Haemodialysis

What is haemodialysis?

Haemodialysis (HD) is the most common method used to treat end-stage renal disease (ESRD). It has been available since the 1960s. Despite some advances in dialysis machines in recent years, HD is still a complicated and inconvenient therapy. It requires a coordinated effort from your whole healthcare team, including your GP, nephrologist (kidney doctor), dialysis nurse, dialysis technician, dietitian, social worker – and you. By learning about your treatment, you can work with them, to give yourself the best possible results – and you can lead a full, active life.

What healthy kidneys do

Healthy kidneys clean your blood by removing excess fluid (and salt) and wastes. They also make hormones, including Vitamin D (which keeps your bones strong), and erythropoietin that keeps your blood healthy. When your kidneys fail, harmful wastes build up in your body, your blood pressure may rise, and your body may retain excess fluid, leading to ankle swelling and shortness of breath (water in the lungs). When this happens, you need treatment to replace the work of your failed kidneys.

What haemodialysis does

In HD, your blood is allowed to flow, a few millilitres at a time, through a special filter (the 'dialyser' or 'artificial kidney') that removes wastes and extra fluids. The clean blood is then returned to your body. This also helps to control your blood pressure and keep the proper balance of chemicals – like acid, potassium and sodium – in your body.

Most patients have dialysis three times a week for 3–5 hours. You will be given a morning, afternoon or evening 'slot', depending on availability and capacity at the dialysis unit.

Vascular 'access' (to the bloodstream)

Arteriovenous fistula: One important step before starting haemodialysis is preparing a vascular access, a site on your body from which your blood is removed and returned. A fistula is the most common type. This should be prepared at least eight weeks before you start dialysis by means of a small operation in which one of the arteries in the arm is re-routed to join a vein, increasing its blood flow. Some patients with fragile veins use other forms of access, such as plastic grafts and dialysis catheters ('lines').

Needles: These are inserted into the fistula at the start of HD. Many people find this to be one of the hardest parts of HD, although most report getting used to them after a few sessions. If this is painful, an anaesthetic cream or spray can be applied to the skin.

Home haemodialysis

Most UK centres can teach you and your appointed helper how to perform HD at home. This training usually takes about 4–12 weeks. Home dialysis gives you more flexibility in your dialysis schedule. Some patients now have shorter hours (e.g. two hours) of dialysis every day.

Adjusting to change

Adjusting to the effects of ESRD and the time you spend on dialysis can be difficult. Aside from the 'lost time' (it can take eight hours out of your day), you may have less energy. You may need to make changes in your work or home life. Many patients feel depressed when starting dialysis, or after several months of treatment. Talk with your social worker, nurse or doctor because this is a common problem that can often be treated effectively.

Tests to check that your HD is working

Once a month, your nurses will do blood tests, before and after HD to see whether your treatments are removing enough wastes. The blood urea level should fall by at least two thirds after an HD session. Ask to see your blood results: it's your health. The best test of the HD is how you feel.

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