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Nota di contenuto	Introduction -- Regulations and directives-Past, Present, Future -- Legal metrology system-Past, Present, Future -- Medical Device maintenance regimes in healthcare institutions -- Post-Market Surveillance (PMS) of Medical Devices: From a Clinical Engineering Perspective -- Application of Artificial Intelligence for management of maintenance and prediction of performances -- Inspection and Testing

of Electrocardiographs (ECG) Devices -- Inspection and Testing of Noninvasive Blood Pressure Measuring Devices -- Inspection and Testing of Diagnostic Ultrasound Devices -- Inspection and Testing of Electroencephalographs, Electromyographs, and Evoked Response Equipment -- Inspection and Testing of Defibrillators -- Inspection and Testing of Mechanical Ventilators and Anaesthesia Machines -- Inspection and Testing of Pediatric and Neonatal Incubators -- Inspection and Testing of Infusion Pumps -- Cost Effectiveness analysis of medical devices in legal metrology system -- Cybersecurity, Data Protection, and Artificial Intelligence in Medical Devices.

Sommario/riassunto

This comprehensive guide invites nations worldwide to embark on a transformative journey, implementing independent third-party verification systems that ensure medical devices comply with both international and national regulations. Prepare to be captivated as we delve into the intricate processes, unveil essential procedures, and illuminate the paramount importance of establishing traceability for medical device measurements. Imagine a world where medical devices undergo rigorous independent safety and performance verification, guaranteeing the utmost reliability for patient diagnoses and treatment. This book takes you on a compelling exploration of precisely that vision. Focusing on cutting-edge diagnostic and therapeutic devices, it captures the very essence of the latest international directives and regulations, ensuring you stay ahead of the curve. This new edition goes beyond the conventional, delving into the realms of innovation and progress. Unveiling in-depth maintenance regimes within healthcare institutions, we provide you with invaluable insights into post-market surveillance. As the world embraces the transformative potential of artificial intelligence, we pave the way for evidence-based management of medical device maintenance—a concept poised to reshape the healthcare landscape. Imagine a future where medical devices are seamlessly integrated into the legal metrology system, while fully operational national laboratories for medical device inspection set new standards of excellence. This book vividly illustrates how such a powerful union can elevate the reliability of medical devices in diagnosis and patient care. Brace yourself for a paradigm shift that not only enhances efficacy but also leads to significant cost reductions within your country's healthcare system. Join us on this extraordinary journey as we unveil the untapped potential of medical device inspection. With our innovative approach and unrivaled expertise, together we can revolutionize healthcare, transforming the lives of countless patients worldwide. Get ready to be inspired, informed, and empowered—welcome to the future of healthcare!