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INFLUENCE OF ARTIFICIAL INTELLIGENCE ON MEDICINE FIELD

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Artificial Intelligence (AI) is reshaping the medical field by improving diagnostic precision, tailoring treatment plans to individual patients, and streamlining healthcare processes. AI applications span diagnostics, robotic-assisted surgeries, and drug discovery, offering transformative solutions for patient care. By leveraging advanced computational models, AI enhances efficiency and accuracy in clinical decision-making. This article delves into AI's methodologies, results, and its promising future in revolutionizing medicine.

In recent years, the application of artificial intelligence in various fields has rapidly spread. People's demand for health improvements continues to increase, promoting the development of artificial intelligence (AI) in the field of complementary medicine. In regard to the problems of lack of medical resources, shortage of medical technology and uneven regional distribution of medical resources, people have begun to pin their hopes on machines. More and more people hope that artificial intelligence can ease the growing pressure on hospitals and improve medical treatment capacities.

AI employs diverse technologies like machine learning, deep learning and natural language processing (NLP) to process vast datasets. Image recognition algorithms are pivotal in diagnostics, identifying abnormalities in radiological scans with greater accuracy than traditional methods. Predictive analytics assist in creating personalized treatment plans by analyzing patient histories and genetic data. Robotic systems, such as the Da Vinci Surgical System, enhance surgical precision through real-time decision-making capabilities. These methods collectively enable faster insights and reduce human error in medical practices.

AI demonstrates remarkable success across various applications. For instance, AI-driven imaging tools achieve diagnostic accuracy rates of over 94%, outperforming traditional methods in detecting diseases like lung cancer. Robotic-assisted surgeries minimize invasiveness and improve recovery times while maintaining high precision during complex procedures. In drug discovery, AI accelerates the identification of viable compounds and reduces development costs by simulating molecular interactions efficiently.

AI addresses critical challenges in healthcare, such as resource scarcity, uneven distribution of expertise, and the growing demand for medical services. By automating routine tasks and providing advanced tools for physicians, AI enhances healthcare delivery while reducing workload pressures.

AI is a transformative force in medicine that bridges gaps in healthcare delivery while driving innovation. Its ability to integrate human expertise with machine precision holds immense potential for personalized care and improved outcomes. As advancements continue, AI is expected to play a pivotal role in diagnostics, treatment planning, and addressing global healthcare challenges.