Queensland Kendo Renmei

HOT WEATHER POLICY

Adapted from Sports Medicine Australia hot weather guidelines.

Document creation January 2020

Policy credit: Sports Medicine Australia has produced this set of guidelines. These guidelines are based on the latest research as well as the expertise of SMA's medical and scientific members.

The Queensland Kendo Renmei hot weather policy has been drafted and adapted to the specific demands of Kendo, Iaido and Jodo in Queensland using the SMA's guidelines

Heat stroke is potentially life threatening. Any indication of this condition should be immediately referred for medical assessment.

Background:

Most people understand the importance of physical activity for good health, but it is just as important that, when levels of activity rise, the risk of harm is minimised. This even more important for those who have not recently or regularly taken part in sport or physical activity. While these guidelines are not binding, members of the QKR and those that conduct training sessions, are reminded that all participants are to act responsibly, and that all coaches/instructors have a duty of care to their members.

We encourage a common-sense approach and consideration of the comfort and well-being of all individuals including participants and officials. Modification or cancellation of events, training or withdrawal from participation may be appropriate even in circumstances falling outside these recommendations.

All clubs need to be aware of the difficulty of settling "one rule fits all" guidelines in this area. For normally healthy active people, the dangers from heat illness are likely to arise from prolonged, high intensity exercise such as prolonged Ji-geiko and/or drills. This is particularly relevant to kendoka who are wearing full armour. The wearing of Men, Do, Tare and Kote will have significant bearing on the internal temperature of the player and the ability of his or her body to cool itself. These added elements **must** be taken into consideration when using the ASM guidelines during heat effected training sessions.

Circumstances that require increased vigilance by organisers, can be but are not limited to, participation in competitions, state or regional events and gradings. During these times members will want to strive harder to win or put on the best performance, and organisers need to take extra precautions.

However, at any time, high intensity exercise in a hot environment, with the associated elevation of body temperature, can lead to heat illness. Heat illness in sport presents as heat exhaustion or the more severe heat stroke. It is incumbent on us all, to ensure that members have access to water and are directed to hydrate and to allow their body to cool. It must be understood by all QKR members that simply hydrating yourself does NOT prevent heat stress. The body must be allowed time to cool down and reduce the bodies core temperature.
Those members responsible for leading training are to ensure that members understand that they can stop, rest and cool down. The old adage of "Guts it out", is not applicable, the QKR focus is our duty of care to our members.

Outside external temperature has a direct impact on the possibility of heat stress as this can be monitored. We must also be aware that the combination of high intensity exercise combined with the wearing of Kendo armour in a humid and hot environment leads to an elevation of body temperature, which may lead to heat illness.

Heat illness in sport presents as heat exhaustion or the more severe heat stroke. The following paragraphs outline the accepted definitions and appearance of heat exhaustion and heat stroke as contained in the Sports Medicine Australia document Hot-Weather-Guidelines Doc 2007
This policy contains only an extract of the Sports Medicine Australian document and the wording adapted to address the art governed by the QKR. The document can be access at the link Here.
UV exposure and heat illness guides can be found Here
SMA Extreme Haeat Policy 2021 can be found Here

It must be stressed that while all this information is available, and our duty of care is paramount.
If in doubt stop, get out of the sun, cool down and hydrate then reevaluate !!
Remember juniors and the aged are more susceptible and may not make wise our role as coaches teachers is to make those wise decisions.

Heat exhaustion

- Characterised by a high heart rate, dizziness, headache, loss of endurance/skill/confusion and nausea.
- The skin may still be cool/sweating, but there will be signs of developing vasoconstriction (eg, pale colour).
- The rectal temperature may be up to 40°C and the athlete may collapse on stopping activity. Rectal temperature should only be measured by a doctor or nurse.

