



GARIS PANDUAN ISN

PENGURUSAN AKTIVITI SUKAN DAN AKTIVITI FIZIKAL SEMASA JEREBU

BAGI ATLET KEBANGSAAN DAN ORANG AWAM
CADANGAN KERANGKA ISN – 2026

INSTITUT SUKAN NEGARA (ISN)
KEMENTERIAN BELIA DAN SUKAN MALAYSIA



TUJUAN

Garis panduan ini menyediakan kerangka pengurusan latihan sukan, pertandingan dan aktiviti fizikal semasa keadaan jerebu. Garis panduan ini bertujuan meminimumkan pendedahan kepada bahan pencemar udara, di samping membolehkan aktiviti fizikal diteruskan pada tahap yang bersesuaian apabila keadaan mengizinkan.

Indeks Pencemaran Udara (IPU) Malaysia digunakan sebagai rujukan utama. Tindakan yang disyorkan hendaklah turut mengambil kira intensiti dan tempoh aktiviti, keadaan persekitaran serta keadaan kesihatan dan kerentanan individu.

Nota: Paras IPU yang dinyatakan dalam garis panduan ini merupakan aras tindakan bagi tujuan pengurusan risiko dan tidak harus ditafsirkan sebagai ambang perubahan risiko biologi yang mutlak.

TINDAKAN BERDASARKAN IPU

ATLET KEBANGSAAN

IPU	TAHAP RISIKO	TINDAKAN DISYORKAN
0-100	Rendah	TERUSKAN - Latihan boleh dijalankan seperti biasa. Pemantauan kualiti udara hendaklah diteruskan.
101-200	Meningkat	UBAHSUAI - Kurangkan intensiti dan/atau tempoh latihan. Elakkan latihan luar yang berpanjangan atau berintensiti tinggi. Pertimbangkan latihan di dalam bangunan.
201-300	Tinggi	ELAKKAN LATIHAN LUAR - Latihan hendaklah dipindahkan ke dalam bangunan atau ke lokasi yang mempunyai kualiti udara lebih baik. Program latihan hendaklah diubah suai mengikut kesesuaian.
>300	Sangat Tinggi / Berbahaya	HENTIKAN / PINDAHKAN - Hentikan latihan luar. Pertimbangkan pemindahan lokasi latihan, latihan pemulihan atau aktiviti alternatif yang bersesuaian. Patuhi arahan kesihatan awam yang berkaitan.

Tahap langkah berjaga-jaga hendaklah ditingkatkan sekiranya latihan melibatkan intensiti tinggi atau tempoh yang panjang, kualiti udara semakin merosot, atlet mempunyai asma atau penyakit respiratori/kardiovaskular yang signifikan, atau atlet mengalami gejala respiratori atau gejala lain yang membimbangkan.

ORANG AWAM

IPU	TINDAKAN DISYORKAN
0-50	Aktiviti luar boleh diteruskan seperti biasa.
51-100	Aktiviti boleh diteruskan seperti biasa dengan pemantauan keadaan kesihatan dan kualiti udara.
101-200	Kurangkan aktiviti luar yang lasak dan berpanjangan, khususnya bagi golongan berisiko tinggi.
201-300	Elakkan aktiviti luar yang lasak. Golongan berisiko tinggi hendaklah meminimumkan pendedahan di luar.
301-400	Sebaiknya berada di dalam bangunan dan kurangkan pendedahan di luar.
401-500	Berada di dalam bangunan seboleh mungkin dan ikuti nasihat pihak berkuasa kesihatan.
>500	Ikuti arahan kecemasan dan kesihatan awam yang berkuat kuasa.

LANGKAH PENCEGAHAN UTAMA

Bagi Atlet & Orang Awam

- Pantau bacaan IPU secara berkala, terutama sebelum dan semasa aktiviti luar yang berpanjangan.
- Kurangkan tempoh aktiviti apabila kualiti udara semakin merosot.
- Kurangkan intensiti aktiviti fizikal mengikut keadaan kualiti udara.
- Utamakan aktiviti di dalam bangunan atau lokasi yang mempunyai kualiti udara lebih baik.
- Pastikan pengambilan air mencukupi sepanjang aktiviti.
- Elakkan pendedahan yang tidak perlu apabila keadaan jerebu/kualiti udara semakin merosot.
 - Semasa berada dalam kenderaan: Tutup semua tingkap.
 - Gunakan penghawa dingin.
 - Pilih mod kitaran udara dalaman (recirculation).

