

# ACID BALANCE

PARENT AND CAREGIVER RESOURCE

## PARENT AND CAREGIVER RESOURCE

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The **kidneys** balance many things in the body including **acid**. The foods we eat contain different amounts of acid. The right acid balance is important for the whole body, in particular strong **bones**, good growth and generally feeling well. As your child's **kidney disease** progresses, it becomes more difficult for the kidneys to keep the right acid balance in the body.

If there is too much acid in your child's body, they have **metabolic acidosis**. Some children who have lower kidney function can get metabolic acidosis. A **blood test** called a **blood gas** tells us the acid balance in the body. We can help keep the right acid balance through healthy eating and medicines if needed.

The medicines to help with acid balance are **sodium bicarbonate**, sometimes called "**bicarb**" and **dicitrate**. Sodium bicarbonate is a **pill** and dicitrate is a liquid. Some children need help taking these medications because of the way the medicines taste

or how they make the child feel.

It might help your child take these medicines by:

- mixing them in juice or diluting them
- taking them through a **g-tube**

Your job is to help your child take their medicines.

You might want to speak with the **Child Life Specialist** or the **Pharmacist** for more information. Ask the **Kidney Health Team** to connect you.

#### WEB BASED RESOURCES

<http://www.aboutkidshealth.ca/En/HealthAZ/Pages/default.aspx> Click on the Letters A-Z to find information on health related topics

<http://www.caringforkids.cps.ca/> Click on a variety of topics at the top of the website for general information to

## ACID BALANCE

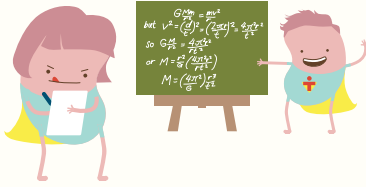
*parents about child health. From the Canadian Pediatric Society*

[http://www.pbs.org/opb/childrenshospital/parents/pop/pop-ts\\_medicine.htm?500](http://www.pbs.org/opb/childrenshospital/parents/pop/pop-ts_medicine.htm?500)

<http://rense.com/1.mpicons/acidalka.htm>

<http://kidney.niddk.nih.gov/kudiseases/a-z.aspx>

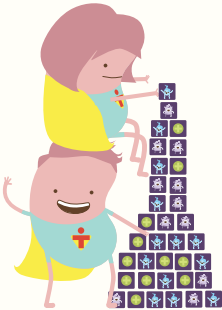
## ACID BALANCE GLOSSARY



### ACID

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Acid is a substance our body uses for normal energy metabolism and good function of different tissues in the body. Foods we eat contain different amounts of acid. The body acid level is controlled by the kidneys.



### ACID BALANCE

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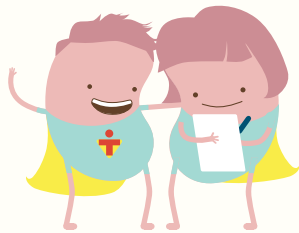
Acid balance is about the amount of acid your body needs. When there is too much acid, we call that acidosis. Some people with chronic kidney disease can get acidosis. The right amount of acid in the body is important for the body systems to work well, for children to grow and have strong bones. Your Kidney Health Team may suggest medicines to help keep the right amount of acid in your body.



### BALANCE

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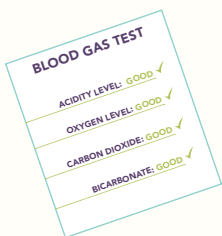
Balance is when you have just the right amount of something - not too much, not too little. Our kidneys balance many things in our body.



### BICARB

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Bicarb is short for bicarbonate. Bicarb can combine with acids to take away the acidity. It is normally made by the kidneys to control the acid level in our blood. If you have chronic kidney disease, you may not be able to make enough bicarb, which can cause too much acid in your body. Your kidney health team may suggest taking medicines that replace bicarb, and help control your blood acid levels.



### BLOOD GAS

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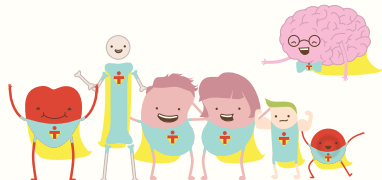
Blood gas is a blood test used to measure how much oxygen, carbon dioxide and acid is in our blood. In the Kidney Health Clinic, it is mostly used to see if the acid levels in the blood are in balance.



### BLOOD TEST

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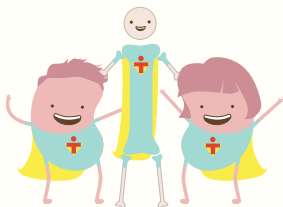
Blood tests can check how well our body is working, whether we have enough or too much of certain vitamins and minerals and whether we might have an infection. A blood test is done by taking a small sample of our blood and testing it in a lab.



### BODY TEAM

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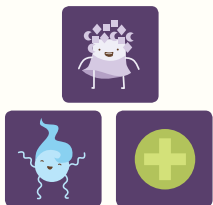
The Body Team is how we talk about the parts of the body like the heart, bones, blood and kidneys that work together to help us stay healthy.



