

# HEALTH & SPORT:

## A PRACTICAL GUIDE FOR ATHLETES





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# STAYING HYDRATED

## Hydration Tips for Athletes

*Remember, fluid is fuel for your body – make it part of your training and carry a water bottle with you!*

### WHY HYDRATION MATTERS?

- Maintains performance and endurance.
- Prevents cramps, fatigue, and heat illness.
- Supports joints, circulation, and nutrient transport.

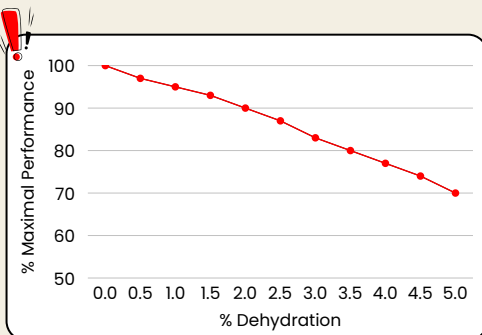
### DAILY HYDRATION HABITS

- Drink regularly throughout the day.
- 500–600 ml before and after training.
- Include a salty snack after training, especially in hot weather.
- Always carry a water bottle.

### WHEN TO DRINK?

⚠ By the time you are thirsty, you will already be dehydrated by ~ 2 % of your body weight.

Drink to Thirst	Planned Drinking
if you are non athlete	For all (athlete and non athlete) if: <ul style="list-style-type: none"> <li>• Long duration activities &gt; 60 min</li> <li>• Hotter conditions</li> <li>• High sweat rates</li> </ul>
if you are athlete and: <ul style="list-style-type: none"> <li>• Short duration activities &lt; 60 min</li> <li>• Cooler conditions</li> <li>• Lower intensity</li> </ul>	



### SIGNS THAT YOU'RE DEHYDRATED

- Thirst or dry mouth
- Muscle cramps
- Headache or dizziness
- Loss of concentration
- Dark yellow urine
- Irritability



### Am I drinking enough water? Urine color chart

	<b>HYDRATED</b> Pale, odorless and plentiful urine is often an indication that you are well hydrated. <b>Keep drinking the same rate.</b>
	<b>MILDLY HYDRATED</b> Slightly darker yellow urine can indicate that you need to drink more water. <b>Drink a glass of water now.</b>
	<b>DEHYDRATED</b> The intensifying shade of yellow in your urine serves as a clear indicator of dehydration. <b>Drink 2-3 glasses of water now.</b>

⚠ Some vitamin tablets can darken urine.  
If unsure, check with your doctor.

### BEST HYDRATION OPTIONS

- Water is always your №1 choice.
- Add electrolytes if exercising > 90 mins or repeated shorter sessions in the heat.
- Avoid sugary drinks or sports drinks as the excessive carbohydrate can reduce the body's ability to maintain thermal balance, especially in the heat.



### Examples of easy to make rehydration drinks:

- Fresh fruit juice with added water +/- a tiny bit of salt.
- Coconut water with added water and a pinch of sugar and salt.

# STAYING COOL

## Heat Management Tips for Athletes

*Heat is your opponent — plan to stay cool, train smart, and keep your performance strong!*

### **WHY HEAT MANAGEMENT MATTERS?**

- Temperatures above 25 °C can reduce sporting performance, especially when humidity is high.
- As humidity increases, the temperature at which it's safe to train or race goes down.
- Sweating is your body's main cooling method, but in humid conditions sweat can't evaporate effectively, causing your core temperature to rise — even if it doesn't feel very hot.
- Dehydration, even slight, makes this worse and can quickly reduce performance.
- When air temperature is higher than your skin or sweat can't evaporate, your body can no longer cool itself, which increases the risk of heat illness

### **HOW TO STAY COOL?**

- Stay out of the sun and look for shady places at the venue or air-conditioned rooms.
- Wear lightweight, light-coloured, loose-fitting clothing.
- Use a cold, wet cloth or spray water on your skin to cool down. Ice packs on the skin can also help.
- Drink ice-cold drinks.
- Train at cool times of the day.
- Do not hang about the race venue when you don't need to be there

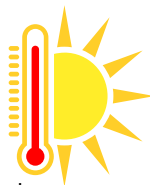
### **STAY HYDRATED**

- Drink water or fruit juice and water before, during and after training. Drink before racing.
- Avoid sports drinks high in sugar or caffeine. Too much sugar can make you more tired and too much caffeine can make you nervous, lack concentration and have difficulty sleeping.
- Keep your urine very pale yellow in colour at all time.



