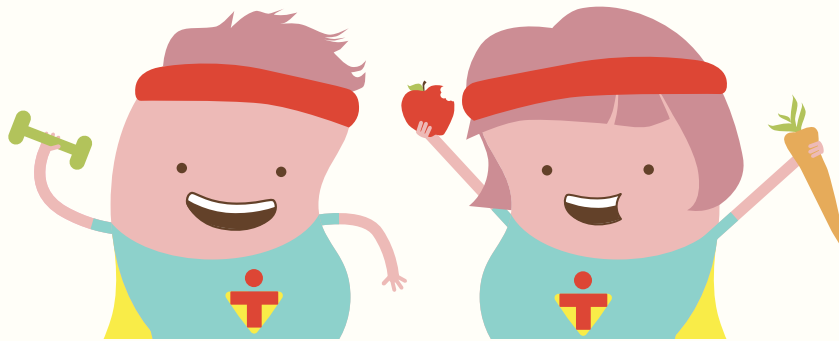


HEALTHY KIDNEYS ACID BALANCE



PRE-SCHOOL LEVEL



SCHOOL AGE LEVEL



ADOLESCENT LEVEL



RESOURCES MENU

1. Your Kidney Health Team
2. Meet Your Kidneys!
3. Balance
4. Connections
5. Healthy Eating
6. Being Active
7. Taking Medicines
8. Healthy Blood
9. Bone Health
10. Blood Pressure
- 11. ACID BALANCE**
12. Growth
13. Chronic Kidney Disease
14. Family Coping Resources
15. My Coping Resources
16. Glossary







HEALTHY KIDNEYS

The Kidney Health Learning Resource is to help children, parents, families, and caregivers living with kidney disease live well with the disease.

The Kidney Health Learning Resource is also for the health care team. The resource helps open the doors to conversations, learning and relationship-building with children, youth and families about kidney disease by presenting simple, age-appropriate design and medically and clinically accurate information and concepts.

The Kidney Health Learning Resource Advisory Group thanks parents and children who welcomed us into their private experience of living with chronic kidney disease. Children and families shared experiences and took time to let the consultant know what has been - and what would have been - helpful to know as they coped with chronic kidney disease in their families. To the children and families: thank you for sharing so that other families and health care providers can benefit from your wisdom. Your openness, enthusiasm and courage inspires us all.

We thank the members of Pediatric Nephrology, Children's Hospital, Health Sciences Centre Winnipeg who provided input, shared expertise and gave encouragement in the development of the learning resources. We also thank members of CANN-NET for their reviews of materials and their enthusiastic support.

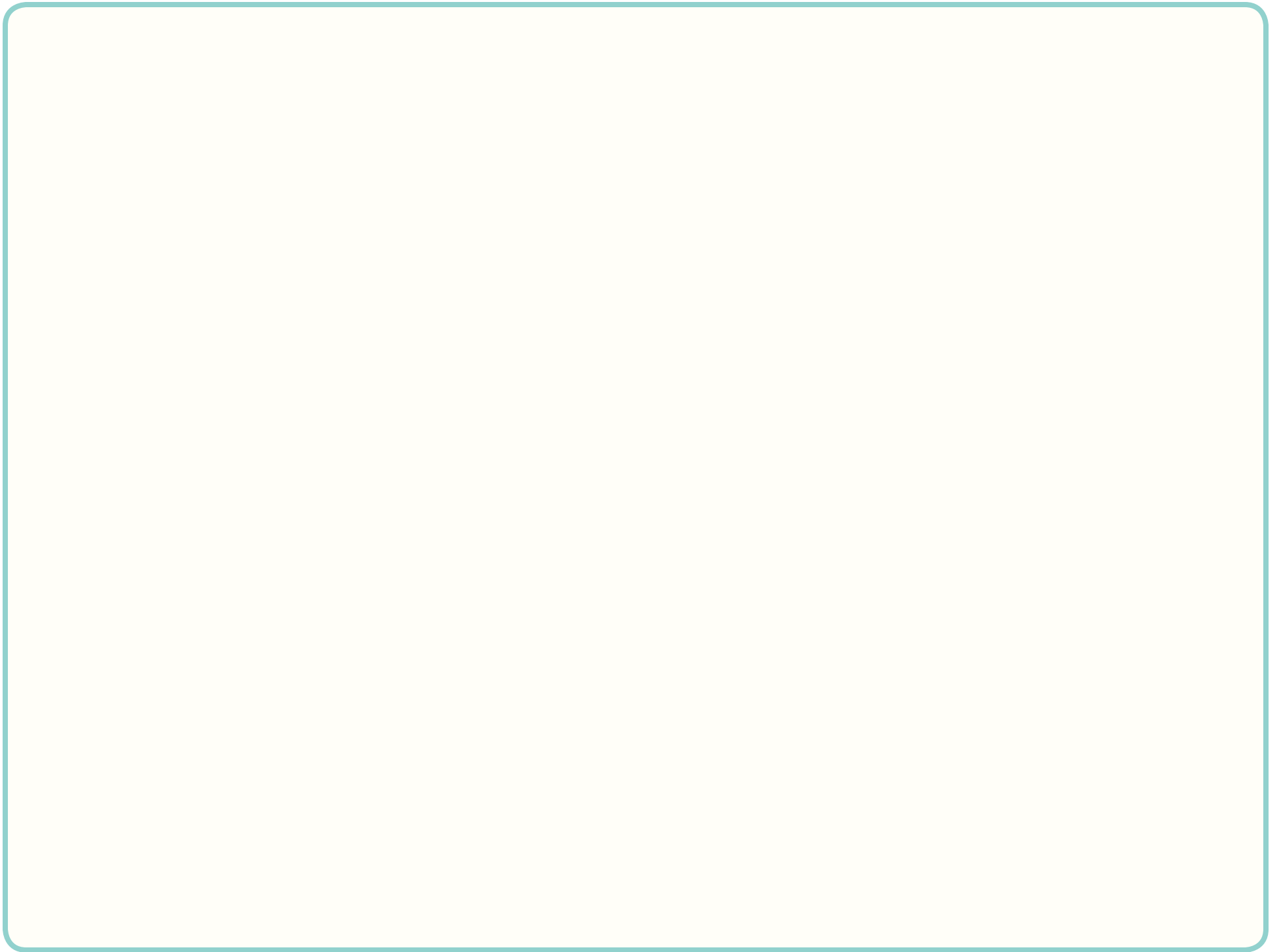
Finally, we thank the Children's Hospital Foundation of Manitoba for their financial support in the development of this resource.

