Medical Equipment Maintenance

In addition to being essential for safe and effective patient care, medical equipment also has significant impact on the income and, thus, vitality of healthcare organizations. For this
reason, its maintenance and management requires careful supervision by healthcare administrators, many of whom may not have the technical background to understand all of the relevant factors. This book presents the basic elements of medical equipment maintenance and management required of healthcare leaders responsible for managing or overseeing this function. It will enable these individuals to understand their professional responsibilities, as well as what they should expect from their supervised staff and how to measure and benchmark staff performance against equivalent performance levels at similar organizations. The book opens with a foundational summary of the laws, regulations, codes, and standards that are applicable to the maintenance and management of medical equipment in healthcare organizations. Next, the core functions of the team responsible for maintenance and management are described in sufficient detail for managers and overseers. Then the methods and measures for determining the effectiveness and efficiency of equipment maintenance and

management are presented to allow performance management and benchmarking comparisons. The challenges and opportunities of managing healthcare organizations of different sizes, acuity levels, and geographical locations are discussed. Extensive bibliographic sources and material for further study are provided to assist students and healthcare leaders interested in acquiring more detailed knowledge. Table of Contents: Introduction / Regulatory Framework / Core Functions of Medical Equipment Maintenance and Management / CE Department Management / Performance Management / Discussion and Conclusions

**Biomedical Equipment**-Joseph J. Carr
1991-07-01 Thoroughly covers the management of medical instrumentation systems with a strong emphasis placed on safety. Coverage includes data communications within hospitals and mobile emergency units, including ambulances and other medical squads. Contains a wealth of practical, how-to advice including and selecting
the best desktop computer for biomedical systems, repair methods for water damaged medical equipment, determining what test equipment tools are needed, choosing the right solid-state replacement components, and many others. Provides a vitally important section on preventative maintenance and proper program design. This handy reference is ideal for the clinical technician.

**Maintenance Management for Medical Equipment**-American Society for Healthcare Engineering 1996-05-01

**Medical Equipment Maintenance Programme Overview**-World Health Organization 2012-08-01 WHO and partners have been working towards devising an agenda, an action plan, tools and guidelines to increase access to appropriate medical devices. This document is part of a series of reference documents being developed for use at the country level. The series will include the following subject areas: * policy framework for health technology * medical device regulations * health technology assessment * health technology management * needs assessment of medical devices * medical device procurement * medical equipment donations * medical equipment inventory management * medical equipment maintenance * computerized maintenance management systems * medical device data * medical device nomenclature * medical devices by health-care setting * medical devices by clinical procedures * medical device innovation, research and development. These documents are intended for use by biomedical engineers, health managers, donors, nongovernmental organizations and academic institutions involved in health technology at the district, national, regional or global levels. An effective medical equipment maintenance program consists of adequate planning, management and implementation. Planning considers the financial, physical and human resources required to adequately implement the
maintenance activities. Once the program has been defined, financial, personnel and operational aspects are continually examined and managed to ensure the program continues uninterrupted and improves as necessary. Ultimately, proper implementation of the program is key to ensuring optimal equipment functionality.

**Medical Equipment Management** - Keith Willson 2013-12-07 Know What to Expect When Managing Medical Equipment and Healthcare Technology in Your Organization As medical technology in clinical care becomes more complex, clinical professionals and support staff must know how to keep patients safe and equipment working in the clinical environment. Accessible to all healthcare professionals and managers, Medical Equipment Management presents an integrated approach to managing medical equipment in healthcare organizations. The book explains the underlying principles and requirements and raises awareness of what needs to be done and what questions to ask. It also provides practical advice and refers readers to appropriate legislation and guidelines. Starting from the medical equipment lifecycle, the book takes a risk-based approach to improving the way in which medical devices are acquired and managed in a clinical context. Drawing on their extensive managerial and teaching experiences, the authors explain how organizational structures and policies are set up, how funding is allocated, how people and equipment are supported, and what to do when things go wrong.

