

# MANAGING FLUIDS ON PERITONEAL DIALYSIS (PD)

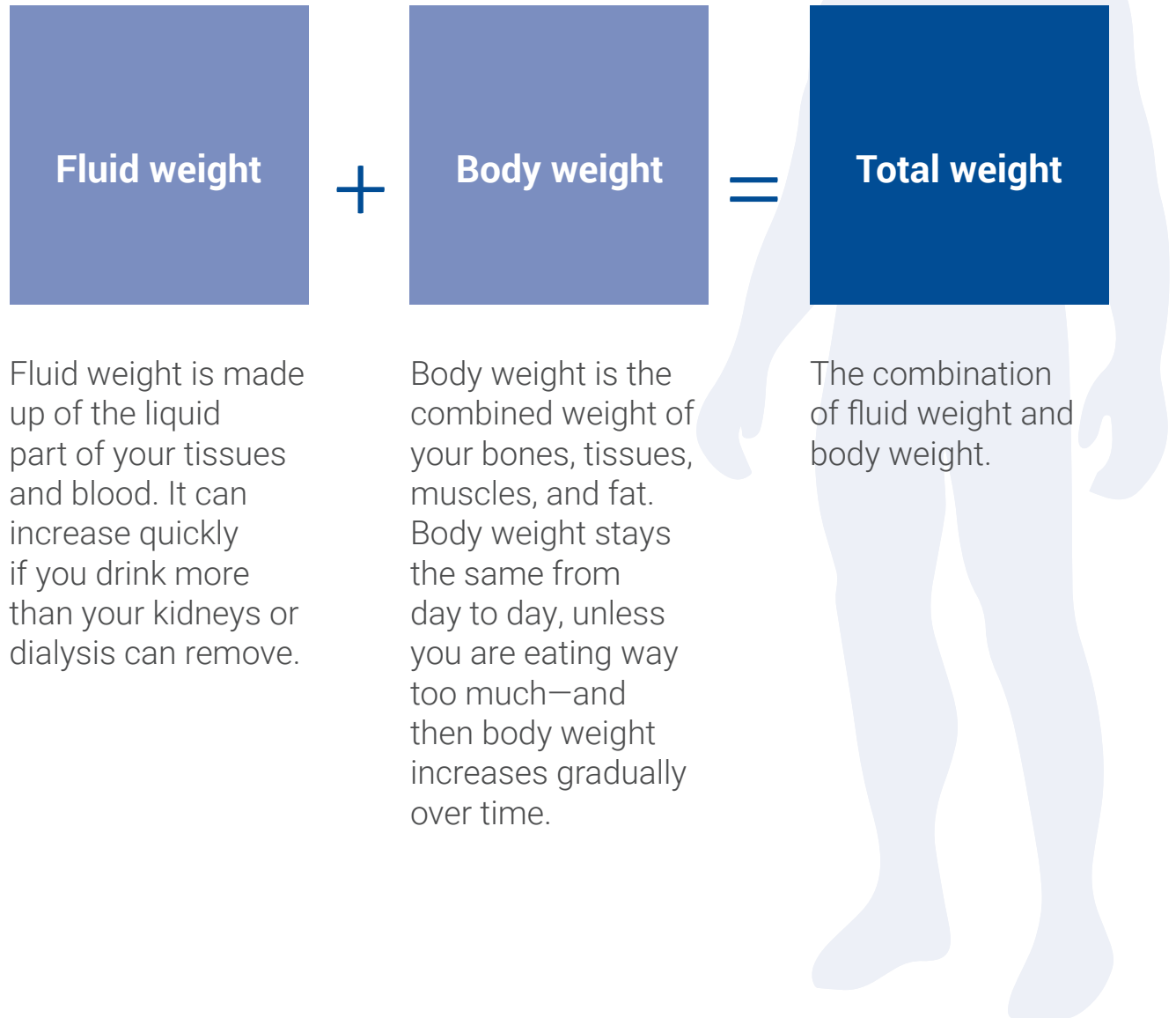
## What you will learn:

- Understanding fluid in your body
- Understanding fluid balance
- What you can do to keep your fluid balance in check every day
- Fluid overload—what happens with too much fluid?
- Dehydration—what happens with too little fluid?
- My Guide for PD Treatments

Healthy kidneys work to balance the fluids in your body, removing extra fluids and waste products from your blood. While some fluids and waste products are removed during your PD treatments, some are left behind. If you have too much fluid in your body, it can cause symptoms such as swelling. It is important to monitor your fluid intake and output to help to keep the fluids in your body balanced.

