

## Remote Surgery: An Overview

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### EDITORIAL

The capacity for a doctor to perform surgery on a patient even if they are not physically in the same location is known as remote surgery (also known as telesurgery). It's telepresence in a nutshell. A robot surgical system typically includes one or more arms (controlled by the surgeon), a master controller (console), and a sensory system that provides user input. Remote surgery integrates robotics, cutting-edge communication technologies like high-speed data links, and management information system aspects.

While robotic surgery is a well-established field, most of these robots are controlled by doctors on the operating table. The physical distance between the surgeon and the patient is less important in remote surgery, which is effectively enhanced telecommuting for surgeons. It promises to make the knowledge of specialised surgeons available to patients all around the world without requiring them to travel outside of their local hospital. From the first practical telesurgery system, ZEUS, to the da Vinci Surgical System, which is now the sole commercially available surgical robotic system, surgical robot systems have evolved. Professor Moshe Schoham of the Technion's Mechanical Engineering faculty created a firm in Israel. These robots, which are mostly used for "on-site" surgery, aid the surgeon visually, allowing for more precision and less invasiveness to patients. The Da Vinci Surgical System has also been coupled to create a Dual Da Vinci system, which allows two surgeons to work on a patient simultaneously.

During the procedure, the system allows surgeons to control different arms, switch command of arms at any time, and communicate using headsets. Remote surgery has been used many times since Operation Lindbergh in a variety of places. Dr. Anvari, a laparoscopic surgeon in Hamilton, Canada, has performed hundreds of remote procedures on patients in North Bay, a city 400 kilometres away. Remote surgery rooms have become very specialized because to rapid technological advancements. The surgical room at Mt. Sinai Hospital's Advanced Surgical Technology Centre in Toronto, Canada, responds to the surgeon's voice instructions to manage a range of equipment at the surgical site, including the operating room lighting, the position of the operating table, and the surgical tools themselves. The ease and cost effectiveness of deploying remote surgery units is projected to increase dramatically as communication technologies progress, bandwidth becomes more available, and computers become more powerful.

The prospect of being able to broadcast a surgeon's knowledge and physical prowess over large distances has a lot of appeal. There is a lot of study going on in this area. The military has a clear interest since the combination of telepresence, teleoperation, and telerobotics has the potential to save battle casualties' lives by allowing them to get fast medical attention in transportable operating theatres.

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