**Maintenance Management Procedures for Medical Equipment** - United States. Department of the Army 1987

**Maintenance Management for Medical Equipment** - 1988-01-01
Computerized Maintenance Management System

WHO and partners have been working towards devising an agenda, an action plan, tools and guidelines to increase access to appropriate medical devices. This document is part of a series of reference documents being developed for use at the country level. The series will include the following subject areas: * policy framework for health technology * medical device regulations * health technology assessment * health technology management * needs assessment of medical devices * medical device procurement * medical equipment inventory management * medical equipment maintenance * computerized maintenance management systems * medical device data * medical device nomenclature * medical devices by health-care setting * medical devices by clinical procedures * medical device innovation, research and development. These documents are intended for use by biomedical engineers, health managers, donors, nongovernmental organizations and academic institutions involved in health technology at the district, national, regional or global levels. For organizations with the appropriate resources to implement this tool, CMMS can be very beneficial. It is a highly flexible tool that when properly implemented has the ability to transform the management of medical equipment while also improving the availability and functionality of the technology required to prevent, diagnose and treat illness.

Clinical Engineering Handbook

Author Joseph Dyro has been awarded the Association for the Advancement of Medical Instrumentation (AAMI) Clinical/Biomedical Engineering Achievement Award which recognizes individual excellence and achievement in the clinical engineering and biomedical engineering fields. He has also been awarded the American College of Clinical Engineering 2005 Tom O'Dea Advocacy Award. As the biomedical engineering field expands throughout the world, clinical engineers play an...
evermore important role as the translator between the worlds of the medical, engineering, and business professionals. They influence procedure and policy at research facilities, universities and private and government agencies including the Food and Drug Administration and the World Health Organization. Clinical Engineers were key players in calming the hysteria over electrical safety in the 1970's and Y2K at the turn of the century and continue to work for medical safety. This title brings together all the important aspects of Clinical Engineering. It provides the reader with prospects for the future of clinical engineering as well as guidelines and standards for best practice around the world. * Clinical Engineers are the safety and quality facilitators in all medical facilities.

**Introduction to Medical Equipment Inventory Management**

World Health Organization 2012-10-25 WHO and partners have been working towards devising an agenda, an action plan, tools and guidelines to increase access to appropriate medical devices. This document is part of a series of reference documents being developed for use at the country level. The series will include the following subject areas: * policy framework for health technology * medical device regulations * health technology assessment * health technology management * needs assessment of medical devices * medical device procurement * medical equipment donations * medical equipment inventory management * medical equipment maintenance * computerized maintenance management systems * medical device data * medical device nomenclature * medical devices by health-care setting * medical devices by clinical procedures * medical device innovation, research and development. These documents are intended for use by biomedical engineers, health managers, donors, nongovernmental organizations and academic institutions involved in health technology at the district, national, regional or global levels. Once established, the inventory serves as the
foundation for moving forward within the HTM system and ensuring safe and effective medical equipment. The inventory may be used to develop budgets for capital purchases, maintenance and running costs; to build and support an effective clinical engineering department, by allowing for workshop planning, hiring and training of technical support staff, and establishing and maintaining service contracts; to support an effective medical equipment management program, such as planning preventive maintenance activities and tracking work orders; and to plan the stock of spare parts and consumables. The inventory may also be used to support equipment needs assessment within the health-care facility and to record the purchase, receipt, retirement and discarding of equipment. Facility risk analysis and mitigation, and emergency and disaster planning, are also supported by an inventory.

**Operations Management**-Antonella Petrillo

2021-03-03 Global competition has caused fundamental changes in the competitive environment of the manufacturing and service industries. Firms should develop strategic objectives that, upon achievement, result in a competitive advantage in the market place. The forces of globalization on one hand and rapidly growing marketing opportunities overseas, especially in emerging economies on the other, have led to the expansion of operations on a global scale. The book aims to cover the main topics characterizing operations management including both strategic issues and practical applications. A global environmental business including both manufacturing and services is analyzed. The book contains original research and application chapters from different perspectives. It is enriched through the analyses of case studies.
Operating Guide for Medical Equipment Maintenance -