# Understanding Fluid in Your Body

**Your body has two kinds of weight:**



Fluid weight is made up of the liquid part of your tissues and blood. It can increase quickly if you drink more than your kidneys or dialysis can remove.

Body weight is the combined weight of your bones, tissues, muscles, and fat. Body weight stays the same from day to day, unless you are eating way too much—and then body weight increases gradually over time.

The combination of fluid weight and body weight.

# Understanding Fluid Balance

Healthy kidneys maintain the right amount of fluid in your body by removing excess water from your blood. In other words, healthy kidneys help maintain a healthy fluid balance.

When your kidneys aren't working properly, the following things can affect the amount of fluid in your body:

- The amount of salt (sodium) you consume (this affects how thirsty you are, and in turn, how much fluid you drink and how much fluid you retain)
- The amount of fluid you drink
- The amount of fluid removed by PD
- Your urine output

! Your PD nurse and/or dietitian will help you determine the amount of fluid you should drink each day.

Keeping your fluid in balance will help you and your physician manage your health.

Too much fluid can lead to

- Rapid weight gain
- Swelling
- High blood pressure
- Trouble breathing



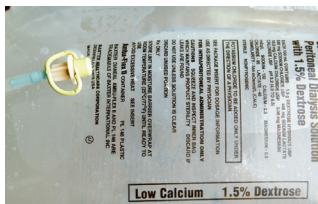
Too little fluid can lead to

- Rapid weight loss
- Low blood pressure
- Dizziness
- Nausea

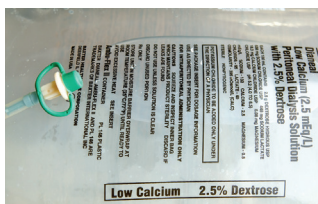
By balancing your fluids, you may avoid issues such as fluid overload and dehydration.

## PD solution options for treatments

There are three strengths of dextrose (sugar) dialysis solutions for PD. The numbers tell you how much sugar is in the solution bag. Solutions with higher amounts of sugar remove more water from the blood than solutions with lower amounts of sugar.



- 1.5% (yellow)—Low sugar solution, which removes the least amount of fluid



- 2.5% (green)—Mid-range solution



- 4.25% (red)—High sugar solution, which removes the greatest amount of fluid compared to 1.5% and 2.5% solution

Your doctor and PD nurse will work very closely with you to select the best solution strength to help balance your fluids. For some treatments, you may use a combination of different solution strengths or use all of the same strength of solution.

# What You Can Do to Keep Your Fluid Balance in Check Every Day

## 1

### **Weigh yourself**

Weigh yourself as you were taught in training.

- Place the scale on a hard floor surface and not on carpeting.
  - Your doctor and PD nurse will determine what your target weight (ideal weight) should be. This may need to be adjusted from time to time as your body changes.
  - Record your weight on the home record sheet provided by your clinic. Take this information to your clinic visits.
- 

## 2

### **Take your blood pressure**

Take your blood pressure as you were taught in training.

- Your blood pressure measures the force of blood pushing against the blood vessel walls (mmHg are the units of blood pressure that measure this pressure).
  - Record your blood pressure. It is useful information for your healthcare provider.
- 

## 3

### **Check for swelling**

- In the morning and later in the day, check for swelling around your eyes, in your hands, lower legs, and ankles.
- 

## 4

### **Record your ultrafiltration information**

- Ultrafiltration is the excess fluid that is removed by dialysis. The ultrafiltration amount is the difference between the volume you filled with and the volume you drained. A cycler may automatically calculate your total ultrafiltration for each treatment. Refer to your cycler's Operator's Manual.



