

LAB RESULTS

CALCIUM: GOOD ✓

PHOSPHATE: GOOD ✓

VITAMIN D: GOOD ✓

PTH: GOOD ✓

BONE HEALTH

PARENT AND CAREGIVER RESOURCE

PARENT AND CAREGIVER RESOURCE

NOTES

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

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12. Growth
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Developing healthy bones in childhood ensures strong healthy bones in adulthood. Bone health can be affected by **chronic kidney disease**. The **Kidney Health Team** monitors **vitamin D**, **calcium** and **phosphate** to check your child's bone health. Healthy eating and physical activity are also important.

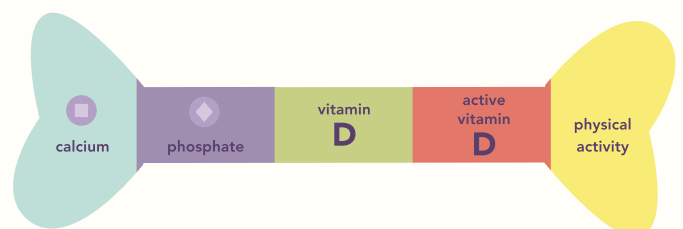
The amount of the main ingredients needed in the recipe for healthy bones may be different for different people. Most of the ingredients come from eating **Whole Foods**. The kidneys also build balance amongst the various ingredients in the Strong Bone Recipe.

The amounts of the ingredients in your child's body are always changing. The Kidney Health Team reviews the lab values to see how much of each ingredient is in your child's body. We make adjustments through **medicines** and food choices.

All the ingredients can be checked through **blood tests**. Calcium, phosphate and vitamin D are checked

directly. For active vitamin D, we need to check the **parathyroid hormone (PTH)**.

Phosphate levels can be high and harder to control when you have **CKD**. If your child has a risk of **bone disease**, we might need to watch out for **Processed Foods** that can have too much added phosphate. Getting enough calcium in your child's diet is important for building strong, healthy bones. If you need help providing healthy nutritious food choices, the Kidney Health Team can set up a meeting with a **Dietitian**.



BONE HEALTH

The kidneys convert vitamin D into **active vitamin D**, a form that the body can use to build healthy bones. We monitor the active vitamin D levels by checking parathyroid hormone (PTH) in the blood tests.

Your child might have too much or not enough of some of the ingredients and not feel well. When it is more severe, your child might have these signs:

- red eyes
- itchiness
- less growth than expected
- weak bones which can bend and break

You and your child have control over the ingredients needed for good bone health.

Your job is to provide healthy nutritious foods and opportunities for physical activity. Children under the age of five should work up to 60 minutes of active play each day. After the age of five, children and teens should have at least 60 minutes of active play a day. Adults can too!

• 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 parents about child health. From the Canadian Pediatric Society

<http://www.participaction.com>

<http://www.participaction.com/blog/>

<http://www.kidney.ca/document.doc?id=332>

<http://www.aboutkidshealth.ca/En/HowTheBodyWorks/IntroductiontotheSkeleton/Pages/default.aspx> From here you can click on the topics on the left hand side to learn more about bones

<http://www.aboutkidshealth.ca/En/HealthAZ/HealthandWellness/Nutrition/Pages/Calcium-Vitamin-D-and-Exercise-The-Bone-Building-Team.aspx>

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

<http://kidneyweb.net/handouts.htm>

• WEB BASED RESOURCES FOR KIDS

<http://www.participaction.com>

• HANDOUTS

Kidney Foundation pamphlet: "Bone Disease and Chronic Kidney Disease" <http://www.kidney.ca/document.doc?id=312>

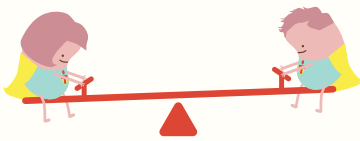
Kidney Foundation Booklet: "Your Child & Chronic Kidney Failure" <http://www.kidney.ca/document.doc?id=332>

BONE HEALTH GLOSSARY



ACTIVE VITAMIN D

Active vitamin D is the form of vitamin D that our body can use best. Active vitamin D is important for healthy bones because it has the strongest effect in the body to control calcium and phosphate levels. The kidneys control the amount of active vitamin D.



BALANCE

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.



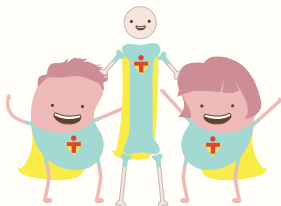
BLOOD TEST

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



BONE DISEASE

Bone disease is a general term for when your bones may not be strong. Bone disease can be related to problems with bone minerals like calcium, phosphate or when there are problems with enough vitamin D or too much acid in your body. Some people with chronic kidney disease can have bone disease. There are blood tests and x-rays that can tell you and your Kidney Health Team if you have bone disease and what type of bone disease you have.



BONES

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.

BONE HEALTH



CALCIUM

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.



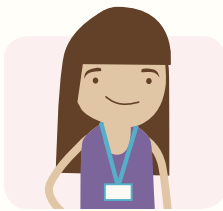
CKD

CHRONIC KIDNEY DISEASE (CKD)

Chronic Kidney Disease means that there is some damage to the kidneys that will always be there. It affects how well the kidneys can clean the blood to get rid of body waste and keep other body systems in balance. When the kidney function is lower, it is sometimes also called chronic kidney failure.

CKD

An abbreviation for Chronic Kidney Disease.



