AIR QUALITY

Background

The Division believes in optimum health and safety for all stakeholders. Monitoring air quality is an important element in contributing to the well-being of all. As part of the Division`s duty to ensure the health and safety of students, staff, volunteers and visitors, this procedure outlines what staff should consider in assessing air quality during physical/strenuous activities/events, provides awareness of potential health impacts and outlines actions to be taken following an alert or advisory issued in our Division or following a poor Air Quality Health Index (AQHI) alert from the nearest station to any division site. Background information about AQHI, Exercise-Induced Bronchoconstriction (EIB) and asthma management is also provided.

1. The Air Quality Health Index (AQHI) is a web-based, risk management tool which describes a local reading of air quality as it relates to human health. While the index number for a location can rise into the triple digits, anything over "7" is of primary concern. Air quality advisories and alerts in the Division resulting in actions needing to be taken to protect portions of the population have become a fairly common seasonal occurrence.

2. Health Canada recommends that if the AQHI is above "7", strenuous activities or events should be rescheduled or canceled.

3. The AQHI treats anything above "10+" as "very high" with health messages for the "general" and "at risk" populations to reschedule all outdoor activities – strenuous or not.

4. Individuals tend to rely on sensory perception to evaluate air quality when, in fact, the pollutants that present the greatest harm to human health are difficult to see or smell (e.g. ground level ozone).

5. Exercise-Induced Bronchospasm is a sudden narrowing of the airways in response to vigorous exercise. It may occur in some individuals who have no pre-existing diagnosis of asthma. Most obvious symptoms include wheezing, prolonged shortness of breath, tightness in chest, coughing, extreme fatigue, and chest pain.

6. Asthma sufferers should monitor their symptoms before beginning any type of strenuous activity (no coughing, shortness of breath, wheezing, etc.) and have no other respiratory concerns (common cold, etc.). Symptoms of a severe asthma emergency include: struggling to breathe, rescue inhaler does not help, cannot speak/finish sentences, nostrils flaring out, fainting, severe fatigue, blue lips and nails, and unconsciousness.

7. **Possible Causes of Poor AQHI -** Be aware of the weather and other conditions by considering the following:
   a. Current forest fires;
   b. Local burning of stubble on fields or agricultural fields can increase particulate matter in the air without impacting the AQHI for a city;
   c. Sudden and dramatic changes in wind strength and direction;
   d. Proximity of any major road or highway; and
   e. Near or downwind of any industrial areas or any other significant emission sources.

Procedures

1. AQHI will be regularly monitored via the Alberta website http://environment.alberta.ca/apps/aqhi/aqhi.aspx (APP also available). Once on the website or APP, check the AQHI for the station closest to your site or sites where the activities are scheduled.

2. Note the station, time, and date and index calculation.

3. Use the index calculation that is within one hour of the scheduled kick-off of the activity or event. Note that updates usually occur hourly (at the top of the hour).

4. High pollution areas should be avoided, and alternative sites for physical/strenuous activities should be considered as a strategy for staying away from air pollution.

5. If air quality changes drastically (wind direction change or sudden smoke event) during a physical/strenuous activity, School Administrator(s) / staff are required to stop all strenuous activities immediately if the AQHI reaches "7" and above.

6. When School Administrator(s) or staff realizes that the AQHI at their site is "7" and above, they should take immediate required action and notify the Safety Coordinator or the Director of Communications.

7. When air quality alerts are made impacting the Division, messaging will go out from the Director of Communications or Safety Coordinator to School Administrator(s) to ensure they are aware of the alert and actions required.

8. Health Risk	Air Quality Health Index (AQHI)	Health Messages	
		At Risk Population (People with heart or breathing problems are at greater risk. Follow your doctor's usual advice about exercising and managing your condition.)	**General Population**
Low	1 - 3	**Enjoy** your usual outdoor activities.	**Ideal** air quality for outdoor activities.
Moderate	4 - 6	**Consider reducing** or rescheduling strenuous activities outdoors if you are experiencing symptoms. Those at risk should participate in indoor recess only.	**No need to modify** your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.
High	7 - 10	**Outdoor recess/activities must be moved** inside for all students.	**Outdoor recess/activities must be moved** inside for all students.
Very High	Above 10	**No** outdoor activities.	**No** outdoor activities.

8.1 If air quality index is "3" or below, no action is required - continue with all activities as normal.

8.2 If air quality is an index of "4 - 6" then be prepared to adjust the activity by:
    8.2.1 reducing the intensity;
    8.2.2 reducing the duration of the activity;
    8.2.3 providing resting periods; and
    8.2.4 consider cancelling outdoor activities for at-risk students and staff.

8.3 In keeping with provincial athletics associations, the Division will observe an AQHI of "7" as the threshold by which all outdoor activities are rescheduled or cancelled.

Reference: Environment Canada, Air Quality Health Index (AQHI) Printed Publications (retrieved from http://www.ec.gc.ca/cas-aqhi/default.asp?lang=En&n=47327A59-1)
Government of Alberta, Alberta Air Quality Health Index app https://itunes.apple.com/ca/app/alberta-air-quality-health/id734013589?mt=8
Government of Alberta, Air Quality Health Index (retrieved from http://aep.alberta.ca/air/air-quality-health-index/default.aspx)