

# **Facilitator's Guide to Kidney Health for Kids Power Point Presentation**

## **Acknowledgements**

I would like to express my appreciation to all who have made a contribution to the development of Sign Up Canada. This educational resource includes a power point presentation called Kidney Health for Kids, and a Facilitator's Guide. To my friend and former nursing student, Alison Craig, RN, BSN, BSc thanks for your support in co-writing this guide, working on the power point presentation, searching for graphics and editing our project until we were both confident that our work was complete. I would also like to extend appreciation to my former nursing students from the University of Victoria, School of Nursing who assisted as ambassadors in promoting community and kidney health. Special thanks also to Cathy and Nicki Shotton, and her daughter Makaela for their 'transplant' story. Their story can be viewed on the power point presentation, Kidney Health for Kids. The information in this guide is designed to augment the power-point presentation, and facilitate discussions among young students. Kidney Health for Kids is developed for teachers, students and parents to promote knowledge and understanding of kidney health, disease and transplantation. Maureen Hobbs, RN, BSN, MN

## **Abstract**

My husband Doug Hobbs was the inspiration for me in wanting to promote kidney health among young people. Doug lived with diabetes for over 50 years, and in his later years, developed kidney disease. When Doug's kidneys failed he required dialysis, and eventually a kidney transplant. Our family, and all who knew Doug were grateful to Doug's brother Keith Hobbs for donating his kidney, and to the medical and nursing team who attended to both of them. Subsequently, Doug and I volunteered with the local and provincial Kidney Foundation of Canada BC and Yukon Branch, and engaged with other volunteers in support of kidney patients and their families, promoting awareness of organ registration, and transplantation. As a health educator in nursing at the University of Victoria, I also have an insider perspective about the multiple health challenges experienced by those with long standing diabetes, and complications related to it, including kidney disease. As a legacy to Doug, wanting to promote kidney transplantation, his vision continues to be realized through an annual fund raiser called Kidneys on the Move held in Victoria, B.C. [www.kidneysonthemove.org](http://www.kidneysonthemove.org). Maureen Hobbs, RN, BSN, MN

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## **Intended Audience**

The intended audience for this Facilitator's Guide was developed for parents and teachers to equip them with additional information to facilitate discussion among young people about kidney health, risks, kidney disease and transplantation. The guide is intended to be used in conjunction with the Kidney Health for Kids power point presentation.

The intended audience for the Kidney Health for Kids power point presentation has been developed for elementary school aged students, and specifically for students' learning needs at the Grade 6 & 7 level. The power point includes age-appropriate content, appealing graphics, a narrative by a kidney transplant donor and recipient, and various other learning activities.

The literacy level of the power-point presentation was evaluated using the Suitability Assessment of Materials, (refer to Appendix A), and was found to be suitable for this age group. The design of the Kidney Health for Kids power presentation addressed the following criteria:

- Using plain, clear language
- Posing thought provoking questions allowing students to explore their own understanding, with opportunities to participate, and ask questions
- Allowing time for processing with a 3 - 7 second pause after a key point or question is asked
- Engaging in more than one sense at a time
- Focusing on hope and putting positives before the negative

## **Goals**

Kidney Health for Kids aims to create a safe environment for students to:

1. Develop the knowledge, skills and understanding of the kidney as an essential organ in the body
2. Demonstrate the knowledge and strategies for making informed decisions and lifestyle choices that support functions of the kidney
3. Develop knowledge of the risks, signs and causes of kidney disease
4. Develop an understanding and compassion for people living with health challenges related to kidney disease including treatments, organ donation and transplantation

## **Learning Objectives**

Following the Kidney Health for Kids power point presentation, students will be able to:

1. Identify the important roles and the function of the kidneys
2. Locate where the kidneys are situated on the body.
1. Explain the importance of drinking water and preferred types of nutritious beverages
2. Describe sodium and the importance of limiting sodium intake
3. Identify the two key contributors to kidney disease
4. Describe some of the health challenges which people experience as the functions of the kidney decline
5. Identify two risk factors for kidney disease
6. Identify two key differences between hemodialysis and peritoneal dialysis
7. Identify how organ donation and transplantation are options for treatment

### **Important! Please read!**

For the videos to function you may need to click the “Enable media” button in the notification bar.

## Introduction to Kidney Basics

This section is intended to provide basic information about the kidneys, including their role and function in keeping the body healthy. The video links also provide a summary of information which are woven throughout the power point, Kidney Health for Kids.

### **Slide #1 Kidney Transplantation**

The Kidney Foundation of Canada is a volunteer organization that is dedicated to supporting people living with kidney disease.<sup>12</sup> There are local branches across Canada, and depending on where you live, you can find help available and information by going to their website at <http://kidney.ca>. They help cover expenses for those receiving a transplant, they do research to help people living with kidney disease, they teach people about kidney disease and promote presentations like this one to help keep people as healthy as possible.<sup>12</sup> Our goal is to teach students about their kidneys, how to keep them healthy, what happens when kidneys fail and knowing about kidney transplantation. We'd like everyone to know how to be an organ donor, and join us in promoting "Sign Up Canada!"



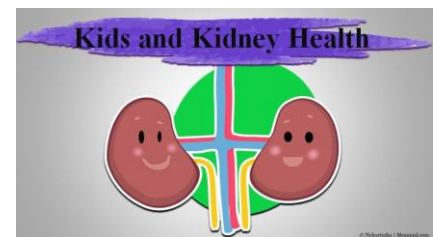
*Video 1: Nicki Shotton narrates their story with her daughter Makaela, and her mother Cathy Shotton. Cathy donated a kidney to her daughter.*

Link: [https://www.youtube.com/watch?v=vALdn4PWYys&feature=emb\\_logo](https://www.youtube.com/watch?v=vALdn4PWYys&feature=emb_logo)

***For the videos to function you may need to click the "Enable media" button!***

### **Slide #3 Kids and Kidney Health**

The kidneys are important to your health, and that means, like other organs including your heart and lungs, the work they do keeps your body alive. The kidneys are hard workers, and although some people are born with only one kidney, they can live a healthy and active life.