- Record your treatment information. Your PD nurse will provide you with home record sheets to record your treatment information. If you are using an APD cycler, your cycler will automatically record the treatment information that can be shared with your PD nurse at each visit.
- 

## 5

### Keep track of urine output

The amount of urine your kidneys make may change over time.

- It is important to monitor your urine output and tell your PD nurse if there is a change in output.
- More or less urine output may mean a change is needed in your PD prescription.
- Your nurse will review how to measure your urine output.



If you notice more or less urine output, call your PD nurse, as directed.

---

## 6

### Record how you feel

- Be aware of how you feel each day. Record and immediately report to your clinic any symptoms of excessive weight gain, weight loss, swelling, dizziness, nausea, or trouble breathing.

## 7

### Perform PD exchange

Doing PD treatments and controlling the fluid you take in will help balance the fluid in your body.

- PD solution removes the extra fluid in your body.
- Doing PD treatments as prescribed by your doctor will help control your fluid balance.



Based on your PD prescription, your doctor and PD nurse will help you plan which strength of solution to choose for your treatments.

# Fluid Overload—What Happens with Too Much Fluid?



- Fluid overload means having too much water in your body
- Fluid overload can happen when you drink too much fluid, PD treatments remove too little fluid from your body, or your urine output decreases

Fluid overload may cause some or all of the following symptoms:

- Rapid weight gain
- High blood pressure
- Swelling or puffiness in your face, around your eyes, and in your hands, lower legs, and ankles, especially in the morning or evening
- Tightness in rings, waistbands of your clothing, and shoes
- Trouble breathing when walking, climbing stairs, or lying down



## What you can do if you experience fluid overload

### **Problem:** Too much fluid in your body

#### **Action:**

- Check your weight and blood pressure
- Check to make sure you are using the correct PD solution
- Consume less fluid
  - Divide your fluid for the day between meals and snacks
  - Know how much fluid a cup or mug holds and use the same one all of the time
- Limit salt (sodium) intake
- If you are not able to remove fluid with one or two treatments, **call your PD nurse, as directed**
- If your blood pressure is higher than normal or if you have trouble breathing, follow clinic procedures and **call your PD nurse immediately**

**In the case of an emergency, call 911.**

# Dehydration—What Happens with Too Little Fluid?



- Dehydration means you have too little fluid in your body
- Dehydration can happen when you eat or drink too little fluid, PD treatments remove too much fluid from your body, or your urine output increases
- Symptoms include:
  - Rapid weight loss
  - Low blood pressure
  - Feeling dizzy
  - Nausea

## What you can do if you experience dehydration

### **Problem:** Too little fluid in your body

### **Action:**

- Consume more fluid
- After checking with your PD nurse, use a lower strength of PD solution
- Eat or drink some salty foods such as crackers, pretzels, and salty broths such as chicken broth

# New Words

## **Blood pressure**

Measurement of the force of blood pushing against the blood vessel walls. Blood pressure varies with sex, health, age, and stress levels.

## **Body weight**

The combined weight of the bones, tissue, muscles, and fat.

## **Dehydration**

A condition in which the body does not have enough fluid, caused by not drinking enough fluid, removing too much fluid with PD treatments, or an increase in urine output.

## **Fluid balance**

The maintenance of the right amount of salt and water in the body.

## **Fluid overload**

A condition in which the body contains too much fluid, caused by drinking too much fluid, not removing enough fluid with PD, or a decrease in urine output.

## **Fluid weight**

The measurement of the liquid part of your tissues and blood.

## **Salt (sodium)**

A mineral found in almost all foods. Eating lower-salt foods leads to less thirst, which helps control fluid intake.

## **Strength (of PD solution)**

Refers to the dextrose concentration of the PD solution. A higher-strength solution removes more fluid than a lower-strength solution.

## **Total weight**

The combination of fluid weight and body weight.

## **Target weight**

A term used to describe when there is neither too much nor too little fluid in the body, when the fluid is in good balance.










## **Ultrafiltration**

The excess fluid that is removed by dialysis.

