Canadian Society for Exercise Physiology

BRIEF:

Increasing Incidence of Obesity in Canada: Causes, Consequences and the Way Forward

Submitted to the:

Senate Standing Committee on Social Affairs, Science and Technology

June 17, 2015
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The Canadian Society for Exercise Physiology (CSEP) applauds the Senate Committee on Social Affairs, Science and Technology for tackling this health issue that touches on the lives of too many Canadians. This brief will provide further information on the following:

1. CSEP Mission and Vision
2. Role of physical activity in the treatment of obesity
3. CSEP as a leader in physical activity research, education and practice
4. Role of CSEP in the fight against obesity

CSEP acknowledges the presentations made to this committee by numerous experts and stakeholders from a range of health sectors on the prevalence, causes, and economic impact of obesity with recommendations on the ways to move forward. We do not want to minimize the importance of preventing obesity as this is a crucial solution to the problem. Rather, we will focus in this brief on how CSEP provides leadership in physical activity research, education and practice thereby improving health outcomes for Canadians.

CSEP Mission and Vision

Founded in 1967, the Canadian Society for Exercise Physiology is a not-for-profit organization composed of professionals interested and involved in the scientific study of exercise physiology, exercise biochemistry, fitness and health. *With over 5,500 members, our mission is to be the resource and voice for exercise physiology and health and fitness, providing leadership in research, education and practice to improve health outcomes for Canadians.* One of our key initiatives is the work that Exercise is Medicine Canada is doing to influence the development of positive policies and training for Canadian health care professionals so that more people meet Canadian Physical Activity Guidelines.

Vision

Excellence in exercise physiology and health and fitness through research and best practice.
Mission

CSEP is the resource and voice for exercise physiology and health and fitness, providing leadership in research, education and practice to improve health outcomes for Canadians.

CSEP’s Commitment

CSEP is committed to upholding the highest standards in all of our activities. We provide a forum for our members to conduct innovative research, and practice their trade.

• We protect the safety of Canadians by ensuring that they are properly informed and receive training from qualified exercise professionals.
• We strive to lead in exercise science knowledge development, transfer and application.
• We ensure that our clients receive evidence informed and customized programs which meet their specialized needs and requirements.
• We provide services and information that are supported by extensive educational training and evidence based research.
• We value our members and their clients and demonstrate this in every interaction with them.

Role of Physical Activity in the Treatment of Obesity

The causes of obesity are complex. An increase in fat weight is not simply due to eating too much and exercising too little, there are also genetic, behavioural, social and environmental factors that interact to affect this balance. Science tells us that the first line of treatment of obesity is a lifestyle intervention including each of the following: physical activity support, dietary advice, and behaviour modification. Furthermore, there are fewer harms associated with a lifestyle intervention compared to a pharmacological intervention¹.

The science also tells us that there are many health benefits of regular physical activity even in those who are defined as overweight or obese. To borrow from the renowned exercise scientist, Dr Steven Blair, you can be fit and fat. The figure below highlights that even when people are classified as normal weight, overweight, or obese, those with the longer life expectancy did more physical activity than those who were sedentary². Some physical activity was better than no physical activity and more physical activity was better than some physical activity.
Quick facts about the role of physical activity in the treatment of obesity:

- The Canadian Health Measures Survey indicated that only 15% of Canadian adults and 7% of children and youth meet the physical activity guidelines when objectively measured\(^3\).
- Low levels of physical fitness is considered to have the highest ‘population attributable risk’ when compared to high blood pressure, smoking, obesity, high cholesterol, or diabetes\(^4\). An attributable risk is an estimate of the number of deaths in a population that would have been avoided if a the risk factor had been absent.
- Physical inactivity in Canada results in $6.8 billion in total health care costs\(^5\)
- Increasing physical activity levels in Canada, by 1% per year, would save $2.1 billion per year\(^6\)
- Getting 10% more Canadians active, would increase the gross domestic product in Canada by $7 billion by 2040\(^7\)
CSEP as a Leader in Physical Activity Research, Education and Practice

Leading the Way in Physical Activity Knowledge Development, Translation and Dissemination

The work of CSEP contributes to the international voice for health and fitness issues. In particular, under the expertise of Dr Mark Tremblay, CSEP Guidelines Committee Chair, CSEP has done groundbreaking research with the development of the first evidence-based Canadian Physical Activity and Sedentary Behaviour Guidelines.

Canadian Physical Activity Guidelines

CSEP partnered with the Public Health Agency of Canada (PHAC) in 1995 to develop Canadian Guidelines for Physical Activity. The Guidelines for Adults (20-55) were published in 1998, for Older Adults (65+) in 1999, and for Children (6-9) and Youth (10-14) in 2002. It is important to note that PHAC and CSEP are co-copyright holders for this first series of the guidelines. In 2006, CSEP decided to update the guidelines that were first published in 1998 in partnership with PHAC. This ultimately led to the development and release in 2011 of new Canadian Physical Activity Guidelines for children, youth, adults and older adults by CSEP. Canadian Physical Activity Guidelines for the Early Years followed in 2012. The Guidelines provide clear and concise instructions and tips for Canadians of all ages to achieve required levels of physical activity. See Table 1 for physical activity recommendations specific to each age group.

