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### Revisión técnica

Sr. Javier Estrada Zeledón, Hospital Enrique Baltodano. CCSS  
Sra. Elizabeth Chinchilla Vargas. Consejo de Salud Ocupacional. MTSS  
Sra. Pamela Monestel Zúñiga. Dirección Vigilancia del Ministerio de Salud.  
Sra. Mariamalia Villavicencio Conejo. Dirección Regional Chorotega. Ministerio de Salud  
Sr. Claudio Monge Hernández. Consultor Diagnóstico participativo sobre: Enfermedad renal crónica no tradicional (ERCnt) para Región Chorotega.  
Sra. Marcela Mora Fallas. Consultora Diagnóstico participativo sobre: Enfermedad renal crónica no tradicional (ERCnt) para Región Chorotega.  
Sra. Carolina Picado Pomarh. Consultora Diagnóstico participativo sobre: Enfermedad renal crónica no tradicional (ERCnt) para Región Chorotega.

### Colaboración

Sra. Karol Madriz Morales. INCIENSA

### Dirección de arte, diseño y fotografías

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## Hydration Guide for people exposed to sun and heat



## iWater is life for our Kidneys!



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## Introduction

This manual discloses important information that you need to know to keep yourself hydrated before, during and after work or after performing daily activities. Health is the most precious good we have and we build it with what we do every day.

# iWater is life for our Kidneys!



The color of your  
urine tells us if we are  
having a proper  
hydration



iLet's take care  
of our kidneys!

## 7. Urine color as a guide to self-hydration

In the following chart you can see the color and concentration of urine and thus identify if you are hydrated or otherwise you need to drink more water. Watch your urine and take care of your kidneys.



### Clear or transparent pee: Good hydration

· Drink 1 glass (250 ml) of water or a hydrating solution and if you are performing physical activities, take at least 1 liter in the next 1 to 2 hours.



### Dark pee: Maybe you are not drinking enough liquid

· Drink 1 or 2 glasses (250-500ml) of water or a hydrating solution immediately and at least one liter in the following 30 minutes.



### Pee is too dark: You are not drinking enough liquid

· Drink 2 or 3 glasses (500-750ml) of water or a hydrating solution immediately or at least 1 liter in the following 15 minutes.



### Very very dark pee: It is not normal and you may be dehydrated

You need immediate hydration, drink 1 liter of water or hydrating solution, if pee color persists, check with your doctor.

Reviewed by: Dr. Marta Avellán Boza / Dr. Javier Estrada Zeledón  
Enrique Baltodano Briceño Hospital. Liberia, Guanacaste

## 1. Water is life!

Water helps us complete basic functions in the body. It transports nutrients and cleans harmful substances. It also maintains the body temperature because it regulates body heat and refreshes it through sweat. Water is part of us.

More than half of our body is water as we see in the image.

### Distribution of water in the body



**60% of our body  
is water!**

## 2. What is the relationship between water and kidneys?

The kidneys are a pair of organs that function as a blood filter, separating the substances that the body does not need and that must be discarded.

There are actions that if repeated day by day can cause a permanent and serious damage to the kidneys. These are:

- 1) Spending long periods of time without hydration; even if you are not thirsty, you should always drink water.
- 2) Staying in very hot places without ventilation.
- 3) Not taking breaks when you do physical activity, whether in form of sports, recreation or work way.
- 4) Mishandling pesticides.
- 5) Taking many medications without medical supervision.

Our kidneys do not warn us that they are getting sick, because most of the time we don't feel anything. They continue to work, even though they are sick, until one day, they stop working. When this happens, the problem is serious and can cause permanent damage. At that point, symptoms like the ones below may be shown:

- Joint pain.
- Physical tiredness.
- Shortness of breath.
- Tingling and muscle soreness.

In more severe cases, it may cause intoxication which can produce diarrhea, vomiting, seizures and even death

**The drinking of water before, during and after work or performing daily activities is the best ally for the kidneys to work at full speed!**

## 6. What is dehydration?

Dehydration occurs when more fluid is lost than it is taken in and the body does not have enough water to stay well. Anyone can become dehydrated and this increases if she/he works or does daily activities under the sun, with a lot of physical effort, a lot of heat and without shade or ventilation. **We are all at risk!**

Dehydration can cause problems such as headaches, tiredness, lack of concentration and cramps. In addition, it can damage digestion; it can also increase the chance of having infections such as chistate, cystitis and allergies. It can also cause back, head, shoulders, elbows, wrists and knees pain, among others.





## 5. Hydration while at work

Jobs that require great physical effort and that, in many occasions, are developed under a lot of sun or heat, make our body lose water when we sweat or if we are not well hydrated. That is why it is necessary to take care of hydration while at work.