Developmental levels within this resource:

PRE-SCHOOL LEVEL

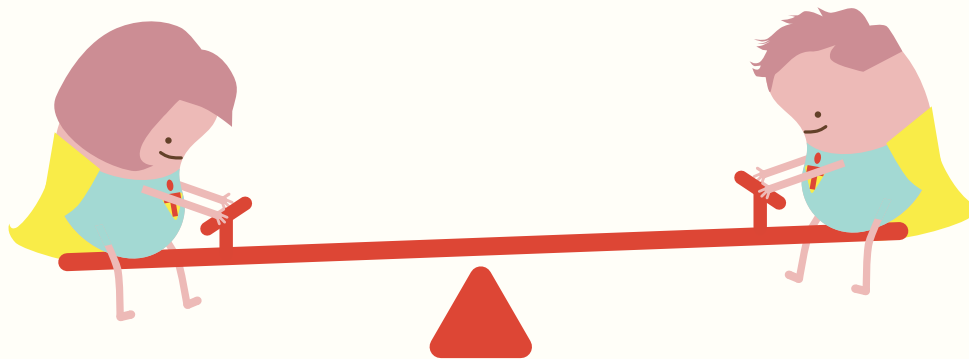
SCHOOL AGE LEVEL

ADOLESCENT LEVEL



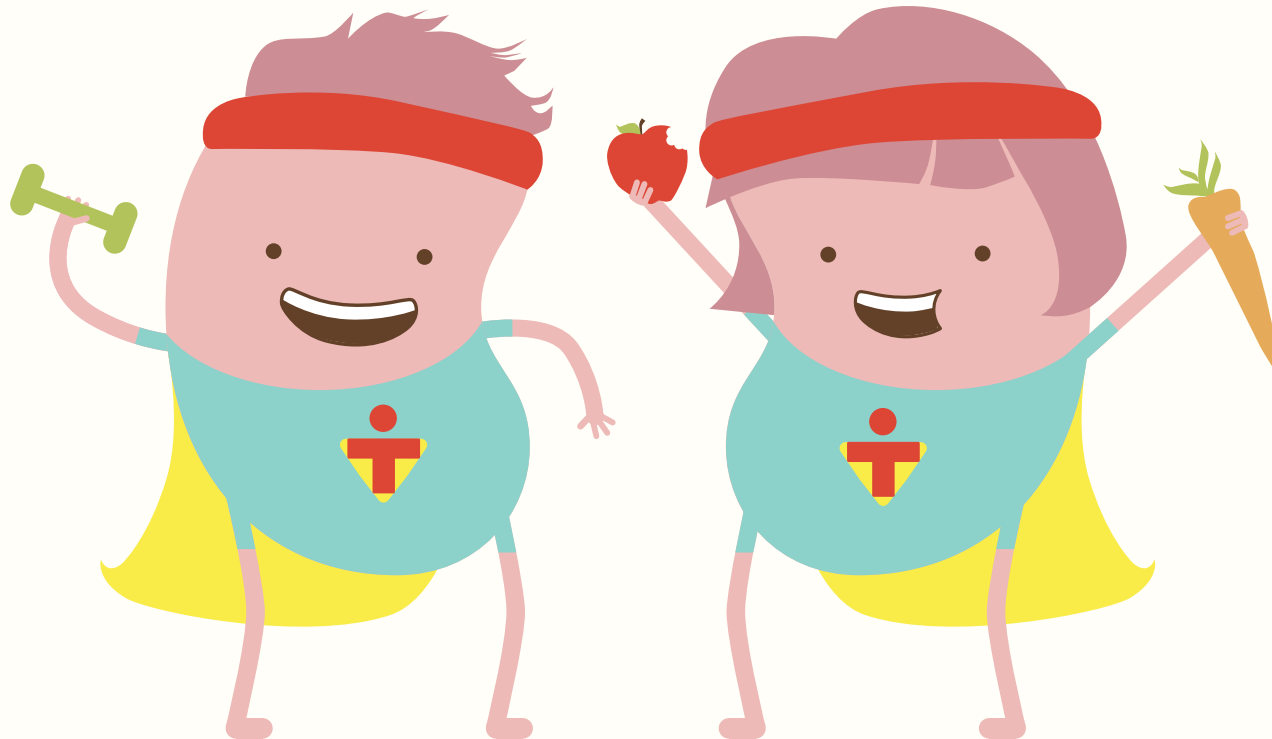
ACID BALANCE

PRE-SCHOOL LEVEL



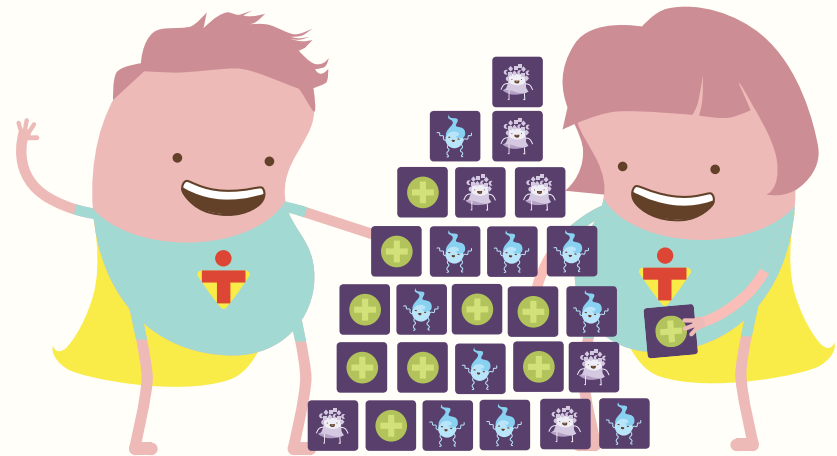
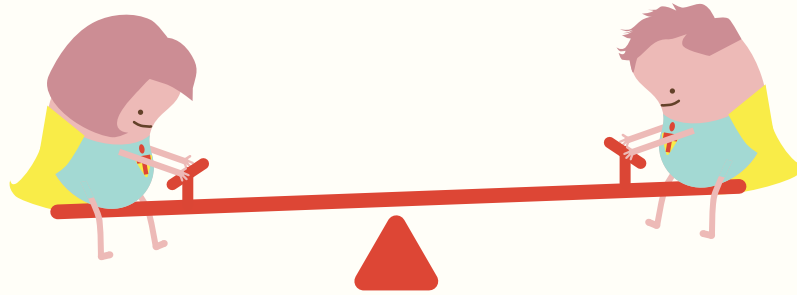
RESOURCES MENU