# My PD Solution Chart

The chart below can be used as a guide when trying to determine which solutions to use. You and your nurse should fill out this chart together so that it is customized for you. Your symptoms/measurements may not fit perfectly under one of the options, but with the help of your PD nurse, you can determine which solution to use.

Date:  My target weight is: 

My Guide for PD Treatments			
<b>Your Weight Range</b>	Weight range of:  <input type="text"/>	Weight range of:  <input type="text"/>	Weight range of:  <input type="text"/>
<b>Your Blood Pressure (BP)</b>	BP reading of: • Systolic  <input type="text"/> • Diastolic  <input type="text"/>	BP reading of: • Systolic  <input type="text"/> • Diastolic  <input type="text"/>	BP reading of: • Systolic  <input type="text"/> • Diastolic  <input type="text"/>
<b>Level of Body Swelling</b>	No swelling	No swelling, or some swelling or puffiness in face, tightness in hands, lower legs, or ankles	Swelling or puffiness in face, hands, lower legs, or ankles
<b>Strength of Dialysis Solution</b>	<b>YELLOW</b> pull ring 1.5% Dextrose Solution	<b>GREEN</b> pull ring 2.5% Dextrose Solution	<b>RED</b> pull ring 4.25% Dextrose Solution

 If you are considering using 4.25% Dextrose Solution or have any questions about which solutions to use, call your PD nurse.

Date:

My target weight is:



### My Guide for PD Treatments

<b>Your Weight Range</b>	Weight range of: * <input type="text"/>	Weight range of: * <input type="text"/>	Weight range of: * <input type="text"/>
<b>Your Blood Pressure (BP)</b>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>
<b>Level of Body Swelling</b>	No swelling	No swelling, or some swelling or puffiness in face, tightness in hands, lower legs, or ankles	Swelling or puffiness in face, hands, lower legs, or ankles
<b>Strength of Dialysis Solution</b>	<b>YELLOW</b> pull ring 1.5% Dextrose Solution	<b>GREEN</b> pull ring 2.5% Dextrose Solution	<b>RED</b> pull ring 4.25% Dextrose Solution

## Notes

---



---



---



---

Date:

My target weight is:



### My Guide for PD Treatments

<b>Your Weight Range</b>	Weight range of: * <input type="text"/>	Weight range of: * <input type="text"/>	Weight range of: * <input type="text"/>
<b>Your Blood Pressure (BP)</b>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>	BP reading of: • Systolic * <input type="text"/> • Diastolic * <input type="text"/>
<b>Level of Body Swelling</b>	No swelling	No swelling, or some swelling or puffiness in face, tightness in hands, lower legs, or ankles	Swelling or puffiness in face, hands, lower legs, or ankles
<b>Strength of Dialysis Solution</b>	<b>YELLOW</b> pull ring 1.5% Dextrose Solution	<b>GREEN</b> pull ring 2.5% Dextrose Solution	<b>RED</b> pull ring 4.25% Dextrose Solution

## Notes

---



---



---



---



## PD Training: Patient Training Self-Test

# Managing Fluids on Peritoneal Dialysis (PD)

1. Keeping your fluid in balance will help you prevent fluid overload and dehydration.

True                      False

2. Too much fluid can lead to swelling, high blood pressure, trouble breathing, and rapid weight gain.

True                      False

3. If you notice less urine output, tell your PD nurse, as directed.

True                      False

4. PD solution comes in just one strength.

True                      False

5. What should you do each day to check your fluid balance?

- a. Weigh yourself and record it
- b. Take your blood pressure and record it
- c. If you use a cycler, record your ultrafiltration information
- d. All of the above

6. In the morning, check for swelling around your eyes.

True                      False

7. If you have too much fluid (fluid overload) in your body, you should:

- a. Consume less fluid
- b. Limit salt (sodium) intake
- c. Talk to your PD nurse about using a higher-strength PD solution
- d. All of the above

8. If you have too little fluid in your body (dehydration), you should:

- a. Consume more fluid
- b. Talk to your PD nurse about using a lower-strength PD solution
- c. Eat some salty foods
- d. All of the above

9. When choosing PD fluids, a 1.5% dextrose solution will remove the least amount of fluid.

True                      False

10. What are some of the actions you should take if you have swelling or puffiness in your face, hands, lower legs, or ankles?