To avoid heat exhaustion, if people feel unwell during exercise, they should immediately cease activity and rest. Further benefit comes if the rest is in a shaded area with some passing breeze (from a fan if necessary) and the person takes extra hydration. Misting or spraying with water can also help. Event directors should discuss the possibility of heat exhaustion at pre-event briefings.

Heat stroke

- Characteristics are similar to heat exhaustion but with a dry skin, confusion and collapse.
- Heat stroke may arise in an athlete who has not been identified as suffering from heat exhaustion

and has persisted in further activity.
• Core temperature measured in the rectum is the only reliable diagnosis of a collapsed athlete to determine heat stroke.

This is a potentially fatal condition and must be treated immediately. It should be assumed that any collapsed athlete is at danger of heat stroke. The best first aid measures are "Strip/Soak/Fan":
• strip off any excess clothing;
• soak with water;
• fan;
• ice placed in groin and armpits is also helpful.
The aim is to reduce body temperature as quickly as possible. The athlete should immediately be referred for treatment by a medical professional.
Important: heat exhaustion/stroke can still occur even in the presence of good hydration.

Dehydration:

Dehydration is fluid loss which occurs during exercise, mainly due to perspiration and respiration. It makes an athlete more susceptible to fatigue and muscle cramps. Inadequate fluid replacement before, during and after exercise will lead to excessive dehydration and may lead to heat exhaustion and heat stroke.
To avoid dehydration, Sports Medicine Australia recommends that:

• athletes drink approximately 500 mls (2 glasses) in the 2 hours prior to exercise;
• during exercise longer than 60 minutes, 2-3 cups (500-700ml) of cool water or sports drink are sufficient for most sports.
• after exercise replenish your fluid deficit to ensure that you are fully re- hydrated, but not overhydrated.
• refer to SMA's free DRINK UP brochure available as a web download at http://www.smartplay.com.au or from your local National Pharmacies store.
Points to consider for Clubs and Event Organisers:

• Will your players and officials be able to consume enough water during the event?
• Even a small degree of dehydration will cause a decrease in performance.
• Take care not to over-hydrate. Drinking too much fluid can lead to a dangerous condition known as hyponatraemia (low blood sodium). Aim to drink enough to replace lost fluids, but not more than that.

How should QKR clubs apply these guidelines in their general assessment of risk, and in training planning?

The following are factors to consider before cancelling or modifying an event or training session.

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Remember not only to take actual training participants into account. During QKR state and or club events we have a duty of care reasonability to our technical officials, management personnel and other volunteers.

The following tables provide estimates of risk related to the weather and guidelines to manage activities in order to minimise heat stress.

Environmental Factors:

1. **Temperature**:

Ambient temperature is the most easily understood guide available, and is most useful on hot, dry days. Heat stress increases with increases in air temperature but be aware that there are not clear demarcations in risk between temperature ranges.

At relative humidity levels above those indicated in the tables below, stress increases markedly. Members training during periods of high humidity and high temperatures must take action to prevent the onset of heat stress including the stopping of training and or the cancellation of events.

Ambient temperature	Relative humidity	Risk of Heat Illness	Possible management for sustained physical activity
15 - 20		Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Exceeds 70%	Low - moderate	Increase vigilance. Caution over-motivation.
26 – 30	Exceeds 60%	Moderate	Moderate early pre-season training. Reduce intensity and duration of play/training. Take more breaks.
31 – 35	Exceeds 50%	High – very high	Uncomfortable for most people. Limit intensity, take more breaks. Limit duration to less than 60 minutes per session.
36 and above	Exceeds 30%	Extreme	Very stressful for most people. Postpone to a cooler conditions (or cooler part of the day) or cancellation.

WBGT
Further guidance might be gained from what is known as the Wet Bulb Globe Temperature (WBGT) index. The WBGT is useful when humidity is high.

