

# American Surgical Robot in New Delhi

The use of a robot for intricate surgery has already begun in New Delhi, with the arrival in July of a four-armed American-made model called Da Vinci that is used in prostate cancer surgery at the All India Institute of Medical Sciences. The first robotic urological surgery was done at AIIMS in the third week of July and more than 30 operations were successfully completed within the next two weeks, says Dr. Narmada P. Gupta, head of the AIIMS Department of Urology.

"I prefer robotic surgery any day," he says. "Prostate cancer surgery is a very tiring job. But robotic surgery takes away a lot of stress and a doctor can perform more operations. Chances of infection also are reduced."

He says patients can now go home within one to two days after the surgery, compared to the previous hospital stay of seven to 10 days.

The Da Vinci robot is made by Intuitive Surgical of Sunnyvale, California. The four arms of the robot are inserted in the body of the patient through small incisions. One arm has a camera which beams pictures to a computer, where the surgeon works. The other three arms carry different types of attachments to perform the actual surgery and the doctor uses and controls them as needed from the computer console. He has the advantage of three-dimensional, magnified, video images and freedom to rotate his hands.

Dr. Gupta and his team were trained by Dr. Mani Menon, an Indian American graduate of Madras University, and his urology team at the Vattikuti Urology Institute at Henry Ford Hospital in Detroit, Michigan. Dr. Menon—whose team

*Urology experts watch a live video of robotic surgery through three-dimensional glasses at the AIIMS auditorium.*



*Dr. Mani Menon (left) with Dr. Narmada P. Gupta*

was the first to use a robot to perform prostate cancer surgery in 2001—came to New Delhi in July when AIIMS started using Da Vinci.

"The only negative point is the cost. We have spent about 90 million rupees to procure Da Vinci and the related medical consumables. These consumables are items which need to be used afresh in each surgery and include various robotic attachments, medicines and a number of use-and-throw away surgery products. About 75,000 rupees are spent on such consumables for one surgery," says Dr. Gupta. He says this cost must be brought down.

He and his team are planning to use Da Vinci to train other Indian urologists in robotic surgery. One such operation was beamed from the AIIMS operation theater to its auditorium, where 150 urology experts wearing three-dimensional glasses watched a live video of the surgery.

Since there are not as many prostate cancer patients in India as in the United States, the Da Vinci will have to be used for kidney and other surgeries, suggests Dr. Mahendra Bhandari, a visiting professor and senior research scientist who has worked with Dr. Menon at the Henry Ford Hospital. Dr. Bhandari was vice-chancellor of King George Medical University in Lucknow for three years and is still professor of eminence in urology at the university.

"The three dimensional, real time, high resolution image with magnification of up to 20 times permits the surgeon to identify and appreciate the tissues better and enables him to perform a very precise job," says Dr. Bhandari. "Due to minimal invasion of the body tissues and the precision of the work the tissue trauma and blood loss during surgery is much less in comparison to open surgery, permitting quick recovery of the patients."