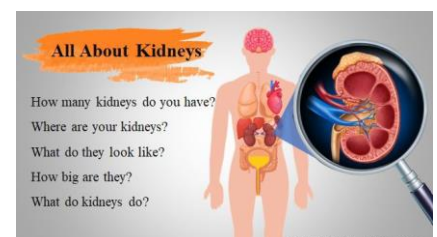
*Video 2: Nicki talks about being excited about educating youth about kidney health, sharing her experience living with diabetes, kidney disease and being a kidney transplant recipient. Cathy also talks about donating a kidney to her daughter, and how promoting organ and kidney donation is a good feeling for all.*

Link: [https://www.youtube.com/watch?v=PgIBFTE0DgM&feature=emb\\_logo](https://www.youtube.com/watch?v=PgIBFTE0DgM&feature=emb_logo)

### **Slide #5 All About Kidneys**

How many kidneys do you have and what do kidneys look like? Normally, you have two, but you can live with just one.<sup>1</sup> Kidneys are hard workers. If you were born with one kidney or if one is injured or donated, the remaining kidney can work harder to keep your body healthy, up to a point.<sup>1</sup>

They look like two reddish brown kidney beans, but they are much bigger i.e., about the size of your clenched fist.<sup>2</sup> Where are your kidneys located? Your kidneys are on either side of your spine in your lower back.<sup>2</sup>

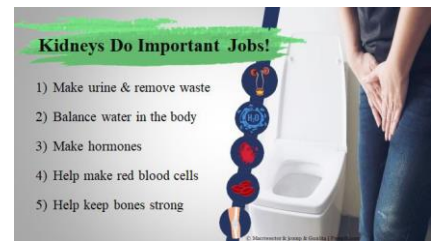


*Video 3: Nicki shows the location of the kidney, and explains what they do.*

Link: [https://www.youtube.com/watch?v=JvoNqBAKD\\_4&feature=emb\\_logo](https://www.youtube.com/watch?v=JvoNqBAKD_4&feature=emb_logo)

## Slide #7 What Do Kidneys Do?

Kidneys are organs which remove excess water and substances that your body does not need. The main job of the kidneys is to clean the blood by removing waste products, urea, creatinine and excess electrolytes (sodium and potassium).<sup>2</sup> The kidneys filter the waste, which is moved through the ureters to the bladder, where it is stored as urine before leaving the body.

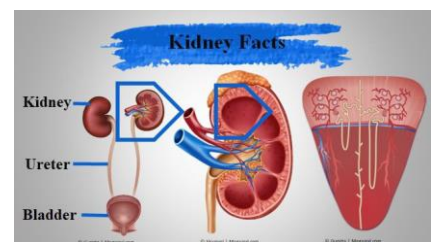


Kidneys help balance water in the body, it needs the right amount to work properly.<sup>2</sup> Kidneys remove excess water as urine and/or retain water depending on how much water the body needs.<sup>2</sup> The kidneys make some hormones, which are chemical messengers that travel in the blood and bring about changes to manage the functions of the body.<sup>2</sup> They help to make red blood cells and keep the right amount of minerals (calcium and phosphorus) in your blood to keep bones strong.<sup>2</sup>

Depending on how hydrated, or how much fluid you are taking in, the kidneys normally make 1 – 2 liters of urine every day.<sup>1</sup> This is why it is important to drink water.

## Slide #8 Kidney Facts

Arteries are like flexible tubes that carry blood from your heart to different parts of your body. The kidney arteries, also called renal arteries, carry blood from the heart to the kidneys.<sup>1</sup> Every minute, about 1 liter of blood enters your kidneys, where more than one million nephrons with tiny filters called glomeruli removes the waste from the blood.<sup>1,2</sup> Clean blood then passes through the renal vein back to the heart, where it is then pumped throughout the body.<sup>1</sup> The waste that the body cannot use, is removed from the kidneys through the ureters to the bladder, where it is stored as urine before leaving the body.<sup>1</sup>



## Engagement Questions

- What do you think kidneys look like? Color? Shape? Size?
- Can you point to where your kidneys are on your body?
- Can you list two functions of the kidneys?

## Engagement Suggestions

- When discussing the location of the kidneys you can tell students how to locate them in their own body by having them put their hands on their hips, then slide their hands up until they can feel their ribs. Now if they put their thumbs on their back, they will know where their kidneys are found in the body.
- Have a 1L milk jug on hand as a visual of how much blood enters the kidney in a minute.
- Kidney Filtration Activity in Appendix C

## Keeping Your Kidneys Healthy

In this section students will learn how lifestyle choices can promote the health of their kidney, and how healthy kidneys promote health for the entire body. Students will learn the value of drinking water and limiting sugary drinks, the importance of decreasing sodium intake and increasing their daily activity. The information in this section can help guide and empower students to make healthy lifestyle choices.

