exercise Science major is designed to give students a scientific understanding of exercise and its effects on the body. Coursework and hands-on opportunities ensure that students are well-prepared for careers as exercise professionals in corporate, clinical, commercial and community settings." [15] WTS International, one of the world's leading spa, fitness and leisure consulting and management firms, is currently seeking a Fitness Director for an upscale, corporate fitness facility in Washington, DC. The Fitness Director will need to be able to provide the highest level of customer service in this brand new facility. The staff includes the Fitness Director (salary, $40,000) and one part-time position. Note the qualifications: BS is exercise science, sports management or related field, and Certified in personal training. This doesn't speak well

for the academic curriculum that is supposed to be founded on the science of exercise physiology.

- "Job prospects for Northwestern's exercise science students include careers as personal trainers, strength and conditioning specialists, fitness program directors, cardiac rehabilitation specialists, physical and occupational therapists, and college professors." [16] Perhaps, it is time that college graduates and their professors should check out The American Academy of Personal Training. "It is a private vocational school licensed by the State Education Department. The Academy offers 260 hours of concentrated study: The Academy curriculum integrates 130 hours of academic study in a classroom and 130 hours of practical (hands on) training in a state of the art gym. The graduates have a deep understanding of biomechanics, training adaptations, nutrition, anatomy, exercise physiology, and exercise prescription that far exceed the current standards in the industry. Classes are led by licensed educators with advanced degrees making our student's success our mission. The Academy offers a full-time, three month program with day and evening classes and a part-time six month program on the weekends." Imagine paying back $30,000 to $50,000 or more in tuition loans to become a personal trainer when the Academic offers the personal trainer certification for $5,000, which is just as good in the today's market.

With college costs rising at a rate of 5% to 8% annually, it should be obvious that the academic degree can't be just a degree without the likelihood of finding a credible job with a solid financial base. The "future" of exercise physiology as a profession depends upon the college teachers who can produce innovative academic ideas and promote innovative technology to help define the "practice of exercise physiology." As healthcare professionals, the exercise physiologist's competitiveness in the healthcare marketplace relies on the doers who are willing to say, "I believe I can!" This is exactly what the ASEP leaders believe. They

demonstrated their beliefs in exercise physiology as a healthcare profession when they set their heart, mind, and body to work at building the first-ever professional organization of exercise physiologist.

It is time to recognize that the traditional ACSM paradigm has striped much of the exercise physiologist's autonomy and decision making power. Now, lesser trained individuals, such as the personal trainer, are gaining in popularity. As a result, credible exercise physiologists are being overlooked. It is demoralizing and yet, ASEP board certified exercise physiologists are in an excellent position to move to the forefront by providing a new 21st century paradigm that is founded on marketing, advertising, and entrepreneurship. Applying the scientific content of research articles is no longer enough. Exercise physiology students must take business courses and develop a proactive vision of the future of exercise physiology as a healthcare profession. They must demonstrate to other healthcare professions that the scope of practice of the ASEP exercise physiologists meets the needs of their clients and patients.

As Robert A. Schuller said in *Power to Grow Beyond Yourself* [17], "Believe that what you hope for will happen – and it will." Thus, for the purposes of this article (which is consistent with the ASEP point of view), the practice of exercise physiology is the collective sum of the following: All ASEP board certified exercise physiologists are advocates of the profession of exercise physiology, which is a career-driven philosophy founded on the scientific understanding that "exercise is medicine." They are responsible to the ASEP Professional Standards [18] that have been written to assist individuals in their need of healthcare, fitness, and athletics by providing the scientific information that is central to the practice of exercise physiology. The ASEP Board of Certification [19] declares that the professional exercise physiologist requires certification according to the ASEP certification procedures, and that the health and welfare of the public is protected by exercise physiologists who are academically qualified and certified as EPCs to practice exercise physiology.

Individual ASEP members who engage in the practice of exercise physiology shall adhere to the ASEP Code of Ethics [20]. The Code provides guidance for decision-making concerning ethical matters, and serves as a means for self-evaluation and reflection regarding the ethical practice of exercise physiology. Adherence to the Code is expected, and is based on the belief that exercise physiologists are self-regulated, critical thinkers who are accountable for their high quality competence in the practice of exercise physiology concepts, ideas, and services.

