AI and Robotics Pioneering Path to Enhanced Precision & Patient Care

Manipal Hospital Old Airport Road Bengaluru sets a benchmark in utilizing robotic technology and AI-driven healthcare.

Kolkata, 14th December 2023: The advent of robotic technology and artificial intelligence has brought about a boon in healthcare practice, offering both patients and surgeons unparalleled benefits. For surgeons, it brings the possibility to perform complex operations with enhanced precision, improved dexterity, and reduced invasiveness, bringing patients the ability to return to their normal lives faster than ever before.

On this front, Manipal Hospital Old Airport Road Bengaluru held an interactive session today, with students from neighbourhood schools, residents from housing societies, and media personalities. Three eminent doctors - **Dr. Lokesh A V, Consultant - Orthopaedic & Robotic Joint Replacement Surgery, Dr. K Hemanth Kumar, Consultant - GI, HPB & Robotic Surgery**, and **Dr. Hemanth G N, Consultant - Surgical Oncology & Robotic Surgery** from **Manipal Hospital Old Airport Road Bengaluru** graced the session with their insights on how AI and robotics is the way forward in healthcare and it has influenced medical treatment over the years.

The conference delved into the discussion about the significant advantages of robotic surgery with doctors being the indispensable part of this advancement to put technology in its right use. In terms of precision (less than one millimeter) and minimized dissection, the use of robotics technology ensures there is a minimal to near zero margin of error.

Dr. Lokesh A V, Consultant - Orthopaedic & Robotic Joint Replacement Surgery, Manipal Hospital Old Airport Road, Bengaluru highlighted that the shift from traditional surgery to robotic surgery has been driven by the need for accurate outcomes and improved results. He mentioned, *"While the success rate of robotic surgery is similar to that of conventional surgery, robotic surgery has demonstrated better long-term outcomes in complex cases of joint replacements. Patients benefit from faster recovery, aided by reduced post-operative pain and improved accuracy in implant positioning."*

He further explained, *"Before undergoing robotic joint replacement, patients undergo a CT (computed tomography) scan. The images obtained from the CT scan are fed into the robot, which creates a 3D model of the joint and the surrounding structures, enabling the surgeon to see the joint from all angles and make precise measurements, ensuring a smooth and successful surgical process."*

Reiterating the role of robotics over laparoscopic surgery, **Dr. K Hemanth Kumar, Consultant - Surgical Gastroenterology, Manipal Hospital Old Airport Road, Bengaluru** said, *"Robotic surgery offers better features and technology like 3D imaging, 10-time magnification, and tremor filtration. Its specially designed articulated instruments with 7 degrees of motion (Endowrist technology) are more accurate and safe for complex surgeries near vital structures like the heart and liver. In complicated gastrointestinal surgeries, advanced features like the firefly technique and smart fire technology come in handy for better demarcation and joining of intestines with a very high success rate."*

Emphasizing the transformative nature of robotic cancer surgery, **Dr. Hemant G N, Consultant - Surgical Oncology, Manipal Comprehensive Cancer Centre, Manipal Hospital Old Airport Road, Bengaluru** added, *"Cancer surgery has undergone a significant change in recent years, and we are now on the brink of a robotic revolution in the field of surgical procedures. Earlier, cancer surgery was associated with fear, large scars, and prolonged hospitalization. But, now, with the focus shift to personalizing cancer surgeries to the integration of robotics in healthcare, we are able to cater to the unique needs of individual patients, with an approach involving small, precise incisions using advanced technology and instrumentation."*

With the rapid progress and advancement in artificial intelligence, and augmented reality, robotic surgery is definitely the future of surgical practice and will soon become the sought-after technique for managing complex surgical conditions in the days to come.