Managing Medical Devices within a Regulatory Framework - Beth Ann Fiedler
2016-09-10 Managing Medical Devices within a Regulatory Framework helps administrators, designers, manufacturers, clinical engineers, and biomedical support staff to navigate worldwide regulation, carefully consider the parameters for medical equipment patient safety, anticipate problems with equipment, and efficiently manage medical device acquisition budgets throughout the total product life cycle. This contributed book contains perspectives from industry professionals and academics providing a comprehensive look at health technology management (HTM) best practices for medical records management, interoperability between and among devices outside of healthcare, and the dynamics of implementation of new devices. Various chapters advise on how to achieve patient confidentiality compliance for medical devices and their software, discuss legal issues surrounding device use in the hospital environment of care, the impact of device failures on patient safety, methods to advance skillsets for HTM professionals, and resources to assess digital technology. The authors bring forth relevant challenges and demonstrate how management can foster increased clinical and non-clinical collaboration to enhance patient outcomes and the bottom line by translating the regulatory impact on operational requirements. Covers compliance with FDA and CE regulations, plus EU directives for service and maintenance of medical devices Provides operational and clinical practice recommendations in regard to regulatory changes for risk management Discusses best practices for equipment procurement and maintenance Provides guidance on dealing with the challenge of medical records management and compliance with patient confidentiality using information from medical devices
World Congress on Medical Physics and Biomedical Engineering May 26-31, 2012, Beijing, China-Mian Long 2013-02-11 The congress’s unique structure represents the two dimensions of technology and medicine: 13 themes on science and medical technologies intersect with five challenging main topics of medicine to create a maximum of synergy and integration of aspects on research, development and application. Each of the congress themes was chaired by two leading experts. The themes address specific topics of medicine and technology that provide multiple and excellent opportunities for exchanges.

Care and Safe Use of Hospital Equipment-Muriel Skeet 1995-01-01

A Review of the Organisation and Management of Medical Equipment Maintenance Services-MAS (Organization) 1985

Trends in Development of Medical Devices-Prakash Srinivasan Timiri Shanmugam 2020-01-25 Trends in Development of Medical Devices covers the basics of medical devices and their development, regulations and toxicological effects, risk assessment and mitigation. It also discusses the maintenance of a medical device portfolio during product lifecycle. This book provides up-to-date information and knowledge on how to understand the position and benefits of new introduced medical devices for improving healthcare. Researchers and industry professionals from the fields of medical devices, surgery, medical toxicology, pharmacy and medical devices manufacture will find this book useful. The book's editors and contributors form a global, interdisciplinary base of knowledge which they bring to this book. Provides a roadmap to medical devices development and the integration of manufacturing steps to improve workflows Helps engineers in medical devices industries to anticipate the special requirements
of this field with relation to biocompatibility, sterilization methods, government regulations
Presents new strategies that readers can use to take advantage of rapid prototyping technologies, such as 3D printing, to reduce imperfections in production and develop products that enable completely new treatment possibilities

Clinical Engineering Handbook - Ernesto Iadanza 2019-12-06
Clinical Engineering Handbook, Second Edition, covers modern clinical engineering topics, giving experienced professionals the necessary skills and knowledge for this fast-evolving field. Featuring insights from leading international experts, this book presents traditional practices, such as healthcare technology management, medical device service, and technology application. In addition, readers will find valuable information on the newest research and groundbreaking developments in clinical engineering, such as health technology assessment, disaster preparedness, decision support systems, mobile medicine, and prospects and guidelines on the future of clinical engineering. As the biomedical engineering field expands throughout the world, clinical engineers play an increasingly important role as translators between the medical, engineering and business professions. In addition, they influence procedures and policies at research facilities, universities, and in private and government agencies. This book explores their current and continuing reach and its importance. Presents a definitive, comprehensive, and up-to-date resource on clinical engineering
Written by worldwide experts with ties to IFMBE, IUPESM, Global CE Advisory Board, IEEE, ACCE, and more Includes coverage of new topics, such as Health Technology Assessment (HTA), Decision Support Systems (DSS), Mobile Apps, Success Stories in Clinical Engineering, and Human Factors Engineering

EMBEC & NBC 2017 - Hannu Eskola 2017-06-12
This volume presents the proceedings of the joint
conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), held in Tampere, Finland, in June 2017. The proceedings present all traditional biomedical engineering areas, but also highlight new emerging fields, such as tissue engineering, bioinformatics, biosensing, neurotechnology, additive manufacturing technologies for medicine and biology, and bioimaging, to name a few. Moreover, it emphasizes the role of education, translational research, and commercialization.

