

# EXECUTIVE SUMMARY

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The *WHO Guidelines on physical activity and sedentary behaviour* provide evidence-based public health recommendations for children, adolescents, adults and older adults on the amount of physical activity (frequency, intensity and duration) required to offer significant health benefits and mitigate health risks. For the first time, recommendations are provided on the associations between sedentary behaviour and health outcomes, as well as for subpopulations, such as pregnant and postpartum women, and people living with chronic conditions or disability.

The guidelines are intended for policy-makers in high-, middle-, and low-income countries in ministries of health, education, youth, sport and/or social or family welfare; government officials responsible for developing national, sub regional or municipal plans to increase physical activity and reduce sedentary behaviour in population groups through guidance documents; people working in nongovernmental organizations, the education sector, private sector, research; and health-care providers.

The guidelines were prepared in accordance with the *WHO handbook for guideline development*. Systematic reviews of evidence were conducted for the critical and important outcomes, and recommendations were developed after consideration of the benefits and harms, values, preferences, feasibility and acceptability, and the implications for equity and resources.

The final public health recommendations presented are for all populations and age groups ranging from 5 years to 65 years and older, irrespective of gender, cultural background or socioeconomic status, and are relevant for people of all abilities. Those with chronic medical conditions and/or disability and pregnant and postpartum women should try to meet the recommendations where possible and as able.

The development of these guidelines provide a set of evidence-based recommendations that governments can adopt as part of their national policy frameworks to support comprehensive approaches to increasing population levels of physical activity. Within the adoption process, consideration should be given to the need to contextualize the guidelines. Practical tools to support adoption, dissemination, communication campaigns and implementation of the guidelines will support governments and stakeholders work together to increase physical activity and reduce sedentary behaviours across the life course. These supporting resources will be available through the WHO website following publication of the guidelines

Despite the large quantity of supporting data relating physical activity and, increasingly, sedentary behaviours to health outcomes across the life-span, important evidence gaps remain. In particular, there is less evidence from low- and middle-income countries and economically disadvantaged or underserved communities, and a dearth of evidence from subpopulations including people living with disabilities. Investment in more research is needed to build evidence particularly in these areas. In addition, the changes introduced to these recommendations will have some implications for surveillance systems and assessment instruments currently used to monitor national levels of physical activity. Existing global and national instruments should be reviewed, and reporting protocols updated, to inform future reporting against the new guidelines.

The *Global action plan on physical activity 2018–2030* set a target to reduce physical inactivity by 15% by 2030, and outlined 20 recommended policy actions and interventions. These guidelines support all countries to implement the GAPPA recommendations and “ACTIVE”, the technical package of toolkits that provides guidance on how to promote physical activity across the life course and through multiple settings.

# CHILDREN AND ADOLESCENTS

(aged 5–17 years)



In children and adolescents, physical activity confers benefits for the following health outcomes: improved physical fitness (cardiorespiratory and muscular fitness), cardiometabolic health (blood pressure, dyslipidaemia, glucose, and insulin resistance), bone health, cognitive outcomes (academic performance, executive function), mental health (reduced symptoms of depression); and reduced adiposity.

**At least**

**60**  
minutes a day

**moderate- to vigorous-intensity physical activity** across the week; most of this physical activity should be aerobic.

~ [4 yellow circles] [2 grey circles]

It is recommended that:

- Children and adolescents should do at least an average of 60 minutes per day of moderate- to vigorous-intensity, mostly aerobic, physical activity, across the week.

*Strong recommendation, moderate certainty evidence*

**On at least**

**3**  
days a week

**vigorous-intensity aerobic activities**, as well as those that **strengthen muscle and bone** should be incorporated.

~ [5 yellow circles] [1 half-yellow circle]

- Vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, should be incorporated at least 3 days a week.

*Strong recommendation, moderate certainty evidence*

## GOOD PRACTICE STATEMENTS

- Doing some physical activity is better than doing none.
- If children and adolescents are not meeting the recommendations, doing some physical activity will benefit their health.
- Children and adolescents should start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time.
- It is important to provide all children and adolescents with safe and equitable opportunities, and encouragement, to participate in physical activities that are enjoyable, offer variety, and are appropriate for their age and ability.

In children and adolescents, higher amounts of sedentary behaviour are associated with the following poor health outcomes: increased adiposity; poorer cardiometabolic health, fitness, behavioural conduct/pro-social behaviour; and reduced sleep duration.

It is recommended that:

- Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.

