MERCURY

Medical Laboratory Quality Management, Assurance, and Control

31 October – 4 November 2027
Doha (Qatar)



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Medical Laboratory Quality Management, Assurance, and Control

Ref: 15511_1064450 **Date:** 31 October – 4 November 2027 **Location:** Doha (Qatar) **Fees:** 5500 Euro

Introduction:

In the dynamic landscape of healthcare, the accuracy and reliability of laboratory results play a pivotal role in patient care. This medical laboratory quality management, assurance, and control course has been meticulously crafted to empower medical laboratory professionals with the knowledge and skills to navigate the intricacies of quality assurance and control.

In an era where precision and dependability are paramount, our course offers a deep dive into the fundamentals of Laboratory Quality Management Systems LQMS, providing a solid foundation for participants to enhance the quality of their laboratory practices. Whether you are a seasoned Medical Laboratory Manager, Clinical Laboratory Scientist, or Quality Assurance and Control professional, It is tailored to elevate your competencies.

Through a blend of theoretical insights and practical applications, medical laboratory quality management, assurance, and control training, participants will gain proficiency in applying statistical methods, utilizing Westgard Rules, addressing protocol challenges, and ensuring accuracy in patient sample testing.

The medical laboratory quality management, assurance, and control course extends to cover advanced topics, including validation, verification, and emerging trends in the ever-evolving landscape of medical laboratory QA/QC. Join us on this journey to sharpen your skills, stay abreast of industry best practices, and contribute to delivering high-quality healthcare services.

Targeted Groups:

- Medical Laboratory Managers.
- Clinical Laboratory Scientists.
- Quality Assurance and Quality Control Professionals.
- Laboratory Technicians.
- Healthcare Professionals involved in Laboratory Practices.

Targeted Competencies

Participants competencies in this medical laboratory quality management, assurance, and control training will:

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- Implementation of Laboratory Quality Management Systems LQMS.
- Proficient application of QA and QC principles.
- Mastery of basic and advanced statistical methods in QA/QC.
- Utilization of Westgard Rules for Effective Quality Control.
- Addressing protocol and statistical challenges in medical laboratories.
- Ensuring accuracy and precision in patient sample testing.
- Competence in validation and verification processes.
- Advanced understanding of emerging trends and technologies in QA/QC.

Course Objectives:

By the end of this medical laboratory quality management, assurance, and control course, participants will be able to:

- Establish and implement Laboratory Quality Management Systems.
- Apply QA and QC principles to enhance the reliability of laboratory results.
- Utilize basic and advanced statistical methods for effective quality control.
- Implement Westgard Rules for troubleshooting and corrective actions.
- Address protocol and statistical challenges encountered in medical laboratories.
- Ensure accuracy and precision in patient sample testing.
- Conduct validation and verification processes in compliance with standards.
- Navigate advanced topics and emerging trends in medical laboratory QA/QC.

Course Outline:

Unit 1: Introduction to Laboratory Quality Management System LQMS:

- Overview of LQMS principles.
- Importance of quality management in medical laboratories.
- Regulatory frameworks and standards.
- Integration of LQMS with laboratory operations.

Unit 2: QA and QC Distinctions:

- Clarifying the differences between Quality Assurance QA and Quality Control QC.
- Role of QA and QC in Ensuring Accuracy.
- Implementing effective QA/QC strategies.
- Industry best practices in QA/QC.

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Unit 3: Basic and Advanced Quality Control Statistics:

- Fundamentals of statistical analysis in quality control.
- Mean, Standard Deviation, Coefficient of Variation, and their applications.
- Advanced statistical tools for quality assessment.
- Practical exercises on statistical calculations.

Unit 4: Utilizing Westgard Rules:

- Understanding Westgard Rules in Quality Control.
- Application of Westgard Rules to ensure data quality.
- Troubleshooting and error detection using Westgard Rules.
- Real-world case studies and simulations.

Unit 5: Protocol and Statistical Challenges:

- Addressing challenges in protocol adherence.
- Statistical challenges in laboratory protocols.
- Strategies for overcoming statistical hurdles.
- Protocol optimization for enhanced accuracy.

Unit 6: Accuracy and Precision in Patient Sample Testing:

- Ensuring accuracy in patient sample processing.
- Precision in laboratory techniques.
- Impact of accuracy and precision on patient care.
- Hands-on exercises for precision enhancement.

Unit 7: Validation and Verification Processes:

- Importance of validation and verification in laboratory testing.
- Procedures and protocols for validation.
- Verification methodologies for equipment and assays.
- Compliance with regulatory requirements.

Unit 8: Emerging Trends and Innovations:

- Stay updated on current trends in medical laboratory QA/QC.
- Integration of technology for quality enhancement.
- Future directions in laboratory quality management.
- Case studies on successful implementation of innovations.