



15 Fluid for Dancers

By Zerlina Mastin

Water is one of the most vital, performance-enhancing nutrients dancers require, and the more energy a dancer expends, the greater their fluid needs. Fluid requirements can vary greatly from dancer to dancer, related to genetics, body size, body type, fitness levels, environment, and exercise intensity.

So, with that in mind, how much and what should a dancer drink before, during and after class, rehearsal and performance?

Why do we sweat?

Heat is a byproduct of energy production, and excess heat must be dissipated from the body into the environment to maintain the right body temperature. This heat must be removed from the body to avoid small increases in the body's core temperature that can have a detrimental effect on the dancer's performance and health. Sweat evaporates from the dancer's body to cool it down during physical activity.

To maintain sufficient hydration levels, fluid losses from sweat must be replaced. The sweat that evaporates from the skin contains a variety of electrolytes. Electrolytes are vital minerals necessary for nerve, muscle and heart function. They include sodium, chloride, potassium, calcium, magnesium, bicarbonate, phosphate and sulphate. However, the amount of electrolytes lost in sweat varies substantially between dancers. The dancer's composition of sweat also varies considerably not only between dancers but also over the course of the dance class/performance, and dependent on fitness levels.

Few dancers learn to measure their sweat rate, and tend to drink according to thirst levels. Sweat rates can range anywhere from 0.5-2 litres per hour, depending on the individual, intensity of dancing and environmental circumstances, such as the temperature and humidity levels of the room.

Immediate and complete replacement of fluid after exercise is an extremely important part of a dancer's recovery. Rehydration after exercise can only be achieved if both the electrolytes and the fluids lost in sweat are replaced.

Dehydration

If fluid is not replaced, the dancer will become dehydrated. Muscle cramps, electrolyte deficits and muscle fatigue may be associated with dehydration. Even a 2% fluid loss of total body weight reduces the dancer's ability to regulate heat loss and cope with the physical demands of dance. Greater levels of dehydration affect strength, ability to concentrate, and risk of injury. Severe dehydration is life threatening.

Dehydration not only affects the body's ability to regulate its temperature, but also has a negative affect on physical and mental performance. The dancer will no longer be able to maintain their desired level of exercise, as energy levels and performance will rapidly decline. A key indicator of hydration status is urine colour (as highlighted below). Pale urine indicates an optimal hydration status.

Although dehydration is more common than overhydration, both can lead to very serious conditions. Overhydration to the level of hyponatremia (low blood sodium) occurs when individuals have consumed too much water (very rare) or have undertaken long periods of intensive exercise where electrolytes have not been replaced, but large volumes of fluid (e.g. plain water) have been consumed. This results in the normal balance of electrolytes in the body being forced outside safe limits. Dancers should find what hydration practices work best for them, considering the number of hours and intensity levels for dancing each day.

Replenishing Fluids

It is very difficult to recommend a general fluid requirement that meets the needs of all dancers. However, dancers can estimate their own fluid requirements by weighing themselves naked before and after exercise. Each kilogram (kg) of weight lost is equivalent to approximately 1.2-1.5 litres (L) of fluid. To estimate total fluid loss during sessions, dancers must take into account any fluids consumed during this period (for example a dancer who lost 1kg of bodyweight, and consumed approximately 1.2 L of fluid during the session will have lost a total of 2 L of fluid).

It is important to always bear in mind that fluid requirements differ according to each individual dancer and hydration status will also depend on the available opportunities for drinking during class/rehearsal/performance. To ensure you are fully hydrated before exercise, there is no need to attempt to 'super-hydrate' before exercise. The body will only absorb a given amount of fluid, and drinking more than the body can absorb will only lead to multiple trips to the bathroom! It is best to try and drink two or more hours before exercise to give the body time to process fluid, with the

amount based on your individual requirements. Drinking 5-15 minutes before class is also recommended, in addition to fluid during dance activity and recovery. Fluid intake plays an important part in a dancer's pre-exercise, exercise, and post-exercise regime.

Where possible, it is advisable to adopt a pattern of drinking small volumes regularly rather than trying to absorb large volumes in one session! Most dancers can tolerate 200-300 ml every 15-20 minutes, although this will vary according to intensity of exercise.

What type of fluid? Hypotonic & isotonic drinks explained

Hypotonic drinks contain carbohydrates and electrolytes at a lower concentration than the body, generally less than 4g of carbohydrate per 100 mL. Hypotonic drinks are specifically designed to replace fluid lost through sweating. They are useful for dancers who require fluid without a boost of carbohydrate. They are best consumed after exercise (see recipes below).

