

DISEASE STUDY JIGSAW

HEMODIALYSIS

Root words: (Hemo=Blood) (Dialysis: Separating through a filter)

What is hemodialysis?

Hemodialysis is a treatment option for people who have end stage kidney disease. This means their kidneys are operating at less than 15% efficiency. Kidneys filter blood by removing waste and extra fluids from the blood. When kidneys don't work, people need to be hooked up to a machine to do the filtering for them.

Dialysis is often called an artificial kidney. Patients need to go to a clinic and be hooked up to the machine through a port in a blood vessel. Blood is taken out and run through the filter before it is returned back into the body.

How often does a patient do dialysis?

It needs to be done at least 3 times a week and it takes 4 hours to do it.

Is hemodialysis a cure for kidney disease?

Sometimes a doctor will recommend dialysis for patients that have short-term kidney problems. In that case, it can help return the kidney to normal function. If the patient has advanced kidney disease, they will need to stay on dialysis treatments until they receive a kidney transplant. Hemodialysis is not a cure but can be an effective treatment.

CHRONIC KIDNEY DISEASE

The kidneys are responsible for filtering waste and extra fluids from the blood stream. When the kidneys stop doing their job a person is diagnosed with *chronic kidney disease*.

Stages: The stages of kidney disease are measured by glomerular filtration rate (GFR). This measures how effective the nephrons are in filtering blood. There are 5 stages. Once a person reaches stage 5 kidney disease, they will need dialysis and be placed on the kidney transplant list.

Symptoms of chronic kidney disease:

- Nausea
- Vomiting
- Loss of appetite
- Fatigue and weakness
- Sleep problems
- Changes in how much you urinate
- Muscle twitches and cramps
- Swelling of feet and ankles

Causes of chronic kidney disease:

- Type 1 and Type 2 diabetes
- High blood pressure
- Glomerulus inflammation
- Chronic kidney infections
- Nephron inflammation

DISEASE STUDY JIGSAW

KIDNEY TRANSPLANT

What is a transplant?

People who have organs that don't work can be placed on an organ transplant list. They need to find a working organ that can be put into their body to replace the broken organ. For many organs, donations come from people who have died that have agreed to be an organ donor.

Who needs a kidney transplant?

Humans have two kidneys and can live a healthy life as long as they have one working kidney. People who have advanced chronic kidney disease for both kidneys need a kidney transplant.

Who can give a kidney?

Because humans have two kidneys but only need one to survive, anyone can give a kidney to someone else while they are alive. This makes kidney donation easier than most other organ transplants. The kidney donor needs to meet some genetic and blood requirements in order to be accepted. People who need a kidney usually can receive one from close family but friends may also be a match.

Does kidney donation hurt?

Kidney surgery is only a few hours and the only pain will come from the healing of the cut and stitches. Recovery takes a few days for both the donor and the recipient.

Some facts on kidney donation:

- There are over 112,000 people on the kidney transplant wait list in the United States.
- 7,397 people received a kidney from a living donor in 2019 in the United States.
- 20 people die each day waiting for an organ transplant.



DISEASE STUDY JIGSAW

KIDNEY STONES

What are they made out of?

The kidney removes many minerals from the blood stream along with waste, toxins, and water. Sometimes those minerals can clump together to form a crystalized “stone.” They are generally smaller than a pea.

What causes kidney stones?

Poor diet, medications, dehydration, and excess body weight can cause kidney stones.

Why do they hurt?

They are formed in the kidney but as they pass out of the collecting duct and to the ureter they gather more minerals. As they pass through the ureter, a narrow tube, it can be quite painful. The stone will need to pass through the ureter, to the bladder, and out the urethra where it will exit the body.

How do the stones come out?

Most people can pass a kidney stone through urination by drinking extra water and taking pain medications. If the stone is too large to be removed through urination, it may need to be removed with surgery.

Symptoms:

- Pain in the back, below the ribs
- Pain while urinating
- Fever and chills
- Vomiting
- Pain that comes in waves in the abdominal region

