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Careers Opportunities for Exercise Science/Kinesiology Graduates

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ABSTRACT

Exercise Science / Kinesiology is the study of physiological and functional adaptations to movement. Career opportunities for individuals who graduate with degrees in Exercise Science / Kinesiology are numerous. Some of the most common examples are: Personal Trainer, Strength and Conditioning Coach, Exercise Physiologist, Employee Fitness Director, Cardiopulmonary Rehabilitation Specialist, Biomechanist / Ergonomist, Athletic Trainer, Community College Professor, University Professor / Researcher, Municipal, Provincial & Federal Health Promotion Administrator, Pharmaceutical Drug Trial Manager and Research Co-ordinator for Chronic Disease Granting Agencies. Some common related careers requiring additional training are: Dietician / Sports Nutritionist, Physiotherapist / Physical Therapist, Medical Doctor, Chiropractor, Respiratory Therapist, Massage Therapist and Nurse / Nurse Practitioner. **Health & Fitness Journal of Canada 2009;2(1): 25-28.**

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WHAT IS EXERCISE SCIENCE /KINESIOLOGY?

Exercise Science/Kinesiology (ES/K) is the study of physiological and functional adaptations to movement. Most universities provide a specific ES/K curriculum. Undergraduate programs are typically broad based and include general study in biology, chemistry, biochemistry, anatomy, sport psychology, physiology, biomechanics, exercise physiology, and fitness. Graduate level programs leading to a Master's degree or PhD typically provide systematic study in specific areas of exercise physiology and fitness with an emphasis on research and/or a significant practicum component. Career opportunities for individuals graduating with degrees in ES/K are numerous and range from the research scientist to the exercise practitioner in fitness and/or clinical settings. Following are some of the most common examples.

TRADITIONAL AND EMERGING CAREER OPPORTUNITIES

PERSONAL TRAINER

A personal trainer typically works one-on-one with a client developing and supervising specific conditioning programs to increase personal health, sport or work performance. The exercise session can take place at the client's home, the trainer's place of employment or business, or at a third-party fitness facility. A personal trainer should have a strong background in anatomy, exercise physiology, and appropriate training strategies for improving aerobic power,

anaerobic power and musculoskeletal fitness which encompasses muscular: strength, endurance and power plus functional range of motion. Recognized certifications, such as the CSEP-CPT or CSEP-CEP are recommended.

STRENGTH and CONDITIONING COACH

Sport teams at the university, college, recreational club and professional levels employ strength and conditioning coaches to improve their agility, strength, endurance, flexibility, and power. An undergraduate degree in ES/K is required with a specialty certification (e.g., CSEP-CEP, NSSCA -CSCC) and advanced degrees improve opportunities for employer.

EXERCISE PHYSIOLOGIST

An exercise physiologist studies the acute and chronic physiological responses and adaptations resulting from physical activity. They can apply this knowledge to improve or maintain health, fitness and sport or work performance. Traditionally, exercise physiologists worked primarily with athletes to improve performance. Today, however, exercise physiologists also work and study in commercial, clinical, armed forces and workplace settings to increase health, fitness, and quality of life in all segments of the general population. For example, an exercise physiologist may work as a cardiopulmonary rehabilitation, musculoskeletal or diabetes specialist, a personal trainer, director of an employee fitness program or manager of a commercial or community fitness facility. They are also playing an increasing role in physically demanding safety-related occupations such as firefighting, policing and corrections. An undergraduate degree in ES/Ks is required with a specialty certification (e.g., CSEP-CEP) and advanced degrees improving opportunities for employment.

EMPLOYEE FITNESS DIRECTOR

Employee fitness programs are common in the workplace, especially in corporate, commercial and hospital settings. Along with conducting exercise programs and

supervising the fitness staff, the employee fitness director may also be trained as a wellness specialist or coach to provide broad-based health promotion and wellness education programs. These may include stress management, smoking cessation, hypertension management and nutrition education programs. An undergraduate degree and recognized certification, such as the CSEP-CEP, is typically required to work with special population clients.

REHABILITATION SPECIALIST

Clinical exercise physiologists are often employed in centres that offer rehabilitation programs for persons diagnosed with cardiac problems, pulmonary conditions, diabetes, musculoskeletal constraints, neurological dysfunctions or other metabolic conditions. The exercise physiologists are typically responsible for providing exercise education regarding disease/condition management, lifestyle modification, and psychosocial support to clients with these conditions. Clinical settings generally include hospitals, outpatient clinics, and medically-supervised fitness centers. An undergraduate degree in one or more of the disciplines noted above is required and specialty certification (e.g., CSEP-CEP) or advanced degrees improve opportunities for employment.

BIOMECHANIST / ERGONOMIST

Biomechanics is the study and explanation of the laws of physics as applied to physical activity, exercise, work and sport. Biomechanics can be used to explain how muscles, bones, and joints are injured under certain conditions, and to improve performance using motion analysis techniques. Biomechanists are typically employed in research settings and clinical sites, but future growth points to industrial ergonomic settings. Ergonomists work with many different professionals to improve the performance of workers by enhancing their health and occupational abilities, preventing or rehabilitating workplace injuries and redesigning the work environment to accommodate the worker. They may also

develop and administer pre-employment physical capacity tests to determine if the worker is fit to perform the job. A post-graduate degree in this specific area improves employability.