The practice of exercise physiology includes the use of equipment that enables the exercise physiologist to measure**,** examine**,** analyze**,** and provide instruction to evaluate the components of physical fitness. Such practice is applied to apparently healthy individuals, as well as to individuals with known disease or ill-health. The goals for such practice are to improve the components of physical fitness, prevent disease and disability (i.e., to identify risk factors and behaviors that may impede mind-body functioning), assist in the diagnosis of disease or disability, and rehabilitate certain diseases and disabilities. The equipment used in such practice may include the use of submaximal and maximal testing using treadmills and various ergometers to make evaluations, and recommendations regarding, but not limited to, metabolic processes, the cardiorespiratory system (VO_2 max tests), the musculoskeletal system (strength and power tests), and body composition (percent body fat measurements).

The measurement**,** examination**,** analysis, and instruction are done for the purpose of enhancing athletic performance and improving physical and/or emotional well-being. Nothing in the above description authorizes the exercise physiologist to diagnose disease either by using the electrocardiogram or by any means resulting from other exercise physiology laboratory procedures. However, due to the use of exercise as a diagnostic tool in many medical fields, exercise physiologists may be used by medical personnel to conduct tests that assist in the medical diagnosis of disease. Having concluded that the exercise physiologist does not diagnose disease or perform clinical services that infringe on the practice

of others (particularly the medical community) does not mean that the exercise physiologist does not have the right to identify and discuss signs and symptoms that otherwise correlate with diseases and dysfunctions. Also, exercise testing of clients with known risk factors for coronary artery disease should be perform under the supervision of a physician who should be responsible for ensuring that the exercise laboratory is properly equipped to handle emergencies. The physician is ultimately responsible for interpreting the ECG data from testing, and any timely administration of drugs, defibrillation, and other appropriate medication.

The board certified exercise physiologist [21] is responsible for assisting in the supervision of the exercise laboratory and personnel, preparing the client/patient for placement of the electrodes, taking a resting blood pressure and 12-lead ECG, getting baseline measures and ruling out any contraindications to testing, acknowledging the scientific and medical findings that associate with specific diseases and dysfunctions along with the appropriate language for sharing the same (i.e., primary and secondary risk factors) with the subject, monitoring blood pressure and cardiovascular status (using metabolic equipment to determine oxygen consumption) throughout exercise and recovery, and instructing the client/patient how to prepare for a healthcare assessment.

Myocardial oxygen uptake is determined by the board certified exercise physiologist through the use of a regression formula, such as [MVO_2 = .14 (HR x SBP x .01) - 6.3. The product of heart rate (HR) and systolic blood pressure (SBP) is called double product (DP). It is a linear relation between MVO_2 and coronary blood flow. During exercise, HR increases linearly with workload and VO_2. Systolic blood pressure rises with increased work as a result of the increase in cardiac output while diastolic pressure usually remains the same. Failure of SBP to rise with exercise can be the result of aortic outflow obstruction, left ventricular dysfunction, or myocardial ischemia. Changes in blood pressure may also reflect peripheral resistance, given that systemic vascular resistance (SVR) equals mean arterial pressure (MAP) divided by cardiac output (Q). Since cardiac output is expected to increase with progressive increments in exercise work and MAP

usually changes very little while SVR is expected to decrease with exercise. Cardiac output can be determined by either using the following regression equation, $Q = 6.12 \times VO_2 (L \cdot min^{-1}) + 3.4$ or it can be estimate with the CO_2 rebreathing procedure.

Exercise physiology measurement and examination includes administering a health history questionnaire, practical laboratory evaluation, and assessment of the musculoskeletal system and/or cardiorespiratory system using standard laboratory equipment, exercise tests protocols, exercise programs, and risk factor modification and/or measurements to assist in evaluating the client/patient's overt and/or objective responses, signs, and/or symptoms for cardiorespiratory fitness of individuals who are apparently healthy, or who have disease including, but are not limited to, tests that measure body composition, range of motion, muscle strength, endurance, work, and power; tests that assist in the overall analysis of the central and/or peripheral components of VO_2 and energy expenditure; tests of pulmonary function, and exercise prescription for cardiorespiratory fitness of individuals with metabolic disorders including, but not limited to, deficiencies of the cardiovascular system, diabetes, lipid disorders, hypertension, cancer, cystic fibrosis, chronic obstructive and restrictive pulmonary diseases, arthritis, organ transplant, peripheral vascular disease, and obesity; and treadmill or other ergometer test protocols in conjunction with exercise electrocardiography (ECG) to identify the cardiovascular and ECG responses at rest and during submaximal and maximal (graded) exercise in addition to recognizing contraindications for continuing exercise.