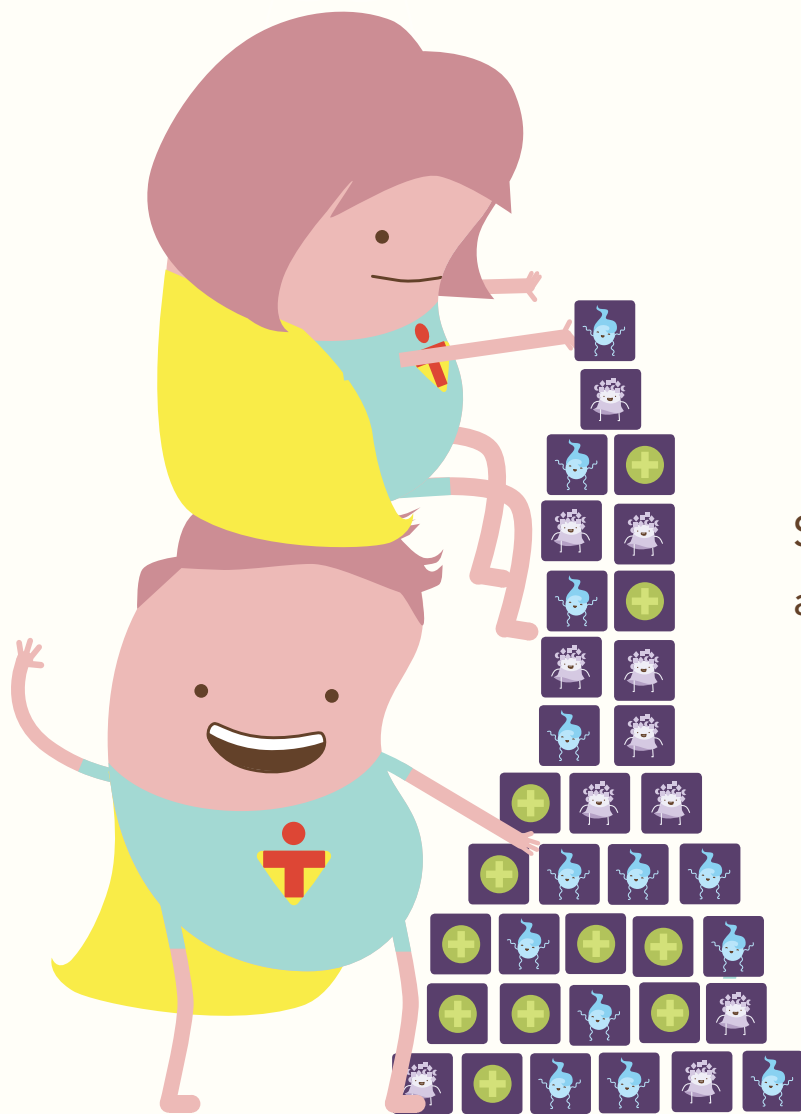
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The **Kidney Twins** like us to have **balance**.

What are the different ways we balance?



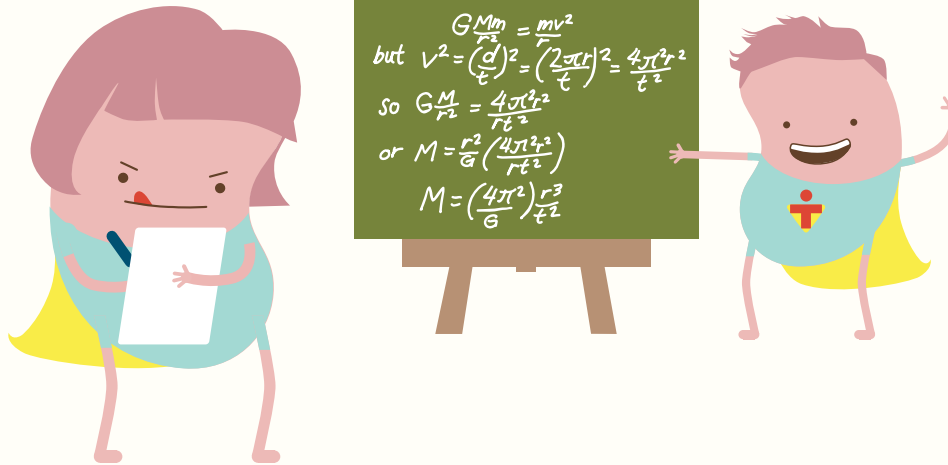


Sometimes balancing is hard. The ***Kidney Twins*** are really good at keeping things in balance.

