Key Facts About Exercise and Smoking Cessation

TIS teams are funded to carry out population health promotion activities. They are not funded to provide smoking cessation support. TIS workers still need up-to-date knowledge of the support available to individuals wanting to quit, as this can inform TIS population health promotion campaigns and educational activities. This factsheet provides an overview of how exercise can help support smoking cessation.

How can exercise support a quit attempt?

There are a number of ways that exercise might help as part of a quit attempt:

- act as a distraction from thinking about smoking;
- reduce nicotine cravings (see Box 1);
- limit weight gain;
- help manage stress and increase feelings of wellbeing.

Developing new habits to replace the gap left by not smoking can also be helpful for someone who is making a quit attempt. For example, if someone uses 'going for a smoke' with friends and family as a way of having a yarn, or as an opportunity to debrief/blow off steam with co-workers, then it is important they find other ways to join in with these important social interactions. So 'come and have a smoke with me' might become 'come for a walk/bike ride/swim'.

For people who play sport, increased performance might be a motivator to quit. Quitting smoking:

- reduces resting heart rate meaning the heart doesn't need to work dangerously hard during bursts of intense activity;
- improves lung functioning;
- increases blood circulation, boosting oxygen supply to the muscles;
- increases endurance;
- reduces soreness and cramps after exercise;
- reduces injury rates and healing time.

Box 1: Why smoking and exercise make you feel good

The nicotine in tobacco plays a big role in maintaining smoking behaviours. When someone smokes tobacco, they inhale nicotine which travels quickly to the brain where if causes dopamine to be released. Dopamine is a feel-good chemical which stimulates the reward pathways in the brain. This is part of the 'buzz' experienced by people who smoke. Nicotine prompts the release of other hormones which add to this intense feeling of pleasure:

- Adrenaline - prepares the body for action, some people describe the rush of adrenaline as excitement, for others the feeling is one of anxiety or nervousness;
- Endorphins - reduces feelings of stress and anxiety, relieves pain, and gives a sense of wellbeing;
- Serotonin - controls mood and is responsible for happiness.

Exercise stimulates the reward pathways in the brain in a similar way to smoking and causes the release of the same mix of feel-good chemicals. The pleasurable high exercise delivers can therefore help reduce nicotine cravings experienced by people quitting smoking.

What does the evidence say about exercise and smoking cessation?

Evidence for the effectiveness of exercise for smoking cessation is mixed. A recent systematic review (Ussher et al, 2019) points to poor quality evidence meaning that it is not possible to say with any certainty that exercise does or does not increase quit rates. Evidence highlights the importance of supporting people who are quitting to maintain their engagement with their chosen exercise program:

- The Fit2Quit trial (Maddison et al., 2014) reported no overall difference in quit outcomes for usual care (control group) versus usual care plus exercise telephone counselling (intervention group). However, the control group reported increased levels of exercise, and not everyone in the intervention group received all the exercise counselling sessions. These two factors may have helped to hide any real effects of the intervention. This seems likely given that study findings showed that participants who maintained engagement with the physical activity component, receiving at least three-quarters of scheduled exercise counselling contacts were less likely to smoke at the end of the study and were more likely to have quit compared to those in the control group. This suggests that exercise may increase quit success for those who want to exercise and are supported to do so.
- The Getting Physical on Cigarette trial (Prapavessis et al., 2016) further supports the importance of providing support to maintain exercise as part of a quit program. In this study an individualised supervised exercise program was provided alongside nicotine replacement therapy (NRT). One group was provided with support to maintain their exercise regime beyond the 8-week supervised exercise period. Higher quit rates were reported for this group in both the short term (14 weeks) and the longer term (26 and 52 weeks). Although the difference in longer term quit rates were not statistically significant, these differences may be clinically significant.

What kind of exercise might help with smoking cessation?

- Even light exercise such as going for a walk can be beneficial as a distraction from smoking and to support wellbeing.
- Aerobic exercise (e.g., running, swimming, cycling) and some kinds of strength training (isometric) are suggested to be helpful for reducing withdrawal symptoms and cigarette cravings. Effects can last as long as 50 minutes after the exercise session.
- Yoga may also help smoking cessation (Bock et al., 2019) by reducing cigarette cravings and alleviating stress and anxiety. For more information about yoga and smoking cessation see the factsheet: Key Facts about Relaxation, Mindfulness, Meditation and Smoking.

There are of course other benefits to adding physical exercise to a quit attempt. Exercise can boost self-esteem, increase feelings of wellbeing, and reinforce a person's positive self-image.

Further reading

Bock, B.C., Dunsiger, S.I., Rosen, R. K., Thind, H., Jennings, E., Fava, J. L., . . . Marcus, B. H. (2019). Yoga as a Complementary Therapy for Smoking Cessation: Results From BreathEasy, a Randomized Clinical Trial. Nicotine Tob Res, 21(11), 1517-1523. https://doi.org/10.1093/ntr/nty212

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Prapavessis, H., Jesus, S., Fitzgeorge, L., Faulkner, G., Maddison, R., Batten, S. (2016). Exercise to enhance smoking cessation: the Getting Physical on Cigarette randomized control trial. Annals of Behavioral Medicine, 50(3), 358-369. https://doi.org/10.1007/s12160-015-9761-9

Ussher, M.H., Faulkner, G.E., Angus, K., Hartmann-Boyce, J., Taylor, A.H. (2019). Exercise interventions for smoking cessation. Cochrane Database of Systematic Reviews, Issue 10. https://doi.org/10.1002/14651858.CD002295.pub6