

AUDIO SCRIPT

[M1: Male Presenter]

M1: Good morning, everyone. My presentation is about robot-assisted surgery. The first surgical robot was developed in Vancouver, Canada, in 1983. It was called Arthrobot, and was used in a surgical procedure the following year. The Arthrobot assisted surgeons in performing a procedure called arthroscopic surgery. This surgery was performed on patients who had damaged a joint in their skeleton, which is the framework of bones inside the human body. The Arthrobot was inserted into the patient through a small incision, or cut. This is called “minimally invasive surgery” because the incision is so small, compared to traditional surgery, which often required a large incision. With robot-assisted surgery, the incision only needs to be large enough to fit a robotic hand, which is much smaller than a surgeon’s hand. Another benefit is that a human hand often has a slight tremor, or tiny movement, whereas a robotic hand doesn’t have a tremor.

The first robot-assisted heart surgery was performed in Germany in 1998. In 2006, the first unassisted robotic surgery was performed on a patient’s heart in Milan, Italy. The robot had a database of 10,000 real heart surgeries, so it was able to perform the procedure perfectly based on this information.

Robot-assisted surgery allows surgeons to operate with more precision, flexibility, and control than is possible with traditional surgery. Most surgical robots have three or four arms. One arm has a camera and a light, and the other arms have tiny surgical tools attached to them. The surgeon controls the robotic arms from a computer located near the patient. The surgeon sees high-definition, 3-D images of the surgical site on the computer screen. The robot’s camera sends internal images of the patient to the computer. Based on these images, the surgeon controls the robotic arms to perform the procedure. The robot senses the surgeon’s hand movements and translates them electronically to perform surgical tasks inside the patient. There are many benefits for patients who undergo robot-assisted surgery. Because the surgeries are less invasive, the patients have smaller scars, experience less pain, and recover faster.

Since 2000, the number of robot-assisted surgeries has exceeded one million worldwide. Robot-assisted surgery isn’t an option for everyone, though. Not all hospitals can afford the expensive robots. Also, some surgeons have complained that the robots don’t function properly and returned them to the manufacturer. However, most hospitals want to have the most up-to-date technology, so they want to purchase the robots.

Today, most robotic surgery is assisted rather than unassisted. The surgeon uses the robot as a tool. It is unlikely that a robot will replace a human surgeon in the near future. Artificial intelligence is required and AI technology, as it’s called, is still in

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progress. For now, human intelligence is still necessary to successfully perform the most complex surgeries. Thanks, everyone.