- a. Check your weight and blood pressure
- b. Check to make sure you are using the correct PD solution
- c. Decrease your fluid and salt intake
- d. All of the above

**Patient Signature:**

\_\_\_\_\_

**Date:** \_\_\_\_\_

**Answers:** 1-True, 2-True, 3-True, 4-False, 5-d, 6-True, 7-d, 8-d, 9-True, 10-d

***Baxter***

**Baxter Corporation**  
Mississauga, ON L5N 0C2 Canada  
Visit us at [www.baxter.ca](http://www.baxter.ca)

CAMP/MG2/18-0023 01/2019  
Baxter is a registered trademark of Baxter International Inc.

# PD Training: Patient Checklist

## Managing Fluids on Peritoneal Dialysis (PD)

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

Person Trained: \_\_\_\_\_

Relationship to Patient: \_\_\_\_\_

Completed by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_

### Patient Training/Retraining Checklist Instructions

- The Patient Training Checklist should be used to help track the patient's progress while being trained, to refresh the learning of a current patient/caregiver or to retrain a returning patient.
- Place the date in the appropriate box as the patient verbalizes understanding of a topic or successfully completes a return demonstration of a procedure.
- If the topic is not applicable (N/A) to the patient, place the date in the N/A column.
- Use Notes section as needed to indicate future training needs.

Patient demonstrates or verbalizes understanding of:	Yes	No	N/A
<b>Fluid in your body</b>			
• Body has two kinds of weight			
– Fluid weight			
– Body weight			
– Fluid Weight + Body Weight = Total Weight			



<b>Patient demonstrates or verbalizes understanding of:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
---	------------	-----------	------------

<b>What affects fluid in your body when your kidneys don't work</b>			
• Salt (sodium) you consume affects how much fluid you drink and retain			
• Fluid you drink or eat			
• Urine output			
• Amount of fluid removed by PD			
• Your PD nurse and/or dietitian will help you set how much fluid you can drink each day			
• Patient understands daily amount of fluid to drink			

<b>How fluid balance affects your health</b>			
• Keeping fluid in balance helps you and your physician manage your health			
• Too much fluid can lead to swelling, high blood pressure, trouble breathing or rapid weight gain			
• Too little fluid can lead to low blood pressure, dizziness, nausea or rapid weight loss			

<b>Fluid balance is important because it may help you avoid issues such as:</b>			
• Too much fluid (fluid overload)			
• Too little fluid (dehydration)			
• If you notice more or less urine output, call your PD nurse, as directed			

<b>Checks to do every day</b>			
• Weigh yourself and record it			
– Your PD physician and nurse will determine your target weight			
• Take your blood pressure as you were taught and record it			
• Record your ultrafiltration information if you use a cycler			
• Record this information on your home treatment record sheets or as directed. Bring these records to your next doctor visit			

<b>Patient demonstrates or verbalizes understanding of:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
---	------------	-----------	------------

<b>Checks to do every day (continued)</b>			
---	--	--	--

- |  |  |  |  |
|--|--|--|--|
| • Urine output: keep track of it   |  |  |  |
| • Swelling: check morning and later in the day around your eyes and in your hands, lower legs, ankles  |  |  |  |
| • How you feel   |  |  |  |
| • Tell your PD nurse if you have symptoms of sudden weight gain or weight loss, high or low blood pressure, swelling, difficulty breathing, dizziness, or nausea |  |  |  |

<b>Fluid overload</b>			
-----------------------	--	--	--

- |  |  |  |  |
|--|--|--|--|
| • Fluid overload is having too much fluid in your body   |  |  |  |
| • Can occur when PD treatments remove too little fluid from your body, when you drink too much fluid, or your urine output decreases |  |  |  |
| • Fluid overload may cause some or all of these symptoms:  |  |  |  |
| – Rapid weight gain  |  |  |  |
| – High blood pressure  |  |  |  |
| – Swelling and puffiness in your face and around eyes, hands, lower legs and ankles, especially in the morning and evening           |  |  |  |
| – Tightness in rings, waistbands, shoes  |  |  |  |
| – Trouble breathing when walking, climbing stairs, lying down  |  |  |  |