### BONES

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Bones are made of calcium, phosphate and other substances, and form our body skeleton. Healthy bones need enough nutrients from the food we eat, enough physical activity, and the right vitamins and hormones in our body. The kidneys are important for keeping bones healthy.



### BUILDING BLOCKS

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“Building blocks” is a way to explain how the body uses different substances together to make our body tissues and organs work, become stronger and healthier. The building blocks for each body system are different. For example, the bones use the calcium, phosphate and vitamin D building blocks. Muscles need the right amount of protein, potassium, calcium and energy building blocks.



### CALCIUM

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Calcium is a building block mineral our body needs. We get it from food. It is important for strong bones and many other things in our body. The right amount of calcium in the body is controlled by what we eat, vitamins, hormones and the kidneys. Child Life Specialist



### DICITRATE

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Dicitrate is a medicine that increases the amount of bicarbonate or “bicarb” in the blood. It is used to treat acidosis. Acidosis is when there is too much acid and not enough bicarbonate in the body. Dicitrate can be taken as a liquid medicine and so it is good for small children who need treatment for acidosis.



### G-TUBE

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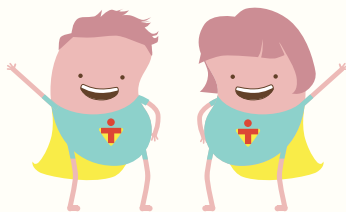
G-tube is short for gastrostomy tube, and is a type of feeding tube. It is used to give nutrition to children who cannot eat enough food by mouth to grow and develop. It can also be used to give medicines. Some children may have an operation that makes a hole connecting the stomach and the skin. The G-tube goes through the hole, so food or medicine can be put directly into the stomach.



### KIDNEY HEALTH TEAM

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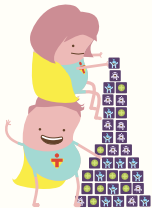
Kidney Health Team is all the different people who work with you to help keep your kidneys as healthy as possible. Members of the Kidney Health Team include nurses, doctors (nephrologists), dietitians, social workers, clerks, you and your family. Together, everyone will work with you to make your Kidney Health Care Plan.



### KIDNEYS

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Kidneys are bean-shaped organs about the size of our fist. Most people have 2 kidneys. Kidneys are found under the rib cage near the middle of the back. The kidneys have many functions or jobs (see Kidney Function).  
Medicines



### METABOLIC ACIDOSIS

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Metabolic acidosis is when there is too much acid in our body. (See acid balance).

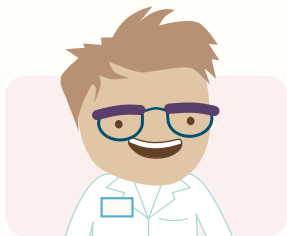
## ACID BALANCE



### **MINERALS**

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Minerals are important building blocks our body needs to stay healthy. There are many different substances that we call minerals, like calcium, phosphate and potassium. Minerals get into our body in our food. Our kidneys help to maintain or keep the right amount of minerals in our body.



### **PHARMACIST**

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Pharmacists are members of your Kidney Health Team. Pharmacists read the prescription from the Doctor and give you your medicines and instructions.



### **PILL(S)**

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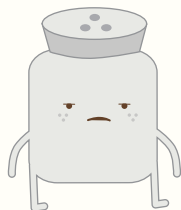
Pills are medicines that we swallow. They are also known as tablets, capsules, or gel caps. Pills might be different shapes (round, long and skinny, football-shaped, etc.) and different colours. Pills should be stored safely. Pills should only be taken as directed by your health care team or the Pharmacist.



### **PROTEIN**

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Protein is a substance that is essential for the body. It is an important building block. It is what makes up muscle and is part of important systems that make our body work. Protein gets into our body by eating it in meat and other foods.



### **SALT**

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Salt is made up of two substances called sodium and chloride. It is something we taste in our food. Sodium in salt is important to control the amount of fluid and blood pressure in our body: when we have more sodium, we feel thirsty and too much sodium can make us swollen. If you are losing salt and water, like with stomach flu, you get dehydrated. Our kidneys help balance salt and water in our body.



### SODIUM BICARBONATE

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Sodium bicarbonate is a medicine that increases the amount of bicarbonate or “bicarb” in the blood. It is used to treat acidosis. Acidosis is when there is too much acid and not enough bicarbonate in the body. Sodium bicarbonate is usually taken as a pill for treatment of acidosis.



### WASTE

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Waste is made when our body is using up the building blocks needed for growth and breaking down nutrients in food. Our body gets rid of this waste in our bowel movements and urine when we go to the bathroom. There is waste in our blood and it is mostly cleaned out by the kidneys and goes out in the urine.

