



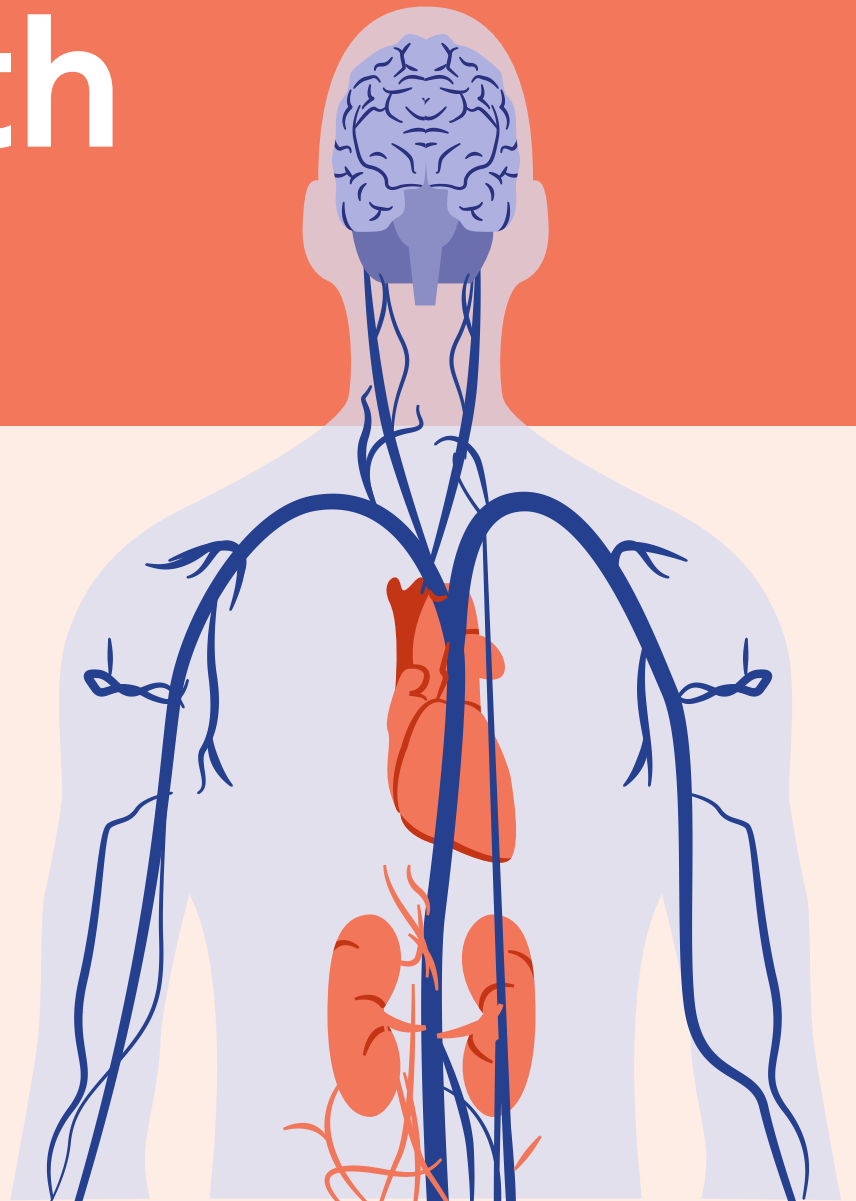
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MINISTRY OF HEALTH - ETHIOPIA
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HEALTHIER CITIZENS FOR PROSPEROUS NATION



World Health
Organization



Salt (sodium chloride) Reduction for Health



Sodium

Sodium is the chemical element in the periodic table that has the symbol Na and atomic number 11.

Sodium is a soft, silvery-white, highly reactive metal belonging to the alkali metals that is abundant in natural compounds.

The human body requires a small amount of sodium to conduct nerve impulses, contract and relax muscles, and maintain the proper balance of water and minerals.



Where is sodium found?

Sodium occurs naturally in foods such as celery, beets and milk.