### **Slide #9 Healthy Hydration**

Healthy hydration, or drinking enough fluid, is important for the function of the kidney and the entire body.<sup>10</sup> Our bodies need water to keep the heart strong in order to pump the blood to the entire body, carry nutrients to and waste away from cells, regulate body temperature, digest food, as well as many other important bodily functions.<sup>10</sup>

Our bodies are made up of approximately 65% water.<sup>10</sup> The best way to judge if we are drinking enough fluids is to monitor our urine. What color it is can tell you how hydrated you are.<sup>10</sup> The darker yellow it is, the more dehydrated you are and in need of more fluids.<sup>10</sup> The best fluid to drink is water.<sup>10</sup> It is recommended that children between the ages of 9 - 12 drink about 8 cups of fluid each day.<sup>10</sup>



*Video 4: Nicki promotes the importance of drinking water for good hydration*

*Link: [https://www.youtube.com/watch?v=BjqLHMZGrx4&feature=emb\\_logo](https://www.youtube.com/watch?v=BjqLHMZGrx4&feature=emb_logo)*

### **Slide #11 Hydration Choices**

Not all drink choices are equally healthy. Sugary drinks like pop and slurpees have little nutritional value and far too much sugar.

The upper limit for children is no more than 13 teaspoons of added sugars, or 13 sugar cubes, per day (about 50 grams of sugar).<sup>10</sup> One can of pop alone can have 10-12 teaspoons of sugar which is nearly the maximum for the whole day.<sup>10</sup> These types of drinks should be consumed rarely. Drinks with naturally occurring sugars, like the lactose sugar in milk and fructose sugar in fruit juice, usually contain vitamins, minerals and other important nutrients making them okay to be had occasionally.<sup>10</sup> Water is always the best choice.



*Video 5: Nicki promotes hydration for healthy kidneys*

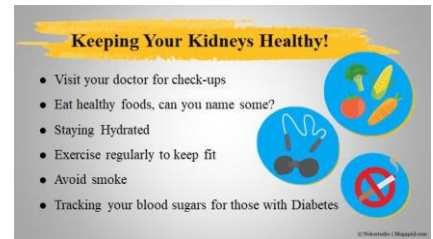
*Link: [https://www.youtube.com/watch?v=Gn-mqMyAHd8&feature=emb\\_logo](https://www.youtube.com/watch?v=Gn-mqMyAHd8&feature=emb_logo)*



## Slide #12 Keeping Your Kidneys Healthy!

There are many ways you can keep your kidneys and your whole body healthy, and these include:

- getting check-ups by a doctor,
- making healthy food choices,
- staying hydrated by drinking enough,
- being physically active every day,
- do not smoke and stay clear of secondhand smoke,
- for those with diabetes, managing their blood sugar levels.



Just like drink choices there are healthier food choices. Try and avoid fried food and foods high in sodium. Sodium is found in all types of salt.<sup>3</sup> It is recommended that healthy children only need 1000-1500mg of sodium per day.<sup>3</sup> It is important we learn to spot sources of high sodium in the food that we eat like fast food and processed foods. We can learn to do this by reading the food labels.<sup>11</sup> The nutrition fact table is good to use to compare products to make informed food choices and better manage the amount of sodium you have a day.<sup>11</sup> Chips and candy can be an occasional treat. Choose colorful fruit and vegetables, whole grain breads and cereals, low-fat or nonfat dairy products on a daily basis.

Students aged 5 to 17 need one hour of modest to vigorous intensity of physical activity each day.<sup>13</sup> This could be running and playing sports to jumping rope and doing gymnastics. These activities strengthen your muscles and your bones as well as keep your body and kidneys healthy.

### Engagement Questions

- Which drinks do you think are the best choice for everyday?
- How do you think sugary drinks affect your body?
- Other than drinking water, what are some other ways we can keep our kidneys healthy?
- Do you know what the food groups are and how many servings of each you should get a day?

### Engagement Suggestions

- Following the presentation have students write a reflection on their meaning of health and what steps they or their family take to maintain their own health.
- Students could exercise their creativity and make an inspirational poster, picture or collage about an aspect of staying healthy.



## Risks and Causes of Kidney Disease

In this section students will focus on the risk factors and causes that lead to the development of kidney disease. They will begin to understand how kidney disease may affect their lives as they learn that it can affect anyone at any age and may identify risk factors or causes that link to their own lives or those of friends and family.

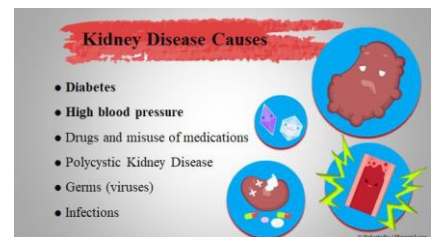
### **Slide #14 Kidney Disease Can Affect Anyone!**

Kidney disease can affect anyone at any age! Hailey-Anne, the girl in the top right picture, is a kidney patient who was born with a diseased kidney (multiple cysts or polycystic disease). 1 in 10 Canadians have kidney disease, and millions more are at risk.



### **Slide #15 Kidney Disease Causes**

Kidney disease can differ in severity and in some cases, lead to kidney failure.<sup>2</sup> Kidney disease often starts slowly and signs of it may not be noticed until your kidney function is quite low.<sup>2</sup> It is important to know the causes of kidney disease.



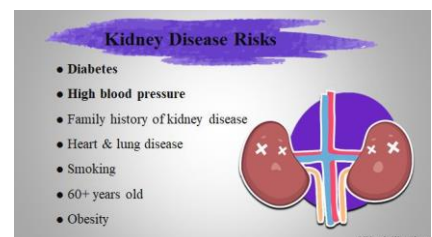
Diabetes is the number one cause of kidney disease.<sup>14</sup> Other causes are high blood pressure, street drugs and the misuse of medications, polycystic kidney disease, some infections as well as germs or viruses.<sup>2</sup>

*Video 6: Nicki talks about how she felt with kidney disease, tired, hazy, sick, food doesn't taste the same.*

Link: [https://www.youtube.com/watch?v=mdCne8rNNAM&feature=emb\\_logo](https://www.youtube.com/watch?v=mdCne8rNNAM&feature=emb_logo)

### **Slide #17 Kidney Disease Risks**

The two biggest risk factors and causes of kidney disease are diabetes and high blood pressure.<sup>2</sup> Other risk factors include: Family history of kidney, heart or lung disease, smoking, old age and obesity.<sup>2</sup> Even without any of these risk factors, kidney disease can happen to anyone at any age.



