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There are a lot of innovations in medicine around the world that have many beneficial effects for humanity. States like Japan, Germany, Italy are known for great medical innovations. But, United States remains the world leader, having produced more than an half of the world's new medicines over the last decade. This essay describes some of those amazing innovations in USA, such as Airbike, Veinviewer, TransMedics and Bio artificial liver . For the first time ever, american scientists have found a way to print out fully-working machines using a 3D printer. The first item is a fully-functional bicycle made of nylon called the Airbike. It's as strong as steel but much lighter. It comes out as a complete bike with no assembly required.

The possibilities for this new technology are endless. Medical researchers hope that with a special cartridge of human cells and bio-friendly gel, it can be used to print out skin grafts for burn victims. They have already managed to demonstrate the potential medical uses by printing out a copy of a human ear in 30 minutes. Veinviewer is a device that helps nurses to find veins in real time. It creates a digital image on the skin using near-infrared light , locating valves and bifurcations as deep as 15mm.

The purpose of scientists was to create a machine like this, in order to help nurses determine the best point of insertion. It was proven to increase first stick success by 100%. Once inserted, Veinviewer can help navigate vessels curves and can even locate accidental punctures. It was also proven to increase patient satisfaction by 100%. Another great device comes by scientists of USA. It is called TransMedics and its function is to bring a dead heart back to life.

It can reactivate hearts from people who have recently died even if the heart has stopped beating the original body. So far heart transplants come from brain-dead donors only. The heart is removed from the giver and transported at near-freezing temperatures. Heart from dead patients have been considered too damaged to use, because after death the heart quickly becomes oxygen-starved and its muscle cells die.

But, with this device the heart gets the essential infusion of blood to restore its energy. It pumps warm, oxygenated, nutrient-rich blood through the organ. TransMedics also maintains the appropriate warm temperature and wetness around the organ. It has been successfully deployed in more than 15 heart transplants. In 2014, Dr Kenneth Matsumura decided to come up with a totally new approach in creating an artificial liver. This was a great idea to develop a new bio-artificial liver.

He built a device that makes use of liver cells, that comes from animals rather than developing a mechanism with a plurality of applicators to commit each of the liver's functions. The device is made of both biological and manufactured component parts, and because of that, it is called "bio-artificial". The blood of the user moves along the device and a unitary synthetic membrane parts it from the animal cells. It is important to note that the membrane stops the refusal of the cells, while permitting the cells to detoxify the user's blood just like a natural liver.

To sum up, those kinds of innovations have changed lives of people around the world. If we lose an organ like ear, nose, Airbike can replace it. Veinviewer is a solution for all nurses to find veins without drilling. Heart is the only organ

that keeps us alive and if we lose it, TransMedics can help to back in life with dead's heart.

Bio-artificial liver is another innovation that saves our lives. Ike Skeleton said " Modern medical innovations have helped millions of people live longer, healthier lives. We owe these improvements to decades of investment in medical research".