

# NephroCare Patient Training

## Focus on: Hydration and BCM



**NephroCare**



**FRESENIUS  
MEDICAL CARE**



# NephroCare

Fresenius Medical Care's Way of Caring

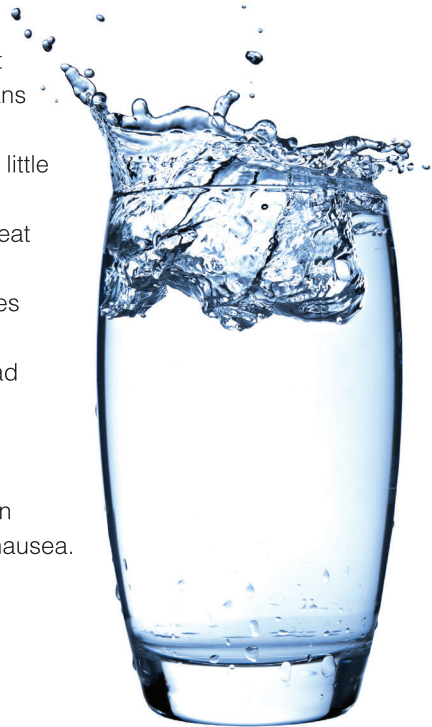
# What does HYDRATION mean in chronic kidney failure?

When your doctor or nurse refers to 'hydration', they are talking about the amount of fluid (water) in your body:

- Normal hydration is when the amount of water in your body is correct
- Overhydration (overloaded) means you have too much fluid in your body
- Dehydration means you have too little fluid in your body.

## The above 3 hydration states have very different effects on your body and your organs:

- **Normal hydration**, with the exact amount of water in your body, allows all your organs to function properly, especially the heart, lungs and kidneys (if your kidneys have a little function still).
- **Overhydration** (fluid overload), puts a great and dangerous stress on your organs, especially the heart and lungs. This causes shortness of breath, high blood pressure, swelling. Long term overhydration can lead to untimely death.
- **Dehydration**, too little fluid in your body, results in stress on your internal organs, especially the heart and brain, resulting in very low blood pressure, headache and nausea.



Keeping your hydration status normal is very important to your long term survival and quality of life.

This is done by observing a strict fluid intake as prescribed by your doctor. We must remember that when we talk about fluid intake, this does not only mean water.

What are some of the foodstuffs that contain fluid that cause you to overhydrate (put on fluid weight)?

- Fruits such as watermelon, oranges, other juicy fruits, pastas, porridges, rice, soups, tea, coffee, cold drinks, large quantities of ice.



If your doctor has not prescribed your fluid allowance, here is a quick formula you can use as a guideline:

Ask your nurse for a container in which you can collect your urine for a 24 hour period - example 6am Monday to 6am Tuesday.

- Ask your nurse to measure the amount of urine passed in 24 hours.
- Take that amount and add 500 ml (500 ml is for the 'insensible loss', which means fluid you automatically lose from breathing, talking, coughing, perspiring and stool.)
- Example:  
24 hour volume is 1000 ml, add 500 ml = 1500 ml, which means your fluid intake should NOT exceed 1500 ml in 24hours.





Having understood fluid control and its importance, let us look at how we work out your weight in the dialysis unit:

- The dialysis nurse works with three important weights, one being the most important weight, the **DRY WEIGHT**.
- **DRY WEIGHT** is the weight where you have no excess fluid in your body, your blood pressure is normal and you are not short of breath.

After each dialysis session you must be at your dry weight to prevent complications (cardiac failure, shortness of breath, swelling).

- **Pre dialysis weight:** This is what you weigh when you come to dialysis, before going onto the haemodialysis machine. This means it is the weight showing how much excess fluid is now in your body.
- **Post dialysis weight:** This is what you weigh after the dialysis session, after excess fluid has been removed.

- Your **DRY WEIGHT** must be prescribed by your doctor.
- Your dialysis nurse will assist the doctor with his / her prescription, to ensure absolute accuracy, by the use of a small portable device known as the **Body Composition Monitor (BCM)**
- The **BCM** plays a very important role in your therapy.
- Your dialysis nurse must do the **BCM** measurement every four weeks, as there is a possibility of your **DRY WEIGHT** changing. (This may be a result of an improvement in your condition, or the converse, an illness).

