

# [There navigate vessels curves and can even](https://assignbuster.com/there-navigate-vessels-curves-and-can-even/)

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There are a lot of innovations in medicinearound the world that have many beneficial effects for humanity. States likeJapan, Germany, Italy are known for  great medical innovations.  But,  United States remains the world leader, havingproduced more than an half of the world’s new medicines over the last decade. Thisessay describes some of those amazing innovations in USA, such as Airbike, Veinviewer, TransMedics and Bio artificial liver .  For the first time ever, american scientistshave found a way to print out fully-working machines using a 3D printer. The firstitem is a fully-functional bicycle made of nylon called the Airbike. It’s astrong as steel but much lighter. It comes out as a complete bike with noassembly required.

The possibilities for this new technology are endless. Medical researches hope that with a special cartridge of human cells andbio-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 printingout a copy of a human ear in 30 minutes.  Veinviewer is a device that helps nurses tofind veins in real time. It creates a digital image on the skin usingnear-infrared light , locating valves and bifurcations as deep as 15mm.

Thepurpose of scientists was to create a machine like this, in order to helpnurses determine the best point of insertion. It was proven to increase firststick success by 100%. Once inserted, Veinviwer  can help navigate vessels curves and can evenlocate accidental punctures. It was also proven to increase patient satisfactionby 100%.  Another great device comes by scientists ofUSA. It is called TransMedics and its function is to bring a dead heart back tolife.

It can reactivate hearts from people who have recently died even if theheart has stopped beating the orginal body. So far heart transplants come frombrain-dead donors only. The heart is removed from the giver and transported at near-freezingtemperatures. Heart from dead patients have been considered too damaged touse, because after death the heart quickly becomes oxygen-starved and its musclecells die.

But, with this device the heart gets the essential infusion of bloodto restore its energy. It pumps warm, oxygenated, nutrient-rich blood throughthe organ. TransMedics also maintains the appropriate warm temperature and wetnessaround the organ. It has been successfully deployed in more 15 hearttransplants.  In 2014, Dr Kenneth Matsumura decided to comeup with a totally new approach in creating an artificial liver. This was agreat idea to develop a new bio-artifficial liver.

He built a device that makesuse of liver cells , that comes from animals rather than developing an mechanismwith a plurality of applicators to commit each of the liver’s functions. The deviceis made of both biological and manufactured component parts, and because of that, it is called “ bio-artifficial”. The blood of the user moves along the deviceand a unitary  synthetic membrane parts itfrom the animal cells. It is important to note that membrane stops  the refusal  of the cells , while permitting the cells todetoxify the user’s blood just like a natural liver.

Tosum up, those kinds of innovations have changed lives of people around theworld. If we lose a organ like ear, nose, Airbike can replace it. Veinviewer isa solution for all nurses to find veins without drilling. Heart is the onlyorgan that keeps us alive and if we lose it, TransMedics can help to back inlife with  dead’s heart.

Bio-artifficialliver is another innovation that saves our lives. Ike Skeleton said  “ Modern medical innovations have helpedmillions of people live longer, healthier lives. We owe these improvements todecades of investment in medical research”.