### Tips for staying hydrated in the workplace

1. Drink 1 or 2 cups water when getting up in the morning. This helps us recover the water that the body lost when we were sleeping.
2. Don't forget your water bottle before leaving home. It is important to take small drinks of water on the way to work.
3. While at work, drink fresh water, even if you do not feel thirsty. Small drinks of water, two cups every two hours or more often if it is required. Fill your bottle whenever necessary.
4. At lunch, try to choose water or beverages made from low-sugar fruits.
5. Going back home, don't forget to fill your water bottle and to take small drinks to maintain the level of hydration.
6. Do not wait until you are thirsty to drink water. Remember that the body warns us when it's already dehydrated. Drinking water is the best way to hydrate while at work.
7. Remember to drink water before, during and after work or daily activities when exposed to sun or heat.

**Remember that if you work for a company, it has the obligation to provide you with water while you are at work.**

**The water must be fresh.**






## 3. How much water should we drink?

Water consumption between healthy men and women depends on the physical activity (sport, recreation or work) performed and on if they are exposed to sun and very high temperatures.<sup>1</sup> If you work in the sun, mining, fishing, farm work, construction, collecting waste, street sales, plumbing and inspection, among others, you should drink water before, during and after these activities and do not wait until you are thirsty.

### How to find out if the activity performed is mild, moderate or intensive?

The consideration of a physical activity as mild, moderate, or intensive<sup>2</sup>, depends on the physical condition of each person, but in very general terms; it can be stated that:

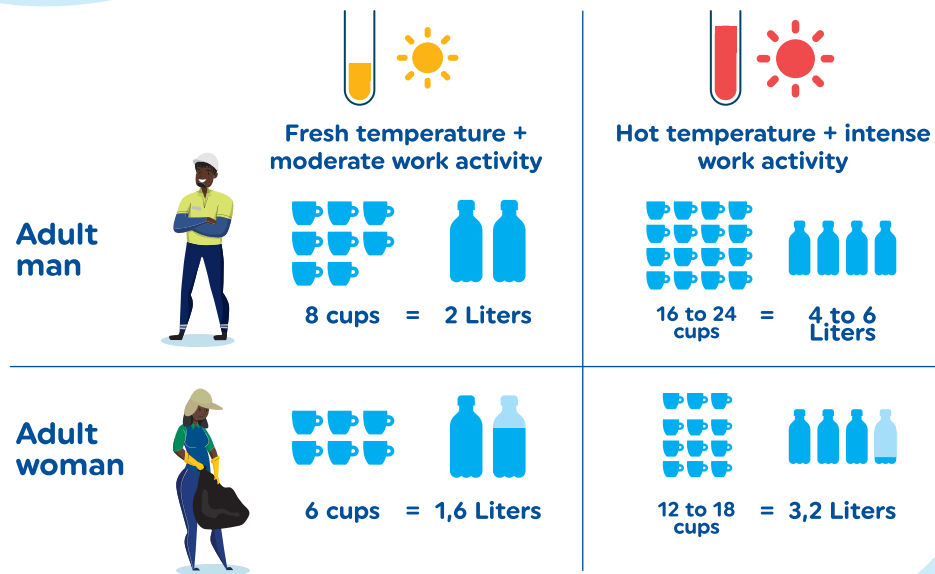
Physical Activity	Breathing	Heat	Effort
 Mild	Slight increase in rhythm and beats from the heart	+ No heat sensation	+ Mild effort
 Moderate	Rhythm speeds up a bit more and heartbeats are faster	+ There's heat sensation	+ Moderate effort
 Intensive	Very fast and hard to speak	+ Quite strong	+ Great effort

1. A temperature above 38 ° C or relative humidity of more than 50% is considered severe environmental conditions.

2. For technical criteria, this guide takes an adaptation of the Borg Scale of Perceived Physical Effort which measures the entire range of the effort that the individual perceives when doing physical activity.

## Water consumption per day according to temperature and working activity

The chart below shows the amount of water consumption that a person should have per day to take care of his/her kidneys.



## 4. Water helps regulate body temperature



The temperature of the water we drink is very important. It helps regulate our body temperature and it is necessary for it to be fresh, so we must keep it in the shade while we are at work or performing activities under the sun.

### Ideas to keep water at a suitable temperature when working exposed to sun.

1. Store one or two bottles in the freezer the night before. Fill it halfway and leave it in the freezer until it becomes ice. When you take it out fill the gap, this way you make sure you have a very durable cold base in your bottle. You can store two bottles of water, and so you will have another bottle ready for the next day. Remember to keep them in the shade.
2. Make a sheath or wrap your bottle with a fabric that insulates heat (Example: thick fabric, saddle covers or ironing blankets slightly wet), this will help to maintain an adequate temperature. Remember to keep your bottle in the shade.
3. Wrap your bottle in a wet rag; this will help keep a suitable temperature. But you should always keep your bottle in the shade.

# Remember, before starting any physical activity you must drink water!

Our body can only assimilate about 4 cups of fluid per hour. Therefore, we must drink the water slowly, in small sips and preferably at a cool temperature.