Quick Facts about the Canadian Physical Activity Guidelines:

- First evidence-based physical activity guidelines ever developed.
- The evidence informing them was used to develop physical activity guidelines in the United Kingdom, Australia and by the World Health Organization.
- The Guidelines are irrespective of gender, race, ethnicity, or socio-economic status.
- Research team consulted with over 1,000 industry stakeholders, experts and international bodies.
- The Guidelines were specific to providing physical activity guidance to reduce the risk of developing common chronic conditions (cardiovascular disease, stroke, hypertension, colon cancer, breast cancer, type 2 diabetes and osteoporosis) and all-cause mortality.
Table 1. **Canadian Physical Activity and Sedentary Behaviour Guideline Recommendation Specific to Each Age Group**

<table>
<thead>
<tr>
<th>Early Years (0-4 years)</th>
<th>Children (5-11 years)</th>
<th>Youth (12-17 years)</th>
<th>Adults (18-65 years)</th>
<th>Older Adults (65 years and older)</th>
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<tbody>
<tr>
<td><strong>Recommendation for Physical Activity</strong></td>
<td>1-4 years: accumulate at least 180 minutes of physical activity throughout the day</td>
<td>60 minutes of moderate- to vigorous-intensity activity per day</td>
<td>150 minutes of moderate- to vigorous-intensity activity per week</td>
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<td>&lt;1 year: physically active several times daily.</td>
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<td><strong>Recommendation for Sedentary Behaviour</strong></td>
<td>Limit prolonged sitting to no more than 1 hour at a time.</td>
<td>Limit recreational screen time to no more than 2 hours per day.</td>
<td>Evidence-based recommendations for sedentary behaviour currently do not exist</td>
<td></td>
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<tr>
<td>Limit excessive screen time</td>
<td>Limit sedentary transport, prolonged sitting and time spent indoors throughout the day.</td>
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</table>

*The guidelines for all age-groups represent a minimum target for substantial health benefits and more is better.*

**Canadian Sedentary Behaviour Guidelines**

The Canadian Sedentary Behaviour Guidelines for Children and Youth\(^\text{10}\) were released in 2011 and the Canadian Sedentary Guidelines for the Early Years\(^\text{11}\) were released the following year. Sedentary behaviour is defined as “any waking behaviour characterized by an energy expenditure ≤1.5 METs while in a sitting or reclining posture.”\(^\text{12}\) These Guidelines provide recommendations to Canadian children and youth on limiting sedentary behaviour during discretionary or ‘free’ time in order to reduce health risks. See Table 1 for sedentary behaviour recommendations specific to each age group.

**Quick Facts about the Canadian Sedentary Behaviour Guidelines:**

- First evidence-based sedentary behaviour guidelines developed in the world.
- These Guidelines are also irrespective of gender, race, ethnicity, or socio-economic status
Scientific evidence has shown a direct connection between increased sedentary time and decreased fitness, poor self-esteem, weak academic performance, obesity and increased aggression.

Majority of sedentary time can be replaced with light intensity activity (such as walking to school instead of motorized transport, standing up and walk around the home/school throughout the day, taking the stairs whenever possible, etc.)

Why is limiting Sedentary Behaviour important? We are learning now about the health consequences of being an active couch potato. This is the adult who is classified as being “active” because they do 150 minutes of physical activity a week (or child, 60 minutes daily) but are pretty much sedentary the rest of the time. In fact, the association between sitting time and elevated risk for early death from all causes is independent of leisure time physical activity. Meeting the physical activity guidelines is good, meeting the physical activity guidelines AND reducing sedentary behaviour is better.

In fact, the whole day is important, and CSEP, along with Canadian and international partners, is currently leading the development of the first ever 24-hour Integrated Movement Behaviour Guidelines for Children and Youth. Given the current inactivity and obesity epidemics, a new approach that can have a greater population impact over current approaches is desperately needed. It is time that we adopt a broader, more integrated and inclusive strategy to better address current public health crises. This new Guideline will recommend the amount and intensity of physical activity, sleep time and limits to sedentary time.
**Leading the Way in Preparing Qualified Exercise Professionals**

While physical activity is an over-the-counter prescription for many, some Canadians need or want extra guidance from a professional with a post-secondary education in the exercise sciences to ensure a safe physical activity prescription. Extra guidance from a professional who as part of post-secondary education has been mandated to take coursework in behaviour change modification and health psychology (as well as other integral areas) to ensure a change in behaviour that is meaningful and lasting.

CSEP offers two qualified exercise professional designations: CSEP Certified Personal Trainer® for the less complex client and a CSEP Certified Exercise Physiologist® for the more complex clients that may or may need vital signs such as heart rate and blood pressure monitored during exercise (see Table 2 for a comparison of the two CSEP certifications).

