



Robotic Assisted Surgery

What is WHO?

WHO stands for World Health Organization. It is one of the general assembly committees of the United Nations. Its primary role is to coordinate international health under the UN. WHO mainly works in areas such as health systems, health through the life-course; non communicable and communicable diseases; preparedness, surveillance and response; and corporate services.

Introduction and History:

Robotic assisted surgery, or robotic surgery, allows doctors to perform many complex procedures with more precision, flexibility, and more control than traditional techniques.

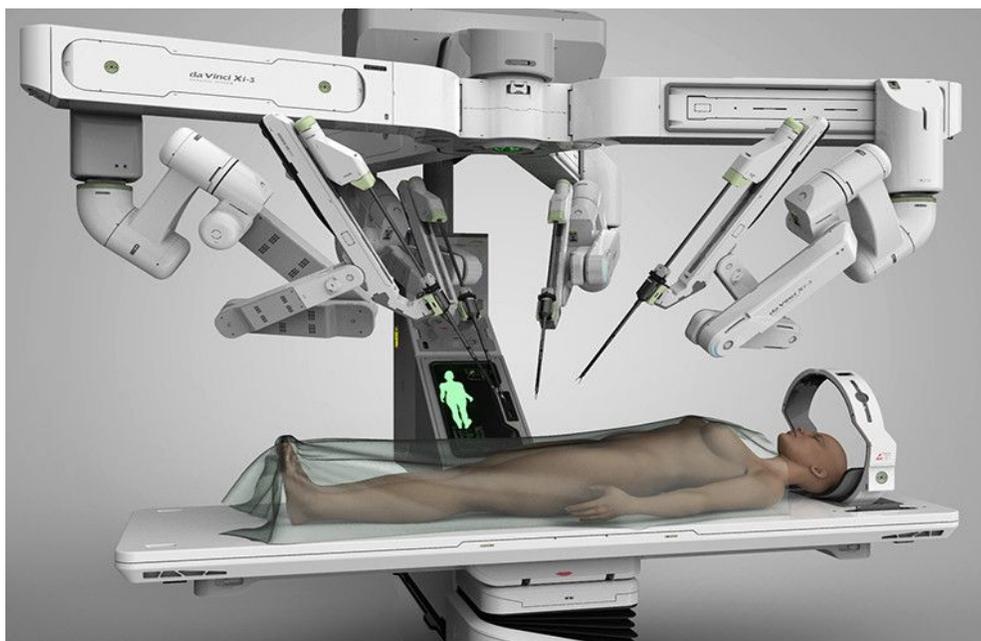
We are creating a world that's efficient and able to provide for everyone. In these recent years, it's our world that has been changed by the field of robotics to try and follow that mission. Since back in 1954, robotics have expanded in the fields of manufacturing, mathematics, exploration, and now medicine. Robotics has been discussed since its modern invention (as we know them today) being digitally operated and reprogrammable in 1954. We have created efficient machines to carry out our tasks. Programed machines have created and exported pills to relieve pains and provide vitamins to those with bodily deficiencies. As of 2013, robotic limbs have been successfully combined with human nerves to create more advanced prosthetic limbs for those who need them. Machines and robotics assisting in surgery have been a huge benefit,



but also have their cons. On a positive note, robotics have provided huge benefits for patients. Blood loss at an all time low for any surgery, also pain and scar tissue being less of an issue as well. Not only that, but robots have allowed more precision in treatment as well. On the negative side, availability of these professional instruments is limited in the developing world, and its cost is hard to justify implementing.

The first robotic-assisted surgery took place in 1985, utilizing a system created by Unimation known as the PUMA 560. By the end of the 1990's, the AESOP robotic system became the first of its kind to be approved by the Food and Drug Administration (FDA). As of 2000, the Da Vinci surgery system was implemented around the country and became the first robotic-assisted surgical system to gain clearance. One of the most recent advancements in the robotic market is the Flex® Robotic System, which provides greater range of movement in areas difficult to reach or see. All of these advancements are made with truly good intention and the field of medicine has benefited greatly.

Da Vinci Surgical System





Global Effects:

Robotic surgery is available to a wide audience, and is present in countries across Europe, Asia, South America, and North America. As of 2019, it is accessible in South Africa. At this time, it is mainly third-world countries that lack access to robotic surgical systems. However, when considering robotic surgical methods in third-world countries, please bear in mind that a majority of hospitals lack the infrastructure necessary for such operations. For more information about the spread of robotic surgical systems, it is advised that delegates read the article attached [here](#).

Robotic surgery is rife with controversial issues, and has lead people to question what direction medicine will be taking in the future. Some are perturbed by the effects this will have on the job security and safety of physicians, as robotic surgical systems perform procedures traditionally done by hand. According to medical residents, opportunities to operate such machines are slim, and they feel that they lack the time to operate individually. Now, they learn by watching videos or practicing with simulators. This has lead to concern, as they are given full operating capacity once residency is complete, regardless of their knowledge about the machinery.

Furthermore, robotically assisted surgery is considered to have better results in both the short and long term. They tend to provide patients with lower pain levels, reduce disfigurement and scarring, and have less blood loss. There is also a lower risk of infection since robots can be sterilized better than humans. One of the main draws to robotic surgery is the lessened recovery



time. People are eager to get back to a normal life with normal mobility and take fewer days off of work. By working through robots, the minute hand trembles of physicians are eliminated, thus lessening the risk of error.

Alternately, robotically assisted procedures are not without risks. While they are quite precise and can get into difficult places, there is little room for flexibility if something goes wrong. Transitioning to open surgery takes valuable operating time, and can result in dangerous complications. Mechanical failure is rare, and occurs in less than one percent of procedures; however, since these robots are controlled by humans, there is still a chance of human error. As examined in the documentary, “The Bleeding Edge,” the training provided to physicians was minimal, which is risky for those undergoing surgery. According to physicians, some did not feel comfortable using the system until they were well into more than a hundred procedures. Patients have reported feeling disappointed with the procedure, and felt they were not well-informed about the procedure by their doctor.

Previous Actions:

The UN World Health Organization has implemented the SAFROS project, funded by the European Commission and aims to understand patient safety in robotic surgery through the development of technologies and procedures to assist surgeons. The organization’s main goal is to explore and analyze safety in robotic surgery and establish safety procedures, requirements and verification protocols to see if robotic surgery can achieve the safety levels of traditional surgery. These methods were tested in pancreatic and vascular surgery.



The UN has established labs to research more into the use of robotic surgery, such as the ALTAIR robotics lab. Many experiments have been done to assess the quality and the advancements in this field to make sure that these robots are secure for surgery. Many research also intend to expand the areas of surgical use.

Goal:

Your goal throughout the conference is to find a way to advance the field of robotics in medicine, and more specifically, surgical implementation. Find a way to increase wellness in the general population through robotic assistance. Also, look for compromises and health solutions for both the developing world and the developed. Keep in mind the possible disadvantages to this technology, and think of ways these machines can be improved.

Questions to Consider

Where will the funding come from?

Whom might this benefit?

Are robotics beneficial or detrimental for the medical profession?

How might machine medicine impact this field or this population?

How should physicians be trained to use this equipment?

How should robotic surgery be implemented into as many countries as possible?

Is there more research to be done on this topic? If so, in which field?

Should this method be expanded into surgical fields other than the current ones that use this technology? If so, how?



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