<b>What to do for fluid overload</b>			
--------------------------------------	--	--	--

- |  |  |  |  |
|--|--|--|--|
| • Consume less fluid   |  |  |  |
| – Divide your fluid for the day between meals and snacks   |  |  |  |
| – Know how much fluid a cup or mug holds and use it all the time                                 |  |  |  |
| – Talk to your PD nurse about using a higher-strength PD solution and how long you should use it |  |  |  |
| – Limit salt intake  |  |  |  |
| • If your symptoms do not improve, call your PD nurse as directed                                |  |  |  |

<b>Patient demonstrates or verbalizes understanding of:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
---	------------	-----------	------------

### **Dehydration**

• Dehydration is having too little fluid in your body			
• Can occur when PD treatments remove too much fluid from your body, if you are not drinking enough fluid, or if your urine output increases			
• Symptoms: rapid weight loss, low blood pressure, feeling dizzy or sick, nausea or vomiting			

### **What to do for dehydration**

• Consume more fluid			
• Talk to your PD nurse about using a lower-strength PD solution and how long you should use it			
• Eat salty foods like crackers			
• If your symptoms do not improve, call your PD nurse as directed			

### **Choosing PD fluids**

• There are three strengths of dextrose (sugar) dialysis solution			
• The numbers tell you how much dextrose the bag contains			
• Solution with higher amount of dextrose removes more fluid from your body than solution with lower amount of dextrose			
– 1.5% - Low dextrose solution, which removes the least amount of fluid			
– 2.5% - Mid-range solution			
– 4.25% - High dextrose solution, which removes the most fluid compared to 1.5% and 2.5% dextrose solutions			
• Your PD nurse will work with you to select the best solution strength for your needs			
• For some treatments, you may use two different concentrations of solution or all of the same strength			
• Talk to your PD nurse if you have questions about solution or about choosing a higher-or lower-strength solution			



Patient demonstrates or verbalizes understanding of:	Yes	No	N/A
--	-----	----	-----

Using <i>My Guide for PD Treatments</i> to choose strength of PD solution			
• Factors to record in chart:			
– Weight			
– Blood pressure			
– Body swelling			

Final checks	Yes	No	N/A
--------------	-----	----	-----

Lesson reviewed			
New words reviewed			
Self-test completed			

Patient Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Notes

(If topic not completed or retraining required, specify reason. Procedure training may be documented if applicable.)

---



---



---



**Baxter Corporation**  
Mississauga, ON L5N 0C2 Canada  
Visit us at [www.baxter.ca](http://www.baxter.ca)

CAMP/MG2/18-0023 01/2019  
Baxter is a registered trademark of Baxter International Inc.



# Notes

---

---

---

---

---

---

---

## Additional Resources on PD

[www.livenow.info](http://www.livenow.info)

[www.kidney.ca](http://www.kidney.ca)

[www.kidneycampus.ca](http://www.kidneycampus.ca)

[www.ontariorenalnetwork.ca](http://www.ontariorenalnetwork.ca)

[www.bcrenalagency.ca](http://www.bcrenalagency.ca)

[www.renal.org](http://www.renal.org)

[www.kidney.org](http://www.kidney.org)

[www.agir.ca](http://www.agir.ca)

[www.kidneyhealth.ca/wp](http://www.kidneyhealth.ca/wp)

[www.nshealth.ca/renal-program](http://www.nshealth.ca/renal-program)

The Baxter logo is displayed in a white, bold, italicized sans-serif font against a dark blue background. The background features a pattern of overlapping, semi-transparent blue geometric shapes, including triangles and parallelograms, creating a dynamic, layered effect.

**Baxter Corporation**  
Mississauga, ON L5N 0C2 Canada  
Visit us at [www.baxter.ca](http://www.baxter.ca)

CAMP/MG2/18-0023 01/2019  
Baxter is a registered trademark of Baxter International Inc.