**Introduction to Clinical Engineering**
Samantha Jacques 2020-08-06 Introduction to Clinical Engineering focuses on the application of engineering practice within the healthcare delivery system, often defined as clinical engineering. Readers will explore the fundamental concepts integral to the support of healthcare technology to advance medical care. The primary mission of clinical engineers is the utilization of medical devices, software, and systems to deliver safe and effective patient care throughout technology’s lifecycle. This unique and interdisciplinary workforce is part of the healthcare team and serves as the intersection between engineering and medicine. This book is aimed at practitioners, managers, students, and educators to serve as a resource that offers a broad perspective of the applications of engineering principles, regulatory compliance, lifecycle planning, systems thinking, risk analysis, and resource management in healthcare. This book is an invaluable tool for healthcare technology management (HTM) professionals and can serve as a guide for students to explore the profession in depth. Offers readers an in-depth look into the support and implementation of existing medical technology used for patient care in a clinical setting Provides insights into the clinical engineering profession, focusing on engineering principles as applied to the US healthcare system Explores healthcare technology, hospital and systems safety, information technology and
interoperability with medical devices, clinical facilities management, as well as human resource management.

**The Competitive Edge**-National Research Council 1991-02-01 To maintain competitiveness in the emerging global economy, U.S. manufacturing must rise to new standards of product quality, responsiveness to customers, and process flexibility. This volume presents a concise and well-organized analysis of new research directions to achieve these goals. Five critical areas receive in-depth analysis of present practices, needed improvement, and research priorities: Advanced engineered materials that offer the prospect of better life-cycle performance and other gains. Equipment reliability and maintenance practices for better returns on capital investment. Rapid product realization techniques to speed delivery to the marketplace. Intelligent manufacturing control for improved reliability and greater precision. Building a workforce with the multidisciplinary skills needed for competitiveness. This sound and accessible analysis will be useful to manufacturing engineers and researchers, business executives, and economic and policy analysts.

**Medical Devices**-World Health Organization 2010 Background papers 1 to 9 published as technical documents. Available in separate records from WHO/HSS/EHT/DIM/10.1 to WHO/HSS/EHT/DIM/10.9

**Maintenance and Repair of Laboratory, Diagnostic Imaging, and Hospital Equipment**-WHO 1994-12 A practical guide to the maintenance and repair of essential laboratory and hospital equipment. Intended for use in institutions that do not have specially trained technicians or engineers the book responds to the situation frequently seen in developing countries where much of the equipment is imported and adequate information
on maintenance and repair is rarely provided by suppliers. With these special needs in mind the manual aims to help staff using specific types of equipment to understand basic principles of construction and operation, adopt good working practices, avoid common errors, perform routine maintenance, and spot the early signs of defects or deterioration. Advice on equipment repair concentrates on common causes of problems that can be solved without expertise in engineering. Throughout the manual, line drawings illustrate features of construction and design while numerous checklists offer advice on periodic inspection and cleaning, good working practices, and the essential do's, don'ts, must's, and never's of routine operation and maintenance. Information ranges from the steps to follow when recharging batteries through advice on how to protect microscopes in hot climates to instructions for changing a blown fuse in an ultrasound scanner. Basic safety procedures for protecting staff as well as patients are also described. The most extensive chapter covers the maintenance and repair of basic laboratory equipment moving from autoclaves and incubators to cell counters and systems for water purification. The remaining chapters describe the correct use, maintenance, and repair of diagnostic equipment, anaesthetic and resuscitation equipment, operating room equipment, and ultrasound and X-ray diagnostic equipment.

