

QUALITY MANUAL: MODEL ACCORDING EC4 ESSENTIAL CRITERIA

4. PERSONNEL

4.3. EDUCATION, TRAINING AND DEVELOPMENT OF STAFF

AUTHOR	VERSION	APPROVED BY	DATE	

CIRCULATION LIST:	NAME	POSITION

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1. INTRODUCTION

There should be a continuing education program for all staff. Records should be kept.

Professional staffs take part in appropriate post-graduate education, symposia and congresses.

Sufficient handbooks and scientific literature should be available.

If it is advantageous for a limited range of tests and procedures to be performed outside the laboratory (e. g. point of care or near patient testing) non-pathology staff should be properly trained and supervised by laboratory staff.

1.1. SCOPE

1.2. AIMS

To fulfil the requirements of the following clauses:

ISO 15189	ISO 9000: 2000	ISO 17025
5.1. Personnel. 5.1.6. to 5.1.10.	6.2. Human resources. 6.2.2. Training	5.2. Personnel. 5.2.2.

1.3. PUBLICATION CREDITS

EC4 WG

1.4. REFERENCES

1. Jansen RTP, Blaton V, Burnett D, Huisman W, Queraltó JM, Zérah S, Allman B. European Communities Confederation of Clinical Chemistry: Essential criteria for quality systems of medical laboratories. Eur J Clin Chem Clin Biochem 1997; 35(2): 123-132.
2. ISO/TC 212/WG 1., Quality management in the clinical laboratory. Revised ISO/CD 15189, Quality Management in the Medical Laboratory (December 1998), 5.1.6., 5.1.7., 5.1.8., 5.1.9., 5.1.10.
3. ISO/DIS Quality management systems – Requirements. ISO 9000. Geneva: ISO 2000. 6.2.2.
4. ISO, IEC. General requirements for the competence of calibration and testing and calibration laboratories. DIS 17025. Geneva: ISO, 1998. 5.2.2.
5. Jansen RTP, Bank CMC, Huisman W, Penders TJ. NVKC Model quality manual. 2nd rev. ed. Utrecht: NVKC 1996.
6. Burnett D. Understanding accreditation in laboratory medicine. London: Association of Clinical Biochemists, 1996, 96-101.

1.5. RELATED DOCUMENTS

- 4.3.1. Register for annual postgraduate education

1.6. ABBREVIATIONS

HLT Higher Laboratory Training
ILT Intermediate Laboratory Training

1.7. RELATED DEFINITIONS

clinical laboratory (medical laboratory): a room or building (space) fitted out for scientific examinations (testing) of materials taken from patients for the purposes of diagnosis and treatment.

document: a piece of written or printed matter that provides a record or evidence of events.

laboratory director: the person who governs the policy of a laboratory.

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2. SUPERVISION OF NEW STAFF

The Section Managers supervise new staff for a variable period whose length depends on their experience and skill.

Adequate theoretical and practical instruction is given to any member of staff to whom additional duties are assigned.

ILT and HLT students undertake training at the laboratory. During their attachment to the laboratory, the students receive practical and theoretical instruction from selected technical staff.

3. TRAINING PLAN

Staff training requirements are carefully assessed and the appropriate training planned, with a view to ensuring that the laboratory has and will continue to have sufficiently well qualified and competent personnel. To this end, a training budget is drawn up within the laboratory's general budget, in accordance with hospital procedures.

Reimbursement of training expenses is in accordance with hospital procedures.

The Laboratory Supervisor maintains records of the training undertaken, symposia attended, etc. (see item 5.)

4. CONTINUING EDUCATION PROGRAMS

4.1. PROFESSIONAL

American Association for Clinical Chemistry. Therapeutic Drug Monitoring and Toxicology In-Service Program.

4.2. SUPERVISORS

4.3. LABORATORY ASSISTANTS

Several times a year, in-service training sessions are organised for technical staff by the Clinical Chemists. Managerial staff and technical staff with special duties are regularly sent on external courses or to symposia.

5. POST-GRADUATE EDUCATION, SYMPOSIA AND CONGRESSES

The register 4.3.1. *Register for annual postgraduate education, symposia and congresses* contains details about attendance to scientific and educational activities:

Name	Job reference	Continuous education programs attended	Symposia / Courses attended		Congresses attended	
			Name, place and date	Comments (1)	Name, place and date	Comments (1)

(1)

C	Scientific communication: oral or poster presentation
IC	Invited scientific presentation: conference, symposium etc.
OC	Organisation Committee Member
SCM	Scientific Committee Member

6. HANDBOOKS AND SCIENTIFIC LITERATURE

6.1. TEXTBOOKS

Clinical chemistry.	Tietz NW. Textbook of Clinical Chemistry. Philadelphia: W.B. Saunders Company, 1986.
	Brown SS, Mitchell FL, Young D.S. Chemical diagnosis of disease. Amsterdam: Elsevier/North-Holland Biomedical Press, 1979.

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	Greiling H, Gressner AM. Lehrbuch der Klinischen Chemie und Pathobiochemie. Stuttgart: FK Schattauer Verlag, 1987.
	Johnstone A, Thorpe R: Immunochemistry in practice. Oxford: Blackwell Scientific Publications, 1987.
	Rose BD. Clinical physiology of acid-base and electrolyte disorders. New York: McGraw-Hill Book Company, 1984.
	Greenspan FS, Forsham PH. Basic & Clinical Endocrinology (2nd ed.). Los Altos, California: Lange Medical Publications, 1986.
	Felig Ph, Baxter JD, Broadus AE, Frohman LA. Endocrinology and Metabolism. New York: McGraw-Hill Book Company, 1987.
	Sackett DL, Haynes RB, Tugwell P. