Timothy Lindis

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Liu Ming

Artificial Kidney

The kidneys are a small pair of organs located in the lower back region of human beings. These kidneys are a vital part to human life. The kidneys are a very important part to the urinary system. The kidneys also perform many other important functions that include homeostasis, electrolyte balance, and blood pressure. Each kidney is bean shaped with a convex and a concave side. The main functions of the kidneys are to retain water, salt, and glucose while also draining harmful urines and other toxins that may pass through the kidneys. There are a few options for people when their kidneys go bad. One thing they can do is dialysis, which clinically purifies the blood that passes through the kidneys. Unfortunately dialysis doesn't work too long and life quality is poor on dialysis. Another thing to do is have a kidney transplant which is the best option but there are many circumstances where a transplant will not work or there are not any kidneys available. The final, newest and upcoming option is an artificial kidney. This will be a much better option than dialysis and will improve life quality.

The artificial kidney is an upcoming product that is still in its testing stages. There is no price set yet on these artificial kidneys. It is estimated that it will cost as much as a

kidney transplant or maybe even a little less. The life expectancy of this machine is about a decade with a few tune-ups on it here and there. The technology includes the miniaturization of hemofilter, a filter process enabled by high efficiency membrane, the technology is powered by a semiconductor, blood compatibility enabled by a thin polymer coating. Cell bioreactor enabled by an isolation of renal tubule cells. It will have the capability to provide the functions associated with proximal tubule cells. It will also be able to reclaim electrolytes, salt, and glucose.