**Maintenance Management for Medical Equipment** - 1996

**Safety Risk Management for Medical Devices** - Bijan Elahi 2018-06-29 Safety Risk Management for Medical Devices demystifies risk management, providing clarity of thought and confidence to the practitioners of risk management as they do their work. Written with practicing engineers, safety management professionals, and students in mind, this book will help readers tackle the difficult questions, such as how to define risk acceptance criteria and how to determine when to stop risk
reduction. This book delivers not only theory, but also practical guidance for applying the theory in daily risk management work. The reader is familiarized with the vocabulary of risk management and guided through a process to ensure compliance with the international standard ISO 14971—a requirement for all medical devices. This book outlines sensible, easily comprehensible, and state-of-the-art methodologies that are rooted in current industry best practices. Opening chapters introduce the concept of risk, the legal basis for risk management, and the requirements for a compliant risk-management process. The next group of chapters discusses the connection between risk management and quality systems, usability engineering and biocompatibility. This book delves into the techniques of risk management, such as fault tree analysis and failure modes and effects analysis, and continues with risk estimation, risk control, and risk evaluation. Special topics such as software risk management, clinical investigations, and security are also discussed. The latter chapters address benefit-risk analysis, and production and postproduction monitoring. This book concludes with advice and wisdom for sensible, efficient, and successful safety risk management of medical devices. Teaches industry best practices on medical-device risk management in compliance with ISO 14971 Provides practical, easy-to-understand, and step-by-step instructions on how to perform hazard analysis and manage the risks of medical devices Offers a worked-out example applying the risk management process on a hypothetical device

Management of Medical Technology - Joseph D. Bronzino 2014-06-28 Management of Medical Technology: A Primer for Clinical Engineers introduces and examines the functions and activities of clinical engineering within the medical environment of the modern hospital. The book provides insight into the role that clinical engineers play in the management of medical technology. Topics covered include the history, job functions, and the professionalization of
clinical engineering; safety in the clinical environment; management of hospital equipment; assessment and acquisition of medical technologies; preparation of a business plan for the clinical engineering department; and the moral and ethical issues that surround the delivery of health-care. Clinical engineers and biomedical engineers will find the book as a great reference material.

**Biomedical Equipment Repairer, Skill Level 1 and 2, MOS 35G**- United States. Department of the Army 1979

**Advanced Methodologies and Technologies in Medicine and Healthcare**- Khosrow-Pour, D.B.A., Mehdi 2018-10-05 Advancements in medical and healthcare technologies pave the way to improving treatments and diagnoses while also streamlining processes to ensure the highest quality care is given to patients. In the last few decades, revolutionary technology has radically progressed the healthcare industry by increasing life expectancy and reducing human error. Advanced Methodologies and Technologies in Medicine and Healthcare provides emerging research on bioinformatics, medical ethics, and clinical science in modern applications and settings. While highlighting the challenges medical practitioners and healthcare professionals face when treating patients and striving to optimize their processes, the book shows how revolutionary technologies and methods are vastly improving how healthcare is implemented globally. This book is an important resource for medical researchers, healthcare administrators, doctors, nurses, biomedical engineers, and students looking for comprehensive research on the advancements in healthcare technologies.

**Reliability and Maintenance of Medical Devices**- Sharareh Taghipour 2012 For decades, reliability engineering techniques have been successfully applied in many industries to
improve the performance of equipment maintenance management. Numerous inspection and optimization models are developed and widely used to achieve maintenance excellence, i.e. the balance of performance, risk, resources and cost to reach to an optimal solution. However, the application of all these techniques and models to medical devices is new. Hospitals, due to possessing a large number of difference devices, can benefit significantly if the optimization techniques are used properly in the equipment management processes. Most research in the area of reliability engineering for medical equipment mainly considers the devices in their design or manufacturing stage and suggests some techniques to improve the reliability. To this point, best maintenance strategies for medical equipment in their operating context have not been considered. We aim to address this gap and propose methods to improve current maintenance strategies in the healthcare industry.

