



Robotics to Become an Accelerating Tool in Every Specialty of Medicine: Union Minister Dr. Jitendra Singh

Robotics, AI and Nanoscience to Create Larger Ecosystem for Precision Health Delivery and Precision Medicine: Dr. Jitendra Singh

From Robotic Surgery to Robotic Medicine, Technology Will Find Applications Across Medical Specialties, says Dr. Jitendra Singh

Dr. Jitendra Singh: Tele-Robotics Can Take Specialist Expertise to the Patient Across Geographical Boundaries

AI and Robotics Can Help India Address Its Unique and Diverse Healthcare Challenges, Says Union Minister Dr. Jitendra Singh

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Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, who is also a noted Physician and diabetologist, today said robotics is set to become an accelerating tool in every specialty of medicine, covering diagnostics as well as treatment and therapy.



He said robotics, together with Artificial Intelligence (AI) and nanoscience, would create a larger ecosystem for precision health delivery and precision medicine, with emerging technologies enabling increasingly personalised healthcare based on an individual's genetic profile, environmental conditions, lifestyle and dietary patterns.

Dr. Jitendra Singh was delivering inaugural address at the International Conference of the "Society of Robotic Surgery" here. He said robotics should not be viewed as a technology confined to surgery but as a tool that would increasingly become part of different branches of medicine. "It's a tool. It will happen everywhere," he said, adding that while the present conference is focused on robotic surgery, the future could see the emergence of robotic medicine, robotic endocrinology and robotic cardiology, just as AI is finding applications across different medical specialties.

The Minister said medicine is entering an exciting phase of frontier practices, with the 21st century witnessing the emergence of AI, biotechnology, nuclear medicine and other technology-driven solutions. He said the next phase would see greater application of genetically driven diagnostic solutions, alongside advances in quantum technologies, nanomedicine and robotics.

Dr. Jitendra Singh said precision medicine would increasingly require treatment approaches tailored to individual patients, even when they are diagnosed with the same disease. Genetic profile, environmental conditions, lifestyle and dietary patterns, he said, would increasingly shape medical decision-making, making technology-enabled and personalised healthcare an important part of the future of medicine.

Referring to the Genome India Programme, Dr. Jitendra Singh said 10,000 individuals have already been sequenced and expressed the hope that India could eventually move towards gene sequencing for every newborn. He said undertaking such detailed genetic sequencing for a population of 1.4 billion would require the optimal use of AI and robotics.

The Minister also spoke about the potential of nanomedicine in addressing longstanding healthcare challenges. Referring to efforts towards developing oral insulin, he said advances at the nano level could help overcome limitations associated with conventional drug delivery and open new possibilities for therapeutic interventions.

Dr. Jitendra Singh said India's size, diversity and geographical spread make technologies such as AI, robotics and tele-robotics particularly relevant for healthcare delivery. Sharing his experience with robotic ultrasonography, he said he had performed an ultrasound on a person located 10,000 kilometres away in Antarctica, demonstrating the possibilities of remotely enabled medical technologies.

Describing the potential transformation in the traditional model of specialist healthcare, Dr. Jitendra Singh said, “Instead of the patient being referred to the doctor, it will be the doctor being referred to the patient.” He said tele-robotics could enable specialist expertise to reach patients across geographical boundaries, allowing advanced medical capabilities to be delivered without the patient necessarily having to travel to the specialist.

The Minister also spoke about India’s evolving disease profile, where infectious diseases continue to coexist with metabolic and lifestyle-related disorders. He said diseases traditionally associated with later stages of life are increasingly being seen among younger people, creating a complex healthcare landscape that requires both advanced technological tools and a more integrated and holistic approach.

Dr. Jitendra Singh said the scale and diversity of India’s healthcare requirements make the adoption of new technologies particularly important. AI and robotics can serve as powerful facilitatory tools for health delivery across the country, while also supporting the transition towards precision and personalised medicine.

Dr. Jitendra Singh congratulated the organisers of SRS India 2026 for bringing robotic surgery into the domain of institutional learning, academics and professional conference platforms. He said the adoption of emerging technologies such as robotics would be essential to keep pace with the rapidly evolving landscape of medical science.





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