Ethnic groups that have an increased risk of developing kidney disease are Aboriginal, Asian, South Asian, African-Caribbean and Hispanic communities.<sup>2</sup> They have statistically higher rates of diabetes and high blood pressure, the two biggest high risk factors for kidney disease.

While you may have one or more of these risk factors it does not necessarily mean that you have or will get kidney disease. However, talking to your doctor and having your kidney function checked on a yearly basis as you get older should be considered.

## Slide #18 Signs Your Kidneys May Be in Trouble

A person with kidney disease can lose more than half of their kidney function before symptoms appear.<sup>2</sup> Symptoms are silent in the early stages.<sup>2</sup> Some of the signs that your kidneys may be in trouble include tiredness, weakness, difficulty sleeping, itchy skin, a bad taste in your mouth, puffy ankles or feet, poor appetite and muscle cramps.<sup>2,4</sup> The earlier a person discovers they have kidney disease, the more opportunity they have to take care of their kidney function.<sup>2</sup>



*Video Link: Nicki describes the beginning stage of her kidney journey ~ her kidney was failing.*  
*Link: [https://www.youtube.com/watch?v=pzrwWsG5QIw&feature=emb\\_logo](https://www.youtube.com/watch?v=pzrwWsG5QIw&feature=emb_logo)*

### **Engagement Questions**

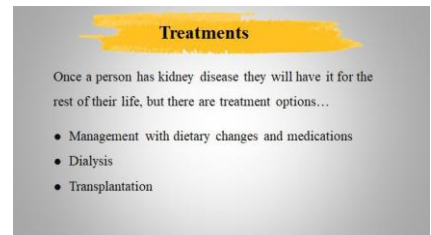
- Can you name 3 risks for kidney disease?
- Is it possible to live with only one kidney?
- If you have the two biggest risk factors for kidney disease, does that mean you are for sure going to get kidney disease?
- What are some symptoms for kidney disease?
- Have you heard of Polycystic Kidney Disease before? What do you think it is?

## Treatments for Kidney Disease

In this section children start to learn about the different treatments for kidney disease, with a focus on peritoneal dialysis and hemodialysis. While listening to Nicki's story, children may develop an understanding and compassion for people living with health challenges related to kidney disease including how treatments affect a person's life.

### **Slide #20 Treatments**

Once a person develops kidney failure, they will face the challenges of having kidney disease for the rest of their life. There is no cure for kidney disease, however there are treatment options including dietary changes, medications, dialysis and transplantation.

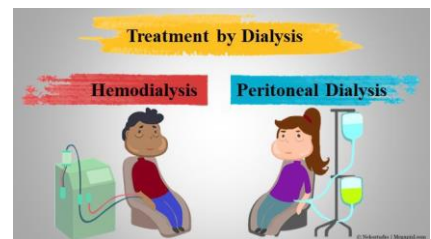


*Video 8: Nicky's response when the emergency call came that it was time for her to have her operation, transplant procedure in Vancouver, B.C.*

*Link: [https://www.youtube.com/watch?v=Kj8vQ9abZeY&feature=emb\\_logo](https://www.youtube.com/watch?v=Kj8vQ9abZeY&feature=emb_logo)*

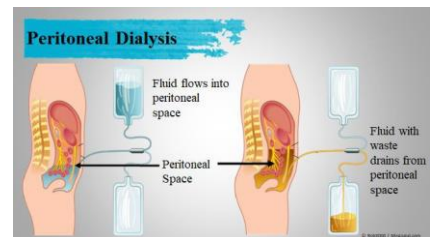
### **Slide #22 Treatment by Dialysis**

The main treatment for kidney failure is dialysis.<sup>6</sup> There are different types including hemodialysis and peritoneal dialysis.<sup>6</sup> Unless they have a successful kidney transplant, those who start dialysis will be on some form of it for the rest of their lives.<sup>5</sup>



### **Slide #23 Peritoneal Dialysis**

In peritoneal dialysis, a tube is inserted into the abdomen near the belly button.<sup>5,6</sup> Through this tube the inside of your abdomen (your peritoneal cavity) is filled with a special dialysis fluid that interacts with the lining in the abdomen also known as the peritoneum.<sup>5</sup> The peritoneum functions just like a filter and excess water and wastes pass from the blood through the peritoneum into the dialysis fluid.<sup>5,6</sup> The fluid is then drained from the body and discarded.<sup>5</sup>

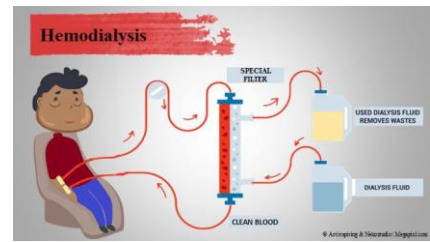


*Video 9: Nicky briefly explains peritoneal dialysis.*

*Link: [https://www.youtube.com/watch?v=hlr0qjIE7wQ&feature=emb\\_logo](https://www.youtube.com/watch?v=hlr0qjIE7wQ&feature=emb_logo)*

## Slide #25 Hemodialysis

A person undergoing hemodialysis is hooked up to a machine that filters out waste and returns clean blood to the person.<sup>5,6</sup> Blood moves along tubes and through a special filter called a dialyzer that acts as an artificial kidney to clean your blood.<sup>5</sup> Hemodialysis can take 4-5 hours per treatment & done 3 times per week in hospital, a dialysis center or at home.<sup>5</sup>



*Video 10: Nicky and Makaela talk about dialysis; Makaela describes dialysis, it's like (cleaning your blood) by a washing machine*

*Link: [https://www.youtube.com/watch?v=uxTm7m6MaIM&feature=emb\\_logo](https://www.youtube.com/watch?v=uxTm7m6MaIM&feature=emb_logo)*

## Slide #27 Nicki & Makaela

This is Nicki, she is a kidney patient. She is on hemodialysis prior to her kidney transplant. In this picture she is with her daughter Makaela. To the right of the slide is a picture of an actual hemodialysis machine.