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WBGT	Risk of thermal injury	Possible modifying action for vigorous sustained activity
< 20	Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Moderate to high	Increase vigilance. Caution over-motivation. Moderate early pre-season training intensity and duration. Take more breaks.
26 - 29	High - Very high	Limit intensity. Limit duration to less than 60 minutes per session.
30 and above	Extreme	Consider postponement to a cooler part of the day or cancellation (allow swimming).

The Bureau of Meteorology (BOM) produces ambient and WBGT readings for many locations in Australia. You can check these readings and a guide for the relative risk for your location at www.bom.gov.au/info/thermal_stress/index.shtml

Heat stress increases with increases in air temperature but be aware that there are not clear demarcations in risk between temperature ranges. At relative humidity levels above those indicated in the tables, stress increases markedly.

2. Duration and intensity of an event

The combination of extreme environmental conditions and sustained vigorous exercise is

particularly hazardous. The greater the intensity of the exercise or the duration, the greater the risk of heat related symptoms

Event organisers need to ensure that they provide:

• Reducing duration of activity time and extending rest periods.
• More frequent opportunities to rehydrate during the event would help safeguard the health of participants
• The rotation of officials and panel members to allow for rehydration

• Access to water for wetting face, clothes and hair, eg: ice sponges or cold packs

• A fan to enhance air movement would be beneficial

3. Conduct of competition and training

Clubs may consider alternative training times and venues during hot weather; early morning or slightly later in the evening may be an option in hot climates particularly in North Queensland and times of high humidity.
Venues which provide for air movement are preferred and should be used where possible air movement decreases heat stress.

Club leaders and instructors should remember that even five minutes rest can cause a significant reduction in core body temperature, this fact should be made known to all QKR members.
It should be clear to all members that it is OK to stop and take a rest breaks during hot conditions.
As a matter of course more rest breaks should be incorporated into training during hot weather conditions.

<u>Host (personal) factors</u>

The guidelines as per Sports Medicine Australia are below, these clearly show the relationship between the type of clothing worn and the association with heat illness.

Clothing

• Type of clothing is vital in minimising health risks associated with exercise in heat.
• Fabrics that minimise heat storage and enhance sweat evaporation should be selected.

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- Light weight, light coloured, loose fitting clothes, made of natural fibres or composite fabrics with high wicking (absorption) properties, that provide for adequate ventilation are recommended as the most appropriate clothing in the heat. This clothing should complement the existing practices in Australia that protect the skin against permanent damage from the sun.
- This should apply to the clothing worn by players, umpires, other officials and volunteers.

Protective clothing:

If clothing is worn for protective reasons, ensure that it is worn only while training and competing in hot weather. Some examples include cycling helmets and technical official vests.
Remove non-breathable clothing as soon as possible if the participants or officials are feeling unwell in hot conditions.
Start cooling the body immediately via ventilation and/or a cool spray such as a soaker hose or a hand-held spray and a fan.

The nature of the activity practiced within the QKR requires the wearing of certain protective clothing
This is most relevant for those members practicing Kendo, as these members not only wear keiko-gi and hakama but also bogu. This will greatly affect the body's ability to cool itself as the heat will be trapped with the bogu. During times of higher temperatures, the wearing of this type of clothing will greatly reduce the time it takes for the body to overheat. Particular attention to Children and older members should be taken, as both these categories of members can be more susceptible to the effects of training in the heat.

The QKR want all members to be aware of the follow points as listed below, these are to be used to assist in the management of events and training in times of hot weather and/or high humidity:

1. Instructors are to ensure that members, have the time and opportunity to remove all or part of their bogu to allow the body to cool during rest intervals.
2. The frequency of water breaks for all members must be increased.
3. Ensure that water is easily available to those members that are required to wear bogu for extended periods, such as those assisting with gradings.
4. Members assisting in gradings are to be rotated regularly, moto-dachi is an example of a member that requires regular intervals of rotation to allow the body to cool and rehydrate.
5. Members are to be made aware that simply drinking water DOES NOT reduce the risk of heat stress and in-fact over hydration can also cause serious problems during times of extreme heat. The body MUST be allowed to cool.