DIETITIAN

The Dietitian is a member of your Kidney Health Team. The Dietitian has lots of information about healthy, whole foods and nutrition. The Dietitian can help you and your family find the right balance for healthy eating.



DOCTOR(S)

Doctors are members of your Kidney Health Team. Doctors check you and your kidneys. Your Doctor prescribes medicines.



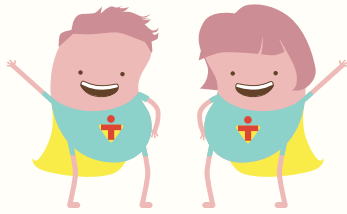
GREEN FOODS

Green Foods are Whole Foods. Whole Foods give our bodies the nutrients we need to stay healthy. Whole Foods are from plants and animals and home-cooked from raw ingredients. Choose Whole Foods First!



KIDNEY HEALTH TEAM

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

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

Medicines can have many forms like pills, liquids, creams, injections or puffers. Medicines are prescribed by a doctor to treat different problems. Some medicines are only taken for a short time, like when you have an infection. Other medicines become a regular part of life, like treating asthma or taking vitamins. We should always take medicines the way the doctor prescribes them.



NUTRIENTS AND NUTRITION

Nutrition is about getting the nutrients our body needs for health and growth. Nutrients are all the different types of ingredients our body needs for energy and building blocks. We usually get nutrients through food. When nutrition is good, our body can grow well and be healthy.

PTH

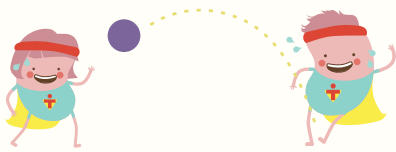
PARATHYROID HORMONE (PTH)

Parathyroid hormone (PTH) is a hormone produced by the parathyroid gland which is in your neck. PTH helps to keep the right balance of calcium, phosphate and vitamin D to keep our bones strong. The kidney is important for controlling the amount of PTH. Too much PTH, which can happen with chronic kidney disease, can cause bone disease. There are blood tests that can tell the amount of PTH in your blood.

PHOSPHATE BINDERS

PHOSPHATE BINDERS

Phosphate binders are medicines that attach to phosphate in your food. Phosphate binders are taken at the same time as a meal. They keep the phosphate from the food you eat from getting into your blood and instead it comes out in your bowel movement. If your phosphate level is too high, you can take phosphate binders with meals to keep the phosphate level in your blood lower.



PHYSICAL ACTIVITY

Physical activity is anything we do that makes our body work hard and our heart beat fast. The goal is to take part in 60 minutes of physical activity every day.

PILL



Pill is a medicine that we swallow. 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.



PROCESSED FOODS

Processed foods are foods that started as whole foods, but got changed in a factory to make something else. Some important nutrients get lost when food is processed. Extra sugar or salt or chemicals are added to make it taste better or look different.

PTH

PTH

PTH is short for parathyroid hormone (see parathyroid hormone).



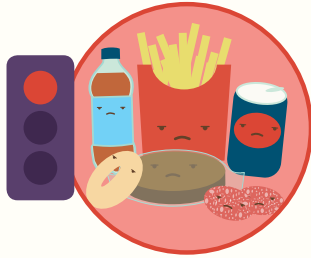
PTH TEST

PTH test is a blood test that measures the amount of parathyroid hormone in your blood.



RECYCLE

Recycle means to take something that has been used before and make it into something new. We can also say reuse. The kidneys recycle many important minerals and building blocks when they clean the blood of waste.



RED FOODS

Red Foods are foods to avoid. Red Foods are highly processed and are often called Junk Foods. Red Foods are missing most important nutrients. Most Red Foods have lots of added sugar, salt, preservatives and artificial ingredients like food colouring and flavourings. These ingredients do not help our body.



VITAMIN(S)

Vitamins are important building blocks our body needs to stay healthy. Every vitamin has a different job to do in our body. Whole foods are a great source of vitamins.



VITAMIN D

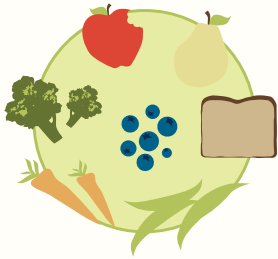
Vitamin D is a vitamin that helps our body absorb and use calcium and phosphate from foods we eat or drink. Vitamin D can be made by our skin with the help of sunshine. Sometimes we need to take extra Vitamin D. The kidneys change Vitamin D into Active Vitamin D, to help build strong bones.



VITAMIN PILL(S)

Vitamin pills are pills that contain certain compounds that we cannot make in our body but usually gets from whole foods. Vitamin pills are given if a person cannot get the vitamins they need from the foods they eat, or cannot get enough because of a certain illness.

9. BONE HEALTH



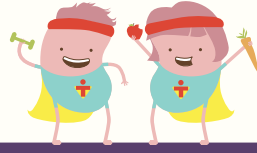
WHOLE FOODS

Whole foods have many of the different nutrients we need. Whole foods come from plants and animals. Whole foods are vegetables, fruits, nuts, milk, eggs and meat from the store, fishing or hunting. Always choose Whole Foods first!



YELLOW FOODS

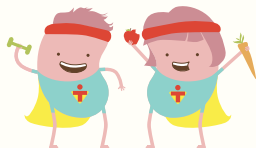
Yellow Foods are foods we should only eat sometimes. Yellow Foods are usually processed with added salt, added sugar, preservatives and artificial ingredients. Because they are processed, some of the important nutrients have been removed. Yellow Foods give our bodies some of the nutrients we need.



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