

Infection Prevention and You



Hepatitis and dialysis

What is hepatitis?

Hepatitis is inflammation of the liver that may be caused by viruses, drugs, alcohol, or some hereditary or immune problems. The most common types of hepatitis are A, B, and C. Those who undergo dialysis are at increased risk of getting hepatitis B and C. The virus can be transmitted from the use of multidose drug vials and contamination of medical equipment. Hepatitis B and C may cause liver infections that can lead to serious complications, including liver cancer, liver failure or death. While there is no vaccine for hepatitis C, you can get vaccinated for hepatitis B. The Centers for Disease Control and Prevention (CDC) recommends that patients receive the hepatitis B vaccine before they become dialysis dependent.

What is hemodialysis?

Hemodialysis, also known as dialysis, is a medical procedure providing filtration of the blood. This procedure is necessary for patients who experience kidney failure. Because of the direct contact with the bloodstream during filtration, dialysis is considered one of the most invasive procedures outside of an operating room. And although any invasive procedure carries a risk of infection, the risk is especially high for hemodialysis patients. Some experts suggest that infection is the second leading cause of death for dialysis patients. Dialysis-related infections can occur in many body locations including the bloodstream, bones, lungs, and skin. Infections in dialysis units can kill, disable, hospitalize, and/or prolong illness in patients while disrupting lives and increasing the cost of treatment.

Infections during hemodialysis

The high risk of infections in dialysis patients is due to a number of factors including the close distance of dialysis patients to one another, the fast patient turn-over between dialysis sessions, and health of the person receiving dialysis. Many dialysis patients have other health conditions and/or a weakened immune system which can increase their chances of catching infections, especially when dialysis staff member don't strictly follow infection prevention practices. These health conditions often result in dialysis patients having frequent admissions to hospitals, which expose them to antibiotic therapy and drug-resistant bacteria.

One of the most common types of bacteria that cause infections in dialysis patients is *Staphylococcus aureus*. This bacterium is often referred to as "staph," and is commonly carried on the skin or in the nose of healthy people. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph that is more difficult to treat because it is resistant to many antibiotics. MRSA infections are a growing problem for persons in hospitals and other healthcare facilities such as nursing homes and dialysis centers.

Infections can also be linked to the type of bloodstream access the dialysis patient has. There are two main types of bloodstream access. One is a plastic tube which is capped off, and remains in one of the blood vessels (a catheter). The second is a vein which has been surgically enhanced to make it stronger (a fistula). Studies show that patients with catheters are more likely to get an infection than patients who have fistulas.

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Infections from dialysis are generally the result of cross-contamination. That means the transfer of bacteria (germs) from patient-to-patient or from surface-to-surface (dialysis machine, medications, fistula/catheter, telephone, medical chart, door knob, supplies, computer keyboards, and more). The handling of patients, supplies, and equipment thus requires a very high degree of focused attention by care providers. Consistent, standard, reliable application of simple efforts to prevent infection is important in order to ensure better health of dialysis patients. The key to protecting dialysis patients from development and/or transmission of infection is providing education and increasing the knowledge base of patients and staff.

What patients can do:

- Clean your fistula site with soap and water before every dialysis treatment.
- Clean your hands with waterless alcohol-based sanitizer or with soap and water before you start your dialysis session and after you leave.
- If you have a catheter, wear a mask while the nurse is hooking you up to the dialysis machine to prevent germs from your mouth from falling or spraying onto the catheter.
- If you don't have a permanent fistula, but will need dialysis for your lifetime, discuss the early placement of a fistula with your doctor, prior to the need for dialysis.
- Get the flu vaccine every year.
- Ask for a hepatitis C blood test before starting dialysis treatment, and then on a routine basis.
- Get the hepatitis B vaccine.
- Syringes and needles must be used one time only. Before receiving an injection, ask if the needle and syringe have been newly opened for you.
- Inquire if your healthcare facility uses single-dose vials of medication or multi-dose vials with strict controls. If they use multi-dose vials, ask if they unwrap a new syringe and needle for each dose of medication.
- If you will receive intravenous fluids, request that they do not use the bag for other patients or set up the intravenous tubing until they are ready to give fluid to you.

What patients can observe/ask about:

- Does the dialysis staff put a new external (transducer) filter on the dialysis machine for every patient and replace the filter when it is soaked with blood? This prevents blood from contaminating the inside of the dialysis machine and prevents patient exposure to contaminants.
- Does the dialysis staff clean their hands before and after they touch you or your dialysis machine?
- Does your nurse wear a mask during the initiation and discontinuation of the treatment with a catheter?
- Observe if the dialysis staff cleans the skin of your fistula well with an antiseptic before hooking you up to the dialysis machine.
- Observe if the chair, table, and machine are cleaned between each patient use.
- Ask if the water used for dialysis is routinely tested for bacteria and if there is a policy in case levels are higher than acceptable.
- Ask if your dialysis caregiver has received the flu vaccine this year.

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