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Caring for the patient who has problems with elimination

The body must have enough fluids to stay healthy. Over half of an adult's weight is made up of fluids. The amount or volume of fluids in the body remains more or less constant. A person

takes in fluid through drinking water and other liquids and through eating foods that contain some liquid. This volume is balanced by the amount of fluid the person loses in breathing, perspiration, urine, and the fluid in solid wastes eliminated from the gastrointestinal tract.

The body fluids contain electrolytes such as sodium, potassium, chloride, phosphate and calcium. In the healthy person these electrolytes are in balance. Some diseases cause fluid or electrolyte imbalances. When a person is ill, the nurse must pay close attention to the amount of fluids the person takes in and excretes, making sure that the fluids and electrolytes are balanced.

There are two types of fluid problems: too little fluid and too much fluid.

IN HEALTH

INTAKE= OUTPUT



Too little fluid

Too little fluid (dehydration) can be the result of taking in too little fluid or losing too much.

Common reasons for taking in too little fluid:

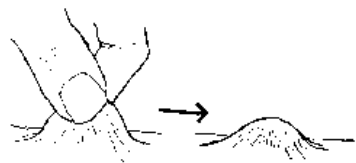
- unable to swallow
- nausea
- lack of appetite
- confusion.

Common reasons for losing too much fluid:

- diarrhoea and vomiting
- excess sweating
- blood loss during surgery
- fluid loss from bad burns
- fever
- too much urination, as with uncontrolled diabetes
- drainage from wounds.

Always look for the signs of dehydration. One of the easiest signs to see is lack of elasticity in the skin tissues. When you pinch normal skin, it immediately goes back to its usual position. If the person is dehydrated, the skin will go back to its flat position more slowly. For adults, the best places to test are the forehead, sternum and inner thigh.

Test the abdomen or mid-thigh for children. (Skin elasticity is not always a reliable sign in elderly persons, who normally have less skin elasticity.)



If the skin fold does not fall right back to normal, the person is dehydrated

Signs of dehydration:

- poor skin elasticity (turgor)
- weight loss
- dry mucous membranes (it is easy to see this in the mouth)
- sunken eyes
- a weak, rapid pulse
- low blood pressure (especially a drop in blood pressure when the person has been lying down and tries to stand up)
- a general feeling of weakness
- thirst
- decreased urine output, darker, more concentrated urine.



Too much fluid

A sick person may also have too much fluid in his or her body (hypervolemia).

Major causes of fluid overload:

- too much salt (sodium chloride)
- intravenous fluids infused too rapidly
- heart failure, kidney failure, and cirrhosis of the liver
- too much use of steroids.

Signs of too much fluid:

- swelling (oedema), especially in the hands and feet
- puffiness around the eyes
- neck veins which stand out
- weight gain
- fluid build-up in the abdomen (ascites)
- high blood pressure
- a full bounding pulse sound
- slow emptying of the veins in the hand when you lift the hand up
- difficulty with breathing and crackles heard in the lungs when listening with a stethoscope.



Electrolyte imbalance

To make sure that the patient does not suffer from fluid or electrolyte imbalances, you must watch and write down the intake of foods and fluids. The fluid output through urine must also be noted. This is especially important for patients who already have imbalances or who are at special risk.

Patients at special risk for electrolyte imbalance:

- the elderly, infants and young children
- patients who cannot take in anything by mouth or whose fluids are restricted
- patients having intravenous fluids
- patients who have had surgery, severe burns or injuries

- patients with urinary catheters or with special drains or suction
- patients who retain fluids
- patients with congestive heart failure, diabetes, chronic obstructive lung disease or kidney disease
- patients having diuretics.



How to measure and record intake and output

Always measure as exactly as you can the amount of fluids a person takes in and the amount excreted. Many hospitals have what is called an intake-output record or fluid chart. This is where the nurse notes down the fluids the person takes in through intravenous lines (drips), tube feedings and by mouth, and the amount excreted through urine or vomit. If your hospital does not have an intake/output record or fluid chart, make your own.

To monitor intake and output, watch and measure what the patient drinks. It is helpful to make a chart with the measurements of all the kinds of utensils used for fluids in your hospital. For example, the soup bowls used in the hospital may hold 180 ml of fluid. If the patient's family are helping to feed him or her, teach them how to measure what the patient drinks and ask them to write it down or remember it for you.

