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ROBOTIC SURGERY

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What is it ?



Robotic System-daVinci Telemanipulation Robotic Cardiac Surgery is performed with the help of da Vinci telemanipulation system (Intuitive Surgical, Inc, Mountain View, California, USA). The da Vinci system is computer enhanced system that consists of surgeon's console and cart mounted manipulators.

Such endoscopic surgery works well for several types of operations (such as gall bladder removal and knee repairs) where part of the body to be operated upon motionless and surgical maneuvers to be performed are relatively simple. Thus endoscopic surgery has achieved only limited success in more complicated operations such as heart surgery, where the heart is beating and the necessary surgical maneuvers are complex.

The console houses the display system showing three dimensional pictures of the patient's chest cavity, the surgeon sits away from the patient at the console and gets the view of inside of the patient's chest cavity. The manipulators hold the tiny instruments which go inside the patient's chest. Surgeon's hand movements are transmitted to these instruments facilitate different cardiac operations. Coronary artery bypass grafting (CABG), mitral valve repairs and closure of atrial septal defects have been performed successfully through this technique.



T-CAB (Totally Endoscopic Coronary Artery Bypass) T-CAB is performing Coronary artery Bypass totally endoscopically without opening the chest at all. T-CAB is performed with the help of computer assisted robotic technology(da Vinci telemanipulation system). The robot is not autonomous. On the robotic console surgeon's hand motions are captured, transformed and then transmitted to tiny instruments inside

IMA – LAD Anastomosis with Robotic Instruments the chest cavity to perform complicated cardiac procedures. The surgeon's hand movements are transmitted to tiny instruments that facilitate and endoscopic anastomosis. The control is so perfect that cardiac surgeons are able to construct an anastomosis in the customary fashion without placing a hand inside the chest cavity. The surgeon sits at a console, peering into the chest with 3-dimensional vision and working with perfection. This technique has great cosmetic advantage as there are only 3-incisions, each only 1 cm in diameter on the side and lower part of chest instead of long cut in the front of the conventional surgery. A smaller incision (cut) also means less pain, faster healing and recovery and short hospital stay.

--- Other Treatment Services ---

