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## COMMENTARY

### Acknowledging the Immense Contribution of Dr. Roy Shephard in Promoting the Health Benefits of Physical Activity

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#### Abstract

Dr. Roy Shephard is a world-renowned authority on physical activity and health who has brought tremendous honour and distinction to Canada. Roy is undoubtedly a giant in the field of exercise physiology, not just in Canada, but throughout the world. His accomplishments have had an incredible impact around the world on physical activity and health knowledge and upon public policy relating to physical activity and health. Dr. Shephard is truly one of Canada's national treasures. **Health & Fitness Journal of Canada 2011;4(1):4-8.**

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#### Introduction

Dr. Roy Shephard is a world-renowned authority on physical activity and health who has brought tremendous honour and distinction to Canada. Roy is an innovative scientist, a prolific author and editor, a respected advisor to national and international governments and a tireless organizer of international conferences. He established Canada's first doctoral program in exercise physiology in 1964 and since then has supervised the graduate training of two generations of physical activity scientists, many of whom became faculty members at universities across Canada and around the world. He

is a former president and the prestigious Honour Award recipient of both the Canadian Society for Exercise Physiology and the American College of Sports Medicine. He has been the editor-in-chief or editorial board member of countless leading national and international journals in the area of physical activity and health. Roy's accomplishments have had an incredible impact around the world on physical activity and health knowledge and upon public policy relating to physical activity and health.

Since arriving in Canada in 1964, his numerous studies of physical activity and health have added greatly to the scientific basis for the promotion of physical activity and the associated health benefits. Dr. Shephard conducted countless prominent scientific investigations on this topic ranging from children in school-based physical education programs to longitudinal studies of physical activity in aboriginal people. It was in the laboratories of Dr. Roy Shephard and Dr. Don Bailey that the early educational materials concerning the frequency, intensity, and duration of physical activity participation were primarily developed. His research has also been instrumental in informing practice and policy in exercise immunology, cardiac rehabilitation, the role of exercise in enhancing academic

achievement in children, and on air pollutants, such as second-hand smoke.

We have attempted to summarize Dr. Shephard's enormous contributions to physical activity and health under the following headings:

1. Hosting International Conferences
2. Assessment of Fitness
3. Cardiac Rehabilitation
4. Physical Activity Promotion
5. Screening for Physical Activity Participation
6. Government Fitness and Health Advisor
7. Physical Activity and Health Research/Publications

### **1. International Conferences**

Dr. Shephard has chaired or been a member of the Organizing Committees for four decades of highly successful physical activity and health conferences that attracted top researchers to Canada from around the world. These conferences began when Dr. Shephard chaired the "International Symposium on Physical Activity and Cardiovascular Health" in 1966. The aim of this conference was "to deal with one of the major health concerns of our age". Amazingly, this topic remains a major concern today. International experts from around the world were invited to Toronto to make presentations and provide commentaries on each other's presentations. The proceedings from this conference were highly influential in shaping both future research and public policy, and the special edition of the Canadian Medical Association Journal in which they were published became the first exercise physiology text for an era of graduate students.

In 1967, Dr. Shephard served as the Rapporteur at the World Health Organization meeting of investigators on

exercise tests in relation to cardiovascular function. In 1976, he worked with Dr. Fern Landry to host the "Pre-Olympic Congress on Sport and Fitness" just prior to the Olympic Games in Quebec City. This Congress provided the impetus for federal government attention to physical activity and health. In 1983, he chaired "CAHPER's 50th Anniversary Convention" which promoted the concept of physical activity for health in school curricula. In 1988, he was a member of the Organizing Committee for the Toronto "International Conference on Exercise, Fitness and Health". This conference was held in response to both the need for a scientific update and the government's request to "show me the evidence". It was the first in a series of international conferences organized by a team of Canadians with funding from the Ontario and federal governments as well as the private sector. It attracted world-wide attention to Canada and provided the first Consensus Statement on the interrelationships between exercise, fitness and health. It also afforded the first clear articulation of the differentiation of health-related fitness and performance-related fitness and provided the basis for the highly successful manual - The Canadian Physical Activity, Fitness and Lifestyle Approach.

In 1992, Dr. Shephard was a member of the Organizing Committee for the "International Conference on Physical Activity, Fitness and Health". This conference consisted of two separate meetings in Toronto; an invited experts Consensus Symposium followed by an open Active Living Conference concentrating on programs and policy. Over 1000 delegates from around the world and 85 of the world's leading exercise scientists played an active part. This conference updated and expanded

on the 1988 Consensus Statement and compiled scientific evidence to substantiate the independent relationship between physical activity and health (without a change in fitness). Importantly, it also identified related topics requiring additional research, which provided a stimulus for future research funding.

In 1999, Dr. Shephard was a member of the Organizing Committee for the "Hockley Valley Dose-Response Symposium". International experts provided systematic reviews and debated each other's evidence concerning how much physical activity is needed to prevent morbidities, disabilities and premature death. The evidence was objectively graded by an arm's length panel composed of highly respected international researchers from other disciplines. This panel authored a Consensus Statement on the "Dose-Response Relationship between the Volume and Intensity of Physical Activity and Health Benefits". Once again, areas requiring additional research were identified. The proceedings of all expert papers and the Consensus Statement were highly influential on research initiatives and health policy throughout the world.