Intake

Note the amounts of all fluids taken in over a 24-hour period:

- water, milk, juice, tea, cream, soup, coconut water, rice water and other drinks
- foods that become liquid at room temperature such as ice cream, custard and gelatine

- tube feedings
- intravenous fluids
- intravenous medications given with saline solution or otherwise diluted
- any fluids used to irrigate nasogastric tubes or catheters.

You will not be able to measure fluids in the food the patient eats. You can, however, write down what he or she eats or ask the family to remember it for you.

Output

To measure the excretion of fluids over a 24-hour period, make a note of the following:

- urine excreted into a bedpan or urinal or in a catheter drainage bag (or estimated amount if the patient uses the toilet)
- the estimated volume of vomit or watery faeces
- estimated amount of tube drainage
- estimated amount of wound drainage.

If you cannot measure the amount of urine, note the number of times the patient urinated.

If the family helps the patient to the bathroom or helps the patient use a bedpan or urinal, ask them to remember the number of times the patient urinates and whether or not there was anything unusual about the colour. Also ask them to remember and tell you the number of times the patient defecates and whether the stools are watery.

To estimate wound drainage, write down the number of times dressings got wet and needed to be changed.

Add up the amount of intake and output at the end of every shift. Write the numbers on the patient's intake-output sheet or fluid chart.

Compare the amounts with what was recorded previously to see if there have been any changes.

Report too much or too little fluid intake to the nurse in charge or to the doctor.



Help the patient to take in the proper fluids

If patients are taking in too little fluid, try to get them to drink more if possible. Always explain why they need to drink more. Make it easy for them to drink more. As well as water, offer fruit juices, tea, coconut water, etc. Always keep some fluids near the patient. Encourage patients to drink whenever you come into the room. Also, ask any family members present to help patients drink more. People who drink enough should not be thirsty, their mucous membranes will be moist, and their urine should be clear.

***Clinical alert:* If the patient is getting fluids intravenously, you must check the flow rate every hour to be sure the patient does not get an overload of fluids or get less than needed.**

Patients who need extra fluids may get them intravenously.

If the patient is overloaded with fluids, explain that he or she will need to limit fluid intake, and why. Use small cups for fluids. This makes the amount seem more than it actually is. Also help the patient to rinse his or her mouth out with water if this can be done without the patient swallowing.



Elimination of waste from the body through urination

It is normal to get rid of (eliminate) waste from the body through urination. People can usually feel when their bladder is full. If their muscles are working, they can voluntarily control urination. Many conditions can make people unable to feel fullness, or can cause loss of control over urination.

People with brain or spinal cord injuries, for example, cannot control the emptying of their bladder. Also, elderly people who are confused or demented may not know when their bladder is full. Many elderly people cannot control the muscles used to urinate.

***Clinical alert:* Because it is so important to eliminate fluid wastes, you should monitor and note the patient's output of fluids, especially if the patient is at risk for problems. Also, you should encourage the patient to take in enough fluids, since that helps to make sure that waste is eliminated adequately. If the family are helping to provide care, explain to them the importance of getting the patient to drink fluids often.**

Urinary incontinence is being unable to control urine flow.

Urinary retention is being unable to urinate even when the bladder is full.

Other problems with urination include a very frequent need to urinate, unusually large amounts of urine, a need to urinate frequently at night, a need to urinate immediately, and painful urination.

Urination is affected by the amount of fluid the person takes in each day, and by the types of fluids. A person who drinks a great deal of fluid will urinate more than a person who takes in only a little fluid. Alcohol and fluids containing caffeine tend to increase urination. Some medications lead to retention of urine. Others may increase the production of urine. Diabetes also increases urine. Some heart diseases decrease urine production. Diseases of the kidney may lead to a failure of the system for eliminating liquid wastes. This is called renal failure. It is fatal if the body's wastes are not taken away by some other means such as dialysis.