The exercise physiology examination of clients and/or patients does not include examining any person for the purpose of diagnosing any disease or organic condition, as though the board certified exercise physiologist has licensure to do so. Nothing herein, however is intended to preclude the board certified exercise physiologists from stress testing and/or using different exercise ergometers in assessing, determining and/or finding the root cause of a problem, particularly when it comes to educating and consulting with clients/patients.

Exercise physiology instruction includes providing educational, consultative, or other advisory services for the purpose of helping the public with issues and concerns regarding fundamental and scientific information about mind-body health and fitness. Instruction pertains to matters that are believed to develop and/or maintain health, fitness, rehabilitation, and/or athletics is also included.

Instruction includes, but is not limited to, the acute physiological responses to exercise; chronic physiological adaptations to training; designing resistance training programs; measuring energy expenditure at rest and during exercise; hormonal regulation and/or metabolic adaptations to training; cardiorespiratory regulation and adaptation during exercise; thermal regulation during exercise; exercising at altitude, underwater, and in space; optimizing sports training through the use of better nutrition; appropriate body composition and optimal body weight and the role of each in diabetes and physical activity; growth and development of young athletes; aging and gender issues; preventing cardiovascular disease through regular exercise; prescription of exercise for health and performance; biomechanical aspects of posture and sports; physiological assessment of human movement; stress testing protocols for athletics and special populations; resting and exercise electrocardiography; biobehavioral techniques for reducing stress and/or increasing running economy; and biochemistry of nutrition and exercise.

Exercise physiology analysis and treatment includes hands-on contact that is necessary to perform specific laboratory tests, with specific expectations for treatment measures and activities. This may include, but not limited to, range of motion exercises, muscle strength and muscle endurance exercises, lean muscle tissue-fat analysis, musculoskeletal and/or postural exercises, sports nutrition programs, sports biomechanics instructions for the enhancement of sports or occupational related skills, stress management exercises, sports training and the development programs, cardiac and pulmonary rehabilitation (including, but not limited to, development of such programs, supervising testing, development of exercise prescription, and other functions such as the education and counseling of

patients), and exercise physiology instruction that pertains to all forms of sports training and athletics.

Certified exercise physiologists are committed to building and supervising health and fitness promotion programs in: (a) private homes and community agencies; (b) communities integrated with corporate wellness and training centers; (c) cardiopulmonary and musculoskeletal rehabilitation; (d) college, university, and industrial settings; (e) professional healthcare businesses; and research settings. They work with subjects, patients, and clients in various roles including, but not limited to, education, consultation, management, administration, and research.

The final question is where will the practice of exercise physiology take place? Why not within the exercise physiologist's personal healthcare business? Imagine the possibilities, there will be EPCs who know how to go after their dreams and create new career opportunities that are both financially stable and credible. Over the next several minutes, imagine the following [22]:

> *While approaching the building to my right, I got the impression of something special about it. I thought it might be a lawyer's office complex or big medical clinic. I parked my car in the one spot that was available, off to the side. As I walked towards the front of the building, I noticed the sign above the huge entrance. It read "Exercise Physiology Sports and Healthcare Complex."*
>
> *I was excited to see what was inside. As the door opened, a woman approached me with her hand out. As we shook hands, she said: "Thanks for visiting the future of exercise physiology and healthcare in this country." I was taken by the bold statement. As I was led around the building from one room to the next, I was impressed with the colors and detail of the design process. There were trees and plants of all kinds that glistened in the sunlight.*
>
> *On the wall above the main desk for access and direction to the inner workings of the Complex was one of my favorite quotes by Albert Einstein: "Imagination is more important than knowledge."*
>
> *There were several rooms just to my left with athletes of all ages who*

were hooked up to metabolic analyzers, other rooms had post-MI patients exercising under the supervision of Board Certified EPs, and still another room with numerous smaller divisions within it with young and middle-age men and women. Some were being counseled for obesity, others for improving lean muscle mass and strength, and still others for various health conditions (such as diabetes, osteoporosis, depression, and cancer).