UP NEXT: SCHOOL AGE LEVEL

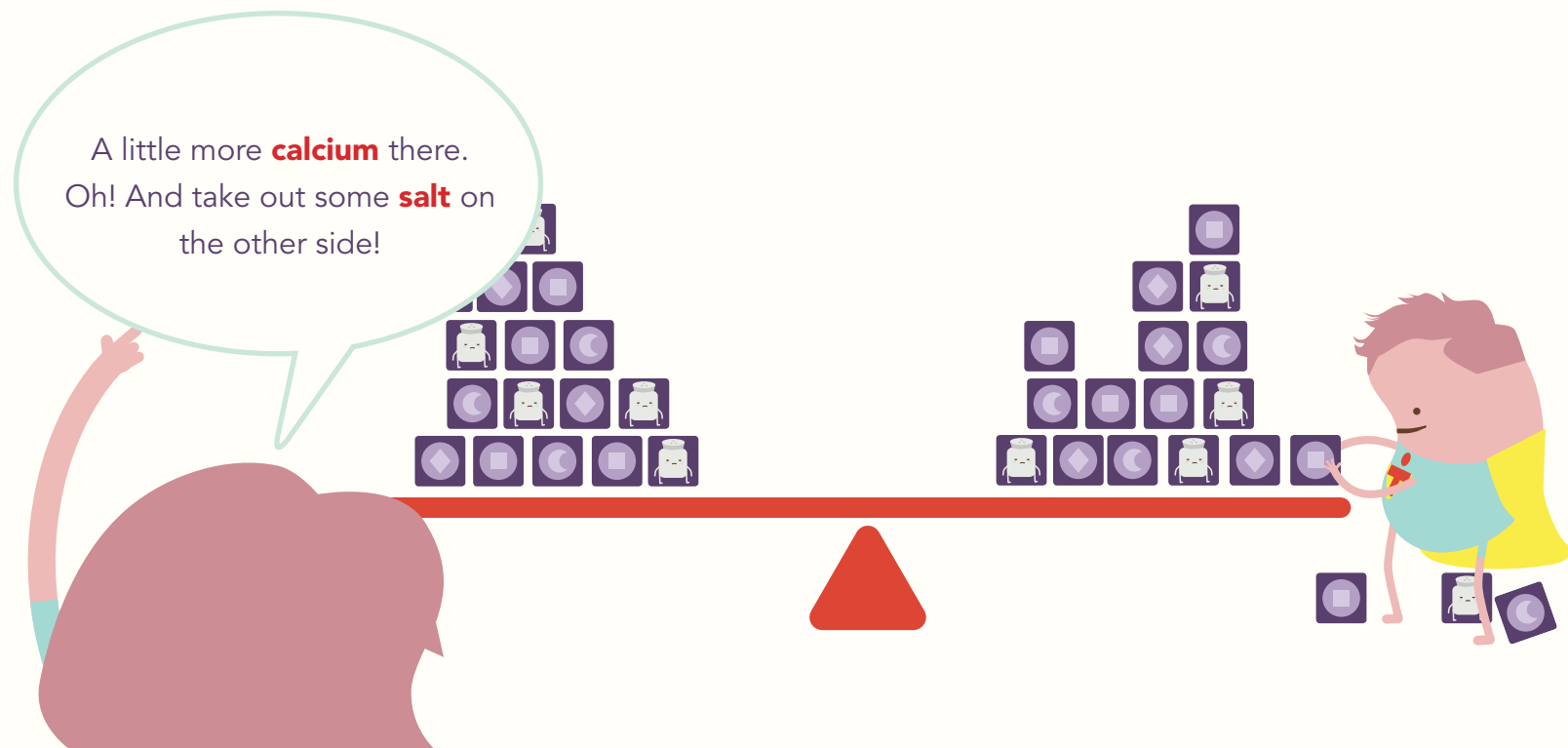
ACID BALANCE

SCHOOL AGE LEVEL

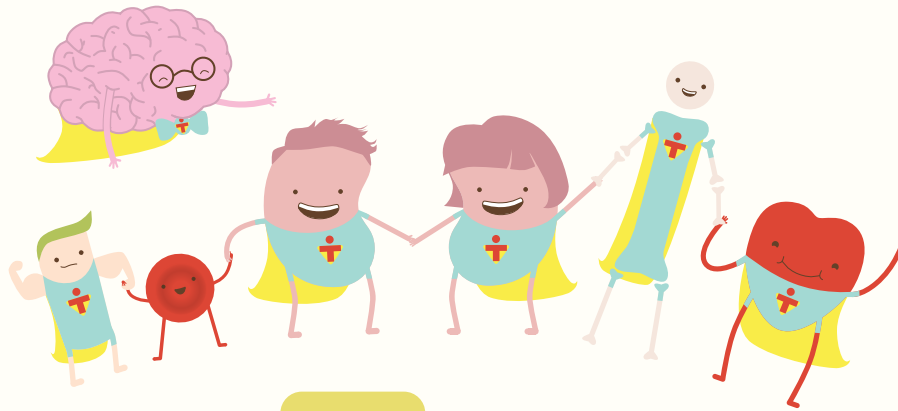


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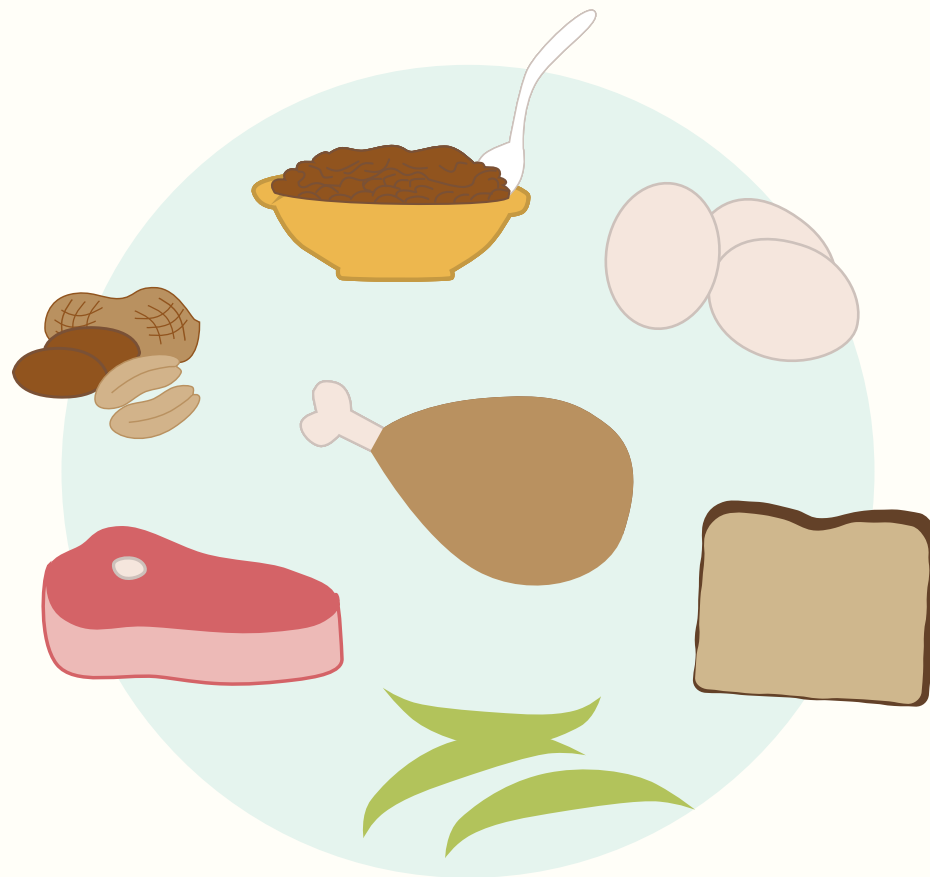


The **Kidney Twins** are all about **balance**! They balance many things in our bodies.

