

Telesurgery: robotic surgery essay sample



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Definition

According to Tang (2003), Tele-Surgery is the latest innovation in medical practices, it is the operation wherein the surgeon is separated from the patient and uses remote manipulation to perform the surgery. It is a medical practice which belongs to the even larger umbrella concept of Telehealth. In this, information technology is used to offer medical assistance to patients over long distances (Tang, 2003).

History

The success of Tele-Surgery as one the new ways in medical practices did not happen in the day of the operation. It took years for the concept to the equipments to materialize. The very first achievement in the science of Tele-Surgery was when an operation was performed using small cameras inserted through small incisions which happened in 1988 (Tang, 2003). The second one would be the use of the da Vinci surgical system upon approval of the Food and Drug Administration (FDA) on July 11, 2000. Since then, other robots were developed to perform Tele-Surgery such as the ZeusT robotic system. The more recent development is that which took place at Rome's Policlinico Casilino University in June 2001. According to Willet (2001), the operation took place at the Johns Hopkins University in Baltimore where the experts were based and at the Rome's Policlinico Casilino University where the patient was and the operation going on.

In September 7, 2001 at the Strasbourg University Hospital in France, the very first *recognized* Tele-Surgery happened (Willet, 2001). Dr. Michel Gagner and Dr. Jacques Marescaux, performed the operation-two of which are only part of the 40 people team, from doctors to telecommunications

engineers to robotic system specialists (Willet, 2001). Dr. Gagner and Dr. Marescaux were in the control part in Manhattan and the operating part in France. As cited in Tang (2003), the project was a cholecystectomy (removal of the gall bladder) operation whose patient was a 68 year old woman stationed in Strasbourg, France.

The September 7 operation was termed as “ Operation Lindbergh” because of its transatlantic aspect. Dr. Gagner and Dr. Marescaux used the ZeusT robotic system (Willet, 2001). The ZeusT surgical robot used in the operation was divided into two parts: one in Manhattan with the surgeons while the operating one, with the patient is in France (Willet, 2001). The computer engineers made it a point that the lag time was minimized to 200 milliseconds (one fifth of a second) which is noticeable but manageable (Jennifer Clara Tang, 2003).

Issues

Tele-Surgery is highly dependent on the telecommunication lines and experts such as the Computer and Communications Engineer. Any delay (lag) that might happen in the surgery may cause detrimental effects on the patient and the Tele-Surgery’s credibility. For that reason, scientist and medical practitioners is at a race in developing more efficient and reliable communication lines. One example would be Dr. Timothy Broderick. According to the US Embassy Policy News (2006), he is leading the first test of a prototype communications platform for mobile Tele-Surgery using HAPsMRT (high-altitude platforms for mobile robotic Tele-Surgery). Throughout the mission, the research team will evaluate the unmanned vehicle’s communications capabilities.

Technology has undeniably elevated our lifestyles; and recently it had made the dream of trans-Atlantic surgery to come true. It has purposefully made life easier for us and is still at a race of satisfying the demands of the populace. However, our dependence to this new form of technology and devices poses risks both to the patients and Tele-Surgery's credibility that is why further studies and researches should be conducted so as to improve the efficiency and reliability of the newly identified technology which is Tele-Surgery. With this, we are assured that the newly developed technology will not be put into waste; rather, it would be developed to its full potential for the benefit of the people.

References

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