COLON CANCER AND EXERCISE

PUBLIC

WHAT IS COLON CANCER?

Colon cancer, or 'bowel cancer', is the second most common cancer in Australia, with nearly 17,000 cases diagnosed each year. While survival rates following colon cancer vary, almost 90% of people diagnosed early (when cancer is confined to the bowel wall) will be disease-free five years after their diagnosis. Common treatments include a combination of surgery and chemotherapy, and, sometimes, radiotherapy. Some survivors of colon cancer require a colostomy (an artificial opening in the abdominal wall to allow removal of waste), either for a few weeks after surgery or permanently (in less than 5% of cases) (1, 2). Side effects of treatments may depend on the extent of surgery and the dose and type of adjunct therapy. Side effects may include fatigue, diarrhoea, depression, sleep concerns, negative changes in body composition (an increased percentage of fat), nausea, 'chemo brain' (feeling vague), and peripheral neuropathy (pain and tingling in the extremities) (3).

WHAT EXERCISE IS BEST FOR PEOPLE WITH COLON CANCER/SURVIVORS OF COLON CANCER?

Exercise plays an important role in the treatment of, and recovery from, colon cancer, through reducing the number and severity of treatment-related side effects and symptoms (such as pain, fatigue, sleep disturbances, and cognitive impairment), as well as improving or maintaining function during and after treatment. Only a limited number of studies have specifically investigated the value of exercise for survivors of colon cancer (4). However, on the basis of findings from these studies, as well as findings from studies involving other cancer populations and clinical practice, the following guidelines are recommended:

- **Aerobic and supervised, resistance (weights) training are safe and beneficial.** Walking, weights training and gym-based exercise have been well evaluated for safety or efficacy, whereas sports and other activities have not. Nonetheless, individuals should be encouraged to participate in their preferred exercise unless contraindicated (e.g. if there is an increased risk of fractures or infection). If a colostomy has been undertaken, avoiding increased pressure in the abdomen is recommended to reduce risk of herniation.
- **Moderate-intensity exercise (enough to "puff" or the ability to "talk but not sing") is recommended.** The level of exercise required to make someone puff is influenced by fitness and the presence of cancer-related symptoms. When feeling unwell or unfit, slow walking may be enough to make someone puff (that is, be moderate-intensity exercise). However, as fitness improves or treatment-related side effects are less, a faster walking pace (or different exercise type) may be required to ensure exercise is of moderate-intensity. For those not already regularly exercising, it is recommended that they start at low- to moderate-intensity and progress gradually. For regular exercisers, it is likely safe to exercise at high-intensity, but it is important to progress gradually up to this (5).
- **Current guidelines recommend maintaining or building up to 150+ minutes of exercise each week.** Exercise can be done in sessions as short as 10 minutes and should include either or both aerobic- and resistance-based exercises. It is best to spread exercise sessions out across the week (e.g. 30 minutes on 5 days of the week). Depending on the intensity, it may be necessary to avoid doing resistance-based exercises on consecutive days. Additional benefits may be gained by exercising for up to 300 minutes each week, but progression towards this amount needs to be gradual.
- **The supervision required during exercise depends on exercise history, the timing with respect to diagnosis, and the presence and intensity of treatment-related side effects.** Whilst many can safely exercise during or following treatment for colon cancer without supervision, support from a qualified health professional (e.g. Physiotherapist /Accredited Exercise Physiologist) may help in commencing and maintaining an exercise program. Behaviour change strategies, advice regarding modifications to account for exercise preferences, contraindications and barriers may be particularly important during active treatment when the frequency and type of side effects are likely to fluctuate. Those who have a preference for a particular type or intensity of exercise outside of the general guidelines are encouraged to discuss the need for any risk management with a health or exercise professional.

WHAT ARE THE SOLUTIONS TO COMMON CONCERNS ABOUT EXERCISE?

Fear of worsening symptoms (e.g. fatigue, pain, nausea)

Those who exercise regularly are less likely to experience treatment-related side effects and symptoms and, if they occur, the number and severity of side effects are typically less. In contrast, inactivity has been associated with the onset and worsening of these side effects. Using a diary to monitor exercise and side effects is an effective way to ensure that exercise is neither contributing to the presence nor worsening severity of side effects.

