

# 13

## Exercise-related Musculoskeletal Injury



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Most people are unlikely to sustain injury when performing exercise in accordance with a customised exercise plan. However, injuries and other adverse events do sometimes occur, with musculoskeletal injuries being the commonest. Even so, studies have shown that such injury occurs about once in every 1,000 hours of walking, and fewer than 4 for every 1,000 hours of running (1). Overall, the benefits of being physically active outweigh the potential harms (2).

Both physical fitness and total amount of exercise affect risk of musculoskeletal injuries (1) – people who are physically fit have a lower risk of injury than those who are not, and people who do large amounts of activity generally have a higher risk of injury than people who do less. More active men and women have a higher injury rate during sport and leisure-time activity while inactive adults report more injuries during non-sport and non-leisure time (3-4). Overall, it appears that healthy adults who meet the present recommendations by performing moderate-intensity activities have an overall musculoskeletal injury rate that is not significantly different from inactive adults (3). It is interesting to note that while physical activity above the minimal recommended level results in additional health benefits, the associated musculoskeletal health risks may increase possibly negating some of the added benefit (4). This dose-injury relation for specific activities is unknown and likely differs by activity and individual anatomic and behavioural characteristics (5). Hence, it is important for people to be engaged in physical activity safely. Box 13.1 provides some general points on how this can be done (1).



### Box 13.1 Reminders for Safe Physical Activity

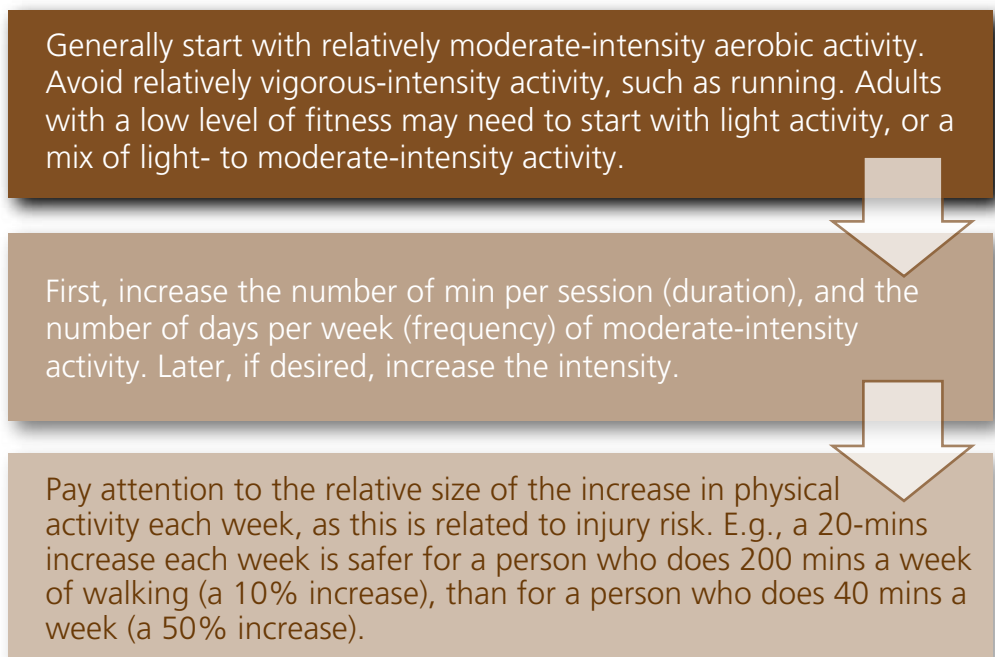
To perform physical activity safely, reduce risk of injuries and prevent adverse events, people should:

- Understand the risks and yet be confident that physical activity is safe for almost everyone.
- Choose to do types of physical activity that are appropriate for their current fitness level and health goals, because some activities are safer than others. Please refer to Table 13.1 for details about risks of different activities (1).
- Increase physical activity gradually over time whenever more activity is necessary to meet guidelines or health goals. Inactive people should “start low and go slow” by gradually increasing the frequency and duration of exercising. See Figure 13.1 for a general guidance on how to increase physical activity (1).
- Protect themselves by putting on protective gear, such as appropriate sports equipment, looking for safe environments, following rules and instructions, and making sensible choices about when, where, and how to be active. E.g. considering weather conditions and air quality.
- Be under the care of a health care provider if they have chronic medical conditions or symptoms. People with chronic conditions and symptoms should consult their family doctor about the types and amounts of activity suited to their needs.
- Seek professional advice from physical instructors or experts in sports medicine when embarking on new forms of resistance activity that require specific skills or are associated with a higher risk of injury.

**Table 13.1** The Continuum of Injury Risk Associated with the Nature of Physical Activities (1)

Injury Risk Level	Nature of Physical Activity	Example
Lowest Risk	• Commuting	• Walking, cycling
Lower Risk	• Lifestyle	• Home repair, gardening/ yard work
Medium Risk	• Recreation/sports No contact	• Walking for exercise, golf, dancing, swimming, running, tennis
Higher Risk	• Recreation/sports Limited contact	• Cycling, aerobics, volleyball, baseball
Highest Risk	• Recreation/sports Collision/contact	• Football, basketball

**Figure 13.1** General Guidance for Inactive People and Those with Low Levels of Physical Activity on How to Increase Physical Activity (1).



## References

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