

Rowing Victoria Competition Air Quality Guidelines

Air pollution can pose a health risk to members of rowing, whether they be rowers, coaches, officials, spectators and volunteers. The health impact of bushfire smoke can differ based on an individual's current health status and previous medical conditions.

Current public health advice is aimed at high-risk groups, including people over 65, children 14 years and younger, pregnant women and those with existing heart or lung conditions. However, rowers involved in sport can also be at higher risk while performing high intensity prolonged exercise outdoors and additional caution should be taken.

When pollution exposure is at low levels, the respiratory tract usual defence mechanisms trap, transports and clear pollutants effectively. With elevated exposure, short-term accumulation can occur resulting in inflammation and this can exacerbate a number of health conditions with asthma being the most common.

During exercise, respiratory rate and volume increases, this in turn increases the total airway exposure to pollutants. During performance, moderate exercise can increase the total amount of air passing through the airway by more than 10 times and vigorous exercise by more the 20 times, compared to resting values. Even at moderately reduced air quality, this can represent a significant increase in pollutant exposure during a one-hour, high intensity training session.

Air Quality Index (AQI)

The AQI is an accepted means of quantifying air quality by public health authorities encompassing:

- Air pollution levels at your nearest monitoring site or region
- The common contributing pollutants
- The overall health risk associated with a given rating

Each club, school, or association can access live online updates on current, local AQI levels. The AQI evaluates the current level of air quality with general advice on implications for individuals. When performing extended higher intensity exercise, the risk of airway irritation is higher at lower levels of pollution. The table below is a suggested modification of the current VIC public health guidelines for those training outdoors at higher exercise intensities and longer durations.

Endurance based and high intensity exercise – Conversion Chart PM2.5 -AQI

PM2.5	AQI	Action
VERY GOOD (0-8)	VERY GOOD (0-33)	Enjoy activities
GOOD (8.1-19.5)	GOOD (34-66)	Enjoy activities
MODERATE (20-35)	MODERATE (67-99)	Asthmatic athletes: Should have medical review prior to performing high intensity extended training outdoors
POOR (35.5-55)	POOR (100-149)	<i>AIR POLLUTION HEALTH ALERT</i> Asthmatics or symptomatic non-asthmatics should not compete or train outdoors. Minimise asymptomatic athlete exposure
VERY POOR (>55.5)	VERY POOR (>150)	<i>AIR POLLUTION HEALTH ALERT</i> Outdoor training should be rescheduled indoors, and exposure should be minimised for everyone

Regattas Sanctioned by Rowing Victoria

PM2.5	AQI	Action
VERY GOOD (0-8)	VERY GOOD (0-33)	Enjoy your race
GOOD (8.1-19.5)	GOOD (34-66)	Enjoy your race
MODERATE (20-35)	MODERATE (67-99)	<p>People unusually sensitive to air pollution: Refer to the individual guidelines in the table above</p> <p>Everyone: Competitors may scratch from racing without penalty</p>
POOR (35.5-55)	POOR (100-149)	<p><i>AIR POLLUTION HEALTH ALERT</i></p> <p>Everyone: Refer to the individual guidelines in the table above</p>
VERY POOR (>55.5)	VERY POOR (>150)	<p><i>AIR POLLUTION HEALTH ALERT</i></p> <p>Everyone: Regattas are to be suspended/cancelled at the discretion of the Chief Umpire</p>

The following links will be useful in helping you determine your region's air quality;

<https://www.airvisual.com/australia/victoria>

<https://www.epa.vic.gov.au/for-community/airwatch?siteId=8413d21d-5440-4f2b-81f9-2e5cfb8620d0>

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

Additional Information

- Air quality information is generally updated either hourly or every three hours; therefore, there can be a lag between official measurements and what is occurring in real time. This can cause limitations when it comes to determining the air quality in your local environment. If smoke is affecting usual visibility within your area, it is likely that the air quality will fall into a higher risk category.
- Consecutive days of exposure to polluted air can have a cumulative effect, lowering individual's threshold for symptoms. This should be considered if your region has been exposed to increased smoke for several days in succession
- Increases in exercise intensity and duration result in increased airway exposure to polluted air. The Australian Institute of Sport recommends modifying training, or training locations based on table 1.
- All participants who suffer from asthma should have an updated asthma management plan and consult their doctor prior to exercising in pollution-affected environments.
- Recent respiratory infection increases the risk for development of smoke-related symptoms, even in non-asthmatics.