

# WellSpring

## Kicking the Smoking Habit? Physical Activity Can Help

### Sport for Life: A Tobacco Prevention Program for Youth

ALLISON MCKINNON, PhD, COORDINATOR OF TOBACCO RESEARCH,  
ALBERTA ALCOHOL AND DRUG ABUSE COMMISSION (AADAC).

This issue of *WellSpring* focuses on two of the most important public health challenges facing Canadians: how to help smokers to quit smoking and to stay quit as well as how to prevent young people starting to smoke.

The Alberta Tobacco Reduction Strategy, led and coordinated by AADAC, recognizes that physical activities and sports can be fun and healthy ways to prevent tobacco use among youth. Sport for Life, a tobacco prevention program for youth in Grades 4 to 6, is funded through the Alberta Tobacco Reduction Strategy. This prevention program promotes health by addressing key influences among this age group and suggests ways to overcome challenges and adopt healthy lifestyles.

Sport for Life also aims to dispel the myth that tobacco improves athletic performance. Sport for Life athletes creatively weave tobacco-free messages with their personal stories and share the importance of leading healthy and active lives.

In this issue's main article, Guy Faulkner and his colleagues report compelling scientific evidence that physical activity may help smokers to cope with the early stages of quitting smoking and support their transition to healthier, tobacco-free lifestyles.

Faulkner's work builds on the internationally recognized *Clinical Practice Guidelines for Treating Tobacco Use and Dependence* (US Department of Health and Human Services, Public Health Service, 2000), in which "the efficacy of the use of exercise to control weight during a quit attempt" was identified as an area for further research.

Since that time, a growing body of research has strengthened the evidence for exercise as a way to help cessation among motivated smokers. With health concerns often heading the list of smokers' reasons to quit smoking, the desire to be more physically active may act as both a motivator to participate in physical exercise as well as a coping mechanism during attempts to quit.



## Smoking Cessation: A Role for Exercise

GUY FAULKNER, PhD, FACULTY OF PHYSICAL EDUCATION AND HEALTH, UNIVERSITY OF TORONTO (GUY.FAULKNER@UTORONTO.CA).

Most people know about the harmful effects of cigarette smoking. Although a range of programs for quitting smoking incorporate strategies such as self-help, counselling, or nicotine replacement therapy (NRT), we still need other effective additions to smoking cessation interventions.

Exercise can play a role in smoking cessation by helping to moderate many of the variables negatively affected by nicotine withdrawal. These variables, which are also linked to relapse, include weight gain, withdrawal symptoms and cravings.

This article summarizes some of the findings of a synthesis project on exercise and smoking cessation. These results come from a broad range of evidence sources, including

- a systematic review and methodological assessment of empirical research;
- interviews with key researchers, practitioners, and policy-makers;
- an environmental scan to assess practice-oriented exercise and smoking cessation evaluation reports and promotional materials.

### Why Exercise?

#### Links to Abstinence

We reviewed 15 randomized controlled trials and found consistent evidence from four high-quality trials that adding exercise to standard care (counselling and/or nicotine replacement therapy) increases short-term abstinence.

However, the evidence less consistently linked exercise to long-term abstinence (i.e., 12 months). This lack of consistency is probably related to the withdrawal of exercise support at the end of each trial or to small sample sizes. However, on the basis of US Preventive Services Task Force guidelines (Harris, Helfand, Woolf, et al., 2001), we found

enough evidence—one high-quality randomized controlled trial (Marcus, Albrecht, King, et al., 1999)—to recommend vigorous and structured exercise for women as an adjunct to help them stop smoking and manage their weight.

There may be some concern that asking people to make two major lifestyle changes (quitting smoking and becoming more active) could be too demanding and lead to failure in changing one, if not both, behaviours. However, the evidence did not suggest that promoting exercise detracts from attempts to stop smoking.

In most interventions, there was increased short-term exercise participation among smokers, pre-quitters, and quitters (and adherence was comparable to typical exercise interventions). In line with a harm reduction role, increases in physical activity—whether or not people quit smoking—could be seen as a positive outcome of exercise interventions.



### Effects on Smoking Withdrawal and Cravings

We found sufficient evidence in 11 studies to conclude that low-moderate intensity exercise can reduce symptoms of smoking withdrawal and cravings. Abstaining smokers who participated in five minutes of moderate physical activity showed more relief from cigarette cravings (both during and after physical activity sessions) than smokers who participated in light physical activity or no physical activity (Daniel, Copley, Ussher, & West, 2004). Emerging evidence also shows that exercise can lessen cravings triggered by cues such as a lit cigarette (Taylor & Katomeri, 2006).

### Our Recommendations

The case for exercise and smoking cessation would clearly benefit from more research, e.g., studies with larger sample sizes and sufficiently intense exercise interventions. We need to know more

about how best to engage and maintain smokers and quitters in a physically active lifestyle (and to understand the optimal exercise “dosage”).

Given the variety in study design and exercise interventions, it was difficult to clearly identify key program characteristics that help people to quit. However, the research experts we interviewed identified some key elements of programs that work:

- participants should start an exercise program two to four weeks before they quit smoking;
- exercise needs to be explicitly integrated within smoking cessation treatment;
- initial adherence and early success require a minimal level of structure and supervised activity.

The most notable limitation in the research is the lack of evidence of effectiveness. We know what works in a clinical trial or laboratory setting (efficacy), but less about what works in typical clinical practice settings (effectiveness). We did not find any evaluated examples of practice in our environmental scan. Based on our interviews with research and practice experts, we concluded that including exercise as an explicit component of smoking cessation services was rare in Canada. We would like to hear from anyone who can tell us differently!