### **SIGNS OF OVERHEATING**

Tiredness or unusual fatigue  
Dizziness or light-headedness  
Headache  
Trouble concentrating  
Nausea or feeling unwell  
Hot, dry, or sweaty skin  
Rapid heartbeat or shortness of breath



**If symptoms persist, seek medical help immediately.**

### **ACCLIMATIZATION**

- Allow at least 10 days to acclimatize before competing in hot conditions.
- Gradually increase training in temperatures above 25 °C, working up to about 100 minutes.
- You can wear extra layers during training to help your body adjust.
- Repeat heat sessions every 4 days to maintain acclimatization.
- Whenever possible, consult your team or doctor for safe acclimatization guidance.



More info about heat acclimatization:



# PREVENTING INJURIES

## Essential Injury Prevention Tips for Every Athlete

*Injury is your setback — train smart, recover well, and keep your body strong!*

### **WHEN DO INJURIES OCCUR?**

- Trauma injuries can happen in whitewater, Canoe Polo, or Kayak Cross due to collisions, capsizes, or impact with rocks or paddles.
- Most injuries, however, occur during training from repetitive loading of muscles, tendons, and bones — especially in teenagers and young adults while their bodies are still maturing.
- A well-structured training program should gradually increase volume and intensity while allowing for rest and recovery. More training does not always mean better performance.

### **WARM-UP BEFORE TRAINING**

- Warming up prepares your heart, lungs, muscles, and nervous system for work and reduces the risk of strains or tears.
- It takes 8–10 minutes of gradually increasing activity to fully warm up — don't rush it.

#### ***Warm-up type depends on the session:***

- Low intensity sessions (e.g., recovery paddles): may not need a separate warm-up.
- Heavy sessions (e.g., weights): focus on the specific muscle groups you'll use.

#### ***Good warm-up elements include:***

- Light cardio (land-based exercises or easy paddling).
- Gentle flexibility work for neck, back, shoulders, and legs.
- Resistance bands to activate key muscles.

⚠ Ask your coach or physio for tailored warm-up routines.

### **LACTIC ACID & COOL DOWN**

- Intense training produces lactic acid, causing pain and fatigue.
- A cool down period helps flush lactic acid, aiding recovery and reducing soreness.
- Keep exercising at a low intensity after your session to keep blood flowing.
- Tired muscles can't support quality training and are more prone to injury.

### **STRENGTH & CONDITIONING**

- A well-designed strength and conditioning program helps prevent injury, especially to the shoulders and back — the most common injury sites in paddlesports.

#### ***Focus on:***

- *Shoulder stability* — use resistance bands regularly.
- *Core strength* — strong abdominal and back muscles provide a stable base to transfer power efficiently.

#### ***Learn and maintain***

##### ***good technique to reduce injury risk:***

- Practice with mirrors, video feedback, or coach supervision.
- Watch examples of good technique online.

### **OFF THE WATER**

- Injuries often happen during other sports or activities, especially if you're not experienced.
- Be cautious with activities like football or downhill biking, especially before races or training camps.
- Many paddlers have been injured from non-paddling activities during critical periods.

### **REST & RECOVERY**

- Rest is a crucial part of training — not laziness.
- Training breaks down muscle fibers; rest allows them to rebuild stronger.
- Take at least one full day between weight training sessions.
- Use periodization: build training intensity over 3–4 weeks, then reduce to allow recovery.
- Listen to your body: if you're exhausted, tell your coach. Training when overtired increases injury risk.