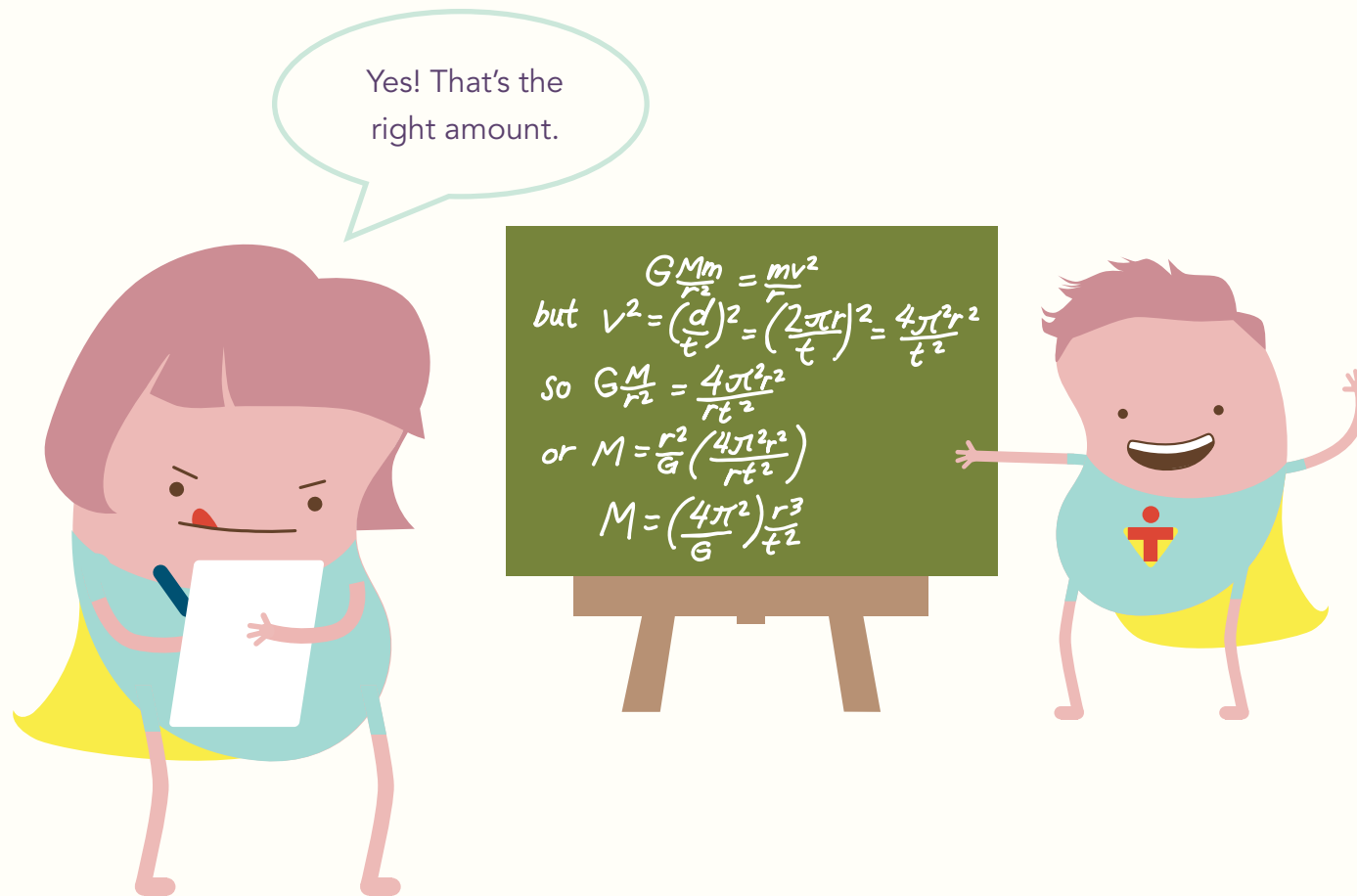


We need the right amount of **acid** in our body for a healthy **Body Team**. The Body Team helps us grow.

Where does our body get acid?



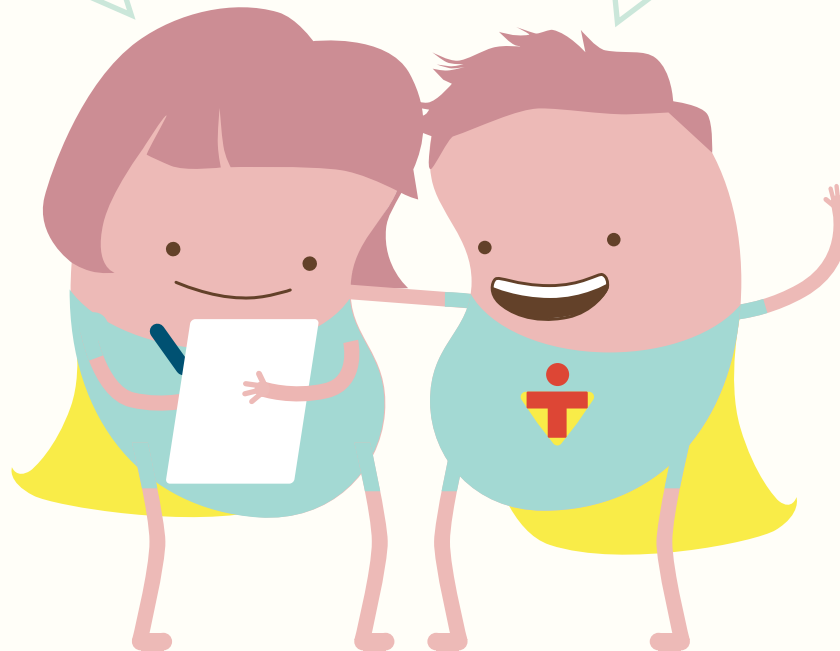
...in our food!



