

What is Hemodialysis?

Hemodialysis is a therapy used to remove waste products and excess fluid from the blood of patients with kidney failure.

The process of hemodialysis involves using a machine to filter the patient's blood outside of the body. The patient's blood is drawn through a tube and into a dialysis machine, where it is cleaned and then returned to the patient's body through another tube. During hemodialysis, the patient is typically seated in a comfortable chair as the process can take around four hours.

There are several factors that can influence whether a patient is a good candidate for hemodialysis or not. Some of these factors include:

- Type of kidney failure: Generally, patients with acute kidney injury (kidney failure that is generally reversible) are managed with hemodialysis.
- Age: Older patients with end stage kidney disease may have a harder time with the physical demands of hemodialysis and may find peritoneal dialysis (PD) to be a more manageable option. Conservative treatment is also a good option for elderly and frail. Even though life expectancy may be slightly shorter with this option, it generally offers better quality of life.
- Overall health: Patients with other medical conditions, such as heart disease or diabetes, may not be able to tolerate the stress of hemodialysis as well as peritoneal dialysis.
- Lifestyle: Patients who have a support system at home may prefer that option to manage peritoneal dialysis.
- State policy: In Singapore, PD is considered the first option for suitable patients' due to various factors such as cost and scarcity of hemodialysis slots in the community.

Before starting hemodialysis, patients will need to have a vascular access created. This is a surgical procedure that creates a place where the dialysis machine can access the bloodstream. There are three main types of vascular access: fistula, graft, and catheter. Each patient's access is unique and is chosen based on their individual needs.

Patients with reversible kidney conditions (acute kidney injury) are generally managed with catheters. For those with progressive kidney dysfunction (chronic kidney disease who are approaching end stage kidney disease), SKH offers dialysis and financial counselling. This helps patients to make the right choice based on their wishes and preferences. If the patients chose hemodialysis, they are then referred to the vascular surgeons for permanent access creation. This preparation can take a few months. If the patients are prepared well on time and initiate the treatment electively with definitive access, they tend to have better outcome as opposed to those who need urgent start.

Contrary to the common myth, hemodialysis treatment itself is painless. However, like any invasive treatment, it is not without complications. Low blood pressure during treatment is relatively common but in some cases, it can lead to serious consequences such as heart attacks and strokes. Infections and access related problems are some other relatively common complications, and, in some patients, it may lead to recurrent problems requiring hospitalization. Despite these, hemodialysis is a lifesaving treatment. In suitable patients, it not only addresses the symptoms of kidney failure but also prolongs life.