

PRECISION HYDRATION

The sweat experts

precisionhydration.com





A one-size-fits-all approach doesn't work for hydration.

Why Precision Hydration?

Sweat rates and sweat sodium concentrations vary dramatically between individuals^{1, 2}.

Understanding the unique physiology of your athletes enables the development of Personalized Hydration Plans that meet their individual needs, which is crucial to maintaining performance when sweat output is high.

Precision Hydration provides the tools, training and products for you to implement simple, personalized hydration strategies for each of your athletes.

The Process

We use patented, non-invasive medical technology to collect and test sweat at rest, giving accurate and immediate feedback on how much sodium the athlete loses in their sweat. This genetically determined factor varies massively between athletes, but remains relatively constant within an individual^{3,4}.

Combining those Sweat Test results with information about sweat rate, training volume and cramping history leads to the creation of a simple, Personalized Hydration Plan, tailored to the individual athlete's needs.

Personal hydration strategies can be implemented using all-natural, multi-strength electrolyte products from the Precision Hydration range.*

*Precision Hydration products are independently batch tested to certify them free from contamination with substances on the **WADA** anti-doping list.



Advantages

Unlike traditional sweat patch testing, our method uses medically-derived technology to capture clean sweat samples at rest **without the need to disrupt training sessions.**

The technology is **mobile**, so assessments can be done almost anywhere, with limited space and no special facilities required.

Up to 4 tests can be conducted every 20 minutes and over 75 athletes assessed in one day. Results are available immediately and are extremely **accurate.**

Hydration strategies can be personalized easily using Precision Hydration's range of **all-natural, multi-strength** electrolyte products.

The PH team have worked at the highest levels in sport and bring a depth of **knowledge and experience** along with the products and services.

Benefits

Risk assessment

Testing allows staff to screen a squad and 'red flag' those with high net sodium losses. Pre-emptive measures can then be taken with these individuals, something that's especially important when facing hot or demanding conditions.

Performance maintenance

The negative effects of dehydration and sodium depletion on performance are well documented ^{5,6,7}. Optimizing fluid and electrolyte intake to maintain blood plasma volume prevents the performance drop off that inevitably occurs when large fluid and sodium losses go uncorrected ⁸.

Performance enhancement

Acute pre-exercise sodium loading has been shown to improve performance in certain scenarios, by increasing blood plasma volume ^{9,10,11}. The stronger electrolyte products in the Precision Hydration range are suitable (and commonly used) for this purpose in a range of sports.

Cramping reduction

Although the exact causes of cramp remain unclear, there's a wealth of anecdotal evidence to suggest that, for many athletes, maintaining correct fluid and electrolyte balance reduces the incidence of muscle cramps experienced during and after exercise.

Hydration education and self management

After the test, athletes are far more aware of their own hydration and electrolyte requirements. This leaves them better equipped to adequately manage their own hydration practices at times when they're away from the controlled team environment.

Working with Precision Hydration

There are 2 options for implementing Precision Hydration with your athletes:

Hydration—as-a-Service

- We provide a complete testing service, where our experienced Sweat Experts visit your facility and conduct the Sweat Tests.
- Up to 4 athletes can be tested every 20 minutes.
- Sweat Test Data is immediately reported back to support staff, along with the recommended hydration strategies for each individual athlete.

Hardware purchase

- Sweat Testing hardware can be purchased from Precision Hydration.
- Full training (in both the operation of equipment and interpretation of results) is included in the price.

Contact us for a quote tailored to your organization.

Precision Hydration products



Our products are designed to make the implementation of Personalized Hydration Plans as simple as possible for both the individual and organization.

Precision Hydration's **all-natural** electrolyte drink mixes are available in a variety of strengths; **250, 500, 1000** and **1500mg/l** (most traditional sports drinks contain around 500mg/l).

They come in **single-serving sachets** and are easy to dissolve into water or other sports nutrition products to increase the sodium content. They're also sodium citrate based, so they're alkaline and easy on the stomach during even the most high-intensity training or competition.

They contain **no artificial ingredients** and are gluten and dairy free. They mix to create a very light, hypotonic electrolyte drink that's absorbed incredibly quickly due to it's 3% carbohydrate formulation. And, with just a subtle citrus flavour, they taste great too.

Our **SweatSalt capsules** each contain 250mg of sodium (delivered predominantly as sodium citrate, to aid absorption and to be kind on the stomach) and are swallowed with a mouthful of fluid. They're perfect for use when sweat losses are particularly high, as the athlete can increase their sodium intake without the need to take on extra fluid.

Precision Hydration products are independently **batch tested** to certify that they're free from contamination with substances on the **WADA** anti-doping list.



Some existing customers and partners



"I first used Precision Hydration during England camps and preparation for international matches. I really value the importance of hydration, so have made their products a regular part of my day to day regime."

