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Share on PinterestDialysis can carry out the function of the kidneys if the kidneys are not working correctly, waste builds up in the blood. Eventually, this can lead to come and death. The cause might be a chronic, or long-term condition, or an acute problem, such as an injury or a short-term illness that affects the kidneys. Dialysis prevents the waste products in the blood in an emergency setting. There are different types of dialysis. The three main approaches are: Intermittent hemodialysis (IHD)Peritoneal dialysis (PD)Continuous renal replacement therapies (CRRT) The choice will depend on factors such as the patient through a flexible tube known as a catheter. The tube is inserted into the vein. Like the kidneys, the filters remove the waste products from the blood. The filtered blood then returns to the patient through another catheter. The system works like an artificial kidney. Those who are going to have hemodialysis need surgery to enlarge a blood vessel, usually in the arm. Enlarging the vein makes it possible to insert the catheters. Hemodialysis is usually done three times a week, for 3 to 4 hours a day, depending on how well the kidneys work, and how much fluid weight they have gained between treatments. Hemodialysis can be done in a special dialysis center in a hospital or at home. People who have dialysis at home, or their caregiver, must know exactly what to do. If a person does not feel confident doing dialysis at home hemodialysis is suitable for people who: have been in a stable condition while on dialysisdo not have other diseases that would make home hemodialysis unsafehave suitable blood vessels for inserting the cathetershave a caregiver who is willing to help with hemodialysis The home environment must also be suitable for taking hemodialysis works through diffusion. In peritoneal dialysis, a sterile dialysate solution, rich in minerals and glucose, is run through a tube into the peritoneal cavity, the abdominal body cavity that surrounds the internal lining of the abdomen, to filter waste products from the blood. The dialysate is left in the peritoneal cavity for some time, so that it can absorb waste products. Then it is drained out through a tube and discarded. This exchange, or cycle, is normally repeated several times during the day, and it can be done overnight with an automated system. The elimination of unwanted water, or ultrafiltration, occurs through osmosis. The dialysis solution has a high concentration of glucose, and this causes osmotic pressure. The pressure causes the fluid to move from the blood into the dialysis is less efficient than hemodialysis. It takes longer periods, and it removes around the same amount of total waste product, salt, and water as hemodialysis. However, peritoneal dialysis gives patients more freedom and independence, because it can be done while traveling with a minimum of specialized equipment. Before starting peritoneal dialysis, the patient needs a small surgical procedure to insert a catheter into the abdomen. This is kept closed off, except when being used for dialysis; Continuous ambulatory peritoneal dialysis; Continuous ambulatory peritoneal dialysis; Continuous ambulatory peritoneal dialysis; Continuous ambulatory peritoneal dialysis. with a fresh solution straight away. This happens every day, four or five times per day. Continuous cyclic peritoneal dialysis uses a machine to exchange the fluids. It is generally done every night, while the patient sleeps. Each session lasts from 10 to 12 hours. After spending the night attached to the machine, most people keep the fluid inside their abdomen during the day. Some patients may need another exchange during the day. Peritoneal dialysis is a suitable option for patients who find hemodialysis too exhausting, such as elderly people, infants, and children. It can be done while traveling, so it is more convenient for those who work or attend school. Continuous renal replacement therapyDialysis can be intermittent or continuous. While a session of intermittent dialysis lasts for up to 6 hours, continuous renal replacement therapyDialysis can be intermittent or continuous. While a session of intermittent dialysis lasts for up to 6 hours, continuous renal replacement therapyDialysis can be intermittent or continuous. While a session of intermittent or continuous renal replacement therapyDialysis can be intermittent or continuous. While a session of intermittent dialysis lasts for up to 6 hours, continuous renal replacement therapyDialysis can be intermittent or continuous. than intermittent dialysis, because the solute or fluid removal is slower. This leads to fewer complications, for example, a lower chance of hypotension. Temporary dialysis include those who: Risks and complications include: In some cases, the kidneys recover and do not need further treatment. Dialysis helps patients whose kidneys have failed, but it is not as efficient as a normal kidney. Patients who receive dialysis need