

Harnessing Cutting-Edge Technologies and Innovative Ideas in the Design, Development, and Management of Hybrid Operating Rooms

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Abstract : Modern medicine is witnessing a profound transformation as advanced technology reshapes surgical environments. Hybrid operating rooms, where state-of-the-art medical equipment, advanced imaging solutions, and Artificial Intelligence (AI) converge, are at the forefront of this revolution. In this comprehensive exploration, we scrutinize the multifaceted facets of AI and delve into an array of groundbreaking technologies. We also discuss visionary concepts that hold the potential to revolutionize hybrid operating rooms, making them more efficient and patient-centered. These innovations encompass real-time imaging, surgical simulation, IoT and remote monitoring, 3D printing, telemedicine, quantum computing, and nanotechnology. The outcome of this fusion of technology and imagination is a promising future of surgical precision, individualized patient care, and unprecedented medical advances in hybrid operating rooms.

Keywords : artificial intelligence, hybrid operating rooms, telemedicine, monitoring

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