Latihan di Dalam Bangunan

Apabila latihan dipindahkan ke dalam bangunan:

- Utamakan kemudahan berhawa dingin, jika tersedia.
- Pilih kemudahan dengan sistem pengudaraan yang baik.
- Utamakan ruang yang mempunyai sistem penapisan atau pembersihan udara yang sesuai.
- Pantau kualiti udara dalaman, khususnya bagi:
 - Sesi latihan yang berpanjangan.
 - Latihan berintensiti tinggi.
- Pastikan ruang latihan tidak terlalu tertutup atau mempunyai kualiti udara dalaman yang kurang baik.

PERTIMBANGAN PERUBATAN

Atlet yang mempunyai asma atau penyakit respiratori/kardiovaskular yang signifikan hendaklah mempunyai pelan pengurusan jerebu yang disesuaikan dengan keadaan individu.

Aktiviti hendaklah dihentikan dan penilaian perubatan dilakukan sekiranya atlet mengalami sesak nafas luar biasa, bunyi nafas berbunyi (wheezing), rasa ketat di dada, batuk berterusan, sakit dada, pening atau gejala lain yang membimbangkan.

PEMINDAHAN LOKASI LATIHAN

Bagi keadaan jerebu yang berpanjangan, khususnya bagi sukan yang memerlukan latihan di luar, pertimbangan hendaklah diberikan kepada lokasi latihan alternatif dalam negara, latihan di dalam bangunan, pemindahan ke lokasi yang mempunyai kualiti udara lebih baik, atau latihan di luar negara sekiranya pendedahan berpanjangan dijangka menjejaskan kesihatan dan persediaan prestasi tinggi atlet.

PRINSIP MEMBUAT KEPUTUSAN

SEMAK IPU → NILAI ATLET → NILAI LATIHAN → UBAHSUAI / PINDAH / HENTIKAN

Keputusan hendaklah dibuat secara bersama oleh jurulatih, atlet dan pasukan perubatan/prestasi tinggi, dengan mengambil kira tahap kualiti udara, intensiti dan tempoh latihan, keadaan kesihatan atlet serta ketersediaan persekitaran latihan yang lebih selamat.

Prinsip Utama: Matlamatnya adalah untuk meminimumkan pendedahan atlet kepada bahan pencemar udara serta melindungi kesihatan dan keselamatan mereka, di samping membolehkan latihan diteruskan pada tahap yang bersesuaian mengikut keadaan kualiti udara.

RUJUKAN

1. Kementerian Kesihatan Malaysia (KKM). Kekal Aktif Walaupun Keadaan Berjerebu. 2025.
2. Kementerian Kesihatan Malaysia (KKM). Langkah-langkah Pencegahan Semasa Jerebu. 2025.
3. Australian Institute of Sport (AIS). Exercise in Bushfire Smoke for High Performance Athletes - Position Statement. 2023.
4. Sport Singapore (SportSG). Haze Management Plan. 2026.
5. World Health Organization (WHO). WHO Global Air Quality Guidelines: Particulate Matter (PM_{2.5} and PM₁₀), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide. 2021.
6. United States Environmental Protection Agency (US EPA). Air Quality Index (AQI) and Air Quality Guidance for Physical Activity.

Tarikh dikemaskini: 1 September 2026



ISN GUIDELINE

GUIDELINE FOR SPORTS AND PHYSICAL ACTIVITY DURING HAZE

FOR NATIONAL ATHLETES AND GENERA PUBLIC
PROPOSED ISN FRAMEWORK - 2026

INSTITUT SUKAN NEGARA (ISN)
KEMENTERIAN BELIA DAN SUKAN MALAYSIA



PURPOSE

This guideline provides a practical framework for managing sports training, competition and physical activity during haze episodes. It aims to minimise exposure to air pollutants while allowing appropriate continuation of physical activity where conditions permit.

The Malaysian Air Pollution Index (IPU) is used as the primary reference. Recommended action should also consider exercise intensity, duration, environmental conditions and individual susceptibility.

Important: The IPU action levels are operational thresholds for risk management and should not be interpreted as discrete biological thresholds.