Celery

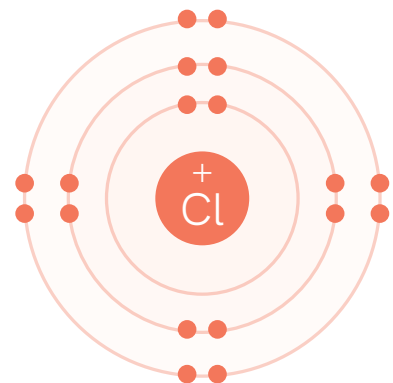
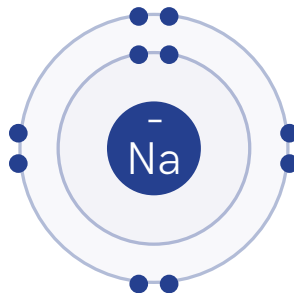


Beets



Milk

Sodium chloride, commonly known as salt, is an ionic compound with the chemical formula NaCl, representing a 40% sodium and 60% chloride ratio of sodium and chloride ions.



It is harmful to the body to consume more than 5g of salt per day, but most Ethiopians consume more than 8g of salt per day.

The World Health Organization (WHO) recommends an upper limit of 2000mg of sodium per day; this is equivalent to 5g or about one teaspoon of salt.

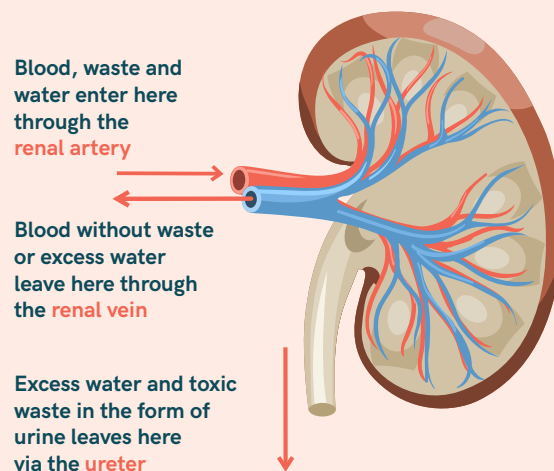
More than 95% of Ethiopians eat more than 5g of salt per day. On average, Ethiopians eat 8.3g of salt per day.

Humans need very little salt to maintain essential functions, and more is not better.

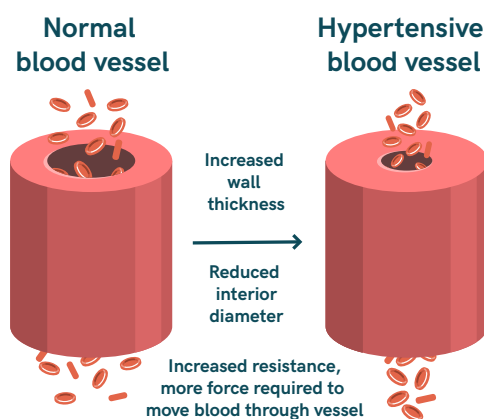
Our bodies will try to get rid of excess salt to maintain the proper amount in the body and if it cannot, health problems start to accumulate.

If there is too much salt in the body, the kidneys will remove it by making more, or saltier, urine.

Your kidneys are filters that remove waste from your blood.



Hypertension makes it more difficult for blood to move through your blood vessels.



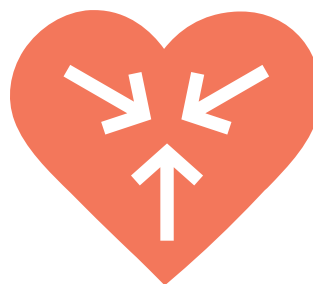
This is an efficient process, but like many other protective mechanisms in our bodies, it is not designed to withstand the extremely high levels of salt accrued over a lifetime.

If the kidneys cannot get rid of enough salt, salt will build up in the fluid between cells. This draws water to the area and, as the volume of fluid increases, so does the volume of blood. This means more work for the heart and more pressure on blood vessels. If this continues, blood vessels can stiffen, leading to dangerous levels of high blood pressure, heart attacks, strokes and heart failure. It also means that many blood pressure medicines (such as diuretics) do not work as well as they could.