Help the patient to urinate

When patients want to urinate, help them to the toilet if they cannot walk alone. Help them to clean themselves after using the toilet. Help them to wash their hands. Always wash your own hands afterwards. If family members are there, show them how to help with going to the bathroom and making sure that patients are clean after using the toilet. Instruct family members to help patients to wash their hands and then to wash their own hands.

If patients cannot walk to the toilet even with support, help them to use a urinal or bedpan. Give them as much privacy as possible, and clean them afterwards. Then wash your hands.



Urinary catheters

Sometimes patients cannot urinate and you need to put in a catheter.

Catheterization always brings the risk of infection and it should be avoided if at all possible.

Catheterization involves putting a tube called a catheter through the urethra into the bladder. As well as draining urine, catheterization may be used during surgery to keep the bladder empty. There are two kinds of catheters. A straight catheter is used to drain the bladder for a few minutes. A Foley or indwelling catheter stays in place and continues to drain urine.

Always provide privacy for patients when a procedure involves the genital area. Close the door or pull the curtains around the bed.

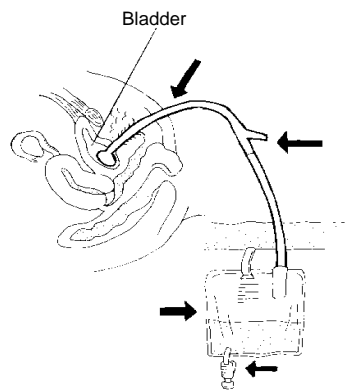
Before you begin, explain what you are going to do and why. Tell patients that inserting the catheter should not hurt although they may feel some pressure.

Use sterile technique and be extremely careful when putting in a catheter.

If the catheter is not sterile you can bring microorganisms into the bladder and cause infection. If you are not careful in introducing the catheter tube, you can damage the urethra. This is especially likely in the male, whose urethra is longer than in the female.

Taking care of the patient with a catheter

In caring for a patient with an indwelling catheter, the main goal is to prevent infection of the urinary tract.



Sites where germs can enter and cause urinary tract infections

The best way to prevent infection is to make sure that the patient drinks a lot of fluid every day, up to three litres. Drinking a lot produces a lot of urine. This keeps the bladder flushed out and stops sediment from sticking in the catheter. Teach the patient and his or her family to check the drainage tube and bag and make sure they are always below the level of the patient's bladder, so that gravity will help the urine flow. Remind the patient never to lie on the tubing and to check it to make sure there are no bends in the tube. Give or help the patient with perineal hygiene twice a day.

***Clinical alert:* Never leave the urine bag lying on the floor. The floor is covered with germs which can enter the bag, tubing and urethra. This can cause severe infection or sepsis in the patient.**

Changing the catheter increases the chances of infection. Do not disconnect it unless it is absolutely necessary. Take out the catheter as soon as possible. Infections are easily transmitted by catheters. Always wash your hands carefully before and after catheter care. If sediment gathers in the tubing or drainage bag, or if there is a leak, you need to change the tube and bag. If you change the tubing, you must use strict sterile technique (see the chapter on protecting the patient from infection).



Removing an indwelling catheter

Patients may lose some muscle tone when they have an indwelling catheter. It is helpful to clamp the catheter off for a couple of hours a day for several days before you remove it. This allows the bladder to get fuller, which stimulates the bladder muscles. This helps the patient to regain control of urination after the catheter is removed.

After removal, make sure the patient begins urinating.



Faecal elimination

The body needs to eliminate the solid waste products of digestion (faecal elimination), called passage of stool, or bowel movement. Healthy people may have a bowel movement as often as several times a day or only two or three times a week. People's routines may differ depending on the type of foods they eat and the amount of fluids they take in.

People have two major types of problems with faecal elimination. These problems are constipation and diarrhoea.

Constipation is when small, dry hard stool is passed, or when no stool is passed for a time. Long-lasting constipation can lead to faecal impaction (see the next section).

Diarrhoea is when watery faeces are passed, with frequent defecation. Severe diarrhoea, if untreated, can lead to dehydration and death.



How to help the patient who is constipated

Constipation is common in patients who are hospitalized. Lack of movement puts the patient at risk and so do certain drugs. The stress of hospitalization and loss of routines make constipation even more likely.

When you are caring for patients, ask them if they are passing stool, if they are constipated, or if they are passing hard stools.