Subsequent to the Hockley Valley Dose-Response Conference, in 2001, Dr. Shephard was a member of the Organizing Committee for a follow-up meeting held in Whistler, British Columbia. This meeting was funded jointly by the US Centers for Disease Control and Health Canada. It attracted 1000 delegates from around the world including researchers, government officials and public health workers seeking optimal approaches for communicating messages on physical activity and health. Dr. Shephard also

served on the international advisory committees for the 2007 "International Conference on Physical Activity and Obesity in Children" and the 2010 "International Congress on Physical Activity and Public Health" which mobilized research for global action in science policy and practise. He was also an important contributor at the 2009 Consensus Conference - "Advancing the Future of Physical Activity Measurement and Guidelines" in Kananaskis Alberta. This conference was chaired by Dr. Mark Tremblay and hosted authorities from Canada, US, England, Australia, and the World Health Organization who began a process to update Canada's Physical Activity Guidelines and to harmonize national physical activity guidelines around the world.

### **2. Assessment of Fitness**

Dr. Shephard was a significant contributor to the 1972 "Canadian National Conference on Fitness and Health". This conference provided a number of recommendations to the federal and provincial governments concerning the relationship between physical activity and health. Specific recommendations that had a major impact were; *"It is recommended that Recreation Canada develop a safe, simple, self-administered fitness test, the purpose of which would be motivational rather than to accurately evaluate fitness."* and *"It is recommended that Recreation Canada take the initiative and assemble a group of physical activity and health professionals in order to design field tests, clinical-laboratory test of physical fitness tests and standardize cardiovascular performance fitness tests."*

As a direct outcome of this conference, in 1976, Dr. Shephard and colleagues developed the Canadian Home Fitness

Test to assess the aerobic fitness of adult Canadians. In 1987, Dr. Shephard worked with the Canadian Association of Sport Sciences to develop the Canadian Standardized Test of Fitness (CSTF) together with the associated norms for the first national physical fitness test for Canadian adults. Dr. Shephard then worked on an Advisory Committee to the Canadian Society for Exercise Physiology with Dr. Gledhill and Dr. Jamnik to extend the CSTF in 1996 into the Canadian Physical Activity, Fitness and Lifestyle Approach.

### **3. Cardiac Rehabilitation**

In 1967, Dr. Shephard and Dr. Terry Kavanaugh were working with coronary patients and initiated a cardiac rehabilitation program in Toronto, then in 1970 they joined with Dr. Peter Rechnitz to establish the first multi-site cardiac rehabilitation project in Ontario. This ground breaking work provided valuable scientific evidence for the efficacy of physical activity in the treatment of cardiac disease and focussed public and government attention on the therapeutic value of physical activity. These programs became the basis for the cardiac rehabilitation programs that are currently in place throughout Ontario and serve as a model for the emerging chronic disease management and rehabilitation programs.

### **4. Physical Activity Guidance**

Dr. Shephard was an advisor to the team of exercise scientists with the Canadian Society for Exercise Physiology that developed the inaugural Canadian Physical Activity Guides for Adults in 2000 and the subsequent partner guides for Older Adults, Children and Youth. He was also a member of the working group chaired by Dr. M. Tremblay that provided

the Evidence-Based Foundation for the Guides in 2007 and the 2009 team that began the process to revise Canada's Physical Activity Guides.

### **5. Screening for Physical Activity Participation**

Dr. Shephard worked with Dr. D. Bailey to develop the background work that assisted Dr. D. Chisholm to construct the original pre-participation screening test – the Physical Activity Readiness Questionnaire (PAR-Q) in 1975. In 1992, together with Dr. S. Thomas, he updated the PAR-Q and in 1996 and 2002 he was also a member of the Expert Advisory Committee chaired by Dr. N. Gledhill to again revise the PAR-Q. In 2010 he was a member of the Consensus Panel for the evidence-based systematic reviews for physical activity clearance chaired by Dr. D. Warburton, which provided the basis for the PAR-Q+ and ePARmed-X+ released in 2011.

### **6. Government Fitness and Health Advisor**

Dr. Shephard provided Canada's Directorate for Fitness and Amateur Sport, with reports on; the influence of an employee fitness programme upon industrial performance (1977/78), the economic benefits of enhanced fitness (1984), a follow-up of Employee Fitness programmes at Canada Life (1983/84) and geriatric benefits of enhanced physical activity (1983/84). These reports were all very significant in establishing national public health policy.

He also provided the Ontario Ministry of Health with reports on physical fitness of disabled (1979/80) and Health & Welfare Canada with reports on possible interactions of recent smoking and ozone exposure (1978/80) and factors influencing fitness and life adjustment of

disabled individuals (1982/84), pulmonary function responses to passive smoking and the influence of suggestibility (1982/84), fitness and training response of blind and deaf children (1983/84), acculturation of Inuit (1988-92) plus health and fitness of Soviet Inuit (1991/93). Again, these reports were prominent in shaping public health policy.

### ***7 Physical Activity and Health Research/Publications***

Dr. Shephard has published around 1800 refereed articles and other publications, most of which deal with physical activity and health. He has also written or edited numerous books and monographs on related topics. As a result, Dr. Shephard has received countless provincial, national, and international awards for his contributions to the understanding and promotion of physical activity and health.

### ***Conclusion***

Dr. Shephard is a world-renowned authority on physical activity and health who has brought tremendous honour and distinction to Canada. Roy is undoubtedly a giant in the field of exercise physiology, not just in Canada, but throughout the world. His accomplishments have had an incredible impact around the world on physical activity and health knowledge and upon public policy relating to physical activity and health. Dr. Shephard is truly one of Canada's national treasures.

### ***Qualifications***

The authors' qualifications are as follows: Norman Gledhill Ph.D., CSEP-CEP, FACSM; Veronica Jamnik Ph.D., CSEP-CEP, CSEP-CPT ME.