ATHLETIC TRAINER

Athletic trainers work with team physicians, exercise physiologists, physical therapists, sports group and coaches in the care and prevention of injuries related to sport and exercise. An undergraduate degree from a program accredited by the Canadian Athletic Therapy Association is required to sit for the national certification examination. Athletic trainers typically work with athletes at the university, college, recreation club or professional level and they are often employed in sports medicine clinics.

COMMUNITY COLLEGE PROFESSOR

With a master's degree you may be able to teach at a community college, especially if coupled with practical experience. However, it is becoming common to hire those with a PhD, which is four to five years beyond the undergraduate level.

UNIVERSITY PROFESSOR/RESEARCHER

University researchers conduct studies from either a basic or applied perspective. Basic researchers usually conduct studies with a focus on the body systems, cellular and molecular levels, such as how the body systems and cells work, adapt or respond to various perturbations. Cellular research is often referred to as bench research, especially if animal models are used. Applied researchers usually conduct studies that focus on more practical questions such as ways to increase athletic performance or how to improve health and reduce disease. Either career requires a PhD, which generally involves at least four to five years beyond the undergraduate level.

MUNICIPAL, PROVINCIAL & FEDERAL HEALTH PROMOTION ADMINISTRATOR

With the cost of health care ever increasing, health promotion with a focus on

prevention, is taking on an increasing importance at all levels of government. Graduates of ES/K programs are well suited for positions in this sector. A post graduate degree is helpful.

PHARMACEUTICAL DRUG TRIAL MANAGER

Pharmaceutical companies are employing an increasing number of ES/K graduates because their educational background and intrapersonal skills position make them well suited to liaise with physicians in the monitoring of drug trials.

RESEARCH CO-ORDINATOR for GRANTING AGENCIES FOR CHRONIC DISEASES

Chronic disease granting agencies have hired a number of ES/K graduates in recent years. They are generally responsible for liaising with grant applicants, coordinating the compilation and vetting of research applications and interpreting research proposals to the agency's lay board members.

RELATED CAREERS REQUIRING ADDITIONAL TRAINING

DIETITIAN / SPORTS NUTRITIONIST

A dietitian or sports nutritionist studies nutrient intake and how foods are digested and metabolized in order to provide the necessary energy to fuel muscular activity. They also study dietary patterns in order to maximize performance, prevent disease and improve health. To become a Registered Dietitian, you must complete an undergraduate degree in dietetics, complete an approved internship and pass the dietitian certification examination. Dietitians and sports nutritionists are employed in a variety of settings including hospitals, clinics, nursing homes, private practice, sports complexes, school systems and public health facilities.

PHYSIOTHERAPIST / PHYSICAL THERAPIST

Physiotherapists help people recover from injuries or improve the management of diseases of the muscles, joints, nerves, or bones. They use various physical modalities and exercises, focusing on ameliorating

movement dysfunction. There are many areas of specialization in physical therapy including cardiopulmonary rehabilitation, diabetes, musculoskeletal constraints, neurology dysfunctions or other metabolic conditions and sports medicine. Most physical and occupational therapy schools require two to three years after a four-year undergraduate degree. After formal training, it is necessary to pass a national examination to become a licensed physical or occupational therapist. Most employment opportunities are in hospitals and clinics.

MEDICAL DOCTOR

A medical doctor is trained in the diagnosis and treatment of disease and the maintenance of health. Medical schools require a minimum of three years after a basic university degree. Beyond medical school there are many specialties to choose from. If you want to be part of a sports medicine team, these include primary care sports medicine, orthopaedic surgery and cardiology. Each specialty has three to five years of internship and residency training and perhaps an additional one to two years of fellowship training.

CHIROPRACTOR

Chiropractic medicine is another career for which an education in ES/K is excellent preparation and their physical activity and fitness background gives them both a marketing and treatment advantage. Consequently, ES/K graduates are enjoying a high acceptance rate to Chiropractic College.

RESPIRATORY THERAPIST

Respiratory Therapy is another popular occupation for ES/K graduates. Employment opportunities currently are primarily in hospitals and clinics, but there is a future private practice market working as a personal trainer - exercise/respiratory therapist with persons who have chronic pulmonary diseases.

MASSAGE THERAPIST

Massage therapy is another career that is becoming popular with ES/K graduates. A future business opportunity involves combining personal training with post exercise massage therapy.

NURSING / NURSE PRACTITIONER

As members of Family Health Care Teams, nurses who have an ES/K background are uniquely positioned to provide health-related physical activity and fitness programs.

Some information in this article is courtesy of the American College of Sports Medicine, www.acsm.org [<http://www.acsm.org/>](http://www.acsm.org/). Information from ACSM has been modified to suit Canadian standards.

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