



HYDRATION and the FEMALE ULTRARUNNER

By Lyndal Maloney

There is always a big focus on getting your 'race nutrition' ready for the big day, and practicing it thoroughly during your training runs. But one thing most people do not understand, or take into enough consideration, is the management of their race day hydration! Nutrition (fuel for your energy systems) and hydration products can be treated as two separate things, although you can find and use products that cover both. For the purpose of this article I will be primarily discussing hydration.

Here are some main points to remember when planning your training and race day hydration strategy:

- Pre-hydrate before a tough training session or a race. Drinking just before you exercise will not get you 'hydrated' for your workout!
- Use an electrolyte drink for hydration, not just plain water. Your body needs salt to maintain correct water levels in cells.
- Generally speaking, drinking to thirst, combined with common sense, is the best option.
- If you're not sure if you are drinking enough – check your urine. If it's not fairly clear in colour, then you are dehydrated.
- Be aware of hyponatremia – over drinking, and drinking water only, leading to dangerously low blood sodium levels.
- If you are prone to gastrointestinal distress (an upset tummy and a desire to vomit whilst running), then consider using an electrolyte drink that has an osmolality lower than that of blood plasma, e.g. Skratch Labs, Clif Shots, GU Hydration Drink Mix.
- Get your hydration strategy sorted BEFORE race day – practice makes perfect!
- UTA are providing Hammer Enduralytes FIZZ as an electrolyte drink at aid stations throughout the race. If you plan on using this on the day, then plan on using it in your training.

If you muck up your hydration you muck up your nutrition.....

That can mean the end of the race for you. So here's a quick little science lesson on what's going on with your body and fluid intake during a run:

Water is needed to maintain your blood plasma volume and to keep all of your body systems ticking over nicely. When exercising, your body heats up so water is pulled from your blood plasma to the skin so that you can sweat to cool down. If you sweat excessively, like you do in a race, you then have a reduction in blood plasma volume and hence more viscous blood. If you do not maintain adequate hydration your heart then has to work even harder to pump this viscous blood around the body to get fuel to your muscles and to sweat properly. Your heart rate goes up. Your temperature rises. Your energy and power level goes down and That's it, race over.

What about female physiology?

The female body also gets a lot more bang for its buck when it comes to heating up as well, just to add to the fun of it. At the mid-luteal point of the menstrual cycle (around week 3), progesterone is at its highest level. One of the side effects of this is a raise in core temperature, which can be a couple of degrees. As if you weren't hot enough already.

Also, when your progesterone levels are high in the luteal phase (second half) of your cycle, your body will shed more sodium and thus increase the risk of hyponatremia during long runs or endurance events. There is a lot of information out there about hyponatremia, so make yourself aware of the condition and how to avoid it.

So if you've had a race or a training run where you have been really fatigued and couldn't understand why, even though you were taking in enough fuel, it could just be that you were not getting enough fluids into your body. Recently one of my runners participated in a training run on a fairly warm day. She completed the run, but felt quite unwell after the run – nauseas, light headed and very lethargic. We established that she was consuming enough energy to fuel her body, but her fluid and electrolyte level intake was too low, leading to dehydration.

So why not just drink water then?

If only it were that simple. It also comes down to the type of fluid that you are consuming. As Dr Stacey Sims discusses in her book "Roar", she believes that it comes down to the basic scientific concept of osmosis. Under everyday circumstances, your body is pretty good at maintaining blood osmolality (concentration of salts, etc. in your blood). Normal blood osmolality is between 275 and 295 milliosmoles. Fluids that you consume should be of a lower osmolality than your blood, i.e. blood is more concentrated than the drink you are consuming. Fluids will then move more effectively from your gut, through the walls of your small intestine, and into your bloodstream. If the drink that you are consuming is too high in minerals, or has a high osmolality, then the reverse will happen – water stays in your gut, or gets pulled from your bloodstream, which can lead to gastrointestinal distress and dehydration.

Here is a great article outlining the low osmolality theory with some info on specific sports drinks - <http://www.runnersworld.com/hydration-dehydration/next-generation-sports-drinks>

As mentioned, your body needs sodium to maintain correct water level at a cellular level. Without it, you are at a real risk of suffering from hyponatremia. Sodium and glucose also work really well together to help each other move across into the bloodstream, that's why hydration drinks contain glucose, not just sodium.

So, how much should you be consuming?

The general health guidelines are to consume 2 litres of fluids per day, and this is without taking into consideration exercise and sweating. So make sure that you regularly sip fluids throughout the day, and make sure that you are hydrating for four to two hours before your planned exercise time. Every female athlete is different, so a general guideline is to consume 480 to 750 ml of fluid per hour during an endurance event.

I regularly encourage all of my coached runners make sure that they turn up to a training session very well hydrated, particularly during this recent hot weather.

Some final tips...

So, get out there during your training and practice, practice, practice! Make sure that you are hydrated BEFORE you train, are regularly monitoring your urine colour for signs of dehydration, and are consuming electrolytes, not just water.

Sources:

1. *Mettler, S., Rusch, C., Colombini, C.*; Osmolality and pH of Sport and Other Drinks available in Switzerland; 2006
2. *Sims, Stacy T.*: Roar, How to Match Your Food and Fitness to Your Female Physiology For Optimum Performance, Great Health, and a Strong, Lean Body For Life; Rodale, 2016
3. *Karp, J.R., Smith, C.S.*: Running For Women: Your Complete Guide to a Lifetime of Running; Human Kinetics, 2012.