2. **Acclimatisation of the participant**
Acclimatisation of the participant includes technical and other officials and volunteers.
Preparation for exercise under hot conditions should include a period of acclimatisation to those conditions, especially if the athlete is travelling from a cool/temperate climate to compete in hot/humid conditions. It has been reported that children will acclimatise slower than adults. Regular exercise in hot conditions will facilitate adaptation to help prevent performance deteriorating, or the athlete suffering from heat illness, during later competitions. Sixty minutes acclimatisation activity each day for 7-10 days provides substantial preparation for safe exercise in the heat.

3. **Fitness levels/athletic ability of participant**

A number of physical/physiological characteristics of the athlete will influence the capacity to tolerate exercise in the heat, including body size and endurance fitness. In endurance events, accomplished but non-elite triathletes, striving to improve their performance, may suffer from heat stress. The potential for heat-related illnesses would be exacerbated if they have not acclimatised to the conditions and have failed to hydrate correctly.
Overweight and unconditioned athletes, officials and volunteers will generally also be susceptible to heat stress.

4. Age and gender of participant
Female participants may suffer more during exercise in the heat because of their greater percentage of body fat.
Young children are especially at risk in the heat. Prior to puberty, the sweating mechanism, essential for effective cooling, is poorly developed. The ratio between weight and surface area in the child is also such that the body absorbs heat rapidly in hot conditions. In practical terms, child athletes must be protected from over-exertion in hot climates, especially with intense or endurance exercise. Although children can acclimatise to exercise in the heat, they take longer to do so than adults. Coaches should be aware of this and limit training for non-acclimatised children during exposure to hot environments.

NB: Children tend to have a more “common sense” approach to heat illness than adults.
They “listen to their bodies” more and will usually slow down or stop participating if they feel distressed in the heat. On no account should children be forced to continue sport or exercise if they appear distressed or complain about feeling unwell.
Veteran participants may also cope less well with exercise in the heat. Reduced cardiac function is thought to be responsible for this effect.

5. Predisposed medical conditions
It is important to know if participants (triathletes and volunteers) have a medical condition or are taking medication that may predispose them to heat illness. Examples of illnesses that will put the participant or official at a high risk of heat illness include asthma, diabetes, pregnancy, heart conditions and epilepsy. Some medications and conditions may need special allowances.
Participants and officials who present with an illness such as a virus, flu or gastro or who are feeling unwell are at an extreme risk of heat illness if exercising in moderate to hot weather.
Participants or officials who may be affected by drugs or alcohol may be at an extreme risk of heat illness if exercising in moderate to hot weather.
SMA has produced Pre-exercise Health Check Guidelines. These should be used if pre-existing medical conditions are suspected or if the participant has no recent record of activity. The Guidelines can be downloaded from www.sma.org.au.

6. Other factors to consider
Preventative measures can be undertaken to minimise heat injuries. Examples include the provision of shade, hats, appropriate sunscreen, spray bottles and drinking water. It is important to have trained personnel available to manage heat injuries and designated recovery areas for patients. In

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situations where heat problems may be expected, an experienced medical practitioner should be present.

Heat stroke is potentially life threatening. Any indication of this condition should be immediately referred for medical assessment.

Policy Status Table

Policy	Status	Date	Remarks
QKR Heat Policy	Draft	04 Jan 2020	Initial Draft TAJ
QKR Heat Policy	Ver 2.0	18 Feb 2020	Dr. Kevin Humphrey review grammatical corrections.
QKR Heat Policy	Ver 2.01	19 Feb 2020	Updated preamble – TAJ
QKR Heat Policy	Ver 2.02	19 Feb 2020	Update wording to make clear directives – TAJ
QKR Heat Policy	Ver 3	01 May 2024	Updated links to sma , Update logo