

SMOKE POLLUTION AND EXERCISE

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With smoke haze from bushfires across some states and territories causing unprecedented conditions and expected to continue, the Australian Institute of Sport has developed a helpful tool which will assist coaches, support staff and athletes to better understand how bushfire smoke can affect air quality, and to allow for a more informed decision-making process when determining if it is safe to train or play sport.

The impact of bushfire smoke can vary significantly based on an individual's current health and previous medical conditions as well as the current air pollution levels, so there is not a one size fits all approach. The guidelines provide recommendations based on the current air quality index (AQI), with suggested modifications to training schedules based on the severity of the air pollution.

For healthy individuals, the AIS recommends that if the AQI reading is above 150, outdoor training should be rescheduled indoors, and exposure minimised as much as possible. Asthmatics should not compete or train outdoors if the AQI is between 100 and 149. The table below provides a suggested risk strategy for both the general population, low intensity exercise and endurance based high intensity exercise.

There are many factors that contribute to readings found on State and Territory websites, air-quality apps and handheld devices. The numbers on the table below are a guide and should not be taken as absolutes. There is a need to use common sense in assessing the environment and utilising other factors such as visibility in making a decision about whether or not exercise is appropriate.

Links to AQI readings for Melbourne and Victoria:

Melbourne - <https://aqicn.org/city/melbourne/>

Victoria - <http://aqicn.org/map/victoria/>

Air Quality Index and suggested risk stratification adapted from NSW Public Health Unit:

General population & low intensity exercise:		Endurance based & high intensity exercise:
AQI	Action	AQI
VERY GOOD (0-33)	Enjoy activities	VERY GOOD (0-33)
GOOD (34-66)	Enjoy activities	GOOD (34-66)
FAIR (67-99)	People unusually sensitive to air pollution: Plan strenuous outdoor activities when air quality is better	FAIR (67-99)
POOR (100-149)	AIR POLLUTION HEALTH ALERT Sensitive groups: Avoid strenuous outdoor activities Everyone: Cut back or reschedule strenuous outdoor activities	VERY POOR (100-149)
VERY POOR (150-200)	AIR POLLUTION HEALTH ALERT Sensitive groups: Avoid strenuous outdoor activities Everyone: Cut back or reschedule strenuous outdoor activities	HAZARDOUS (150-200)
HAZARDOUS (>200)	AIR POLLUTION HEALTH ALERT Sensitive groups: Avoid strenuous outdoor activities Everyone: Significantly cut back on outdoor physical activities	

Activity levels based on visibility, air health category and smoke sensitivity:

If you do not have access to EPA AirWatch/AQI reading, or the EPA monitor is not operational for your location, the amount of smoke in the air can be assessed by the visibility of nearby landmarks remembering to always keep in mind an individual's experience of sensitivity to smoke pollution.

The following visibility guidelines should be considered in conjunction with the information from the above table.

Activity levels based on visibility – Sourced from the Environment Protection Authority Victoria:

Visible Landmark:	Air Health Category:	Activity Levels – People sensitive to smoke:	Activity Levels – Everyone else:
About 20 km	Good	It's a good day to be outside.	It's a good day to be outside.
About 10 km	Moderate	It's okay to be outside but watch for changes in air quality around you.	It's okay to be outside but watch for changes in air quality around you.
About 5 km	Poor	Reduce prolonged or heavy physical activity.	Normal activity, but be alert to changes in air quality.
About 1.5 km	Very poor	Avoid physical activity outdoors.	Reduce prolonged or heavy physical activity.
Less than 1.5 km	Hazardous	If you can, stay indoors and keep physical activity levels as low as possible.	Avoid all physical activity outdoors.

For more information about the Australian Institute of Sports position statement on smoke pollution and exercise click on the link below.

https://ais.gov.au/position_statements#smoke_pollution_and_exercise