

Da Vinci Surgical System

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- 5th Level Biomedical Instruments



workplan

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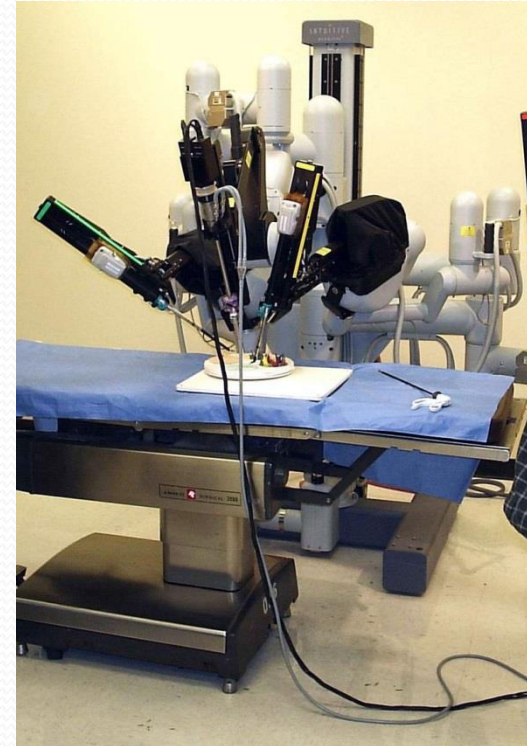
I. INTRODUCTION

- A Da Vinci is a medical robot, and more precisely a machine run by a surgeon to perform operations, mainly at the level of the abdomen.
- It is sold by the American company Intuitive Surgical. In April 2011,
- it reported that 1,750 copies were in service worldwide



What is *Da Vinci* Surgery?

- With the *Da Vinci* Surgical System, surgeons operate through just a few small incisions.
- The *da Vinci* System features:
- a magnified 3D high-definition vision system
- Tiny wristed instruments that bend and rotate far greater than the human hand.
- *Da Vinci* enables your surgeon to operate with enhanced vision, precision and control.



II. History of Robotic Surgery:

- In 1985 , PUMA 560 CT guided brain biopsy
- In 1988, The PROBOT
- In 1992, The ROBODOC
- In 1994, ZEUS Robotic Surgical System
- In 2000, The da Vinci Surgical System



III. APPLICATIONS

- Cardiac surgery
- Gastro-intestinal surgery
- Gynecology
- Neurosurgery
- Orthopedics
- Pediatrics
- Radio surgery
- Urology



IV. THE COMPONENTS OF THE ROBOT



1. *The Patient Cart*



2. The Surgical Console



3. The Vision Cart

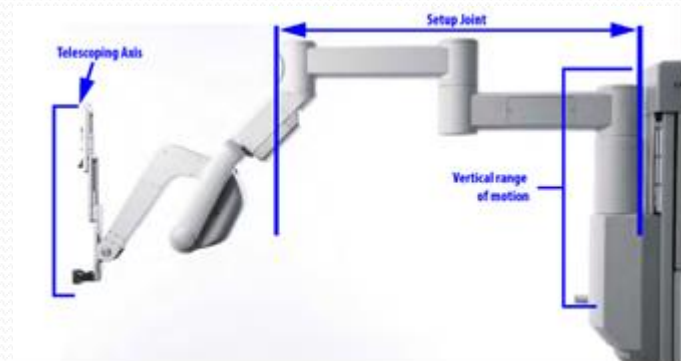
1. *The Patient Cart*

Is the operative component of the da Vinci Si System and its primary function is to support the instrument arms and camera arm. It contains five main components:

- the setup joints;
- instrument arms;
- camera arm;
- EndoWrist instruments;
- and an endoscope.



instrument arms



The setup joints

2. The Surgical Console

The surgical console is the workplace of the robotic surgeon and contains the following core elements:



1. The master controllers



2. The stereo viewer



3. The touchpad



4. The left-side pod

3. The Vision Cart

It includes a:

- 24" touch screen monitor used to control system settings and view the surgical image.
- A camera control unit on the vision cart is connected to the camera and controls the acquisition and processing of the image from the camera.
- It also provides adjustable shelves for optional ancillary surgical equipment such as insufflators and electrosurgical generators.



V. ADVANTAGES AND DISADVANTAGES

1. ADVANTAGES:

- **Telesurgery**
- **Having fewer personnel**
- **Less pain**

2. DISADVANTAGES

- Time
- Cost
- Efficiency and Compatibility:
- Size of the system





VI. CONCLUSION

The da Vinci Surgical System is a success story of visionary concepts brought into wide clinical adoption to improve clinical outcomes through the interdisciplinary work of many different specialties.

*Thank you for your
attention*

