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Applications of Nanorobots in Medical Techniques

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Abstract: *Nanorobots, with their minuscule size ranging from 1 to 100 nanometers, have emerged as a revolutionary force in the realm of medical technology. This abstract explores the diverse applications of nanorobots, showcasing their potential to reshape diagnostics, drug delivery, surgery, and patient monitoring. Equipped with advanced sensors and imaging capabilities, nanorobots hold the promise of early disease detection by navigating the bloodstream and monitoring biomarkers. Their role in drug delivery involves precise transport of therapeutic agents to targeted cells, minimizing side effects and enhancing treatment efficacy. In the surgical domain, nanorobots enable minimally invasive procedures, performing intricate tasks at the cellular or molecular level. Continuous monitoring and intervention capabilities make nanorobots invaluable for proactive healthcare management. Moreover, in targeted cancer therapy, these microscopic marvels can deliver therapeutic payloads directly to cancer cells, offering a promising avenue for minimizing collateral damage. Despite these transformative potentials, challenges related to biocompatibility and safety necessitate further exploration. The applications of nanorobots in medical techniques represent a paradigm shift, holding the potential to redefine patient care and treatment strategies.*

Keywords: Nanorobots, Nanotechnology, Cancer Treatment, Surgery, Medicine, Healthcare, Gene Therapy, Component, Nano-surgery, Disease Management

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