If patients are constipated, encourage them to take in more fluids. Hot drinks and fruit juices are especially helpful. Also make sure that patients are eating foods containing fibre, such as fresh fruits and vegetables, root crops, peas, beans, lentils, cereals, grains, and wholemeal bread.

Tell patients that they should not ignore the urge to defecate. As soon as they feel the urge, help them to walk to the toilet, or instruct family members to help. If patients cannot walk to the toilet, even with help, provide a bedpan. Always give patients privacy.

Some patients may require a laxative in order to have a bowel movement. If the constipation continues even after a laxative, it may be necessary to give an enema to remove faeces.

Giving an enema

An enema is a solution put into the rectum. It makes the colon bigger, softens the faeces, and lubricates the rectum to make the passage of faeces easier. An enema is also sometimes given to prepare the patient for certain diagnostic tests. Use normal saline solution for the enema. If none is available, you can make a solution by mixing one teaspoon of table salt in 500 ml of water.

Removing an impaction

If none of the above measures are effective, you may occasionally have to take out impacted faeces with your fingers. Put on gloves and lubricate your index finger. Gently insert it into the rectum and loosen and break up the pieces of hard stool. Do this extremely carefully to avoid injuring the mucous membranes of the bowel.



How to help the patient with diarrhoea

In diarrhoea the stools contain more water than normal and are said to be loose or watery. If they contain blood, the diarrhoea is called dysentery. The great dangers of diarrhoea are dehydration and, in the case of children, malnutrition. It is essential to check patients for the clinical signs of dehydration: rapid pulse, low blood pressure, poor skin elasticity, sunken eyes, dry mucous membranes, absence of tears, and weight loss. It is also important to take a stool smear if possible, to look for the cause of the diarrhoea.

Diarrhoea caused by bacteria such as shigella and salmonella, and acute amoebic dysentery and giardiasis, are treated with antibiotics.

Severe cases of cholera are also treated with antibiotics.

Most diarrhoea is caused by viruses. In this case, antibiotic treatment is not recommended.

Even if the patient with diarrhoea does not show signs of dehydration, help the patient to increase fluid intake.

If the patient shows at least two of the signs of dehydration, the condition must be treated at once.

The primary treatment, for both children and adults, is rehydration, by mouth (orally) if possible. If oral rehydration is not possible, then do it through a nasogastric tube or through intravenous fluids. If patients can drink, they are usually given oral rehydration salt solution (ORS) even if they are also being given fluids intravenously.

**The primary treatment
for diarrhoea is
rehydration by mouth**

Patients who are taking antibiotics also need adequate rehydration as well as their medication.

ORS solution comes in already prepared packets to which you add clean water. Make sure that you add the right amount of water.

Always wash your hands before mixing the solution. Use the cleanest water available, preferably boiled water. Cool the water before giving the solution to the patient. Mix a new solution each day in a clean container.

If packages of ORS solution are not available, other fluids which can be used for oral rehydration are coconut water, soups, yoghurt drinks and rice water. Plain clean drinking water should also always be given.

Give the patient one to two cups of fluid every time he or she passes a stool.



How to prevent dehydration in children

Children can get dehydrated very quickly. Teach mothers how to prevent dehydration when the child gets diarrhoea.

The three rules for treating diarrhoea at home are:

1. Give the child more fluids than usual to prevent dehydration
 - Give ORS solution and other fluids such as soup, rice water, coconut water and plain water.
 - Give as much of these fluids as the child will take.
 - Continue giving extra fluids until the diarrhoea stops.
2. Give the child plenty of food to prevent malnutrition.
 - Continue to breast-feed frequently.
 - If the child is not breast-fed, give the usual milk.
 - If the child is six months or older, or already taking solid food, offer food at least six times a day.
 - After the diarrhoea stops, give an extra meal each day for two weeks.

3. Take the child to the health worker if the child does not get better in three days or develops any of the following danger signs:
 - many watery stools
 - repeated vomiting
 - strong thirst
 - eating or drinking poorly
 - fever
 - blood in the stool.

It may be necessary to give the fluid to a child with a cup and spoon. Teach the mother how to prepare the ORS and how to give the fluid to her child.