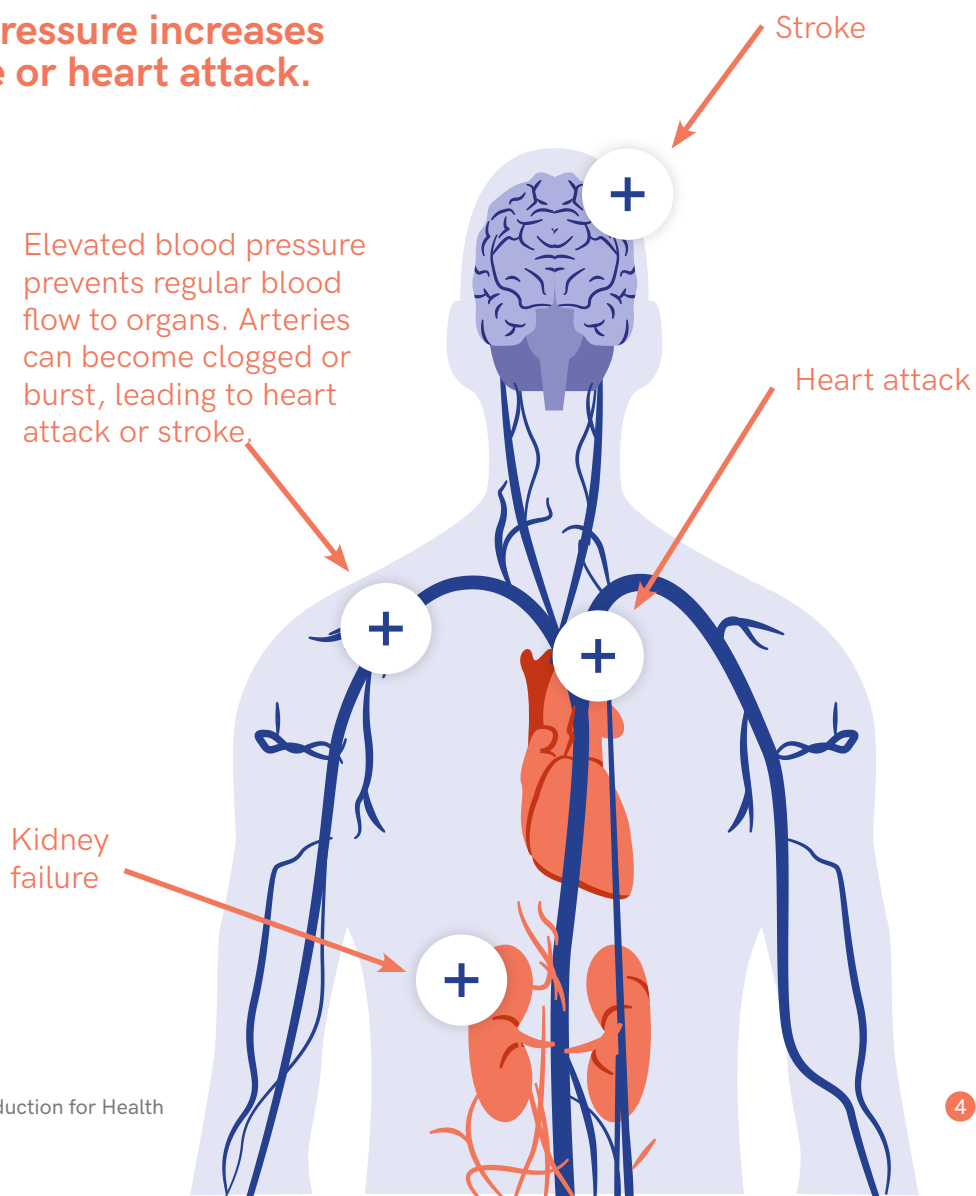
Too much salt and its impact on your health

Blood carries oxygen and other nutrients around the body. Less blood flowing to your heart may cause pain or even a heart attack. Less blood flowing to your brain could cause stroke or dementia.

Too much salt can also cause swelling of your legs and kidney failure. High blood pressure contributes to your risk of stroke or heart attack.



High blood pressure increases risk of stroke or heart attack.



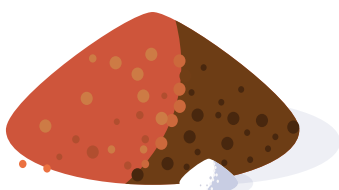
Foods that are high in salt

Keywot, dorowot, shero and bread are some of the foods commonly eaten in Ethiopia that are high in salt. These foods are prepared using powder of berbere (for keywot and dorowot), shiro (for shirowot) and mimita (for tiresega).

Salt is added to these powders while the powder is prepared, and then most cooks add even more salt while cooking.

