



Virtual Learning

Medical Interventions

Dialysis

May 12, 2020



Medical Interventions

Lesson: May 12, 2020

Objective/Learning Target:

Explain how dialysis machines work to remove wastes from the blood and adjust fluid and electrolyte imbalances.

Analyze the pros and cons of hemodialysis, peritoneal dialysis, and kidney transplant for a patient with end stage renal disease. (4.2.1)



Let's Get Started:

1. Learn what kidney dialysis is and how it works by watching [this video](#).
2. What are the two main types of dialysis?
3. How does dialysis work?



Let's Get Started: **Answers**

1. Learn what kidney dialysis is and how it works by watching [this video](#).
2. What are the two main types of dialysis?
 - a. Hemodialysis and peritoneal dialysis
3. How does dialysis work?
 - a. Dialysis is an artificial process that removes waste products and excess water from the blood when the kidneys can no longer function.



Lesson Activity

Complete the following table using the information from this website for [dialysis](#) and this one for [transplants](#). You can also watch [this video](#) to get information.

Type of Intervention:	Description of how it works:	Possible complications Involved:	Pros of Intervention:	Cons of Intervention:
Hemodialysis				
Peritoneal Dialysis				
Kidney Transplant				



Lesson Activity - Answer

Type of Intervention:	Description of how it works:	Possible complications Involved:	Pros:	Cons:
Hemodialysis	blood is pumped out of body to artificial kidney machine and returned to body by tubes that connect you to the machine	Low blood pressure, sepsis, muscle cramps, itchy skin,	4 dialysis-free days a week	3 times/week for about 4 hours/time, diet and the amount of fluid you drink needs to be restricted
Peritoneal Dialysis	inside lining of belly acts as a natural filter, wastes are taken out by means of a cleansing fluid called dialysate which is washed in/out of belly in cycles	Peritonitis, hernia, weight gain	regular visits to dialysis unit not required, able to eat more/use fewer medications, more daily activities and easier to work/travel	Inappropriate for morbidly obese or those with multiple prior abdominal surgeries, needs to be carried out every day
Kidney Transplant	healthy kidney is placed inside your body to do the work your own kidneys can no longer do	need to take anti-rejection medicine, higher risk for infections and certain types of cancer	fewer limits on what you can eat and drink, live longer than those who remain on dialysis	Process is difficult to obtain donor kidney

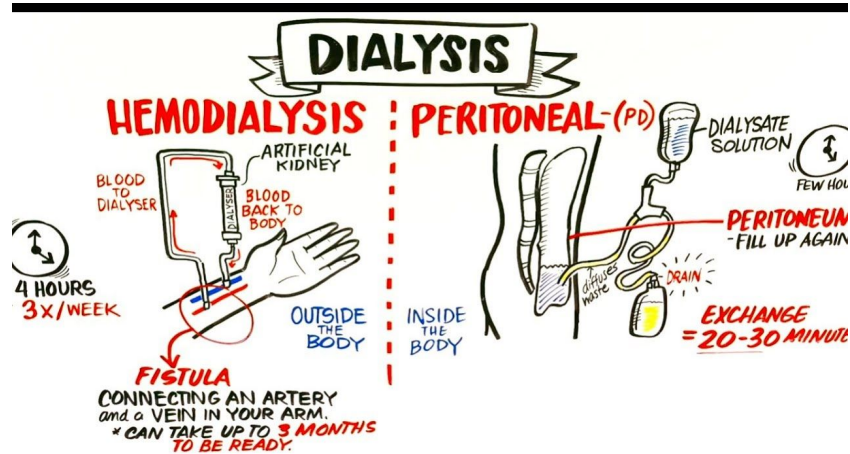


Practice

Answer the following questions after completing the activity.

1. Describe the process of how hemodialysis works by creating a visual graphic.
2. Describe the process of how peritoneal dialysis works by creating a visual graphic.
3. What are the similarities between peritoneal dialysis and hemodialysis?
Differences?
4. Is kidney dialysis considered a cure for kidney failure? Why or why not?
5. Why is getting a kidney donation so difficult?

Practice - Answers



3. Both are forms of filtering the blood; peritoneal relies on internal filtration and hemodialysis external
4. No; it does not replace the functioning of the kidney and is just a treatment
5. There are several requirements for donating/finding a match and a waiting list



Additional Practice/Resources

1. Check your understanding by reviewing with these [flashcards](#).
2. Take the information that you have learned and create a triple venn-diagram of each of the 3 kidney failure treatments.
3. Watch about how [COVID-19](#) is affecting kidney failure and dialysis equipment in New York.
4. We will learn more about kidney donations and transplants over the next few days.