*Video 11: Makaela shares her perspective on visiting her mom on dialysis*

*Link: [https://www.youtube.com/watch?v=5p5nxhEcW0Y&feature=emb\\_logo](https://www.youtube.com/watch?v=5p5nxhEcW0Y&feature=emb_logo)*

## Engagement Questions

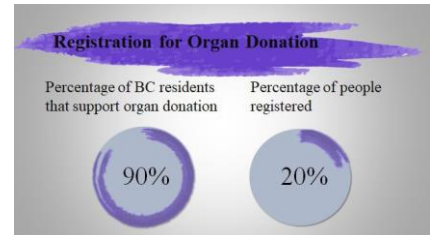
- Do you know anyone with kidney disease?
- How do you think being on dialysis would affect you?
- How are peritoneal and hemodialysis different

## Organ Donation and Transplantation

In this section students learn about organ donation and transplantation, including what they are, what can be donated and the process of transplantation. While listening to Nicki's story, students will gain an understanding of how her mother's decision to be a live organ donor affected her life.

### **Slide #29 Registration For Organ Donation**

Organ donation is the process of giving up an organ, by a deceased or live donor, to be given to another person who needs it in order to live a healthy life. Currently 90% of Canadians support organ donation however only 20% are registered to donate.<sup>7</sup>



*Video 12: Cathy is excited to hear that she is a match for Nicki. Cathy explains how to register to become an organ donor.*

*Link:* [https://www.youtube.com/watch?v=-R\\_6o-GsOVI&feature=emb\\_logo](https://www.youtube.com/watch?v=-R_6o-GsOVI&feature=emb_logo)

### **Slide #31 Organ Donation**

There are many organs that can be donated including kidneys, lungs, heart, liver, pancreas & tissue (eye tissue, heart valves, bone, tendons, veins & ligaments). A single donor can save up to 8 lives and benefit over 75 people.<sup>7</sup>

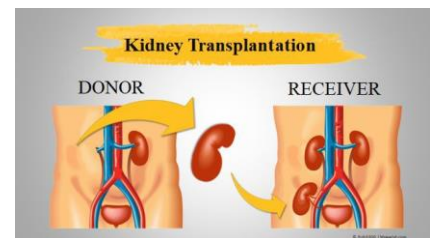


*Video 13: Cathy talks about how organ donation keeps us healthy.*

*Link:* [https://www.youtube.com/watch?v=bg\\_GldUJNLw&feature=emb\\_logo](https://www.youtube.com/watch?v=bg_GldUJNLw&feature=emb_logo)

### **Slide #33 Kidney Transplantation**

After the decision to donate is made the process of giving the donated organ to another person is called transplantation. Transplantation is a surgery and is considered the best treatment for kidney failure.<sup>6</sup> Often a person will have to wait on a waiting list to receive a transplant.<sup>6</sup> During the surgery, the healthy kidney will be transplanted in the receiving patient's lower abdomen and connected to their bladder and blood vessels. A transplanted kidney usually works right away, but may take a few weeks.<sup>8</sup> So some people can have three kidneys!



*Video Link: Cathy talks about the day of transplantation, and hearing the best news that it worked!*

### Slide #34 Kidney Transplantation

Cathy became a kidney donor after donating one of her kidneys to her daughter Nicki. The kidney from a living person is usually healthier than an organ from a deceased donor and may last longer. Living Kidney transplant often lasts 15 - 20 years, however a non-living kidney transplant lasts only 10-15 years. Cathy is a Kidney Hero!



*Video 14: Cathy, Makaela, and Nicki talk about the day of transplantation, hearing the best news that it worked!*

*Link: [https://www.youtube.com/watch?v=fBW1x5VZLHo&feature=emb\\_logo](https://www.youtube.com/watch?v=fBW1x5VZLHo&feature=emb_logo)*

### Engagement Questions

- Who here has heard of organ donation? Let's see a show of hands.
- What is organ donation?
- What are some things you have heard or seen on TV about organ donation?
- Do any of you know if anyone in your family are organ donors?

### Engagement Suggestions

- Have students look online to find a current event or news story related to kidney disease of organ donation to share with the class or in smaller groups.
- Following the presentation have students write a reflection on how the presentation impacted them or what stayed with them.
- Students could exercise their creativity and make an informational poster or collage related to organ donation.

The End

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## **Image Attributes**

Kidney Failure Infographic:	© Nekoztudio   Megapixl.com
Anatomy Graphic:	© Macrovector   Freepik.com
Kidney Graphic:	© Skypixel   Megapixl.com
Hydration Graphic:	© Macrovector   Freepik.com
Bathroom Photograph:	© jcomp   Freepik.com
Urinary System Graphic:	© Guniita   Megapixl.com
Nephron Graphic:	© Guniita   Megapixl.com
Group Picture:	© Rawpixelimages   Megapixl.com
Peritoneal Dialysis Graphic:	© Rob3000   Megapixl.com
Hemodialysis Graphic:	© Artinspiring   Megapixl.com
Hemodialysis Photograph:	© Zastavets   Megapixl.com
Transplantation Graphic:	© Dicraftsman   Megapixl.com
Kidney Transplant Graphic:	© Rob3000   Megapixl.com
Hero Graphic:	© Macrovector   Freepik.com
Kidney Foundation Logo:	© Kidney Foundation   kidney.ca
Hailey-Anne Picture:	© Kidney Foundation   kidney.ca
Maze Graphic:	© Kidney Foundation   kidney.ca
Kidney Character Graphic:	© Kidney Foundation   kidney.ca