### **KEY TAKEAWAYS**

Most injuries are preventable through smart training, good preparation, and rest.

Warm up, cool down, and listen to your body.

Build strength and technique progressively.

Be smart off the water — avoid unnecessary risks before important events.



# MENSTRUATION & SPORTS

## What Every Female Athlete Should Know

*Your period isn't your weakness — understand your cycle, train smart, and perform at your best!*

### WHY WE NEED TO TALK ABOUT IT?

Menstruation is often treated as a taboo topic in sport, but understanding your cycle can help improve performance, recovery, and overall wellbeing. Talking about periods with your coach, physio, or trainer may feel uncomfortable at first, but it makes it easier to work together and adjust training when needed.

### PHASES OF THE MENSTRUAL CYCLE

The menstrual cycle consists of three main phases, each marked by hormonal changes that may affect performance differently (though not everyone experiences noticeable effects):

- **FOLLICULAR PHASE (DAY 1–14)** – starts with bleeding; estrogen levels rise. Some athletes feel stronger or more energetic.
- **OVULATION (AROUND DAY 14)** – hormone levels peak; some may feel powerful, others more tired.
- **LUTEAL PHASE (DAY 15–28)** – progesterone rises; some experience fatigue, bloating, mood swings, or high injury risk.

⚠ Keep a period diary noting bleeding, mood, energy, fatigue, and performance. Identifying patterns can help you adapt your training and competition schedule.

### TRACKING YOUR CYCLE TO BOOST PERFORMANCE

Tracking your menstrual cycle can help athletes and coaches:

- Adjust training loads and intensity
- Optimize nutrition at different phases
- Better understand mood, energy, and recovery patterns

*Apps or diaries can be used to track symptoms.*

#### EXAMPLE:

Nisha, an 18-year-old kayaker, experienced low mood and poor performance 5 days before her period. By tracking her cycle, she learned to anticipate these days, manage her emotions, and compete at her best.

### PERIODS DON'T MAKE YOU WEAKER

Many athletes think periods reduce strength or speed — but research shows otherwise.

- A 2023 study found no significant decrease in strength, speed, or agility during menstruation.
- Some elite athletes even perform at their best while on their period — e.g., Chinese swimmer Fu Yuanhui competed strongly during the 2016 Olympics while menstruating.

⚠ Don't assume your period will slow you down. Listen to your body — everyone's experience is different.



More info here

international  
canoe  
federation



### MISSING PERIODS IS NOT NORMAL

- Most menstrual cycles last 21–35 days (average 28).
- Irregular or missing periods (amenorrhea) often happen due to low energy availability — not eating enough to support both training and menstrual function.
- Long-term amenorrhea can lead to weakened bones, stress fractures, and hormonal issues.

**If your period becomes irregular or disappears, see a doctor and talk to your coach.**

### HYDRATION & NUTRITION MATTER

- Body temperature is often higher during the luteal phase, which may increase sweating and fluid needs.
- Iron is crucial, especially for athletes with heavy periods. Low iron can cause fatigue and poor performance.
- Eat iron-rich foods: red meat, beans, spinach.
- Ask your doctor for a blood test if you feel persistently tired.
- Stay well hydrated throughout your cycle.

### PERIOD PRODUCTS WON'T HOLD YOU BACK

From tampons to menstrual cups to period-proof underwear, there are more options than ever for athletes.

- One study found that menstrual cups can be a great option for athletes, as they hold more fluid, reduce leakage, and last longer than tampons.
- If you worry about leaks, try using a menstrual cup or tampon with period-proof shorts for extra confidence.

*Experiment to find what works best for your sport and comfort.*



### KEY TAKEAWAYS

Periods are normal, not a weakness.

Track your cycle to understand patterns and boost performance.

Missing periods is a warning sign — get medical advice early.

Nutrition and hydration are vital for menstrual health.

The right period products can keep you comfortable and confident in training and competition.

