

# CLEAR TO STEER

Motorsport Australia  
Hydration Awareness  
Program



MEMBER OF





# The Clear to Steer Initiative

**It is with great pleasure that I introduce our Clear to Steer program. This is an important initiative linked directly to the Motorsport Australia Safety 1st Strategy and is underpinned by robust research conducted by AIMSS.**

This research drew attention to an issue with dehydration and this program is aimed specifically at increasing awareness and education around this very important safety issue.

I encourage you to embrace this proactive approach to recognising the effects, symptoms and treatment for dehydration. While the provision of a water bottle and urine colour charts may be seen as a small token of our commitment and support to our members, they are both important items symbolising our focus on the safety and welfare of our members and I implore you to join us in this objective.

I am sure this initiative will generate a lot of discussion which I strongly encourage, as 'safety is all of our responsibility' and the effects of dehydration can adversely affect us all if not managed.

This program also reflects the importance of AIMSS undertaking broad ranging research in the sport, the outcomes of which will continue to inform our decision making and safety initiatives.

Let us all share the Clear to Steer message and continue to enjoy a safe involvement with motorsport.

**Eugene Arocca**  
Chief Executive Officer

*The effects of dehydration can adversely affect us all if not managed.*



# Clear to Steer: What it is

Australia is a hot place, and not just in the summer.

**Year-round, motorsport participants – drivers, crews and officials – find themselves in hot, humid and sometimes poorly-ventilated environments.**

We know we need protection from the heat. We're all familiar with the mantra of "slip, slop, slap and shade" for sun protection. In addition, the awareness that we need to drink plenty of water is integral to our safety culture. But how do we know if we are properly hydrated?

Clear to Steer is a hydration awareness program, an initiative of Motorsport Australia.

Part of Motorsport Australia's Safety 1<sup>st</sup> Strategy, Clear to Steer aims to:

- decrease the risk of dehydration and heat illness in participants at motorsport events by increasing safe hydration policies, environments, knowledge, skills and behaviours
- support the health and wellbeing of Motorsport Australia members by providing hydration packs
- promote goodwill by supporting the active involvement of all volunteers in managing their safety and wellbeing
- promote the benefits of AIMSS (Australian Institute of Motor Sport Safety) by capitalising on recent research.



# Understand the Risks

Clear to Steer will help event organisers, officials, volunteers, competitors and crews to understand the causes and effects of heat illness and dehydration, and to take simple steps to minimise the risks during hot or humid weather.

## What is heat illness, what are the signs and how does it affect me?

Heat illness is not a trivial condition. Untreated, it may lead to life-threatening heat stroke.

Heat illness in sport manifests itself as heat exhaustion or the more severe heat stroke, both of which have possible dire consequences due to the loss of normal functioning and skill.

The danger of heat illness is increased by exposure to risks that prevent your body from cooling:

- temperatures above 35°C, preventing discharge of heat into the atmosphere
- humidity above 50%, preventing evaporation of sweat
- poor or no ventilation, preventing evaporation of sweat
- physical activity of high intensity and long duration that elevates the body's core temperature

## Signs and symptoms of heat illness and heat stroke

- ashen pale grey skin
- light headedness, dizziness
- headaches
- nausea
- rapid heart rate
- confusion
- aggressive or irrational behaviour
- loss of endurance, skill/clumsiness or unsteadiness
- collapse

Drivers, crews or officials showing combinations of the signs and symptoms of heat illness should be stopped and removed from the event and receive medical attention.



## The risk of heat illness increases with:

- increasing age
- decreasing fitness
- increasing body fat
- increasing sweat rates
- previous heat illness or heat intolerance episode
- current or recent infection
- chronic health disorders
- increasing air temperature and humidity
- decreasing ventilation
- increasing intensity and duration of the event
- heavy or protective clothing equipment
- decreasing acclimatisation to training or competing in warm, humid or unventilated conditions
- dehydration



# Useful Hints

Officials are often exposed to the possibility of heat illness, not only by the temperature of the day but by factors such as length of exposure, intensity of the sun (UV index) and physical intensity required by their task.

## To reduce the onset and effects of heat illness:

- take adequate rest breaks
- provide access to adequate supplies of cool drinking water
- drink 200ml of water at frequent intervals, but no more than 1.5 litres per hour
- provide adequate shade
- include a wide-brimmed hat with neck guard, sunscreen, sunglasses and a water bottle in your personal protection equipment
- cool off in low humidity with water mists from spray bottles
- rotate officials through work tasks and environments without disrupting the event
- remove heavy protective clothing such as balaclavas, racing suits when appropriate between events
- wear loose, light-coloured clothes made from wicked or natural fibres

Officials are required to discuss any concerns they may have regarding heat illness risks with the event organiser. Drivers and crew should discuss concerns with their team.

Please note there are requirements for apparel in the Motorsport Australia Manual under General Requirements for Cars and Drivers – Schedule D. These should be checked prior to participation in an event.