To sum up our findings,

- promoting exercise does not detract from quitting smoking;
- exercise helps lessen withdrawal symptoms and cravings;

Overall, exercise can help you with the symptoms of quitting smoking in the short term. If you remain active, exercising may help you stay quit and manage your weight.

- exercise can promote short-term abstinence;
- physical activity improves important health outcomes.

Given these findings, physical activity promotion should be incorporated into smoking cessation for pre-quitters and for quitters who are motivated (i.e., the contemplation and preparation stages of change for physical activity).

### Implications for Practice

All health practitioners have a role to play in promoting healthy lifestyles. As such, they should first provide a minimal intervention for clients during the initial assessment:

- **Ask:** “Do you smoke?”
- **Advise:** “As a health professional, the most important advice I can give you is to stop smoking.”
- **Assist** (according to client readiness) with a referral to community resources.

Second, practitioners could direct quitters to use exercise as often as needed as a coping strategy for cigarette cravings and associated symptoms such as poor sleep, depression, and irritability. Smokers may have poor health and contra-indications to exercise due to lower levels of physical activity and fitness over a prolonged period of time (Taylor & Ussher, 2005). Careful screening should be provided.

Finally, physical activity professionals in particular can proactively connect with smoking cessation services and develop a referral process for smokers who would like to become more physically active as part of quitting smoking. Deciding to quit smoking can create a teachable moment for intervention. Health professionals can help clients change other important risk factors, such as physical inactivity, while also contributing to cessation efforts.

## Mission Statement of the Alberta Centre for Active Living

Working with practitioners, organizations, and communities to improve the health and quality of life of Albertans through physical activity.

**Acknowledgements:** This paper is based in part on a knowledge synthesis funded through Advancing the Science to Reduce Tobacco Abuse and Nicotine Addiction, a partnership coordinated by the Canadian Tobacco Control Research Initiative ([www.ctcri.ca](http://www.ctcri.ca)). The synthesis team included Adrian Taylor (Exeter University, UK); Peter Selby (University of Toronto; Centre for Addiction and Mental Health); Roberta Ferrence (Ontario Tobacco Research Unit); and Shelly Urban (Centre for Addiction and Mental Health).

### References

- Daniel, J., Cropley, M., Ussher, M., & West, R. (2004). Acute effects of a short bout of moderate versus light intensity exercise versus inactivity on tobacco withdrawal symptoms in sedentary smokers. *Psychopharmacology*, 174, 320–326.
- Harris, R. P., Helfand, M., Woolf, S. H., Lohr, K. N., Mulrow, C. D., Teutsch, S. M., Atkins, D.; Methods Work Group, Third US Preventive Services Task Force (2001). Current methods of the US Preventive Services Task Force, a review on the process. *American Journal of Preventive Medicine*, 20 (Suppl. 3), 21–35.
- Marcus, B. H., Albrecht, A. E., King, T. K., Parisi, A. F., Pinto, B. M., Roberts, M., Niaura, R. S., & Abrams, D. B. (1999). The efficacy of exercise as an aid for smoking cessation in women: A randomised controlled trial. *Archives of Internal Medicine*, 159, 1229–1234.
- Taylor, A. H., & Katomeri, M. (2006). Effects of a brisk walk on blood pressure responses to the Stroop, a speech task and a smoking cue among temporarily abstinent smokers. *Psychopharmacology*, 184, 247–253.
- Taylor, A. H., & Ussher, M. (2005). Effects of exercise on smoking cessation and coping with withdrawal symptoms and nicotine cravings. In G. Faulkner & A. H. Taylor (Eds.), *Exercise, health and mental health: Emerging relationships*. London: Routledge.
- US Department of Health and Human Services, Public Health Service. (2000). *Clinical practice guidelines for treating tobacco use and dependence*. Washington, DC: Author.

### WELLSPRING EDITORIAL ADVISORY COMMITTEE

Claudia Emes, University of Calgary  
Zakk Morrison, Be Fit for Life, Medicine Hat  
Dela Royan, Aspen Regional Health Authority  
John Valentine, Grant MacEwan College  
Judy Newman and Kathy Garnsworthy, Alberta Centre for Active Living

### IF YOU HAVE ANY SUGGESTIONS OR QUESTIONS, WE'D LIKE TO HEAR FROM YOU.

Alberta Centre for Active Living  
Percy Page Centre  
3rd Floor, 11759 Groat Road  
Edmonton, AB T5M 3K6  
Phone: 780.427.6949 or  
1.800.661.4551 (toll-free in Alberta)  
Fax: 780.455.2092  
Web site: [www.centre4activeliving.ca](http://www.centre4activeliving.ca)  
E-mail: [active.living@ualberta.ca](mailto:active.living@ualberta.ca)

### STAFF

Director: Judith Down  
Research: Ron Plotnikoff, PhD,  
Tanya Berry, PhD  
Education Coordinator: Judy Newman  
Older Adult Coordinator: Jennifer  
Dechaine  
Communications and Marketing  
Coordinator: Kathy Garnsworthy  
Communications Specialist: Janice  
Robinson  
Resource Coordinator: Rosanne  
Prinsen  
Financial Administrator: Carol Knull  
Administrative Assistant: Margaret  
Burns  
Office Assistant: Gilda LaGrange  
Canadian Health Network: Pauline  
Poon, Maria Tan, Sally Press  
Health in Action Project: Karena Apps  
Eccles, Gwen Farnsworth

WellSpring is published six times/year.  
ISSN 1187-7472

The Alberta Centre for Active Living is the  
CHN Active Living Affiliate.

[www.canadian-health-network.ca](http://www.canadian-health-network.ca)

Alberta  
Centre for  
**Active Living**

Research and education for the promotion of physical activity