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# Enhancing postoperative care with telemedicine and remote monitoring for improved recovery and patient safety

Jeyanthi P, PhD[a], Gulothungan G, PhD[b], Vinoth Kumar V, PhD[c], Hitesh Chopra, PhD[d], Talha Bin Emran, PhD[e,f,*]

*Dear Editor,*

New emerging trends in postoperative care are increasingly focused on using technology to enhance patient outcomes, minimize postoperative complications, and shorten hospital stays. Telemedicine and remote monitoring technologies must be considered the most significant advancements. Telemedicine offers virtual follow-up visits, reducing hospital readmissions for regular examinations[1,2]. This lowers the danger of nosocomial infections and encourages patients to return home for rehabilitation. Safe video conferencing on virtual platforms enables surgeons to monitor wound healing, listen to patients' concerns, and change treatment plans without the need for in-person consultations[3]. Communication takes place in real-time. Another significant breakthrough is remote monitoring, which uses wearable devices and implanted sensors to track vital indicators, including heart rate, oxygen saturation, blood pressure, and temperature[4]. These devices frequently communicate information to healthcare specialists, allowing them to act in the early stages of surgical problems like as infection, blood clots, and arrhythmias. Smart bandages, for example, have sensors built in that detect changes in wound temperature and moisture, warning of infections even in their early stages[5]. Tissue perfusion and real-time monitoring of wound healing via implanted devices give rapid input on a patient's healing progress[6].

The use of artificial intelligence in remote monitoring systems improves postoperative care by using machine learning algorithms to analyze patient data and identify potential problems from massive volumes of information[7]. Early intervention by healthcare personnel may avoid bad outcomes and lower the likelihood of readmission. Predictive analytics driven by AI may detect aberrant changes in vital signs that might otherwise go undetected on a traditional follow-up plan[8].

The technologies mentioned above also help with postoperative healing through Enhanced Recovery After Surgery (ERAS) procedures. ERAS protocols attempt to reduce surgical stress and promote speedier recovery by using a variety of measures, including appropriate pain management, nutrition, and movement[9]. Telemedicine and remote monitoring assist adherence to these procedures since patients are reminded of their adherence to these protocols regularly and their progress is tracked for beneficial changes[10]. Such platforms will be able to track whether patients are meeting critical recovery milestones, such as moving soon after surgery or following a specified physical therapy schedule. This time-bound feedback loop helps to achieve the aims of ERAS by keeping patients on pace for a smooth recovery, lowering durations of stay, and minimizing complications[11]. These technologies make it easier to educate patients and include them in treatment and care programs. Patients will be able to access specifically produced instructional materials, follow recovery measures, and communicate with healthcare staff via mobile apps and online portals. Patients may, therefore, be given a far larger degree of autonomy, which reduces anxiety owing to increasing involvement and responsibility in their treatment[12].

Telemedicine and remote monitoring will become integral components of postoperative treatment, gaining traction in the future[13]. This may indicate that healing paths will become more personalized and precise. Telemedicine and remote monitoring are transforming people's perspectives on postoperative treatment, mostly by improving safety, lowering healthcare costs, and increasing overall patient satisfaction.

[a]Department of Biotechnology, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Chennai, Tamil Nadu, India, [b]Department of ECE, SRM Institute of Science and Technology, SRM Nagar, Kattankulathur, Chengalpattu District, Tamil Nadu, India, [c]Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai, Tamil Nadu, India, [d]Centre for Research Impact and Outcome, Chitkara College of Pharmacy, Chitkara University, Rajpura, Punjab, India, [e]Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University, Dhaka, Bangladesh and [f]Department of Pharmacy, BGC Trust University Bangladesh, Chittagong, Bangladesh

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