Who makes sure we have the right amount of acid in our body?

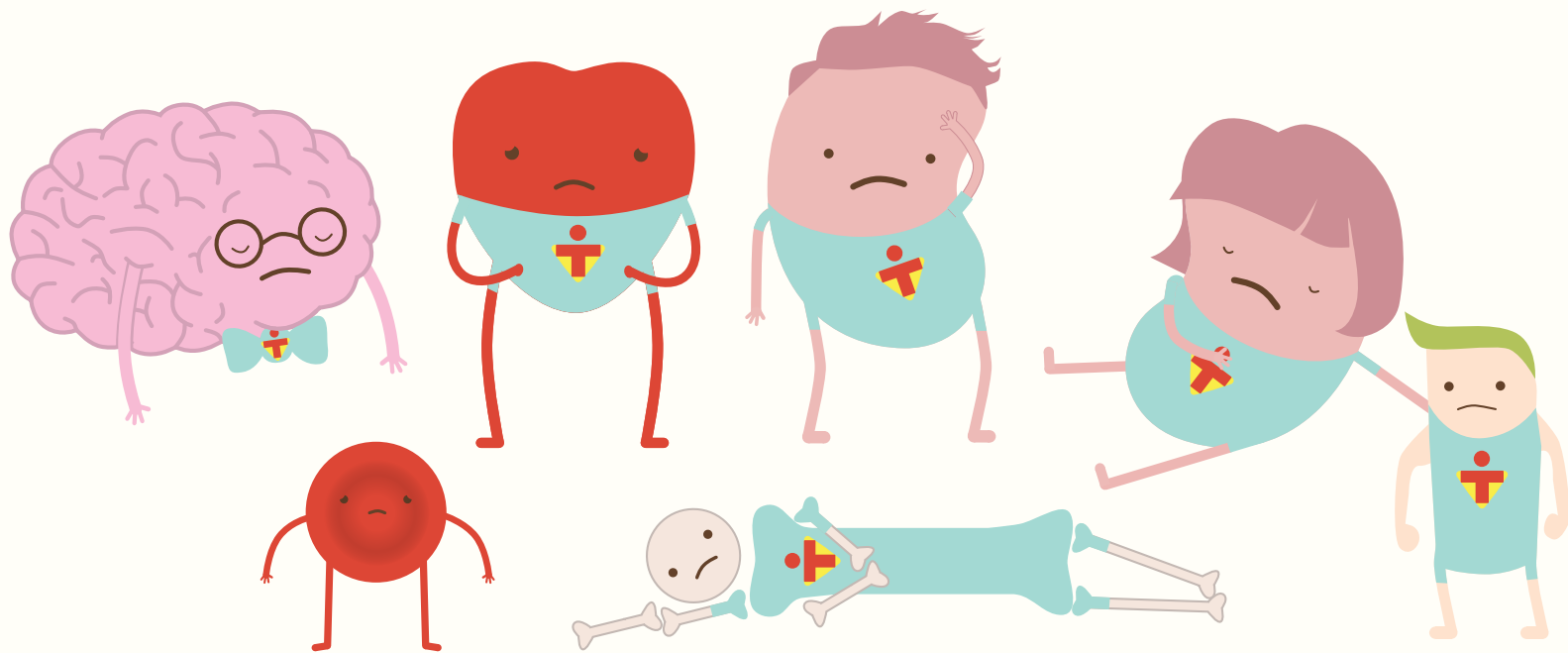
Hmm ... acid is
out of balance.

We can
figure it out!



Kidney Twins help out again!

When the **Kidney Twins** can't balance the acid in your body, everyone feels sick.





The **Kidney Health Team** checks the acid in your body with a **blood test**.

There are foods to eat when you have too much acid in your body.



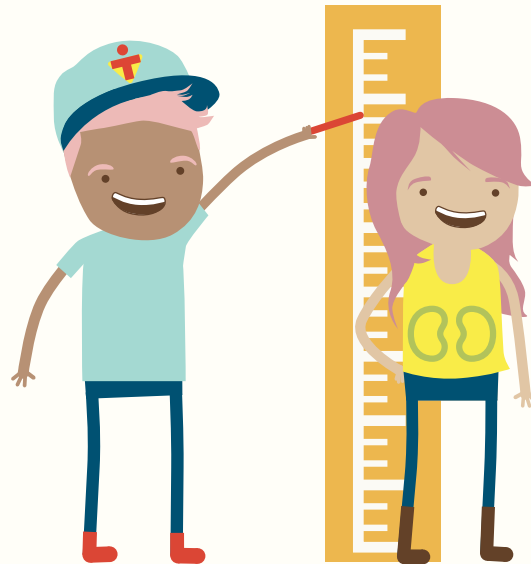
Sometimes the ***Kidney Twins*** need more help to get the right amount of acid in your body. There is **medicine** to keep the Body Team healthy!



UP NEXT: ADOLESCENT LEVEL

ACID BALANCE

ADOLESCENT LEVEL



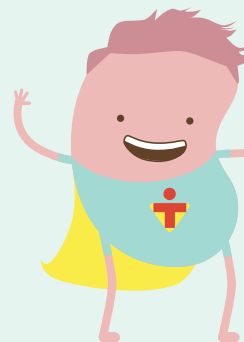
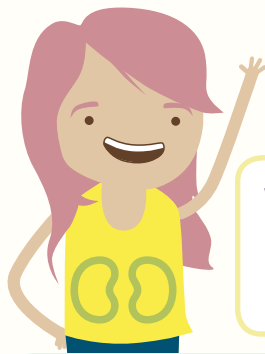
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Do you remember talking about **balance** and the **kidneys**?

Oh yeah, our kidneys balance the **Building Blocks** for our body. They balance **salt, water, protein, and minerals** – and get rid of **waste**.