*Strong recommendation, low certainty evidence*

**LIMIT**

**the amount of time spent being sedentary**, particularly recreational screen time.

~ [4 grey circles] [1 half-grey circle]

# ADULTS

(aged 18–64 years)



In adults, physical activity confers benefits for the following health outcomes: improved all-cause mortality, cardiovascular disease mortality, incident hypertension, incident site-specific cancers,<sup>1</sup> incident type-2 diabetes, mental health (reduced symptoms of anxiety and depression); cognitive health, and sleep; measures of adiposity may also improve.

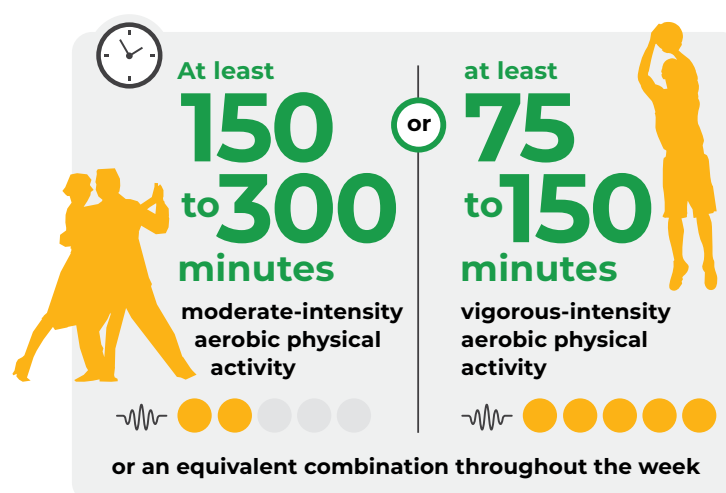
It is recommended that:

## › All adults should undertake regular physical activity.

*Strong recommendation, moderate certainty evidence*

## › Adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.

*Strong recommendation, moderate certainty evidence*



For additional health benefits:

On at least



**2**  
days  
a week

muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups.

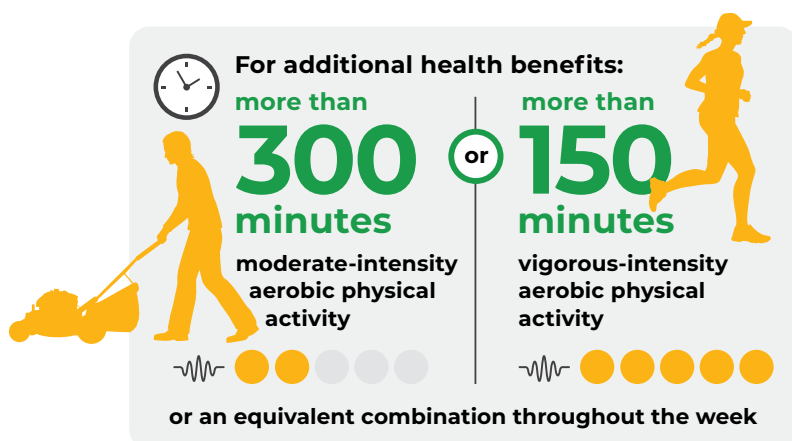


## › Adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.

*Strong recommendation, moderate certainty evidence*



<sup>1</sup> Site-specific cancers of: bladder, breast, colon, endometrial, oesophageal adenocarcinoma, gastric, and renal.



➤ Adults may increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.

*Conditional recommendation, moderate certainty evidence*

## GOOD PRACTICE STATEMENTS

- Doing some physical activity is better than doing none.
- If adults are not meeting these recommendations, doing some physical activity will benefit their health.
- Adults should start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time.

In adults, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality and incidence of cardiovascular disease, cancer and type-2 diabetes.

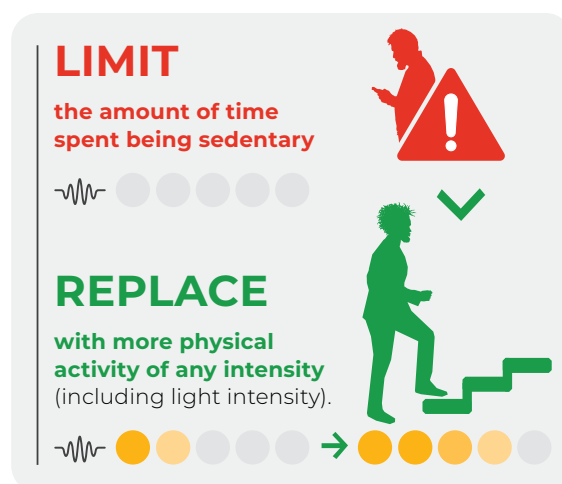
It is recommended that:

➤ Adults should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.

