

Infographic. Evidence-based physical activity guidelines for adults living with lower-limb amputation

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Lower-limb amputation (LLA) can substantially limit engagement in physical activity (PA) and is associated with high levels of sedentary behaviour.¹ Regular PA is a key determinant of functional recovery, social participation and quality of life among people living with LLA.² However, despite these well-established benefits, most adults with LLA do not achieve PA levels sufficient to obtain meaningful health benefits.³ Physical inactivity in this population is associated with increased risks of cardiovascular and cardiometabolic disease, as well as premature mortality.

Evidence-based PA recommendations are essential for supporting behaviour change, as they provide clear targets associated with positive health outcomes. While general PA guidelines exist for people living with disabilities, they do not include recommendations based on evidence specific to adults with LLA. This represents an important gap, as people with LLA face unique barriers to PA participation, including pain, prosthetic fit issues, low motivation and a high prevalence of cardiovascular comorbidities.

To address this gap, a Canadian multi-disciplinary team of scientists, clinicians, individuals living with LLA and representatives from limb-loss organisations collaborated to develop the first evidence-based PA guideline specifically for adults with LLA.^{4,5} The guideline was developed using the Appraisal of Guidelines for Research and Evaluation II framework and is grounded in the best available evidence.

This infographic (figure 1) presents the minimum dose of PA required to achieve measurable health benefits, specifically targeting improvements in balance and overall mobility. To improve balance and mobility, including walking endurance and transfer ability, adults with LLA should perform at least 60 min per week of moderate-to-vigorous aerobic exercise.

This aerobic activity should be combined with strengthening or balance exercises:

- ▶ Strengthening exercises: at least 3 sets of 10 repetitions targeting major lower-limb muscle groups, performed at least twice per week.
- ▶ Balance exercises: at least 20 min per session, three times per week.

This infographic was codeveloped with six patient partners and is available in both English and French. It can be shared digitally or in print to support PA engagement among adults with LLA.

The recommendations are intended for use by individuals with LLA, family members, caregivers, healthcare professionals (eg, physiotherapists, kinesiologists) and organisations promoting PA, to support the development of safe, tailored exercise programmes.

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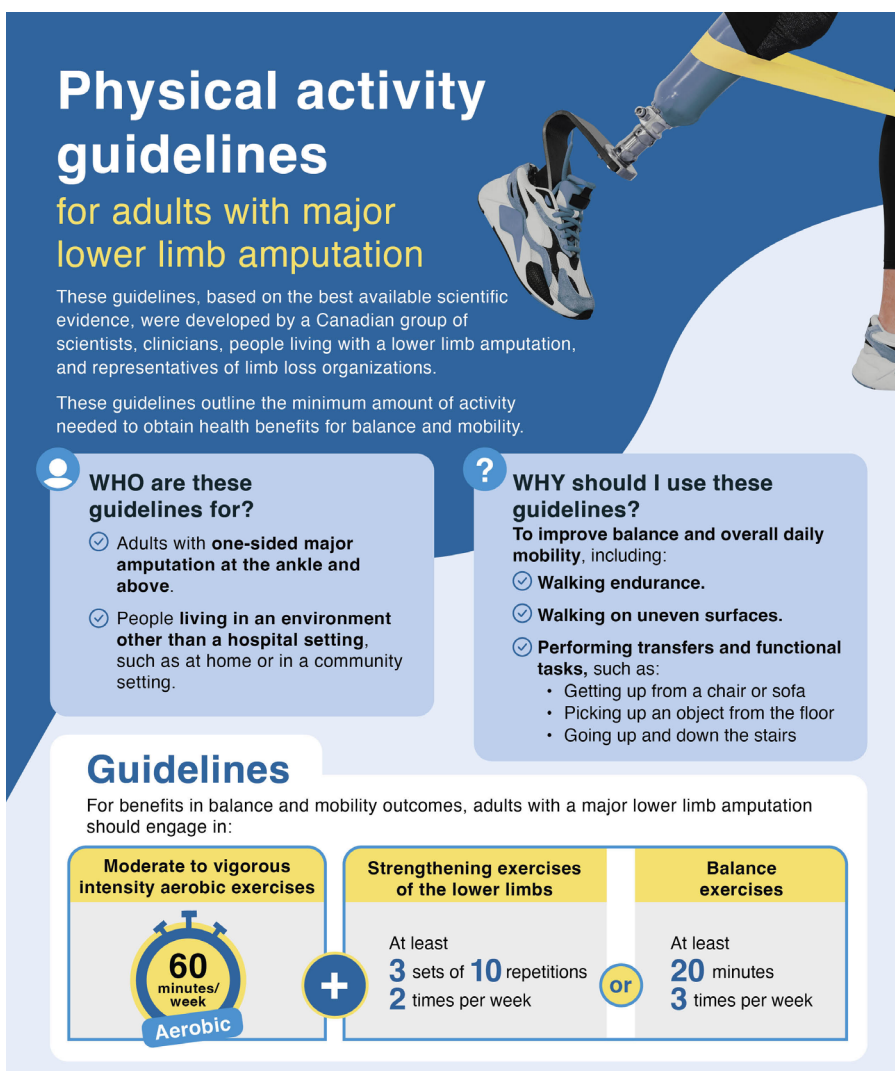


Figure 1 Physical activity guidelines for adults with major lower-limb amputation.

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REFERENCES

- 1 Pepin ME, Akers KG, Galen SS. Physical activity in individuals with lower extremity amputations: a narrative review. *Phys Ther Rev* 2018;**23**:77–87.
- 2 Christensen J, Ipsen T, Doherty P, *et al.* Physical and social factors determining quality of life for veterans with lower-limb amputation(s): a systematic review. *Disabil Rehabil* 2016;**38**:2345–53.
- 3 Deans S, Burns D, McGarry A, *et al.* Motivations and barriers to prosthesis users participation in physical activity, exercise and sport: a review of the literature. *Prosthet Orthot Int* 2012;**36**:260–9.
- 4 Dupuis F, Ginis KAM, MacKay C, *et al.* Do Exercise Programs Improve Fitness, Mobility, and Functional Capacity in Adults With Lower Limb Amputation? A Systematic Review on the Type and Minimal Dose Needed. *Arch Phys Med Rehabil* 2024;**105**:1194–211.
- 5 Dupuis F, Martin Ginis KA, MacKay C, *et al.* Development of physical activity recommendations for adults living with lower limb amputation. *Disabil Rehabil* 2026;**48**:1424–35.