James Haskell, England and Wasps rugby union player

FAQs

Q: Do we need to sweat test athletes multiple times?

A: No. An athlete's sweat sodium concentration is driven largely by a genetic factor (CFTR abundance) that controls the re-absorption of NaCl at the sweat gland. Although it can theoretically be influenced by diet, acclimatization to heat and severe dehydration, it's fundamentally stable after infancy^{3,4}. Re-testing athletes after dramatic changes in acclimatization status or major changes to dietary intake may be useful in some cases, however this is rare.

Q: Why not just use high dose sodium products with all athletes?

A: Whilst athletes generally do require more sodium than the non-exercising population, excessive sodium intake (over and above what's required to mitigate that lost in sweat) can cause excessive fluid retention (causing weight gain) and gastrointestinal upset. For this reason, supplementation based on individual need is recommended.

Q: When (and how) are Precision Hydration products used for maximum effectiveness?

A: Sodium supplementation can be used acutely pre-exercise to boost blood plasma volume. This can be useful for those who lose large quantities of sweat and/or sodium, and for most athletes in very hot or humid conditions.

During extended bouts of training or competition, the products can be used as required to minimise the development of detrimental fluid and electrolyte deficits.

The inclusion of sodium in fluids consumed immediately after exercise has been shown to increase absorption and speed up re-hydration and the recovery process¹².

The 250mg products are recommended for improving background hydration levels in all athletes when travelling, staying in air-conditioned accommodation and between training sessions in very hot or humid environments.

A few Testimonials



"Precision Hydration helps me perform at my highest level in the gym and out on the mound"

- Tyson Ross - Pitcher for the San Diego Padres,
Major League Baseball.



"Basically I like to win so I use Precision Hydration"

- Tim Don, Pro Triathlete, World Champion and 3X Olympian



"Precision Hydration is my body's race hydration and has been a big part of our recent success"

- David Higgins, 4x Rally America Champion

As seen in...

220
Triathlon
the**guardian**

Cyclist
MAGAZINE

Triathlon **PLUS**



**Sports
Illustrated**

**Innovation in Hydration: Sweat testing
is next level of sports hydration**



**PRECISION
HYDRATION**

Get in touch...

PRECISION **HYDRATION**

precisionhydration.com
info@precisionhydration.com

Andy Blow
ab@precisionhydration.com
UK mobile +44 (0) 7968058596

Jonny Tye
jt@precisionhydration.com
UK mobile +44 (0) 7799328181

UK office +44 (0) 1273 900277
USA mobile +1 662-330-5484

References

1. Godek et al. Sweat Rates, Sweat Sodium Concentrations, and Sodium Losses in 3 Groups of Professional Football Players. *J Athl Train*. 2010 Jul–Aug; 45(4): 364–371
2. Maughan RJ et al. Fluid and electrolyte intake and loss in elite soccer players during training. *Int J Sport Nutr Exerc Metab*. 2004; 14:333–46
3. Beth Brown et al. Low abundance of sweat duct Cl⁻ channel CFTR in both healthy and cystic fibrosis athletes with exceptionally salty sweat during exercise. *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* 1 March 2011 Vol. 300 no. 3, R605–R615
4. Kirk JM et al Variation of sweat sodium and chloride with age in cystic fibrosis and normal populations: further investigations in equivocal cases. *Ann Clin Biochem*. 1992 Mar;29 (Pt 2):145–52
5. Barr SI. Effects of dehydration on exercise performance. *Can J Appl Physiol*. 1999 Apr;24(2):164–72
6. Rehrer NJ. Fluid and electrolyte balance in ultra–endurance sport. *Sports Med*. 2001;31(10):701–15
7. Blank MC et al. Total body Na(+)-depletion without hyponatraemia can trigger overtraining–like symptoms with sleeping disorders and increasing blood pressure: explorative case and literature study. *Med Hypotheses*. 2012 Dec;79(6):799–804. doi: 10.1016/j.mehy.2012.08.032. Epub 2012 Sep 24
8. Del Coso, J. et al. Effects of oral salt supplementation on physical performance during a half–ironman: A randomized controlled trial. *Scand J Med Sci Sports*. 2015 Feb 14. doi: 10.1111/sms.12427
9. Luetkemeier MJ, Coles MG, Askew EW. Dietary sodium and plasma volume levels with exercise. *Sports Med*. 1997;23:279– 86
10. S Sims et al. Sodium loading aids fluid balance and reduces physiological strain of trained men exercising in the heat. *Med Sci Sports Exerc*. 2007 Jan;39(1):123–30
11. S Sims et al. Preexercise sodium loading aids fluid balance and endurance for women exercising in the heat. *J Appl Physiol* 103: 534–541, 2007
12. Maughan RJ and Leiper JB. Sodium intake and post–exercise rehydration in man. *Eur J Appl Physiol Occup Physiol*. 1995;71(4):311–9