*Strong recommendation, moderate certainty evidence*

➤ To help reduce the detrimental effects of high levels of sedentary behaviour on health, adults should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity.

*Strong recommendation, moderate certainty evidence*



# OLDER ADULTS

(aged 65 years and older)



In older adults, physical activity confers benefits for the following health outcomes: improved all-cause mortality, cardiovascular disease mortality, incident hypertension, incident site-specific cancers, incident type-2 diabetes, mental health (reduced symptoms of anxiety and depression), cognitive health, and sleep; measures of adiposity may also improve. In older adults, physical activity helps prevent falls and falls-related injuries and declines in bone health and functional ability.

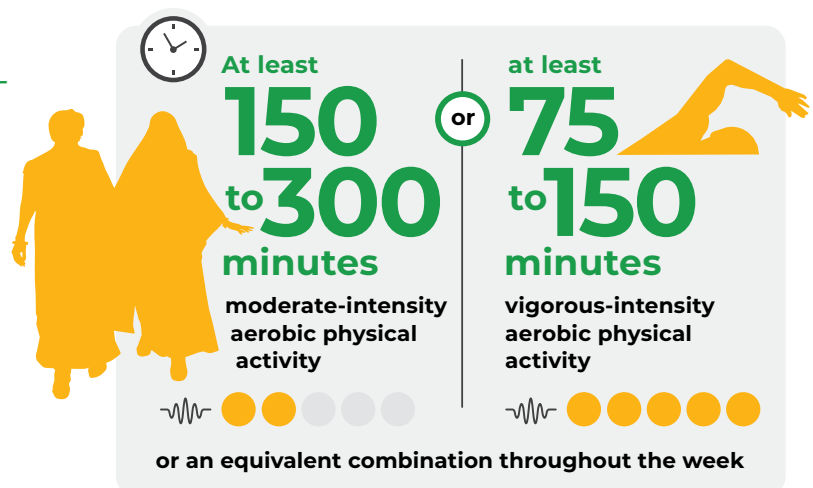
It is recommended that:

## > All older adults should undertake regular physical activity.

*Strong recommendation, moderate certainty evidence*

## > Older adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.

*Strong recommendation, moderate certainty evidence*



For additional health benefits:

On at least



**2 days a week**

muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups.



## > Older adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.

*Strong recommendation, moderate certainty evidence*

On at least



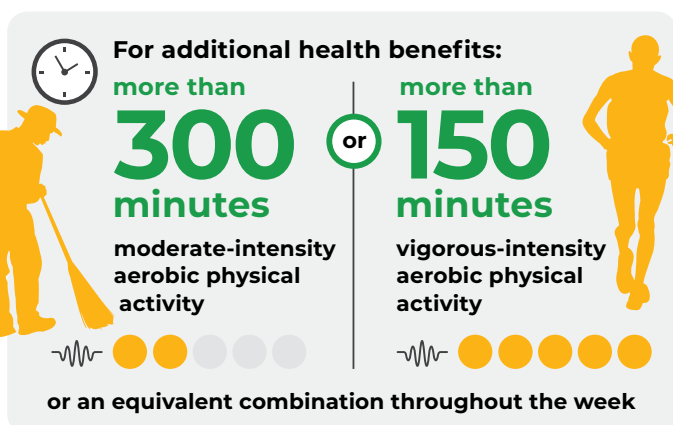
**3 days a week**

varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity.



## > As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.

*Strong recommendation, moderate certainty evidence*



➤ Older adults may increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for additional health benefits.

*Conditional recommendation, moderate certainty evidence*

**GOOD PRACTICE STATEMENTS**

- Doing some physical activity is better than doing none.
- If older adults are not meeting the recommendations, doing some physical activity will bring benefits to health.
- Older adults should start by doing small amounts of physical activity, and gradually increase the frequency, intensity and duration over time.
- Older adults should be as physically active as their functional ability allows, and adjust their level of effort for physical activity relative to their level of fitness.

In older adults, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality, and incidence of cardiovascular disease, cancer and incidence of type-2 diabetes.