Well, there's one more: the kidneys know the right amount of **acid** for our body and they keep that balance too.



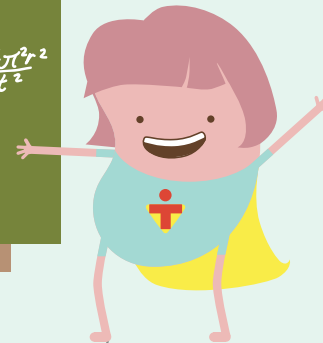
$$G \frac{Mm}{r^2} = mv^2$$

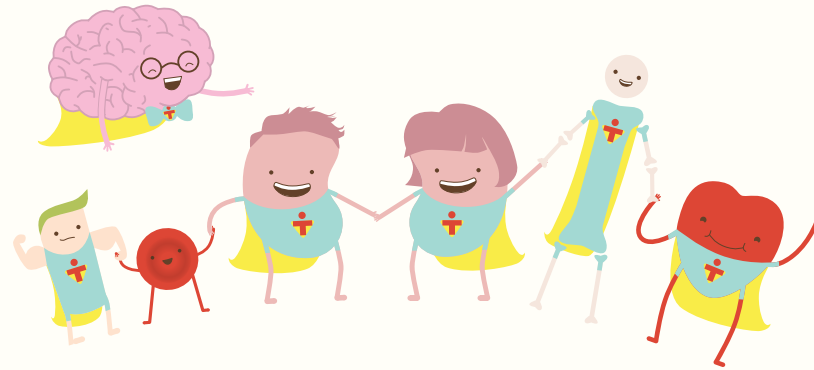
$$\text{but } v^2 = \left(\frac{d}{t}\right)^2 = \left(\frac{2\pi r}{t}\right)^2 = \frac{4\pi^2 r^2}{t^2}$$

$$\text{so } G \frac{M}{r^2} = \frac{4\pi^2 r^2}{r t^2}$$

$$\text{or } M = \frac{r^2}{G} \left(\frac{4\pi^2 r^2}{r t^2}\right)$$

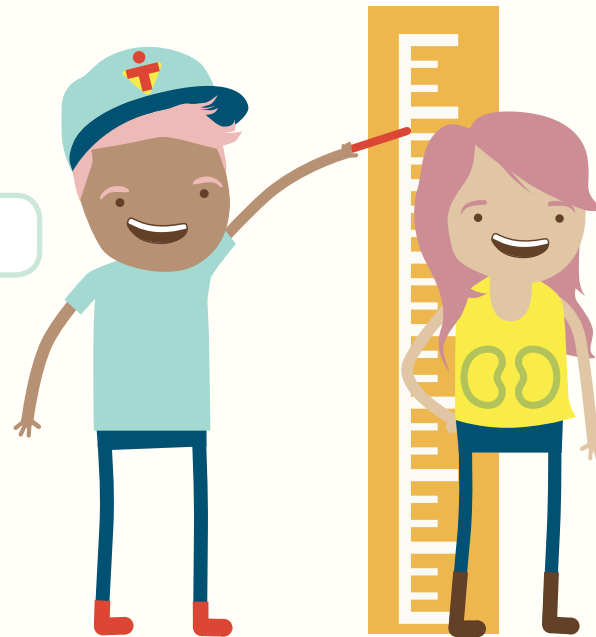
$$M = \frac{(4\pi^2)}{G} \frac{r^3}{t^2}$$





Let me guess: we need the right amount of acid in our body so that we are healthy?

Right! And to help us grow.

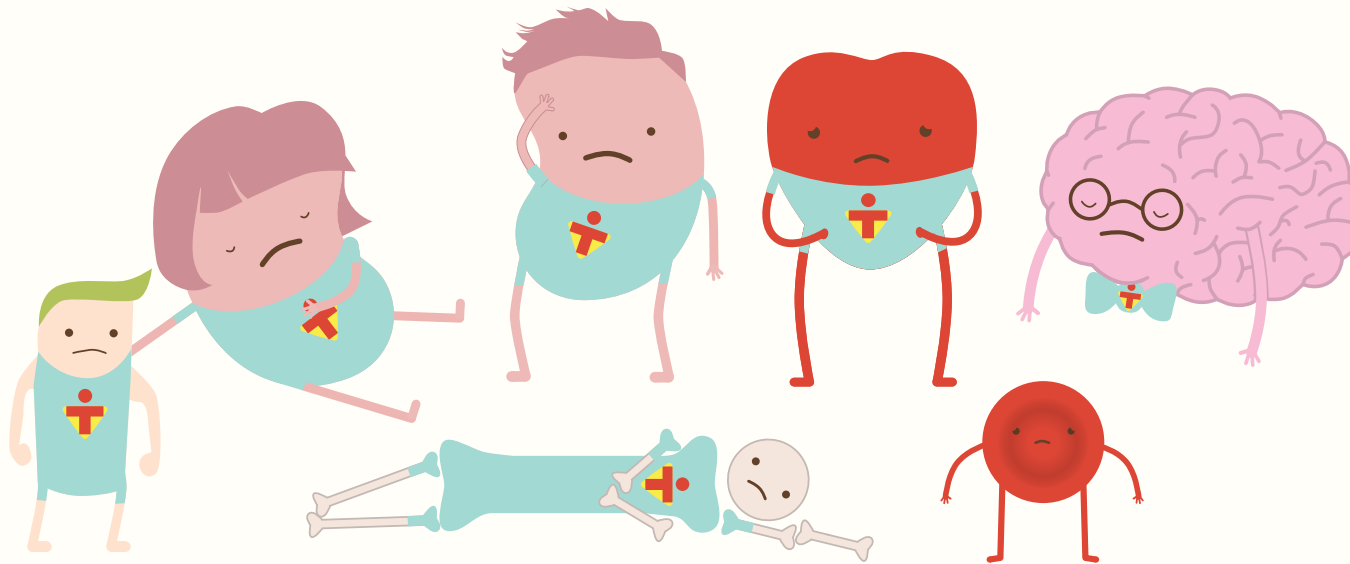




All the foods we eat have different amounts of acid. If we have too much acid, it affects our whole body.