## Appendix A

### Suitability Assessment of Materials (SAM) Literacy Evaluation

#### Summary of SAM Literacy Evaluation

Content and purpose is clearly stated throughout powerpoint with titles, illustrations, and words. The material being taught is explained at a level the audience will understand. Important messages are explained in multiple ways (on powerpoint, a story from a person who has experienced it, in videos or games). Literacy demand adheres to the grade seven level of participants by adapting the powerpoint to using active voice throughout. Context is provided before providing any new information. Medical jargon needed in the powerpoint is explained to be thoroughly understood by the audience. Each slide has a title to introduce the new section on the content. The presentation of colour and illustrations is inviting for our audience to engage in the material. The graphics allow the audience to grasp an understanding of more complicated areas on the content. Text throughout the powerpoint is readable by our audience. Capitals, lowercase and bolding are used to indicate titles or important material throughout the presentation. Colour coding of drinks to represent more often, occasionally and rarely help have the audience remember the content. We plan to include more interactive questions throughout the powerpoint to keep the attention of the audience. This allows them to engage in the content and display knowledge they may already have about the content. People who may be at risk for kidney disease are explained in the content. It is reinforced that kidney health is important for all individuals and not just the people at risk. Pictures with more cultural inclusion are planned to be added to this powerpoint.

The score of the SAM model has been majority superior and some adequate throughout the powerpoint.

#### Content

- **Superior:** Purpose is stated in title, cover illustration or introduction.
- **Superior:** Thrust of the material is application of knowledge aimed at desirable reader behaviour.
- **Adequate:** Most key topics are reviewed and key messages could be told in some different words or using different examples.
- **Superior:** literacy demand and writing style. Conversational and active voice is mostly used.
- **Superior:** Sentence construction. Consistently provides context before presenting new information.

#### Vocabulary

- **Adequate:** Common words are used frequently. Technical words are explained most of the time (CCVJ words concept, category, value judgement words are explained). Some jargon is used but common words are mostly used, jargon is explained.
- **Superior:** Nearly all topics are preceded by an advance organizer, a statement that tells what is next could be added into some slides or into the facilitators guide.

# Suitability Assessment of Materials (SAM) Literacy Evaluation

## Cover Graphic

- **Superior:** The cover is friendly and attracts attention as well as clearly portrays the purpose of the materials

## Types of Illustrations

- **Superior:** Appropriate drawings and sketches are used. Illustrations are familiar to readers

## Relevance of Illustrations

- **Superior:** Illustrations present key messages visually so the reader can grasp the key ideas from illustrations alone with no distractions. Graphics are displayed in a manner that provides explanation. Captions for pictures are not typically used but rather explained

## Layout and Typography

- **Superior:** Text type is upper and lowercase where appropriate. Type size is at least 12 point. Color and bolding is used where needed. No all Caps used for headlines or text.
- **Superior:** Illustrations are usually adjacent to text. Boxes, arrows, shading and other visual cues are used to direct attention to key content. Pages are not cluttered. Use of color highly supports the message (such as the color coding for drinks to pick "sometimes")

## Learning Stimulation & Motivation

- **Adequate:** We could include more question and answer to discuss problems and solutions ("Do you know anybody with kidney disease?"). Desired behaviours are modelled.
- **Superior:** Instruction models specific behaviour and skills, for example: nutrition information emphasizes changing drinking patterns.

## Cultural Appropriateness

### Cultural Match- Logic, Language, Experience

- The material reflects on the intended audience

### Cultural Image and Examples

- Adequate/Superior

Most images present culture in positive ways

## Kids and Kidney Health Activity Sheet

Name: \_\_\_\_\_

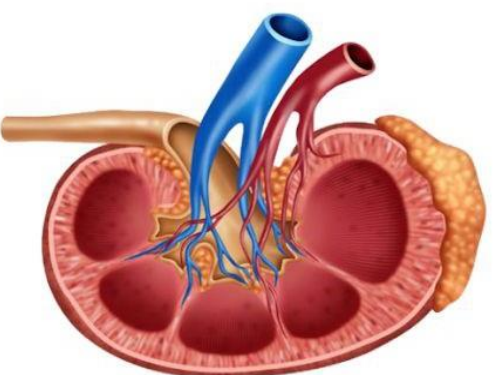
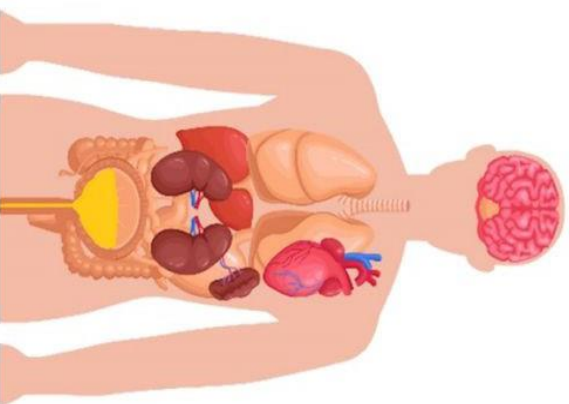
**Fill in the Blank!**

Use these words to finish the sentences below:

fried, failure, healthy, sodium, water, fruits, transplanted, vegetables, dialysis and active

You have two kidneys. Each is the size of your fist and located in your lower back on either side of the spine.

Kidneys get rid of waste and recycles what it can use. They keep water, sodium, potassium, calcium and more at the right levels in the body.