Trouble exercising during treatment periods with intense side-effects

Some people find they cannot perform their usual exercise routine in the days immediately after a cycle of chemotherapy, or when symptoms are particularly intense. Instead of avoiding exercise at these times, preparing a separate exercise program for 'bad days' may be useful. For example, instead of a 30-minute walk on the three days after chemotherapy, 10 'sit-to-stands' from a chair and a walk to the letterbox every hour may be more realistic and appropriate. Doing some exercise on 'bad days' helps maintain the habit of exercising while preventing or reducing treatment-related declines in function.

Pain and balance problems caused by peripheral neuropathy

The drugs used to treat colon cancer can sometimes lead to nerve damage (peripheral neuropathy), particularly in the hands and feet. This damage can cause extreme pain and tingling, or pins and needles, which makes walking, wearing shoes and/or holding objects difficult. The neuropathy can also impair balance and increase risk of falling. Wearing well-fitting shoes and checking for cuts and calluses is important for preventing damage to feet. Some individuals find water-based exercise less painful, or short bouts of walking or stationary cycling useful. Walking in familiar territory and on even surfaces may be necessary to reduce risk of falling, and using machine-weights versus hand-held weight may be safer.

Gastrointestinal complaints and colostomies

After bowel surgery, changes in gastrointestinal habits (usually diarrhoea) are common. Exercise can cause further complications (i.e. increased frequency and looseness of stools), so some people avoid leaving their home due to embarrassment from related odours or fear of suddenly needing a bathroom. Therefore, exercise programs may need to be performed in environments with toilet facilities close by. Home-based programs are often ideal, but for those willing to venture away from home, gymnasiums or parks with a toilet block may be suitable alternatives.

Exercise can be undertaken safely by people with colostomies when appropriate precautions are taken. Specifically, those with a colostomy need to be vigilant about preventing infection (as taught to them by their stoma nurse) after exercise sessions. Resistance (weights) training should begin at low-intensity and progress more slowly than usual, being particularly careful to avoid herniation at the site of the stoma (the opening where the colostomy bag is attached). Contact sports and swimming are not recommended for those with a colostomy.

Discouragement from not seeing improvements

People with colon cancer and survivors of colon cancer need to have progress and success appropriately defined. Without a structured exercise program, most people experience a decline in physical function during periods of active treatment. Actual improvements in function may occur for some people who exercise during treatment. At the very least, exercise can minimise or prevent typical treatment-related declines. Having realistic expectations helps people to stay active during and beyond the treatment period.

General barriers to exercise

People with colon cancer and survivors of colon cancer still need to overcome all the usual exercise barriers experienced by people without colon cancer (e.g. affordability, time constraints, lack of interest, or motivation). As the average age at diagnosis of colon cancer is 69 years, age-related concurrent conditions and exercise barriers are common.

RELATED INFORMATION AND REFERENCES

Exercise is Medicine Australia www.exerciseismedicine.org.au
Exercise Right www.exerciseright.com.au
Find a Physiotherapist www.choose.physio
Find an Accredited Exercise Physiologist www.essa.org.au
Bowel Cancer Australia www.bowelcanceraustralia.org

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2. Australian Institute of Health and Welfare (2017). Australian Cancer Incidence and Mortality (ACIM) books Colorectal cancer. Canberra. AIHW. [Accessed October 2017].
3. Cramer, H., et al., (2014) A systematic review and meta-analysis of exercise interventions for colorectal cancer patients. Eur J Cancer Care. 23(1): p. 3-14.
4. Van Blarigan EL, Meyerhardt JA. Role of physical activity and diet after colorectal cancer diagnosis. J Clin Oncol. 2015 Jun 1;33(16):1825-34.
5. Devin, J.L., et al., (2016) The influence of high-intensity compared with moderate-intensity exercise training on cardiorespiratory fitness and body composition in colorectal cancer survivors: a randomised controlled trial. J Cancer Surviv. 10(3): p. 467-79.