Isotonic drinks have similar concentrations of carbohydrate and salt as the body, (4-8g of carbohydrate per 100 mL). They are designed to replace fluid in addition to providing energy (calories) in the form of sugar (see recipes below).

Low fat milk is frequently overlooked as an effective and inexpensive recovery drink. If the dancer can tolerate it, drinking low fat milk after exercise may promote recovery and rehydration as it contains many important nutrients, including protein, carbohydrate, vitamins, minerals and water – all used to replenish nutrient stores following dance activity.

Know what you are Drinking

Sports drinks can vary, so make sure you check how much carbohydrate (also listed as sugar on some labels) is present in 100mL of the beverage you choose. Many will have much more than 4-8g. If this is the case, you can dilute the drink with water to make an isotonic or hypotonic beverage, or make a less sugary beverage.

Exercise Time and Intensity	Fluid Requirements
Less than 30 minutes	Water
Low to moderate intensity, less than 1 hr	Water
Moderate to high intensity, less than 1 hr	Water or hypotonic drink
High intensity, more than 1 hr	Hypotonic or isotonic drink

Putting it all to practice:

- Do not rely on thirst as an indicator of dehydration. Thirst suggests that you are already dehydrated;
- A good hydration test is the 'pee test'. Small volumes of dark urine indicate dehydration. Urine that is pale in colour indicates a good hydration status. If you are dehydrated, you can correct this immediately!
- You may at first feel slight discomfort when training your body to accommodate both exercise and fluid at the same time. Ideally, start gradually with small amounts/sips, until any discomfort (such as bloating) dissipates;
- Always start each class or performance in a hydrated state;
- Always take a drinks bottle into classes and consume small amounts regularly;
- Get into the routine of carrying a water bottle around with you all the time;
- Aim to drink small amounts frequently to maintain a hydrated status or until you are fully hydrated;
- Spread your fluid intake throughout the day, rather than just focusing on fueling classes/performances;
- Ensure you fully hydrate after a class/performance to replace lost fluids;
- Follow the fluid chart (Table 1) to choose the most appropriate drink for the level of exercise you are undertaking;
- Fluid loss can be estimated by weighing yourself before and after a class/performance. Every kilogram lost is equivalent to 1.2-1.5 L of fluid;
- If you experience cramps, consider consuming a hypotonic or isotonic drink rather than plain water;
- Some drinks may have a dehydrating effect (e.g. coffee/tea). Everyone is different, however 3 small cups of coffee a day can be fine for those who can tolerate caffeine;
- Listen to your body: everybody tolerates different volumes and different types of drinks. Finding what works for you is paramount;
- Taking B-vitamin supplements can change the colour of your urine to a bright yellow. B-vitamins are water-soluble, and when consuming more water-soluble B-vitamins than the body requires, the excess is excreted via the urine;
- Avoid wearing sweat suits, as these can result in rapid dehydration and thus reduced performance.



Recipes for hypotonic drinks (4g carbohydrate per 100ml)

- 100ml of squash (any flavour, but not low sugar or no added sugar varieties)
- 900ml water
- Pinch of salt

Dissolve the salt in a small volume of warm water. Add the squash and remaining water (not warmed). Mix, seal and keep chilled in the fridge.

- 250ml unsweetened fruit juice (e.g. orange/apple)
- 750ml water
- Pinch of salt

Dissolve the salt in a small volume of warm water. Add the fruit juice and remaining water (not warmed). Mix, seal and keep chilled in the fridge.

Recipes for isotonic drinks (4-8g carbohydrate per 100 ml)

- 500ml unsweetened fruit juice (e.g. orange/apple/pineapple etc)
- 500ml water
- 1 large pinch of salt (1-1.5g)

Dissolve the salt in a small volume of warm water. Add the fruit juice and remaining water (not warmed). Mix, seal and keep chilled in the fridge.

- 200ml squash (any flavour but not low sugar or no added sugar varieties)
- 800ml water
- 1 large pinch of salt (1-1.5g)

Dissolve the salt in a small volume of warm water. Add the squash and remaining water (not warmed). Mix, seal and keep chilled in the fridge.

Note:

- Discard any unused drink after 24 hours.
- Keep drink bottles clean as sugar can invite bacteria and other bugs!

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