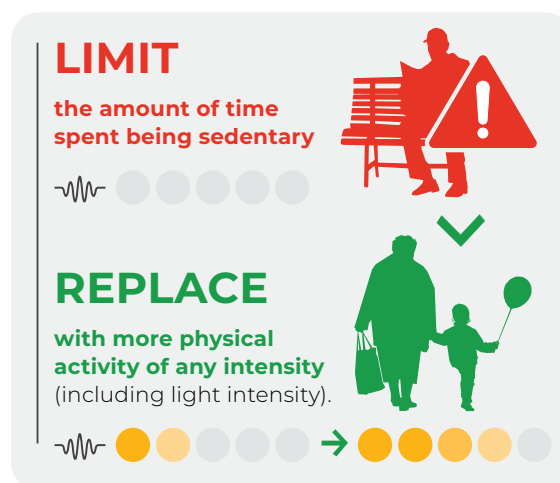
It is recommended that:

➤ Older adults should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.

*Strong recommendation, moderate certainty evidence*

➤ To help reduce the detrimental effects of high levels of sedentary behaviour on health, older adults should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity.

*Strong recommendation, moderate certainty evidence*



# PREGNANT AND POSTPARTUM WOMEN



In pregnant and postpartum women, physical activity during pregnancy and postpartum confers benefits on the following maternal and fetal health benefits: decreased risk of pre-eclampsia, gestational hypertension, gestational diabetes, excessive gestational weight gain, delivery complications and postpartum depression, and fewer newborn complications, no adverse effects on birthweight; and no increase in risk of stillbirth.

It is recommended that all pregnant and postpartum women without contraindication should:

## › Undertake regular physical activity throughout pregnancy and postpartum.

*Strong recommendation, moderate certainty evidence*



## › Do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week for substantial health benefits.

*Strong recommendation, moderate certainty evidence*

## › Incorporate a variety of aerobic and muscle-strengthening activities. Adding gentle stretching may also be beneficial.

*Strong recommendation, moderate certainty evidence*

In addition:

## › Women who, before pregnancy, habitually engaged in vigorous-intensity aerobic activity, or who were physically active, can continue these activities during pregnancy and the postpartum period.

*Strong recommendation, moderate certainty evidence*





## GOOD PRACTICE STATEMENTS

- Doing some physical activity is better than doing none.
- If pregnant and postpartum women are not meeting the recommendations, doing some physical activity will benefit their health.
- Pregnant and postpartum women should start by doing small amounts of physical activity, and gradually increase frequency, intensity and duration over time.
- Pelvic floor muscle training may be performed on a daily basis to reduce the risk of urinary incontinence.

## Additional safety considerations for pregnant women when undertaking physical activity are:

- Avoid physical activity during excessive heat, especially with high humidity.
- Stay hydrated by drinking water before, during, and after physical activity.
- Avoid participating in activities which involve physical contact; pose a high risk of falling; or might limit oxygenation (such as activities at high altitude, when not normally living at high altitude).
- Avoid activities in supine position after the first trimester of pregnancy.
- When considering athletic competition, or exercising significantly above the recommended guidelines pregnant women should seek supervision from a specialist health-care provider.
- Pregnant women should be informed by their health-care provider of the danger signs alerting them as to when to stop; or to limit physical activity and consult a qualified health-care provider immediately should they occur.
- Return to physical activity gradually after delivery, and in consultation with a health-care provider, in the case of delivery by Caesarean section.

In pregnant and postpartum women, as in all adults, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality and incidence of cardiovascular disease, cancer and incidence of type-2 diabetes.

**LIMIT**

the amount of time spent being sedentary

**REPLACE**

with physical activity of any intensity (including light intensity).



It is recommended that:

- › Pregnant and postpartum women should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.

*Strong recommendation, low certainty evidence*

**Doing some physical activity is better than doing none.**



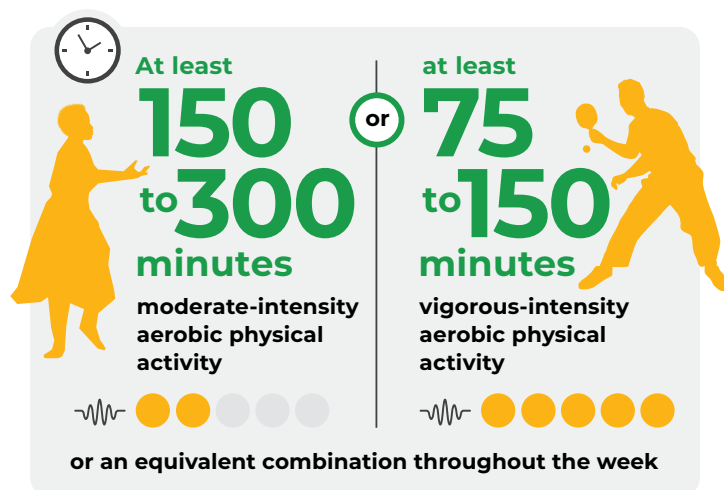
# ADULTS AND OLDER ADULTS WITH CHRONIC CONDITIONS (aged 18 years and older)