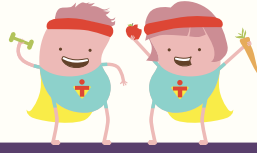


### WATER

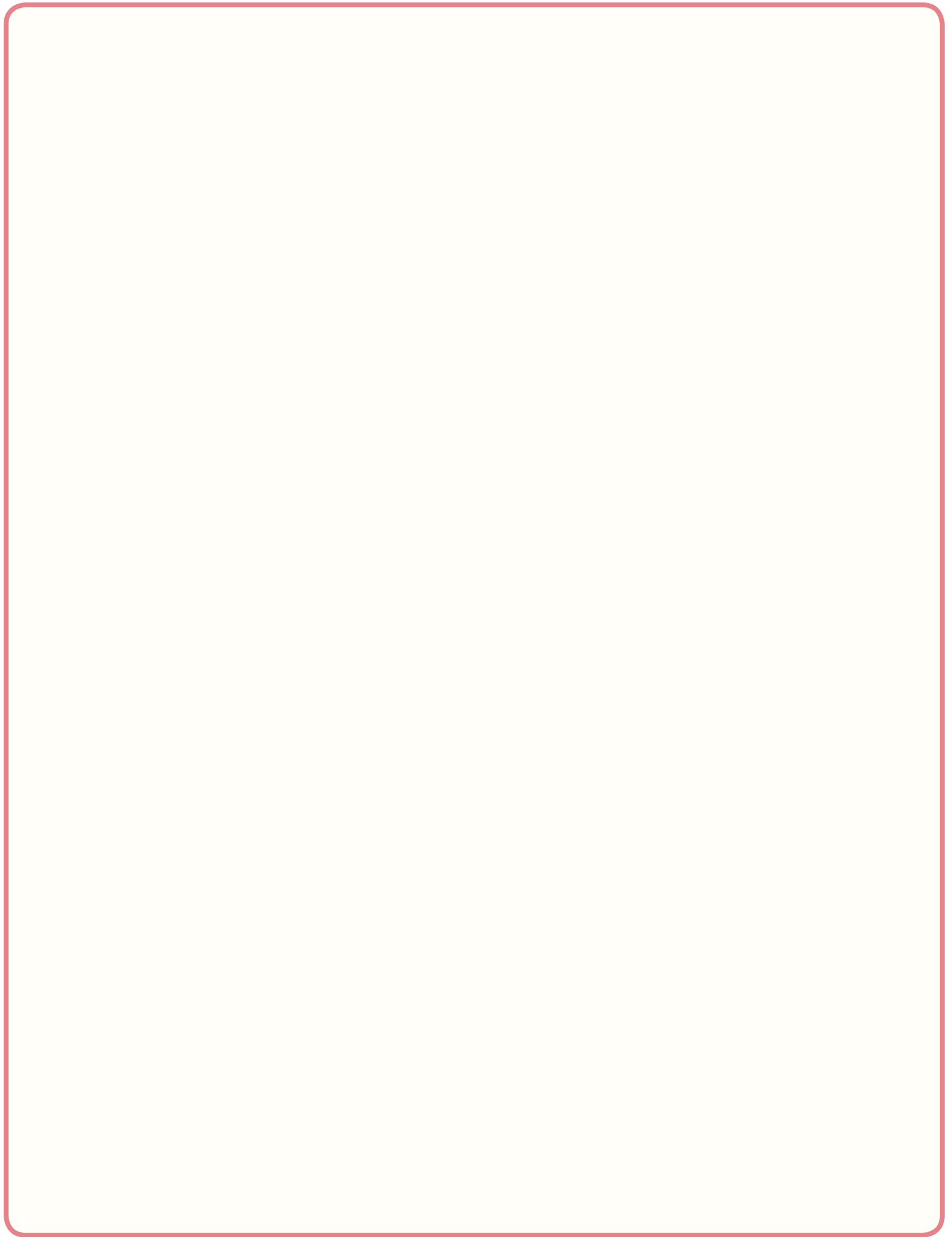
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Water is the liquid that we drink. Our bodies are made of mostly water. The amount of salt in our body affects the amount water we have. The kidneys are very important to keep the amount of salt and water for our body in balance.



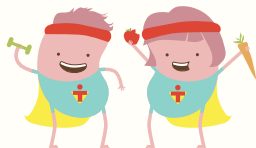


## NOTES





**HEALTHY KIDNEYS**



Created by Julie Strong BN, Tom Blydt-Hansen MD, Diane McKenty RN, and Angela Chotka MA with Pediatric Nephrology (Children's Hospital Health Sciences Centre) and Chotka Consulting: Creative Balanced Solutions. With thanks to the Children's Hospital Foundation of Manitoba for their generous support.

For more information about this resource, please contact Pediatric Nephrology at 204-787-4947 or [jstrong@exchange.hsc.mb.ca](mailto:jstrong@exchange.hsc.mb.ca) or the Children's Hospital Foundation of Manitoba <http://goodbear.mb.ca>