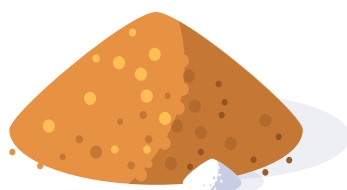


Salt contents in powders



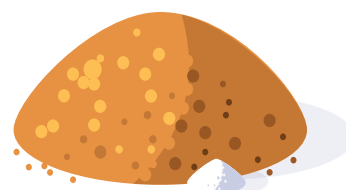
Berbere ingredients:

- Chili peppers, coriander, garlic, ginger, basil, korarima, rue, ajwain or radhuni, nigella, fenugreek and salt.
- **Depending on the region, 10 to 20% of salt is added.**



Shiro ingredients:

- Peas, lentils, chickpeas/ beans and salt.
- Salt is added for both preservative and taste.
- **Depending on the region, 5 to 10% of salt is added.**



Mimita ingredients:

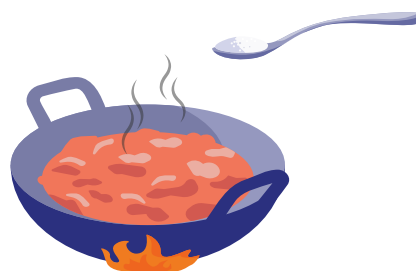
- Cloves, cardamom, cumin, ginger, cinnamon, bird's eye chili and salt.
- **Depending on the region, 30 to 75% of salt is added.**

Street foods and packaged foods are often high in salt

- Potato chips and other packaged snacks
- Street potato fries (0.5 grams of salt per piece)
- Samosas (0.8 grams of salt per piece)
- Chornaki (0.08 grams of salt per serving)



Ways to reduce salt intake



Gradual reduction of salt is recommended. By gradually reducing salt, you and your whole family will find it easy to get used to low-salt foods. You are training your taste buds to get used to food with less salt—the less salt you add, the less you will want it.

This also trains your taste buds to appreciate and recognize the different flavors of the food you eat rather than the overwhelming taste of salt in your food.

You have control over how much salt you add when cooking — so wait until all the other ingredients have developed their flavors before adding just a little bit of salt, if it is needed.

When cooking or making your own spice mixtures, replace salt with other spices, and add more herbs or other flavorful ingredients to the dish. If using a store-bought spice mixture, start by not adding additional salt to the dishes you are cooking.



Take salt off the dinner table at home.



Avoid packaged or processed foods since these are typically high in salt. Pay attention to the snack foods you don't prepare and choose lower-salt items when you can.



Replace salt with condiments and spices that are low in or do not contain salt, such as black pepper, garlic, lemon, etc.

Student Assessment

- 1. How much salt per day does the human body require to conduct nerve impulses, contract and relax muscles and maintain the proper balance of water and minerals?**
 - a. 1 tablespoon of salt per day, about 10 grams
 - b. 1 teaspoon per day, about 5 grams
 - c. Less than 1 teaspoon per day
- 2. What is the maximum amount of salt you should consume each day?**
 - a. 1 tablespoon of salt per day, about 10 grams
 - b. 1 teaspoon per day, about 5 grams
 - c. Less than 1 teaspoon per day
- 3. How much salt per day does the average Ethiopian consume?**
 - a. 1 tablespoon of salt per day, about 10 grams
 - b. 1 teaspoon per day, about 5 grams
 - c. 1 1/2 teaspoons per day, about 8 grams
 - d. 1 1/2 tablespoons of salt per day, - about 10 grams
- 4. What happens to our body when we take too much salt? (Select all of the right answers)**
 - a. Our kidneys will try to get rid of the excess salt by making saltier urine
 - b. Volume of blood increases because of increased fluid in the cells
 - c. The walls of the artery thickness increases
 - d. Blood pressure increases
- 5. What are the impacts of too much salt on our health? (Select all of the right answers)**
 - a. Decreased blood flow to our heart will lead to heart attack
 - b. Decreased blood flow to our brain could cause stroke
 - c. More stress on our kidneys to remove excess salt could lead to kidney failure
- 6. What are the best ways to reduce salt intake? (Select all of the right answers)**
 - a. Gradually reduce salt intake
 - b. Replace salt with condiments
 - c. Finish cooking before adding salt
 - d. Remove Salt shaker at the dinner table
 - e. Avoid purchasing packaged or processed foods
- 7. List 3 foods that are high in salt :**
