Robotic knee surgery at Belle Vue Clinic

CHRONICLE NEWS SERVICE

KOLKATA: Belle Vue Clinic has introduced the Cuvis Active robotic knee replacement surgery, for the first time in Eastern India. Cuvis is an active robot, offering sub-millimeteric precision for joint replacement surgeries. Active robotic knee surgery is the first of its kind in the world. This surgical approach is minimally invasive and bone cuts are very smooth. Cuvis minimises tissue injury, decreases blood loss and post-operative pain significantly. There is almost no chance of infection from this surgery because of minimal human intervention.

Pradeep Tandon, CEO of the clinic, said: "The active automatic robotic joint replacement unit, under the leadership of Dr Santosh Kumar, has pioneered the Orthopilot Navigation system for knee replacement, in 2013. The present system is a generational improvement over Orthopilot as the Cuvis Joint Robotic System is the most advanced surgical cutting edge robotic technology, supporting surgeons with personalised planning and precise cutting for predictable and consistent results."

He added: "Our robotic joint replacement team, comprising reputed orthopaedic surgeons, Dr Devasis Sarangi, Dr Vivek David, Dr Deep Chakraborty and Dr Vivekananda Kumar, along with Dr Kumar has been doing magnificent work and continues to deliver consistent results. Now that will get even better and more precise."

Cuvis Joint Robotic System is the first of its kind in the world as it does all the steps of surgery automatically while the surgeon controls the robot with a hand held remote. It has an active automatic robotic arm which allows for pre-planning, simulation, size and orientation, pre- operative determination and then the Cuvis fully executes the bone preparation, according to plan with zero error. Dr Kumar explained how this system is better than passive robotic surgery. Cuvis is fully automatic and active robot. In the first place, it allows for full preparation by pre-operative planning, simulation of various situations, pre-emptive size and position determination of implants. The surgeon can see the balancing of the knee before the actual surgery. Secondly, it ensures the highest degree of safety. It allows real time monitoring of the bone movement and generates real time feedback. These safety measures are not available in other knee replacement surgeries, including surgeries by passive robots. Thirdly, the Cuvis Joint Robotic System ensures zero human and manual errors by its real time monitoring and feedback mechanisms. Fourthly, it ensures sub-millimeteric precision till 1-30th of a millimetre. Human eyes cannot distinguish two points closer than a millimeter. Fifthly, customised alignment is achieved with ultra-high precision in active robotic knee replacement. This restores the stability of walking. Knees get bent for a variety of reasons, including arthritis. This leads to instability and buckling. In active robotic knee replacement the implants are aligned in such a manner that the weight bearing axis is restored and hip, knee and ankle all come in one line.

Dr. Santosh Kumar

This feat cannot be achieved elsewhere. Finally and most importantly, the Cuvis Joint Robotic System ensures accelerated recovery. Its minimally invasive approach, smooth bone cuts, customized placement of implants, less blood loss and less pain, all lead to quick discharge from hospital and quick recovery.