Each kidney is made of millions of tiny tubes. As blood enters the kidney it goes through these tubes, which filters out water and waste. This waste passes through the ureters and is stored in the bladder as urine before leaving the body.

When kidneys stop working, it is called kidney \_\_\_\_\_.

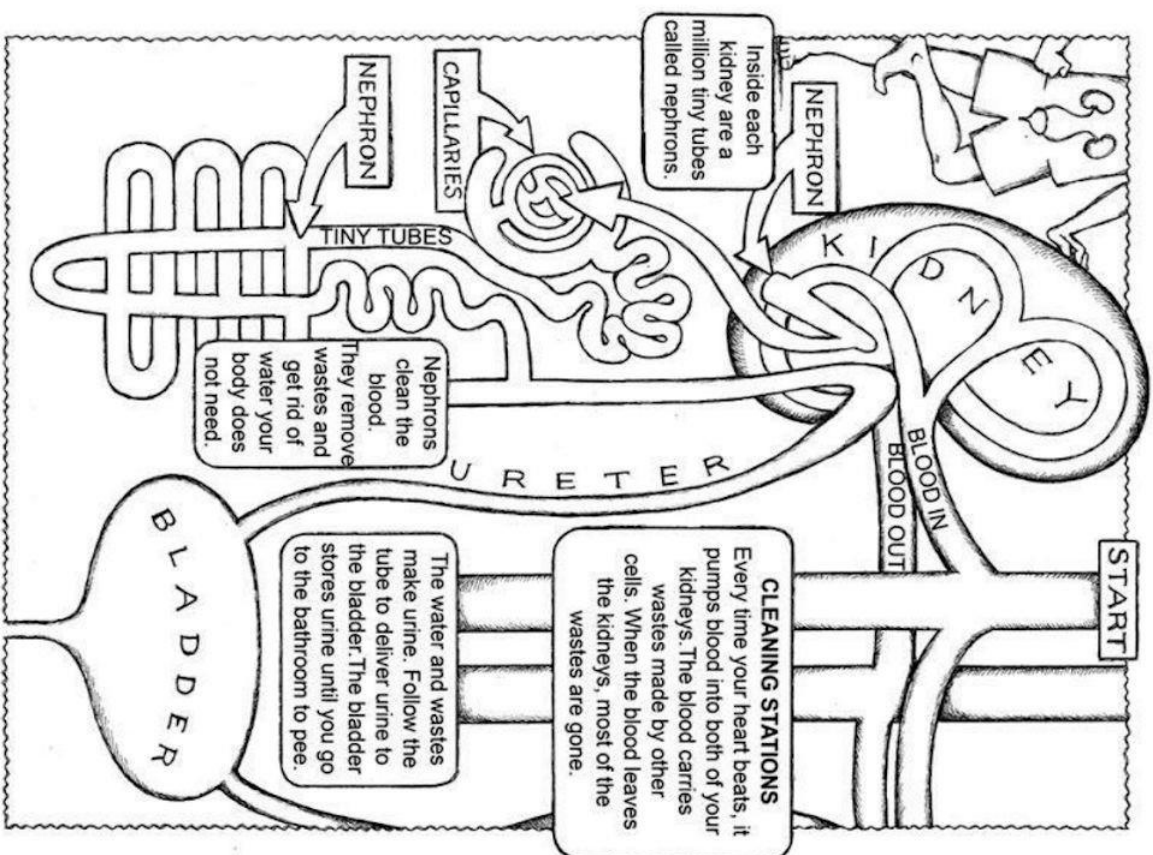
When the kidneys fail people go on \_\_\_\_\_ or receive a \_\_\_\_\_ kidney. Luckily, there are ways to help keep your kidneys \_\_\_\_\_. Drink \_\_\_\_\_ and eat right by using Canada's food guide. Choose many colourful \_\_\_\_\_ and \_\_\_\_\_ to eat. Also, try and avoid \_\_\_\_\_ foods, or foods high in \_\_\_\_\_. Keeping fit and \_\_\_\_\_ is also a good way to stay healthy.

**True or False?**

- 1) Your kidneys help control several body functions.  
T / F
- 2) You need two functioning kidneys to live.  
T / F
- 3) Kidneys remove waste and extra water from the blood to make pee.  
T / F
- 4) The kidneys make 1-2 litres of urine a day.  
T / F
- 5) Only the elderly go into kidney failure.  
T / F



## Kidney Maze



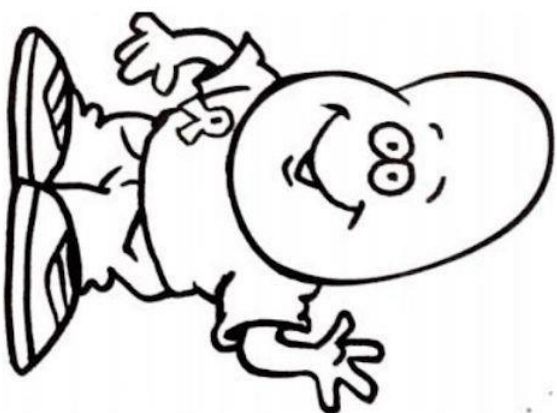
**Finish**

## Word Search

J A X W N E P H R O N S S B P W  
A P R I L U R R E M O L G S S A R  
U H S T L U R R E T E R S S E T  
S E E J E P Z I Q L K T T H T  
I A T P O R E H N L E L A A Z E  
S R E R A G I R L E I A A Z E  
Y T B Y C B R E I F L L U S D  
L M A U T P E T S T P H B P D  
A U I I I M T G H S S O L L Z A  
I I D E I V C A A N O S D E A B  
D D E E I A W A U O S D E A B  
O O J R T N R K D X L S H A E  
M S L N Y T N O I T A N O D L  
E Q Q D J X O K I D N E Y S U  
H G I F T E L C Y C E R K G J