There were more rooms than I had time to see or to ask questions about. From underwater weighing to aerospace and altitude training, there were fancy compute driven exercise testing equipment everywhere. There were rooms dedicated to just computers, statistical software, data-reduction programs, and big-screen assessment tools; all were supervised by EPCs who, I was told, were writing research papers, grant proposals, and other in-house reports.

As we moved from the first floor to second, I noticed there were nurses, physical therapists, athletic trainers, and strength coaches working throughout the building. I was told that they are responsible to the Owner and Director of the Complex, a Board Certified EP.

Everything and everyone looked professional. This was especially the case as we turned to my right and enter another hallway. There was an exercise physiologist in the front of a rather large room, talking about faith, spirituality, and health. I was told that counseling by EPCs is a big part of the Complex.

As we walked to the end of the hallway and took the stairs to the third floor, on one wall I read: "We are here to help you be stronger mentally, physically, and spiritually." There were other "writings" and "affirmations" on the walls; all were designed to promote self-esteem, positive thinking, health, and well-being.

You had to be there to see it. I was thoroughly impressed. Clearly, they knew what they were talking about. There was a feeling of "something really fantastic" is happening inside the Complex.

The EPC who was showing me around said that the future of the profession of exercise physiology has no limits. The doors are open for more opportunity to sustain personal financial stability and, yet do so with a reasonable and fair cost to the client than ever before. She told me that their recent hires had graduated with a mixture of an exercise

physiology and business courses.

There were brochures everywhere. One caught my attention with the title, "A Revolution is Now Taking Place in Healthcare, and EPCs are at The Heart of the Change Process." Then, just as I put the brochure down, a teenager confided to me, "I am down in weight. I'm getting stronger, and I like myself more. My EPC has helped me get over being so angry, resentful, and jealous of others. I don't think it would be the same at a fitness gym."

I was told that exercise physiology, as a healthcare profession, allows Board Certified EPs to achieve as much or as little as they are determined to do so. I was told that the image of exercise physiology is one of lifelong learning in both the scientific aspects of sports training and related human endeavors and healthcare, especially in terms of personal satisfaction, opportunity, and caring. Clearly, the community in which the Complex is located has reached out to it and values its presence.

It was all there in this Exercise Physiology Sports and Healthcare business. I left it thoughtfully and significantly excited, not just for those who are helped by it, but for the students who want to be exercise physiologists.

As I made my way back to my car, I passed a high school athlete bouncing a ball, a mother with her young child, maybe 5 or 6 years old, a lady who looked to be in her 80s, and man and his wife who looked anxious and would appear to benefit from counseling. As I looked back they were entering the Complex.

It was then that I understood the inscription on the outer wall of the building, The "Prescription" that Rescues YOU. Frankly, I was deeply touched and wondered how many things I had missed. I should have known this all along, for I was told that the owners of the Complex had a deep visceral interest in and dedication to exercise as the core ingredient to athletic performance and effective healthcare.

As I got in my car, I found myself reflecting on the fact that exercise physiology was more than acute and chronic changes to regular exercise. Why has it taken so long to discover the power of exercise to build, sustain, and to heal. Then, at that moment, I knew I needed to help others develop their ability to see what they had failed to see.

You might think it's too soon to start imagining your life after college. Let me tell you that it is important to start the exploration process earlier than later. Imagine an athletic and healthcare complex in which every encounter is as respectful, as kind, and as supportive as possible. Imagine EPCs doing it better, faster, cheaper, and with greater compassion; all within the context of their practice of exercise physiology. Creative visualization is the ability to use your imagination. To see images in our minds, which are backed by determination and foresight will make them come true, and such images will put the EPC on the right path to financial stability, professional credibility, and personal satisfaction.

Remember, if you are a board certified exercise physiologist, you are rare! The value of something is determined by how rare it is. Pearls, diamonds, and gold are all rare, just like the board certified exercise physiologist. Thus, if you are a board certified EP, you are not like the mass-produced individuals with non-exercise physiology certifications. Your role in breaking the fear barrier that grips the change process is important. No one will ever talk, think, or write like you. You are important to ASEP and the profession of exercise physiology. You are special. However, please appreciate there is a price! Vision always demands a cost. Ours is a legacy of the first-ever professional organization of exercise physiologists. It is worth preserving. We must move forward with courage and determination, and that is exactly what the ASEP leaders intend to do as they continue to promote the professional practice of exercise physiology.

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