Physical activity can confer health benefits for adults and older adults living with the following chronic conditions: **for cancer survivors** – physical activity improves all-cause mortality, cancer-specific mortality, and risk of cancer recurrence or second primary cancer; **for people living with hypertension** – physical activity improves cardiovascular disease mortality, disease progression, physical function, health-related quality of life; **for people living with type-2 diabetes** – physical activity reduces rates of mortality from cardiovascular disease and indicators disease progression; and **for people living with HIV** – physical activity can improve physical fitness and mental health (reduced symptoms of anxiety and depression), and does not adversely affect disease progression (CD4 count and viral load) or body composition.

It is recommended that:

- › **All adults and older adults with the above chronic conditions should undertake regular physical activity.** *Strong recommendation, moderate certainty evidence*

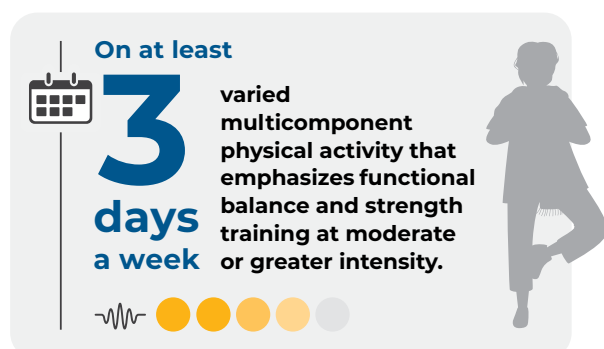


- › **Adults and older adults with these chronic conditions should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for substantial health benefits.**

*Strong recommendation, moderate certainty evidence*

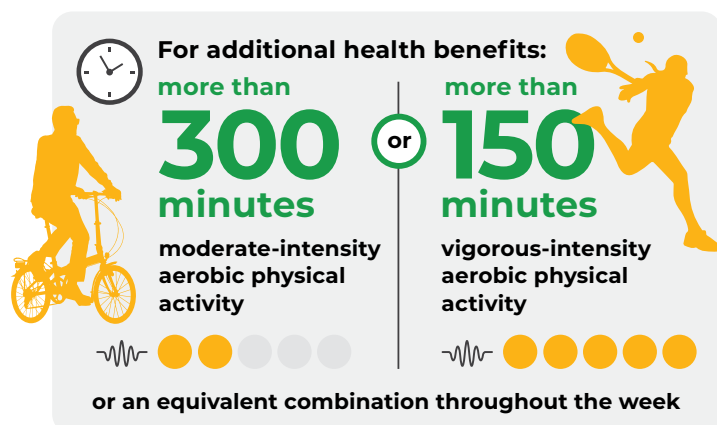
- › **Adults and older adults with these chronic conditions should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional benefits.**

*Strong recommendation, moderate certainty evidence*



- › **As part of their weekly physical activity, older adults with these chronic conditions should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity on 3 or more days a week, to enhance functional capacity and prevent falls.**

*Strong recommendation, moderate certainty evidence*



➤ When not contraindicated, adults and older adults with these chronic conditions may increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.

*Conditional recommendation, moderate certainty evidence*

**GOOD PRACTICE STATEMENTS**

- When not able to meet the above recommendations, adults with these chronic conditions should aim to engage in physical activity according to their abilities.
  - Adults with these chronic conditions should start by doing small amounts of physical activity and gradually increase the frequency, intensity and duration over time.
  - Adults with these chronic conditions may wish to consult with a physical activity specialist or health-care professional
- Pre-exercise medical clearance is generally unnecessary for individuals without contraindications prior to beginning light- or moderate-intensity physical activity not exceeding the demands of brisk walking or everyday living.

In adults, including cancer survivors and people living with hypertension, type-2 diabetes and HIV, higher amounts of sedentary behaviour are associated with the following poor health outcomes: all-cause mortality, cardiovascular disease mortality and cancer mortality, and incidence of cardiovascular disease, cancer and incidence of type-2 diabetes.

For cancer survivors, and adults living with hypertension, type-2 diabetes and HIV, it is recommended that:

➤ **Adults and older adults with chronic conditions should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.**

*Strong recommendation, low certainty evidence*

➤ **To help reduce the detrimental effects of high levels of sedentary behaviour on health, adults and older adults with chronic conditions should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity.**

*Strong recommendation, low certainty evidence*

