

PLAY.

SPORT.

AUSTRALIA.

AusPlay

Derivation of physical activity guideline items using AusPlay

In AusPlay, respondents are asked a series of questions for each of the activities they self-identify as having participated in, including:

- The total number of times they participated in that activity in the 12 months prior to interview (**Frequency**); and
- The duration of their most recent session of that activity (**Duration**)

Using research from the United States Centers for Disease Control and Prevention on [physical activities defined by level of intensity](#) as a reference, the Australian Sports Commission classified AusPlay activities into two categories: 1) Moderate activity; and 2) Vigorous activity, where:

- 1) Moderate activity = 3.0 to 6.0 metabolic equivalent (MET), with approximately 3.5 to 7 kcal/min; and
- 2) Vigorous activity = greater than 6.0 MET, with more than 7 kcal/min

One MET is defined as the energy expenditure for sitting quietly which, for the average adult, approximates to 3.5ml of oxygen uptake per kilogram of body weight per minute (1.2 kcal/min for a 70kg individual). So, for example, a 2-MET activity requires two times the energy expenditure of sitting quietly.

From this information the following items were derived:

Total minutes of moderate activity =
Frequency x Duration of moderate activity 1
+
Frequency x Duration of moderate activity 2
+
...

Total minutes of vigorous activity =
Frequency x Duration of vigorous activity 1 +
Frequency x Duration of vigorous activity 2 +
...

Total minutes of equivalent moderate activity =
Total minutes of moderate activity +
Total minutes of vigorous activity x 2

Total minutes of equivalent moderate activity per week (**Minutes**) =
Total minutes divided by 52

Whether met physical activity guideline

For 0 year old:

- Sufficiently active for health = Minutes > 0
- Inactive = 0 minutes

For 1-4 years old:

- Sufficiently active for health = Minutes \geq 1260 & Frequency \geq 364
- Insufficiently active = 1-1260 minutes OR 1260 minutes or more but frequency < 364
- Inactive = 0 minutes

For 5-17 years old:

- Sufficiently active for health = Minutes \geq 420 & Frequency \geq 364
- Insufficiently active = 1-419 minutes OR 420 minutes or more but frequency < 364
- Inactive = 0 minutes

For 18-64 years old:*

- Sufficiently active for health = Minutes \geq 150 & Frequency \geq 260
- Insufficiently active = 1-149 minutes OR 150 minutes or more but frequency < 260
- Inactive = 0 minutes

For 65 years and over:

- Sufficiently active for health = Minutes \geq 210 & Frequency \geq 364
- Insufficiently active = 1-210 minutes OR 210 minutes or more but frequency < 364
- Inactive = 0 minutes

*This derivation does not consider whether the respondent had participated in any strength or toning activities in the last week, as suggested by the guideline.