



# Understanding Athletes' Sweat

For more than 30 years, the Gatorade Sports Science Institute (GSSI) has worked with athletes – both on and off the field – to study every aspect of hydration. What has GSSI learned? That there is more to sweat than meets the eye.

## SODIUM IS NOT "ONE SIZE FITS ALL"

The amount of sodium found in athletes' sweat can vary drastically from one person to another. Sodium content in sweat ranges from **230-2,070 mg/L**, which is approximately 1/25 to 1 full teaspoon.

## WHO, WHAT & WHERE YOU ARE AFFECTS SWEAT RATE

Sweat losses can be affected by numerous factors including: the climate, heat acclimatization status, the sporting equipment worn, the exercise intensity, and duration.

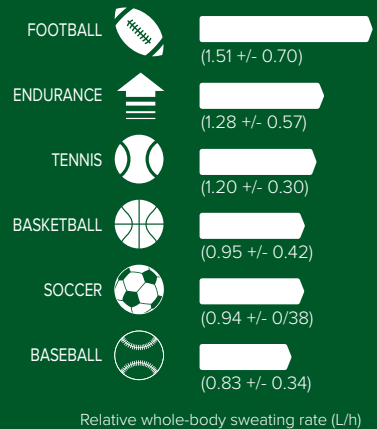
Knowing an individual's hydration needs during exercise enables athletes and coaches to maximize athletic performance and help minimize hydration-related risks and dehydration. An accurate way to assess an individual's hydration needs is by calculating their sweat rate.



Visit <https://www.gssiweb.org/toolbox/fluidLoss/calculator> to utilize the Fluid Loss Calculator

**Note:** Sweat rate should be measured multiple times throughout a season as it will vary with environmental conditions and level of competition.

## THE SWEATIEST ATHLETES



## BEST PRACTICES FOR DETERMINING WHOLE-BODY SWEAT RATE

- Test in conditions (intensity, environment, season, equipment, etc.) relevant and specific to that of the athlete's training/competition
- Have athletes wear minimal clothing for all body mass measures
- Weigh athletes in the same clothing before and after exercise
- Monitor and weigh all fluid/food intake and urine losses during exercise

$$\frac{[(\text{PRE WEIGHT} - \text{POST WEIGHT}) + (\text{FLUID CONSUMED} - \text{URINE VOLUME})]}{(\text{EXERCISE TIME} \div 60)} = \text{SWEAT RATE}$$





## REFERENCES

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