to be careful about what and how much they drink and eat, and they need to take medication. Many people who have dialysis can work, lead normal lives, and travel, as long as dialysis treatment is possible at the destination. Women who have difficulty becoming pregnant. There will be a higher level of waste products in the body than there are with normal kidneys. This interferes with fertility. Women who do become pregnant while on dialysis will probably need increased dialysis during the pregnancy. If a woman has a successful kidney transplant, her fertility should return to normal. Dialysis has some effect on male fertility, but less than on female fertility. Chronic kidney function is still possible. It can be a long time before the symptoms of a kidney condition appear. When symptoms of kidney failure may include: Fatigue, or tirednessIncreasingly frequent need to urinate, especially at nightItchy skinErectile dysfunction, when a man has difficulty sustaining an erectionNauseaShortness of breathWater retention, leading to swollen feet, hands, and anklesBlood in urineProtein in urine A sudden injury can cause kidney failure. When it does, symptoms tend to appear faster and progress more rapidly. Anemia is common in people with chronic kidney disease. It can happen when levels of erythropoietin (EPO) are low. EPO is a produced by the kidneys, and it helps the body produce red blood cells. When the red blood cells ount is low, it is called anemia. People who depend on kidney dialysis may experience: Muscle crampsItchy skin, often worse before or after a procedureLow blood pressure, particularly in people with diabetesSleep problems, sometimes due to itchiness, restless legs, or small breaks in breathing, known as apneaFluid overload, so patients must consume a fixed amount of fluid each dayInfections or ballooning at the access site for dialysisDepression and mood fluctuations Kidney disease is a serious condition. In people with chronic kidney failure, the kidneys are unlikely to recover, but dialysis can enhance wellbeing and prolong life for up to 20 years or more. Learn more about the causes and types of kidney failure. There are 2 main types of kidney failure are 2 main types of kidney failure. dialysis involves pumping dialysis fluid into the space inside your abdomen (tummy) to draw out waste products from the blood passing through vessels lining the inside of the abdomenThese 2 treatments are outlined on this page. Before haemodialysis can start, you'll usually need to have a blood vessel called an arteriovenous fistula (AV fistula) created in your arm. This blood vessel is created by connecting an artery to a vein. Joining a vein and an artery to gether makes the blood vessel larger and stronger. This makes it easier to transfer your blood into the dialysis machine and back again. The operation to create the AV fistula is usually carried out around 4 to 8 weeks before haemodialysis begins. This allows the tissue and skin surrounding the fistula to heal. If your blood vessels are too narrow to create an AV fistula, an alternative procedure known as an AV graft may be recommended. A piece of synthetic tubing is used to connect the artery to the vein. As a short-term measure, or in an emergency, you may be given a neck line. This is where a small tube is inserted into a vein in your neck. The haemodialysis process Most people need 3 sessions of haemodialysis a week, with each session lasting around 4 hours. This can be done in hospital or at home. 2 thin needles will be inserted into your AV fistula or graft and taped into place. One needle will slowly remove blood and transfer it to a machine called a dialyser or dialysis machine. The dialysis machine is made up of a series of membranes filter waste products from your blood, which are passed into the dialysate fluid. The used dialysate fluid is pumped out of the dialyser, and the filtered blood is passed back into your body through the second needle. During your dialysis sessions, you'll sit or lie on a couch, recliner or bed. You'll be able to read, listen to music, use your mobile phone or sleep. Haemodialysis is not painful, but you may feel a bit sick and dizzy and have muscle cramps during the procedure. This is caused by the rapid changes in blood fluid levels that happen during the treatment. After the dialysis session, the needles are removed and a plaster is applied to prevent bleeding. If you were treated in hospital, you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. Fluid and diet restrictions of fluid you can usually go home shortly afterwards. dialysis machine will not be able to remove 2 to 3 days' worth of excess fluid builds up in your blood in 4 hours if you drink too much. This can lead to serious problems where excess fluid builds up in your blood, tissues and lungs. The amount of fluid you're allowed to drink will depend on your size and weight. Most people are only allowed to drink 1,000 to 1,500ml (2 to 3 pints) of fluid a day. You'll also need to be careful what you eat