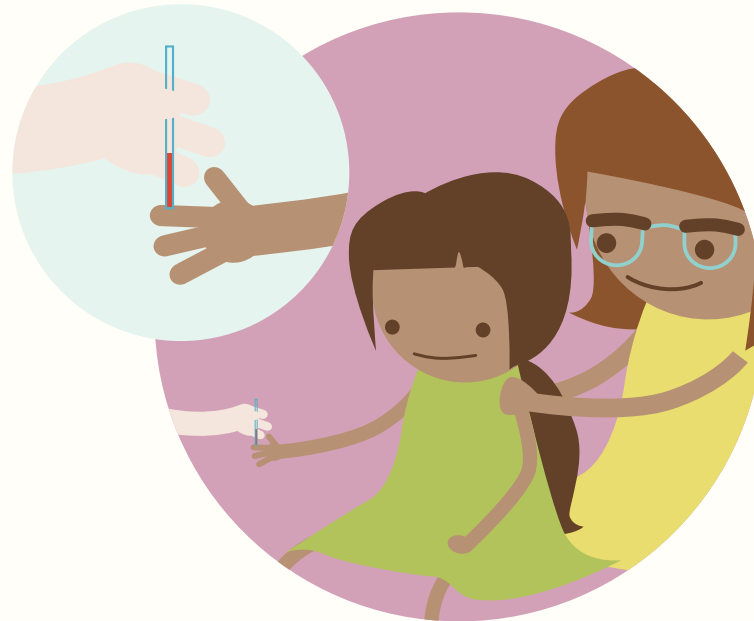


Too much acid in our body is called **metabolic acidosis**.



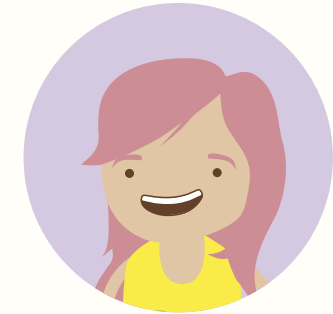
Do you know how the **Kidney Health Team** checks for the level of acid in our body?

Yep, it's through a **blood test**.





So, we get acid in all the food we eat. Are there different foods with less acid to help our body when we have too much acid?



Absolutely! We can eat foods like apples, broccoli, green peas and spinach. Check out the list below!

Alfalfa

Beet Greens

Beets

Broccoli

Cabbage

Carrot

Cauliflower

Celery

Chard Greens

Cucumber

Green Beans

Green Peas

Kale

Lettuce

Mushrooms

Mustard

Mustard Greens

Peas

Peppers

Pumpkin

Spinach

Sprouts

Tomatoes

Watercress

Apple

Apricot

Avocado

Berries

Blackberries

Cantaloupe

Dates, dried

Figs, dried

Grapes

Grapefruit

Honeydew

Melon

Lemon

Lime

Nectarine

Orange

Peach

Pear

Pineapple

Raspberries

Strawberries

Plums

Watermelon

FACT: metabolic acidosis
=
too much acid in the body

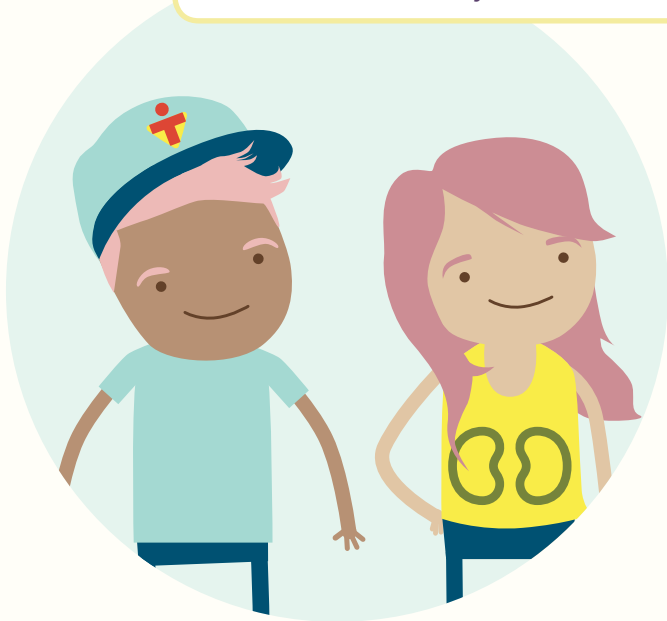
Sometimes, if we have metabolic acidosis, we need to take **medicines** to help get back into balance.

What kind of medicine will help me?



Sodium Bicarbonate which is sometimes called "**bicarb.**" The medicines can be liquids or **pills.**

This medicine helps balance out the acid in our body.

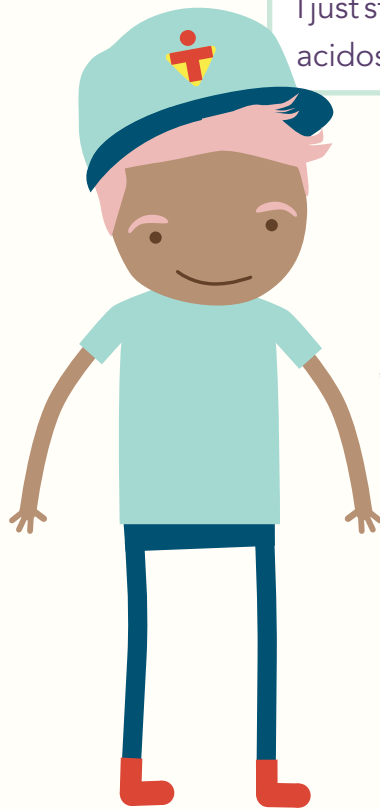


The right acid balance helps us grow.

So it's important to take these medicines to help my body have the right acid balance?

You got it.





I just started on some "bicarb" for my metabolic acidosis.

Then make sure you talk to your Kidney Health Team if you are:

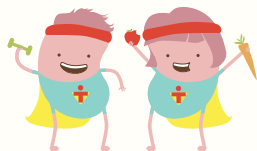
WARNING

- feeling bloated
- feeling short of breath
- feeling gassy
- breathing fast
- feeling tired and weak
- having poor growth
- having headaches





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 or the Children's Hospital Foundation of Manitoba <http://goodbear.mb.ca>