

Journey of Orthopedic Instruments from the National Orthopedic Medical Center of China



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In medical technology innovation, orthopedic surgical instrument management is increasingly vital. Efficient, accurate management ensures smooth surgeries and impacts patient outcomes. As China's National Orthopedic Medical Center, Beijing Jishuitan Hospital employs AI to optimize instrument management, leading industry trends and showcasing China's technological advancement.



Pre-operation Intelligent Allocation & Disinfection

Pre-operative preparation underpins surgical success. Using big-data AI, the hospital predicts instrument types/quantities for each surgery. Instruments are prepped early and tagged with QR code for full traceability, preventing delays from incorrect/missing items. For disinfection, AI selects optimal procedures by instrument material and surgical needs. Tailored disinfection plans—powered by data analysis—ensure efficacy, extend instrument lifespan, and maximize resource efficiency.

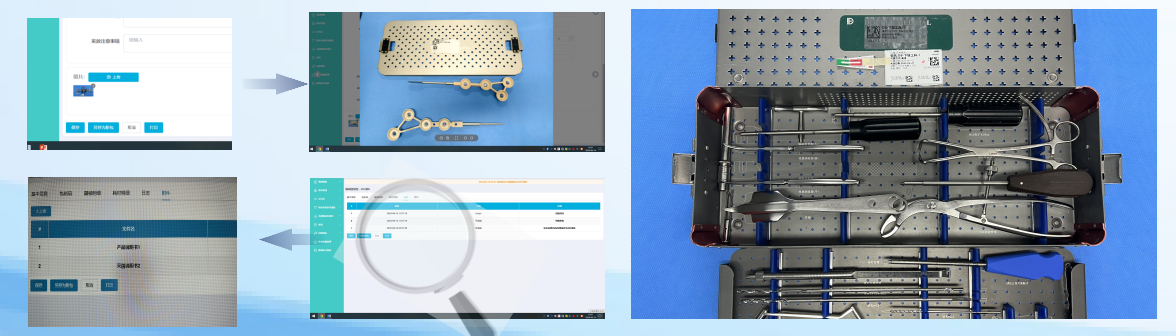
Intra-operation Efficient Access & Real-time Tracking

Time is critical during surgery. Operating rooms feature IoT-enabled smart cabinets integrated with surgical systems. These monitor instrument use in real time, eliminating search delays and boosting efficiency. The AI logs each instrument's usage (time, surgeon, etc.), providing data for post-op maintenance and surgical quality analysis.

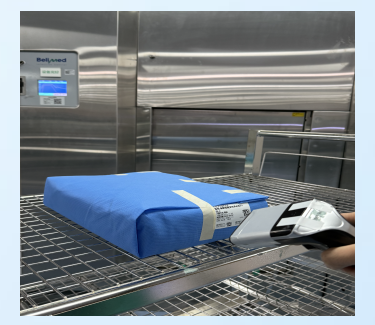
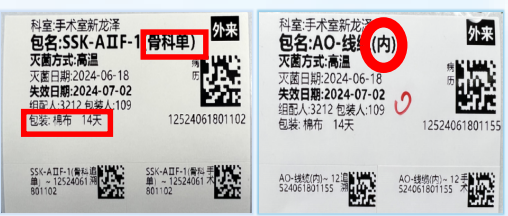


Post-operation Automated Cleaning & Storage

Post-surgery, instrument reprocessing is essential. AI-driven cleaning centers auto-select protocols by material/contamination level. Full-process monitoring ensures thorough decontamination, preventing cross-infection. Cleaned instruments are sorted automatically into smart storage cabinets. These regulate temperature/humidity, maintaining optimal conditions for future use.



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Advantages
AI delivers key benefits: Enhanced efficiency/accuracy: Smart allocation, real-time tracking, and automated cleaning reduce human error and streamline workflows. Lowered surgical risk: Full traceability and strict disinfection ensure instrument safety, securing patient outcomes. Elevated hospital standards: Advanced technology attracts patients/talent, driving sustainable growth.

Conclusion
Beijing Jishuitan Hospital's AI-powered instrument management sets a benchmark in China's medical tech evolution. It elevates orthopedic surgery safety/efficiency while offering global insights for instrument management. As AI advances, the hospital will achieve greater milestones, benefiting patients worldwide.