while having haemodialysis. This is because minerals such as sodium (salt), potassium and phosphorus, which would normally be filtered out by your kidneys, can build up to dangerous levels quickly between treatment sessions. You'll be referred to a dietitian so a suitable diet plan can be drawn up for vou. Diet plans differ from person, but it's likely vou'll be advised to avoid eating foods high in potassium and phosphorus, and cut down the amount of salt you eat. There are 2 main types of peritoneal dialysis: continuous ambulatory peritoneal dialysis (CAPD) – where your blood is filtered several times during the dayautomated peritoneal dialysis (APD) - where a machine helps filter your blood during the night as you sleepBoth treatments can be done at home once you've been trained to carry them out yourself. Preparing for treatments fluid allow the dialysis fluid (dialysate) to be pumped into the space inside your abdomen (the peritoneal cavity). A cut (incision) is usually made just below your belly button. A thin tube called a catheter is inserted into the incision and the opening will normally be left to heal for a few weeks before treatment starts. The catheter is permanently attached to your abdomen, which some people find difficult. If you're unable to get used to the catheter, you can have it removed and switch to haemodialysis instead. Continuous ambulatory peritoneal dialysis The equipment used to carry out CAPD consists of:a bag containing dialysate fluidan empty bag used to collect waste products a series of tubing and clips used to secure both bags to the cathetera wheeled stand that you can hang the bags fromAt first, the bag containing dialysate fluid is attached to the catheter in your abdomen. This allows the fluid is in the peritoneal cavity, waste products and excess fluid in the blood passing through the lining of the cavity are drawn out of the blood and into the fluid. A few hours later, the old fluid is drained into the waste bag. New fluid from a fresh bag is then passed into your peritoneal cavity to replace it and is left there until the next session. This process of exchanging the fluids is painless and usually takes about 30 to 40 minutes to complete. Exchanging the fluids is not painful, but you may find the sensation of filling your abdomen with fluid uncomfortable or strange at first. This should start to become less noticeable as you get used to it. Most people who use CAPD need to repeat this around 4 times a day. Between treatment sessions, the bags are disconnected and the end of the catheter is sealed. Automated peritoneal dialysis (APD) Automated peritoneal dialysis (APD) action a bag filled with dialysate fluid to the APD machine before you go to bed. As you sleep, the machine automatically performs a number of fluid exchanges. You'll usually need to be attached to the APD machine for 8 to 10 hours. At the end of the treatment session, some dialysate fluid will be left in your abdomen. This will be drained during your next session. During the night, an exchange can be temporarily interrupted if, for example, you need to get up to go to the toilet. Some people who have APD worry that a power cut or other technical problem could be dangerous. But it's usually safe to miss 1 night's worth of exchanges as long as you resume treatment within 24 hours. You'll be given the telephone number of a 24-hour hotline you can call if you experience any technical problems. Fluid and diet restrictions. If you're having peritoneal dialysis, there are generally fewer restrictions on diet and fluid intake compared with haemodialysis because the treatment is carried out more often. But you may sometimes be advised to limit how much fluid you drink, and you may need to make some changes to your diet. A dietitian will discuss this with you if appropriate. Becoming pregnant while on dialysis can sometimes be dangerous for the mother and baby. It's possible to have a successful pregnancy while on dialysis, but you'll probably need to be monitored more closely at a dialysis unit and may need more frequent or longer treatment sessions. If you're considering trying for a baby, it's a good idea to discuss this with your doctor first. If you're having home haemodialysis or peritoneal dialysis, the supplies and equipment you need will normally be provided by your hospital or dialysis clinic. You'll be told how to get and store your supplies as part of your training in carrying out the procedure. It's important to make sure you have enough supplies of equipment in case of an emergency, such as adverse weather conditions that prevent you from obtaining supplies. Your doctor or nurse may suggest keeping at least a week's worth of equipment as an emergency backup supply. You should also let your electrical company know if you're using home haemodialysis or automated peritoneal dialysis. This is so they can treat you as a priority in the event that your electrical supply is disrupted. Page last reviewed: 29 September 2021 Next review due: 29 September 2024

