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Orthopaedic surgery, for much of its history, has relied on open surgical techniques involving large incisions to access bones, joints, and soft tissues. These conventional methods, while effective, often resulted in significant tissue trauma, prolonged recovery periods, considerable postoperative pain, and higher risks of complications such as infections and excessive blood loss. Patients typically faced extended hospital stays and long-term rehabilitation to regain mobility and function. This approach, while necessary for complex conditions, presented challenges, especially for elderly patients or those with multiple comorbidities, where recovery could be particularly arduous [1].

In response to these challenges, the field of orthopaedics has undergone a remarkable transformation with the introduction and advancement of minimally invasive surgical (MIS) techniques. These procedures involve smaller incisions, refined instrumentation, and cutting-edge imaging technologies, enabling surgeons to achieve the same, or even better, outcomes as traditional methods while minimizing the damage to surrounding tissues. This shift has been driven by several factors, including technological innovations in medical devices, enhanced imaging systems such as real-time 3D navigation, and the growing use of robotics in surgery [2].

One of the most significant advantages of minimally invasive techniques is the reduction in trauma to muscles, ligaments, and other tissues, resulting in faster recovery times and shorter hospital stays. Patients experience less postoperative discomfort, allowing them to return to daily activities and physical therapy sooner. In many cases, MIS procedures can also be performed on an outpatient basis, further reducing healthcare costs and the burden on hospital resources.

The rising demand for minimally invasive options is also linked to the aging population, as more individuals seek to maintain an active lifestyle later in life. As such, the development of these techniques has been a response not only to technological progress but also to a changing patient demographic that desires quicker recovery, reduced downtime, and improved quality of life after surgery.

This article delves into the major advancements in minimally invasive orthopaedic surgery, including arthroscopy, robotic-assisted surgery, minimally invasive spine surgery (MISS), and percutaneous fixation techniques. It will also explore the benefits these techniques

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