Electronic Healthcare-Patty Kostkova 2010-02-17 It is my great pleasure to introduce this special issue of LNSV comprising the scientific publications presented at ehealth 2009: The second Congress on Electronic Healthcare for the 21st Century, which took place in Istanbul, Turkey during September 23–25, 2009. Building on the first ehealth 2008 congress held in London, UK, the key topic of ehealth 2009 was investigating a realistic potential of the Internet in providing e-vidence-based healthcare information and education to patients and global users. The proudly defined aim of ehealth 2009 -- bringing together the three medical sectors: academia, industry and global healthcare institutions -- was met and made the congress a truly unique event. The formal and informal discussions among the conference participants led to numerous stimuli for new collaborations. We accepted 26 full and 10 short technical presentations by speakers from all over the world, having received over 80 submissions. In addition to two keynotes, the commercial angle was provided by invited industrial speakers.
representing a wide range of healthcare IT companies including Corinne Marsolier of Cisco, Glenn Kenneth Bruun (CSAM Health), Luis Falcón (Thymbra) and Johan Muskens (Philips Research Europe), as well as international healthcare organizations such as Med-e-Tel represented by the international coordinator Frederic Lievens.

Evidence-Based Maintenance of Medical Equipment - Binseng Wang 2019-09-29 Instead of blindly following manufacturers' maintenance recommendations, Clinical Engineering (CE), also known as Health Technology Management (HTM), professionals can use a method similar to Evidence-Based Medicine to keep medical equipment safe and reliable while using judiciously their limited resources. Evidence-Based Maintenance (EBM) analyzes the causes of equipment failures and uses these results to continually improve maintenance. EBM is particularly suited for those who want to take advantage of the Alternate Equipment Management (AEM) program allowed by the Centers for Medicare & Medicaid Services (CMS) because it allows comparison of different maintenance strategies and provides concrete evidence to prove the safety and effectiveness of the AEM program adopted.

Biomedical Equipment Maintenance and Repair Naval Regional Medical Center, Camp Pendleton, California - Jack D. Chapman 1983 Recent growth in the field of biomedical equipment technology has been rapid, producing a proliferation of increasingly complex medical devices. In order to assure continuous, efficient, and accurate utilization of equipment, a comprehensive, well designed maintenance and repair program is mandatory. Many facilities use service contracts to assist indigenous biomedical staffs in maintaining their equipment. This study attempts to determine the optimal method for a cost effective management system to be used in deciding whether individual medical equipment items are to be contracted out for maintenance.
and repair, or serviced by in house Biomedical Equipment Technicians. The cost effective model was developed specifically for the NRMC at Camp Pendelton, but nothing would preclude its use at other Navy hospitals. Keywords: Health care facilities, Biomedical equipment maintenance, Preventive management. (sdw/kt).

2019 IEEE 6th Portuguese Meeting on Bioengineering (ENBENG)-IEEE Staff 2019-02-22 IEEE EMBS Portugal Chapter organized event for promotion of subjects and projects that involve research and industry in the following areas Biomedical Imaging and Image Processing, Instrumentation and Biomedical Signal Processing, Modeling Physiological Systems, Biomechanics, Neuroengineering and Neurosciences, Rehabilitation Engineering, Medical Robotics and Human Machine Interfaces, Stem Cell Biology and Regenerative Medicine, Biomaterials and Tissue Engineering, Bioinformatics and Systems Biology, Biomolecular, Biocellular and Bioprocess Engineering, Health Informatics and Telemedicine, Medical Equipment Management, Wearable Biomedical Sensors and Systems, Bioengineering Education and Society, Biophysics, Micro and Nano Bioengineering

Clinical Engineering-Roberto Miniati 2015-12-23 Clinical Systems Engineering: New Challenges for Future Healthcare covers the critical issues relating to the risk management and design of new technologies in the healthcare sector. It is a comprehensive summary of the advances in clinical engineering over the past 40 years, presenting guidance on compliance and safety for hospitals and engineering teams. This contributed book contains chapters from international experts, who provide their solutions, experiences, and the successful methodologies they have applied to solve common problems in the area of healthcare technology. Topics include compliance with the European Directive on Medical Devices 93/42/EEC, European Norms EN 60601-1-6, EN
62366, and the American Standards ANSI/AAMI HE75: 2009. Content coverage includes decision support systems, clinical complex systems, and human factor engineering. Examples are fully supported with case studies, and global perspective is maintained throughout. This book is ideal for clinical engineers, biomedical engineers, hospital administrators and medical technology manufacturers. Presents clinical systems engineering in a way that will help users answer many questions relating to clinical systems engineering and its relationship to future healthcare needs Explains how to assess new healthcare technologies and what are the most critical issues in their management Provides information on how to carry out risk analysis for new technological systems or medical software Contains tactics on how to improve the quality and usability of medical devices

