Abstract: What is robot assisted surgery?

Robot assisted surgery has become an advancement in the medical field. It is a valuable tool for surgeons as the robot has an extensive range of motion and precision compared to a human hand consisting of surgical arms, cameras, and consoles. This technology is changing the way surgeries are performed improving the patient’s outcome on a long-term scale as well as the robot performing the procedure better than the human may have originally been able to.

This new technology is ethical as it looks towards the benefit of humans providing a less invasive and more efficient surgery than before. The surgeon is present controlling the robot the entire time advising where the robot’s surgical hands go as well as to monitor the patient’s vitals and response. There are multiple other physicians and nurses present too to ensure the safety of the patient. Its effectiveness is apparent as the rates of this surgery are increasing leaving it to be perceived as beneficial and a great innovation in the technological world.

Introduction:

Robot assisted surgery is ethical since it benefits the medical community and those receiving surgery through updated technology and improved techniques that provide a quicker recovery time as it acts as a helping hand.

Methods:

1. Surgeon makes one/ more incisions (smaller than a regular surgery)
2. Thin tubes or ports are inserted where the robot will be inserted into
3. An endoscope or long camera is placed through a port for greater 3D vision
4. Surgical tubes are placed in order to do the operation
5. The surgeon has complete control of everything going on at a console only a few feet away as well as an assistant

Benefits:

- Surgeons can perform the procedures from all over the world
- Less invasive approach
- Changes the way certain surgeries are performed
- Quicker recovery time and less pain for patients
- There is a greater visual field (magnify a space up to 12X)
- Can identify tumor cells
- There are lower risks of infection, reduced blood loss, and shorter hospital stays
- Groundbreaking for the next generations

Negatives:

- Only available in places that can afford the technology
- Rare, but potential robot malfunction
- Possible risk of nerve damage or the surgeon needing to convert to an open procedure

Conclusion:

After understanding the effects of robot assisted surgery, it is apparent that it will ultimately be a positive impact for those needing an operation. With this in mind, it is also ethical as it benefits the greater good through improved technology and advanced education in the field.

References

