

▶ Although machine learning in ICDs has enormous potential, there are some limitations, including high processing power and cost. While these technologies are exciting areas of research, there remain limitations to their widespread use including high processing power, cost, and the black-box phenomenon. When the technology is more mature, more medical devices will overcome these stringent resource constraints and be driven by advanced AI algorithms.

The defibrillators industry faces several challenges, including:
High cost. Defibrillators are expensive medical devices, and their high cost can be a barrier to access, particularly in lower-income countries and for

patients with limited health insurance coverage.

Lack of skilled personnel. The use of defibrillators requires specialized training and expertise, and a shortage of skilled personnel can limit their effective use in emergency situations.

Device malfunction and maintenance. Defibrillators require regular maintenance and monitoring. Device malfunction or failure can result in incorrect diagnosis or inadequate treatment.

Regulatory compliance. The defibrillator industry is heavily regulated, with strict requirements for safety, efficacy, and quality assurance. Meeting these requirements can be challenging for manufacturers, particularly for small and medium-sized companies.

Competition from alternative technologies. Alternative technologies, such as implantable pacemakers, cardiac resynchronization therapy (CRT), and drug therapy are competing with defibrillators in the treatment of cardiac disorders.

Product recalls and liability. Defibrillators have been subject to product recalls due to safety issues, which can damage the reputation of manufacturers and lead to liability claims.

Despite the challenges that the defibrillator market has faced, moving forward there is optimism for this segment. The market will evolve in the years to come, adapting to the new realities brought about by the pandemic and the conflict.

Industry Speaks

Revolutionizing resuscitation – Exploring the latest trends in defibrillators

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Defibrillator monitor devices play a crucial role in the diagnosis and management of cardiac conditions. As technology continues to advance, the latest trends in defibrillator monitor devices focus on enhancing their capabilities, portability, and connectivity. The latest defibrillator monitor devices offer advanced cardiac monitoring capabilities, allowing for continuous monitoring of vital signs such as heart rate, rhythm, blood pressure, and oxygen saturation. These devices provide healthcare professionals with comprehensive real-time data for accurate diagnosis and treatment planning. One notable trend is the development of portable and compact defibrillator monitor devices. These lightweight devices are designed for easy transport and can be used in various settings, including ambulances, emergency rooms, and remote healthcare facilities. Their portability ensures timely cardiac monitoring and intervention.

The devices now integrate defibrillation functionality, combining monitoring and defibrillation capabilities



in a single device. This integration allows for immediate defibrillation if a life-threatening arrhythmia is detected, eliminating the need for separate defibrillation equipment. Defibrillators monitor devices now feature user-friendly interfaces with intuitive touchscreens and simplified menu systems. These interfaces make it easier for healthcare professionals to navigate through various functions, access patient data, and customize monitoring parameters for individual patient needs. The latest trends in defibrillator monitor devices are revolutionizing cardiac care by offering advanced monitoring capabilities, portability, wireless connectivity, and intelligent data analysis. These advancements empower healthcare professionals to provide timely interventions, improve patient outcomes, and enhance the overall management of cardiac conditions. Manufacturers have focused on designing devices that are intuitive and user-friendly. Clear visual and audio prompts guide the rescuer through the entire process, making it easier for someone without medical training to operate the device effectively.

Companies have incorporated technological advancements to enhance their effectiveness. For example, some devices feature algorithms that analyse the heart rhythm and provide feedback to the rescuer, increasing the likelihood of successful defibrillation. Designing a simple user interface for defibrillators is crucial for facilitating the effective use of these life-saving devices. ■



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