VII Latin American Congress on Biomedical Engineering CLAIB 2016, Bucaramanga, Santander, Colombia, October 26th -28th, 2016-Isnardo Torres 2017-04-05 This volume presents the proceedings of the CLAIB 2016, held in Bucaramanga, Santander, Colombia, 26, 27 & 28 October 2016. The proceedings, presented by the Regional Council of Biomedical Engineering for Latin America (CORAL), offer research findings, experiences and activities between institutions and universities to develop Bioengineering, Biomedical Engineering and related sciences. The conferences of the American Congress of Biomedical Engineering are sponsored by the International Federation for Medical and Biological Engineering (IFMBE), Society for Engineering in Biology and Medicine (EMBS) and the Pan American Health Organization (PAHO), among other organizations and international agencies to bring together scientists, academics and biomedical engineers in Latin America and other continents in an environment conducive to exchange and professional growth.
Maintenance Management Procedures for Medical Equipment - United States. Department of the Army 1988

Biomedical Equipment Repairer - United States. Department of the Army 1979

Clinical Engineering Financial Management and Benchmarking: Essential Tools to Manage Finances and Remain Competitive for Clinical Engineering/Healthcare - Binseng Wang Scd 2018-10-13 This book provides the fundamental concepts and tools needed by Clinical Engineering (CE), also known as Health Technology Management (HTM), managers to properly manage their financial resources, as well as to prove to their senior leaders that they are comparing (benchmarking) well against their peers. After introducing basic accounting concepts and tools using a case study based on real data, different methods for financing the CE/HTM department are explored. Next, opportunities for improving financial performance are explained through analyses of budget, costs and productivity. After a critical review of various benchmarks available, proper ways to use them to evaluate performance and seek improvements opportunities are demonstrated, enabling CE/HTM managers to secure recognition and support from their senior leaders, as well as defend their departments against consultants and outsourcing companies.

Reliability and Maintenance of Medical Devices - Sharareh Taghipour 2011 For decades, reliability engineering techniques have been successfully applied in many industries to improve the performance of equipment maintenance management. Numerous inspection and optimization models are developed and widely used to achieve maintenance excellence, i.e. the balance of performance, risk, resources and cost to reach to an optimal solution. However, the application of all these techniques and models to medical devices is new. Hospitals,
due to possessing a large number of different devices, can benefit significantly if the optimization techniques are used properly in the equipment management processes. Most research in the area of reliability engineering for medical equipment mainly considers the devices in their design or manufacturing stage and suggests some techniques to improve the reliability. To this point, best maintenance strategies for medical equipment in their operating context have not been considered. We aim to address this gap and propose methods to improve current maintenance strategies in the healthcare industry. More specifically, we first identify or propose the criteria which are important to assess the criticality of medical devices, and propose a model for the prioritization of medical equipment for maintenance decisions. The model is a novel application of multi-criteria decision making methodology to prioritize medical devices in a hospital according to their criticality. The devices with high levels of criticality should be included in the hospital's maintenance management program. Then, we propose a method to statistically analyze maintenance data for complex medical devices with censoring and missing information. We present a classification of failure types and establish policies for analyzing data at different levels of the device. Moreover, a new method for trend analysis of censored failure data is proposed. A novel feature of this work is that it considers dependent failure histories which are censored by inspection intervals. Trend analysis of this type of data has not been discussed in the literature. Finally, we introduce some assumptions based on the results of the analysis, and develop several new models to find the optimal inspection interval for a system subject to hard and soft failures. Hard failures are instantaneously revealed and fixed. Soft failures are only rectified at inspections. They do not halt the system, although they reduce its performance or productivity. The models are constructed for two main cases with the assumption of periodic inspections, and periodic and opportunistic inspections, respectively. All numerical examples
and case studies presented in the dissertation are adapted from the maintenance data received from a Canadian hospital.