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Navjot Singh has diverse experience in the healthcare segment across various business verticals. With a proven track record of business expansion in new territories, he is a seasoned international business leader. With expertise in building harmonised relationships coupled with an analytic mind, he is an experienced coach with a history of high-performing teams.

How is Digital C-Arm Revolutionizing Healthcare Diagnostics in India?

One of the primary benefits of the C-arm is the ability to provide real-time imaging during surgical procedures, writes Navjot Singh, Executive Director, Triviron Healthcare

The field of healthcare in India has undergone a remarkable transformation over the years, thanks to the introduction of cutting-edge technologies and innovative medical devices. Among these, Flat Panel based Digital C-arm has emerged as a revolutionary tool that is reshaping healthcare diagnostics in the country.

Digital C-arms is an advanced imaging system widely used in various medical specialties, especially in orthopedics, cardiology, and general surgery. This machine consists of a C-shaped arm that can be rotated and positioned around a patient, providing real-time, high-quality X-ray images. Unlike traditional C-arms which are photographic films, digital C-arms capture and store images digitally. This shift from analog to digital technology

has brought a multitude of advantages to healthcare diagnostics.

Enhancing Diagnostic Accuracy with Image Quality

One of the primary benefits of the C-arm is the ability to provide real-time imaging during surgical procedures. Surgeons can visualize the internal structures of a patient's body with exceptional clarity, enabling them to make critical decisions on the spot. In orthopedic surgeries, Flat Panel based C-arm helps ensure the precise placement of implants and guides the surgeon in real-time. This level of precision is instrumental in reducing complications and improving patient outcomes. The images are not only clearer but can also be manipulated digitally to enhance visibility.

Reducing Radiation Exposure

Traditional fluoroscopy, which used analog C-arm, involved extended exposure to radiation for both patients and medical staff. Digital C-arm has significantly reduced radiation exposure. It employs modern technologies like pulsed fluoroscopy, which minimizes radiation dose without compromising image quality.

anatomical structures are aligned accurately. This has led to a decrease in revision surgeries and postoperative complications.

Emergency Medicine

Digital C-arm has become indispensable in emergency departments, where rapid and accurate diagnostics are often critical. The device facilitates the quick assessment



This is a crucial advancement, considering the long-term health risks associated with high radiation exposure.

Orthopedic Advancements

Orthopedic surgeons have embraced digital C-arm for a wide range of procedures, including joint replacements, fracture reductions, and spine surgeries. The real-time imaging and high-resolution capabilities of digital C-arm assist in ensuring that implants are placed correctly and that

of trauma cases, such as bone fractures or internal injuries. The ability to capture images swiftly and with precision has resulted in more efficient decision-making and better patient care in emergency situations.

Expanding Access to Specialized Care

These new Flat Panel based Digital C-arms are not limited to metropolitan areas but have also permeated smaller towns and rural regions in India. This widespread adoption is making

specialized healthcare services accessible to a larger segment of the population. Patients who would previously have had to travel long distances for diagnostic and interventional procedures can now receive quality care in their local healthcare facilities.

Challenges and Considerations

While digital C-arm offers numerous advantages, its adoption in India is not without challenges. Cost remains a significant barrier for many healthcare facilities, especially in the public sector. This device is a substantial investment, and ongoing maintenance and training expenses can strain budgets. However, with time and advancements in technology, costs are expected to decrease, making digital C-arms more accessible to a broader range of healthcare providers.

Additionally, ensuring that healthcare personnel are adequately trained in the operation and safety measures related to digital C-arm is crucial. This is an area where the government, medical institutions, and equipment

manufacturers can collaborate to ensure that healthcare professionals are proficient in utilizing these advanced tools.

The Future of Digital C-Arms in India

As technology continues to advance, we can expect digital C-arm to become even more integrated into the healthcare landscape in India. With the advent of artificial intelligence and machine learning, this device may one day offer automated image analysis and decision support, further enhancing diagnostic capabilities. The ongoing development of mobile C-arms, which are more compact and

mobile than traditional C-arms, will likely become a staple in rural healthcare settings, providing access to advanced imaging in previously underserved areas. This will be a vital step toward addressing healthcare disparities and improving healthcare access across the country.

While challenges exist, the future of digital C-arm in India looks promising, with the potential for further advancements that will continue to benefit both patients and healthcare providers. ■

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