ACTION BASED ON IPU

NATIONAL ATHLETES

IPU	RISK LEVEL	RECOMMENDED ACTION
0-100	Low	NORMAL - Training may proceed as planned. Continue monitoring air quality.
101-200	Increased	MODIFY - Reduce training intensity and/or duration. Avoid prolonged or high-intensity outdoor sessions. Consider indoor alternatives.
201-300	High	AVOID OUTDOOR TRAINING - Move training indoors or to a location with better air quality. Modify training programme as appropriate.
>300	Very High / Hazardous	SUSPEND / RELOCATE - Suspend outdoor training. Consider relocation, recovery-based training or other suitable alternatives. Follow relevant public-health directives.

Escalate the level of precaution when training is prolonged or high intensity, air quality is deteriorating, the athlete has asthma or significant respiratory/cardiovascular disease, or the athlete develops respiratory or other concerning symptoms.

GENERAL PUBLIC

IPU	RECOMMENDED ACTION
0-50	Normal outdoor activities may continue.
51-100	Normal activities may continue; continue monitoring.
101-200	Reduce strenuous and prolonged outdoor activity, particularly for high-risk individuals.
201-300	Avoid strenuous outdoor activity. High-risk individuals should minimise outdoor exposure.
301-400	Preferably remain indoors and minimise outdoor exposure.
401-500	Remain indoors as far as possible and follow advice from health authorities.
>500	Follow emergency and public-health directives.

KEY PRECAUTIONARY MEASURES

For Athletes & the Public

- Monitor the Air Pollutant Index (API/IPU) regularly, especially before and during prolonged outdoor activities.
- Reduce the duration and intensity of physical activity when air quality deteriorates.
- Prefer indoor activities or locations with better air quality when appropriate.
- Maintain adequate hydration before, during and after physical activity.
- Avoid unnecessary exposure when air quality continues to worsen.
 - When travelling in a vehicle: Keep the windows closed.
 - Use the air-conditioning system.
 - Use the internal air recirculation mode, where appropriate.

Indoor Training

When training is moved indoors:

- Prioritise facilities with appropriate air-conditioning, where available.
- Ensure adequate ventilation within the training environment.
- Prefer facilities equipped with appropriate air filtration or air-cleaning systems, where available.
- Consider and monitor indoor air quality, particularly during:
 - Prolonged training sessions.
 - High-intensity training sessions.
- Ensure the indoor environment remains comfortable, adequately ventilated and suitable for physical activity.

MEDICAL CONSIDERATIONS

Athletes with asthma or significant respiratory/cardiovascular conditions should have an individualised haze-management plan.

Exercise should be stopped and medical assessment sought if the athlete develops unusual shortness of breath, wheezing, chest tightness, persistent cough, chest pain, dizziness or other concerning symptoms.

TRAINING RELOCATION

For prolonged haze episodes, particularly for sports requiring outdoor training, consider alternative local venues, indoor training, relocation to areas with better air quality, or overseas training where prolonged exposure would significantly affect health and high-performance preparation.

DECISION-MAKING PRINCIPLE

CHECK IPU → ASSESS ATHLETE → ASSESS TRAINING → MODIFY / RELOCATE / SUSPEND

The decision should be made jointly by the coach, athlete and medical/high-performance team, taking into account air quality, training intensity and duration, athlete susceptibility and the availability of a safer training environment.

Key Principle: The aim is not to stop training unnecessarily, but to minimise pollutant exposure while protecting athlete health and maintaining training quality.

REFERENCES

1. Kementerian Kesihatan Malaysia (KKM). Kekal Aktif Walaupun Keadaan Berjerebu. 2025.
2. Kementerian Kesihatan Malaysia (KKM). Langkah-langkah Pencegahan Semasa Jerebu. 2025.
3. Australian Institute of Sport (AIS). Exercise in Bushfire Smoke for High Performance Athletes - Position Statement. 2023.
4. Sport Singapore (SportSG). Haze Management Plan. 2026.
5. World Health Organization (WHO). WHO Global Air Quality Guidelines: Particulate Matter (PM_{2.5} and PM₁₀), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide. 2021.
6. United States Environmental Protection Agency (US EPA). Air Quality Index (AQI) and Air Quality Guidance for Physical Activity.

Last updated: 1 September 2026