**Table 2. Comparison of CSEP Certifications**

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<tr>
<th></th>
<th>CSEP-Certified Personal Trainer® CSEP-CPT</th>
<th>CSEP-Certified Exercise Physiologist® CSEP-CEP</th>
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<tr>
<td><strong>Scope of Practice</strong></td>
<td>The CSEP-CPT is a professional who works with apparently healthy individuals with no constraints for regular participation in physical activity or those with a stable health condition and can exercise independently. The benefits of physical activity for the client outweigh any risks.</td>
<td>The CSEP-CEP is a professional with advanced knowledge and expertise in the exercise sciences and works with apparently healthy individuals with no constraints for regular participation in physical activity or those with stable or complex health conditions that may need supervision during exercise to ensure a safe experience.</td>
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<tr>
<td><strong>Post-Secondary Education</strong></td>
<td>Minimum of two full-time years of post-secondary education that meets the CSEP-CPT core competency areas.</td>
<td>Minimum of a Bachelor degree in the Exercise Sciences (or related field) that meets the CSEP-CEP core competency areas.</td>
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<td><strong>Practice Limitations</strong></td>
<td>The CSEP-CPT is not certified to:  • Use an ECG for any purpose.  • Utilize maximal aerobic or anaerobic effort.  • Design programs using loads &gt;90% of the predicted 1RM.  • Work with clients with more than one medical condition.</td>
<td>A CSEP-CEP is not certified to:  • Diagnose pathology based on any assessment or observation.</td>
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All CSEP certified members are expected to adhere to the CSEP Code of Conduct and recognize their own area of expertise and refer clients to another health care provider as necessary.
CSEP certifications are the gold standard in the industry because:

• CSEP is the **only** agency in Canada whose certified professionals are *directly affiliated* with the scientists/researchers who are experts in this field

• CSEP offers the **only** fitness assessments training and certification in Canada

• CSEP requires that applicants have post-secondary training and have passed national board examination

• Membership includes Professional Liability Insurance and requires continuing education to maintain skills and proficiency

Essentially, CSEP certified members have the knowledge, skills and abilities to provide Canadians with evidence-based and client-tailored exercise programming advise for complex health conditions like obesity.

**Role of CSEP in the Way Forward**

CSEP can:

1. **Provide Ongoing Expertise in the Development and Revision of the Physical Activity and Sedentary Behaviour Guidelines.**
   • CSEP has identified that Canadian Sedentary Guidelines are needed for adults or older adults.
   • CSEP has identified that Canadian Physical Activity Guidelines are needed for those with common chronic conditions like heart disease, diabetes, osteoporosis and cancer.
   • The Guidelines are targeted for revision in 2016 to reflect the growing evidence.

2. **Lead the Development of the Canadian Physical Activity Guidelines for the Obese.**
   • CSEP has identified that Canadian Physical Activity Guidelines for the Obese is a critical gap.
     The 2011 Physical Activity Guidelines were specific to maximizing health benefits in order to reduce the risk of developing common chronic conditions and all-cause mortality. Obesity was not included at that time due to the resources required to conduct a thorough systematic review of the overwhelming evidence surrounding physical activity and obesity.
   • Obesity specific guidelines would provide Canadians and health care professionals with safe, evidence-based guidance on the first steps to achieve a more active lifestyle.
3. **CSEP and Partners can Provide Effective Promotion.**
   - A National awareness and education campaign is needed so all Canadians are aware of the Physical Activity and Sedentary Behaviour Guidelines and not just the stakeholders. For example, less than 10% of survey respondents from the Canadian population were aware of physical activity guidelines, and less than 5% were aware of sedentary behaviour guidelines whereas awareness was high amongst the scientific and stakeholder community\textsuperscript{14}. This is absolutely essential to successfully influence societal change and improving health outcomes.

4. **Prepare Qualified Exercise Professionals and with Exercise Is Medicine Canada Promote their Value as Part of the Health Care System.**
   - CSEP certified members are not nationally recognized within the health care system but are qualified to work with complex health conditions. It is time to bridge the gap between the exercise professional and the medical community. Giving qualified exercise professionals recognition similar to how a Registered Dietitian, Physical Therapist, Occupational Therapist or Speech Pathologist are perceived would positively impact obesity rates and more importantly, the overall health of Canadians.

All of the above requires significant funding and a partnership approach in order to be successful. Making a dent in the obesity rates and increasing the health of Canadians would translate into major cost savings to the health care system and increase Canada’s fitness and productivity as a whole. We believe the Canadian Society for Exercise Physiology (CSEP) can make a significant contribution on obesity rates, fitness levels and health of all Canadians due to our unique mandate of providing leadership in physical activity research, education and practice. The science tells us that physical activity is an important piece in preventing and managing obesity. CSEP is a leader in research through the Canadian Physical Activity and Sedentary Behaviour Guidelines and other important initiatives, in education and practice by preparing qualified exercise professionals and in linking the health professional to the qualified exercise professional through the work of Exercise is Medicine Canada.
References