



## Lesson 2—Fundamentals of Nutrition

### Introductory Habit for the Week

Welcome to Lesson 2, Fundamentals of Nutrition! In this lesson, you will receive a brief overview of all the major macronutrients: carbohydrates, proteins, fats, and fluids (mainly water). You'll discover why you need these macronutrients, what health benefits they supply, which ones you should eat in larger quantities, and which you should avoid for ideal health and body composition. You will learn more in depth about each of these components of your diet in future lessons, but for now, this is a great introduction to these topics to prepare you for more information on them all.

***For this week, your nutrition habit is to consume ~3 Liters of water each day.*** This may seem like a lot, but water is a primary nutrient necessary for everyone. Proper intake prevents not only dehydration but also misleading feelings of hunger and fatigue.

### How Much Water Do YOU Need Each Day?

Each day, your body loses water through urine, sweat, respiration, and other metabolic processes. If you don't consume enough, you can become dehydrated, causing symptoms such as headaches, tiredness, and loss of concentration. Chronic dehydration can also contribute to a number of health problems such as constipation and kidney stones.

Now that you know how important water is to your health, how much do you really need? You often hear that you should drink eight 8-oz. glasses of water each day to maintain proper fluid balance. If a person did this, they would take in 64 oz. of water in one day, or about 2 liters. New recommendations from the Institute of Medicine (IOM) recommend that healthy adults aged 31 to 70 and living in temperate climates consume the following amounts each day:

- **Men:** 125 oz (3.7 liters) water per day from all dietary sources
- **Women:** 91 oz (2.7 liters) water per day from all dietary sources

When the temperature soars, or if you sweat a lot when you exercise, you will need more water each day than this. Aim for an extra 8 oz. (250 ml) at least.

## **What If You Don't Like Drinking Water?**

The recommendations given by the IOM are much more than the former 64 oz. you may have heard about. As a result, the thought of drinking this much water might make you feel sick to your stomach. However, consider that your total water intake comes from all of the following sources:

- Drinks, either plain water or as part of other beverages or fluids including tea (ideally unsweetened), coffee, juice, and soups (ideally low sodium)
- Solid foods, especially fruit (e.g., watermelon) and vegetables (e.g., cucumbers) and even foods such as bread and cheese provide small amounts of fluid

As you can see, if you don't like drinking water, you can still meet some of your water needs through other beverages (like coffee or tea) and water-containing foods (like fruits and vegetables). Food provides about 20% of your total water needs each day. That means that you'll need to drink at least 2 to 3 liters (~64 oz.) each day of some type of water-containing beverage. Thus, the general recommendation of eight 8-oz. glasses of fluid is pretty close to being correct. If you keep a water glass or bottle with you all the time, this will help you achieve your recommended intake of water each day.

## **What about Coffee? Does It Count Towards the Total Daily Water Intake?**

Yes! Coffee is a great way to get in your fluids. Contrary to popular belief, coffee is not a diuretic. In fact, Dr. Lawrence Armstrong from the University of Connecticut was the first researcher to disprove this dehydrating myth in a research setting: (Armstrong, LE et al. Fluid, electrolyte, and renal indices of hydration during 11 days of controlled caffeine consumption. *Int J Sport Nutr Exerc Metab.* 2005 Jun;15(3):252-65.). In this study, he showed:

- When caffeine or a caffeinated beverage is consumed, the body retains some of the fluid;
- Caffeine consumption causes a mild diuresis very similar to that of water (water, when consumed in large volume, increases urine output);
- There is no evidence that consumption of caffeinated beverages causes a fluid-electrolyte imbalance that is detrimental to health or exercise performance;
- A person who regularly consumes caffeine has a higher tolerance to the mild diuretic effect.

Once again, if water isn't your thing, coffee can help you meet much of your water needs. Ideally, it should be unsweetened for minimal fat gain from sugar intake.

## Recommended Beverages by Level of Importance

The following is a list of beverages recommended to meet your water needs with amounts listed beside each one. You'll notice that water is at the top of the list, as it fulfills your body's fluid needs without unnecessary calories or additives. If you don't like the taste of plain water, try filtered water or add a touch of lemon to give your water a new twist.

### **Level #1 (most important)**

- Plain Water

Drink at least 20 oz. (0.5 L) each day, up to at least 64 oz.

### **Level #2 (no calories, no artificial sweeteners, no caffeine—non-chlorine decaffeination)**

- Sparkling Mineral Water, Unsweetened
- Naturally Decaffeinated Tea: White, Green, Oolong, Black, Rooibos, Tulsi, Herbal
- Naturally Decaffeinated Coffee

These beverages can replace an equivalent amount of water. Consume 0-40 oz. per day.

### **Level #3 (no calories, no artificial sweeteners)**

- Caffeinated Tea: White, Green, Oolong, Black, Yerba Mate
- Caffeinated Coffee or Espresso

These beverages also can replace an equivalent amount of water, but try to limit your intake of caffeine to no more than 250 mg per day (one cup of coffee contains about 80-140 mg of caffeine).

### **Level #4 (contains some protein, carbohydrate, and fat)**

- Dairy Beverages: Goat's milk, Cow's milk (ideally organic and grass-fed)
- Non-Dairy Beverages: almond milk, hemp milk, rice milk, all unsweetened

These contain about 80% water. Consume 0-16 oz. per day.

### **Level #5 (contains mostly carbohydrates)**

- 100% Fruit Juice: No sugar or artificial sweeteners added. Consume 0-8 oz per day.

- Alcohol: Wine and clear spirits preferred. Consume 0-4 oz. per day (men 0-8 oz. per day).
- Unsweetened Coconut Water. May consume 0-8 oz. per day.
- Unsweetened Soy Beverage. May consume 0-8 oz. per day.

**Beverages to Avoid (contains additives, artificial ingredients, and empty calories)**

- Any beverage with artificial sweeteners or high fructose corn syrup (soda, sports drink).

**Fluid Tracking Sheet for This Week**

Please use the following table to record your fluid intake with each meal and snack you consume each day. Aim to consume a total of ~3 liters of fluid each day.

In Each Box During the Week, Record the Amount of Water, Tea, Coffee or Seltzer You Drank with Each Meal.						
If you didn't drink anything, put an X in the box.						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Breakfast						
Snack						
Lunch						
Snack						
Dinner						