**Find these words**

ACTIVITY  
ARTERIES  
BLADDER  
BLOOD  
DIABETES  
DONATION  
FILTER  
GIFT  
GLOMERULI  
HEALTH  
HEART  
HEMODIALYSIS  
HERO  
KIDNEYS  
NEPHRONS  
PERITONEAL  
RECYCLE  
SODIUM  
TRANSPLANT  
URETERS  
URINE  
WASTE  
WATER



## Appendix C

### **Kids and Kidney Health Activity Sheet** **Answer Key!**

#### **Fill in the Blank!**

When kidneys stop working, it is called kidney **failure**. When the kidneys fail people go on **dialysis** or receive a **transplanted** kidney. Luckily, there are ways to help keep your kidneys **healthy**. Drink **water** and eat right by using Canada's food guide. Choose many colourful **fruits** and **vegetables** to eat. Also, try and avoid **fried** foods, or foods high in **sodium**. Keeping fit and **active** is also a good way to stay healthy.

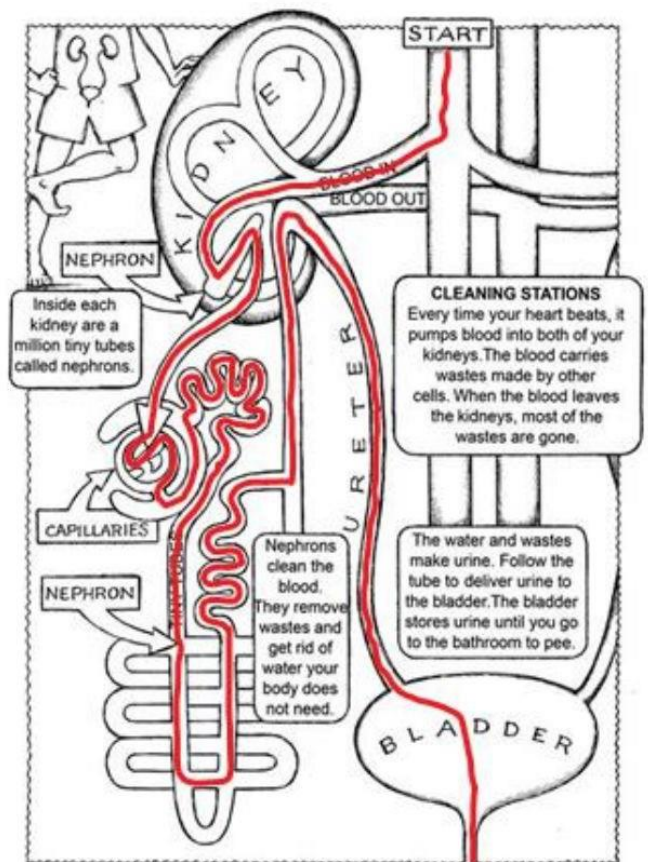
#### **True or False?**

- 1) Your kidneys help control several body functions.  
**T / F**
- 2) You need two functioning kidneys to live.  
**T / F**
- 3) Kidneys remove waste and extra water from the blood to make urine.  
**T / F**
- 4) The kidneys make 1-2 litres of urine a day.  
**T / F**
- 5) Only the elderly go into kidney failure.  
**T / F**

#### **Word Search**

J A X W N E P H R O N S B P W  
A P R I L U R E M O L G S A R  
U H S T L U P E T E R S S E T  
S E E J E P Z I Q L K T T H T  
I A T P O R E H N L E L E N R  
S R E R A G I R L E I A A Z E  
Y T B Y C B R E I F L L U S D  
L M A U T P E T S T P H B P D  
A U I I I M T G H S O L L Z A  
I I D F V C A A N M O N O W L  
D D E E I A W A U O S D E A B  
O O J R T N R K D X L S H A E  
M S L N Y T N O I T A N O D L  
E Q Q D J X O K I D N E Y S U  
H G I F T E L C Y C E R K G J

#### **Kidney Maze**



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## Appendix D

### Kidney Filtration Activity

#### Materials you will need:

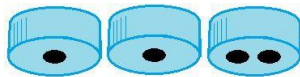
- Hot glue gun
- Hot glue sticks
- 3 plastic pop bottles with caps
- Tubing
- Scissors
- 12 coffee filters
- Water
- Red food colouring
- A cardboard or foamboard stand

#### Instructions:

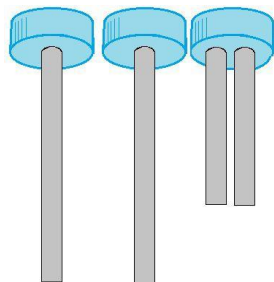
1. Using the scissors cut all 3 bottles in half. Save both halves.



2. Poke a 1 hole big enough to just fit the tubing through 2 bottle lids. Then poke 2 holes into the remaining bottle lid.



3. Cut the tubing into four lengths. Place the ends of the tubing through a hole in the bottle lid and generously hot glue into place so that there will be no leaks.



4. Glue or tie the components in place to the stand according to the picture and place 6 stacked coffee filters into each of the 2 middle bottle halves, these will act as the filtering kidneys.
5. In a cup or one of the extra saved bottom bottle halves add water and red food colouring. This will represent the blood that enters the kidneys.

Pour the red water, “blood”, into the top bottle on the stand. The red water will run through the tubing, “renal arteries”, and into the two lower filter bottles acting as our kidneys. The coffee filters will act as nephrons wilting out the waste in the blood, so that clear fluid will pass through the lower tubing, “ureters”, and collect in the bottom cup, the “bladder”