### So, what is the BCM or Body Composition Monitor?

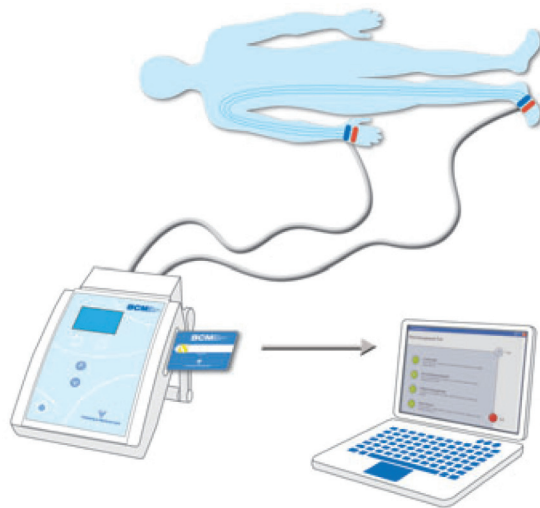
- This monitor has a software programme in it designed to work with small electrical impulses to measure various tissues and fluid in your body, such as lean tissue (muscles), fatty tissue (these two parameters show your nurse your nutritional state - are you eating and exercising enough)
- Fluid is shown as fluid inside the cells and fluid outside the cells. The fluid outside the cells is the dangerous fluid which we have to monitor.



The BCM uses a formula known as Watson's formula to calculate what we call the urea distribution volume in your body - this means the amount of 'healthy water' in your body, in which urea is distributed (urea is a waste product of proteins). This value is shown in litres.

For this calculation, the nurse will require: height; weight; date of birth; gender blood pressure - Once, this data has been entered into the BCM machine, further preparation can begin:

- Before dialysis, lie as flat as possible on the dialysis bed, for at least two minutes for water in your body to settle.
- The nurse will clean an area on your foot and hand (on the side away from your fistula), over your ankle and wrist bones and on the knuckle of the foot and hand.
- Then, four sticky electrodes are applied onto the cleaned areas.





- Once the electrodes are in place a double cable with red and black crocodile clips is attached:
- one red clip furthest from the heart on the foot and one on the hand - one black clip nearer the heart on the foot and hand.
- Once all data has been entered and cables positioned, you will be required to lie very still, breathing normally, no talking, laughing etc.
- The nurse will press 'START' and the reading will take 20 seconds.

***You will not feel any pain or discomfort during this procedure!***

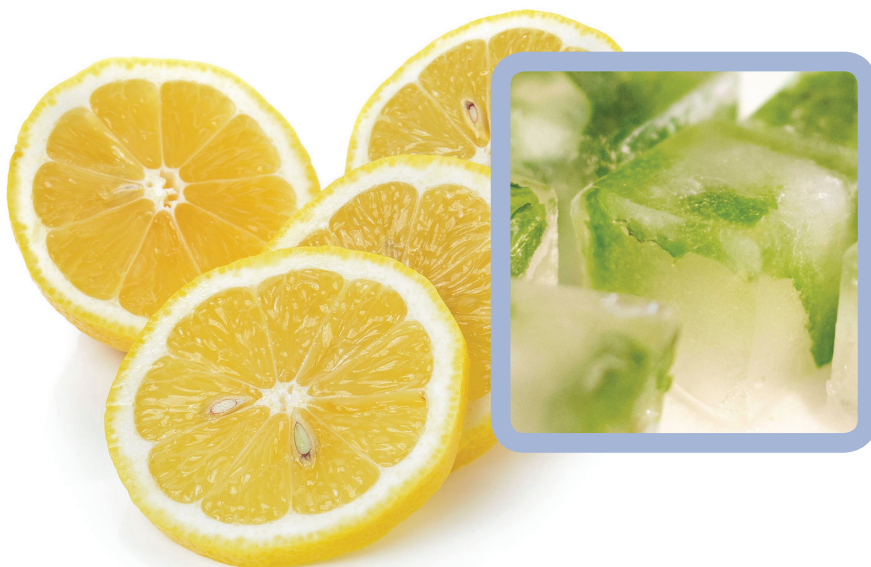
- The cable will be removed, but electrodes will stay on for the reading to be done AFTER dialysis.
  - Both before and after dialysis readings are important!
  - The BCM then calculates your dry weight - how much you must weigh, to improve your quality of life and ensure you live a long, good life!



- The **BCM** takes the guess work out of your **DRY WEIGHT**
- It is **VERY IMPORTANT** that every four weeks, as per the appointment, your nurse makes for you, to allow this measurement with BCM to be done, so please, on that day, allow for a little extra time. This little extra time will improve your life on Dialysis!

#### **Tips to help you combat thirst:**

- Reduce sugar intake
- Reduce salt intake
- Suck ice blocks (not too many - each ice block is 20 ml of water, and will come off your daily fluid allowance)
- Make ice blocks with lemon juice or mint leaves in it
- Chew sugar free chewing gum
- Freeze slices of lemon to suck on





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