# RED-S: RELATIVE ENERGY DEFICIENCY IN SPORT

## Understanding RED-S: A Must for Every Athlete

*Fuel your body, protect your power — train smart, eat well, and keep your performance strong!*

### WHAT IS RED-S?

**RED-S** (Relative Energy Deficiency in Sport) occurs when an athlete's energy intake doesn't meet the energy they expend through training and daily activities. This lack of fuel affects the body's ability to maintain normal functions such as growth, hormone balance, bone health, recovery, and performance. Over time, RED-S can lead to fatigue, injuries, menstrual changes, poor recovery, and reduced athletic performance. Recognizing and preventing RED-S is essential for staying healthy, strong, and performing at your best.

**When energy in ≠ energy out → the body doesn't have enough fuel to stay healthy and perform at its best.**

### WHEN TO ASK FOR ADVICE?

Talk to your team doctor or primary care doctor if you or a teammate experiences:

- Injuries or illnesses that don't heal properly.
- Irregular or missing periods.
- Consistent, unexplained under-performance.
- Persistent fatigue or low mood.
- Bone pain or frequent stress fractures.
- Difficulty recovering from training sessions.
- Low body weight or trouble maintaining weight.

### WHAT CAUSES RED-S?

- Insufficient energy intake compared to energy expenditure.
- Intense or increased training without increasing food intake.
- Skipping meals or restricting food groups.
- Under-fueling around heavy training sessions.

### WHAT HARM CAN IT DO TO YOUR BODY?

Low energy availability over time can affect:

- Metabolic rate.
- Menstrual function (amenorrhea in females).
- Bone health (higher stress fracture risk).
- Immunity (frequent illness).
- Protein synthesis and muscle repair.
- Cardiovascular health.

### HOW TO AVOID RED-S?

- Balance training, recovery, and energy intake.
- Eat enough carbohydrates around training and prioritize post-training recovery nutrition.
- Increase food intake when you increase training load.
- Pay attention to how you feel — persistent fatigue or poor recovery may signal low energy availability.
- Work with a sports dietitian or medical professional if needed.

### HOW RED-S AFFECTS PERFORMANCE?

Increased	Decreased	Impaired
Injury risk	Endurance performance	Judgement
Depression	Muscle strength	Concentration
Irritability	Energy (glycogen) stores	Training response
	Coordination	



### KEY TAKEAWAYS

RED-S is caused by low energy availability, not just weight.

It affects performance, health, and recovery.

Early recognition and proper fueling prevent long-term problems.

If in doubt — speak up and get advice early.

# PREVENTING INFECTIONS

## Waterborne Infection Prevention Tips for Athletes

*Infection is your silent opponent — defend yourself with smart hygiene!*

### **WHY IT MATTERS?**

**Waterborne pathogens** — including viruses, bacteria, and parasites — can cause infections in kayakers and canoeists, especially in disciplines involving frequent water contact. Simple precautions can significantly reduce the risk.

### **BEFORE AND DURING PADDLING**

- Do not drink the water you are paddling on — always bring your own drinking water.
- Avoid splashing water into your face and eyes.
- If your discipline involves submersion in fast-moving water (e.g., freestyle, squirt boating), use nose plugs and/or ear plugs to reduce exposure of mucous membranes to pathogens.
- Cover all open wounds, grazes, or rashes with waterproof bandages, especially in areas that come into contact with water (e.g., legs in open water surfski).

### **AFTER PADDLING**

- Use hand sanitizer immediately after paddling.
- Shower in clean, fresh water as soon as possible.
- If submerged, perform a nasal rinse with sterile water to lower the risk of respiratory infections.
- If you develop blisters, clean them thoroughly with 70% (not 100%) ethanol and lance with a sterile needle if needed.
- Rinse all paddling kit with fresh water after each session to remove salt and bacteria — dirty kit can lead to skin rashes and infections over time.



### **KEY TAKEAWAYS**

Bring and drink your own clean water.

Protect your face, ears, and wounds from water exposure.

Wash, sanitize, and clean both your body and gear after paddling.

Good hygiene is essential for staying healthy on and off the water.