# First Aid for Treating Heat Illness

- Keep the person in a cool place and ensure they are lying down
- if conscious, give 200ml of water at frequent intervals up to a total of no more than 1500ml of water per hour. If nauseated, give frequent and small amounts of fluid
- if person is vomiting and cannot keep fluids down, get medical help urgently
- loosen garment and sponge body with cool water
- seek advice before returning to participate before returning to the event after apparent recovery

## Prevention of Heat Illness



### Hydrate

Drink fluids at regular intervals to keep your urine clear.



### Seek Shade

Take rest breaks in the shade regularly.



### Fitness

Keep physically fit.



### Slip, Slop, Slap

Slip on protective clothing, Slop on sunscreen, and Slap on a hat.

# What is Dehydration and how do I Avoid it?

Dehydration is fluid loss due to the normal functioning of the body, mainly via perspiration and breathing. It increases susceptibility to fatigue and muscle cramps. Inadequate fluid replacement before, during and after physical activity causes dehydration which may lead to fatigue, heat exhaustion or heat stroke.

Optimal hydration levels are vital, not just for motorsport participants to perform at their best physically and to maintain mental function; they also help ensure safety and maintain long-term general health.

Where participants, officials and volunteers are eating regular meals, plain water is the most appropriate drink. However, where food intake is restricted or in the event of extreme dehydration, some sodium-based drinks may be beneficial.

Fatigue and below-par performance due to dehydration creates a safety risk to the driver and to all other competitors, crew and officials at the event.

The most effective prevention for dehydration is adequate hydration prior to physical activity.







# Fast Facts about Dehydration

## Chronic long-term dehydration has been associated with:

- erosion of dental enamel
- kidney stones
- bladder cancer

Acute dehydration at 2% of body mass (ie, 1.5 litres for a 75kg person) has been demonstrated to cause physical and mental impairments in people of:

- significantly-impaired performance of simple arithmetic, memory and visual tasks
- significantly-decreased endurance
- significantly-increased heart rate, decreased sweat rate and heat loss
- dehydration is a significant risk factor for heat illness due to impaired dissipation of body heat

Experimental studies have shown that, during two hours of moderate aerobic exercise in a hot and humid environment, paced drinking of fluid (200ml every 15 minutes) at any temperature resulted in significantly-reduced core temperatures, compared to no fluids. Taking small amounts of fluid at regular intervals reduces the risk of heat illness.

## Useful hints

- continue to drink water away from the event to arrive hydrated for the next event or day
- do not wait until you feel thirsty before you drink – thirst is a poor indicator of dehydration
- ensure easy access to water – carry a water cooler as part of your personal equipment for the event
- regularly check your urine is clear to ensure you remain adequately hydrated (refer to the ‘What Colour is your Urine?’ card)
- add diet cordial to your water for a healthy change of flavor
- watch for dry mouth, headaches, inability to concentrate, dizziness
- reduce or eliminate alcohol and caffeine intake
- if you feel hot – slow down, cool off and drink water
- be aware of the effects of your medication in this environment



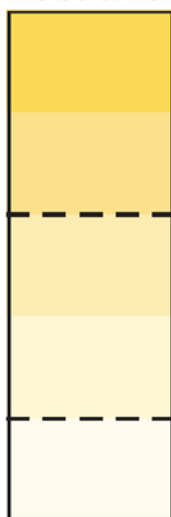
# In Summary

Heat illness can be reduced significantly or prevented simply by drinking adequate amounts of water prior to, during and after competition or officiating duties.

- The risk of heat illness is significantly greater when participants are exposed to hot, humid and poorly-ventilated environments, or where environments are hotter or more humid than usual
- Environmental conditions also may be exacerbated by tasks of high intensity and extended duration, length of time in direct sunlight and lack of access to adequate drinking water
- The hotter the environment or the longer you are 'at a task', the greater the amount of fluids you should consume
- Maintaining adequate hydration as marked by clear urine is the easiest way to avoid heat illness and an easy way to avoid any of the long-term effects and short-term symptoms (eg, headache and fatigue), and ultimately reduce the risk of injury or incident in a demanding environment

## What Colour is Your Urine?

It is recommended that you drink up to 1000 ml of water per hour and 500 ml of electrolyte replacement drink per hour depending on work rate. This is even more critical in hot conditions.



**Extremely dehydrated**  
**Immediately** drink 1.5 litre/hour of water alternated with electrolyte replacement drinks as per instructions, until your urine is clear.

**Mildly dehydrated**  
Drink 1.5 litre/hour of water alternated with electrolyte replacement drinks as per instructions, until your urine is clear.

**Hydrated**  
Keep drinking water, alternated with electrolyte replacement drinks as per instructions, to keep your urine clear.

**Make sure you're clear to steer.**

*Note: Urine colour may vary because of diet or supplements (e.g. multivitamins)*





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**Motorsport Australia**  
**275 Canterbury Rd, Canterbury VIC 3126**  
**Phone: +61 3 9593 7777 Hotline: 1300 883 959**  
**[motorsport.org.au](http://motorsport.org.au)**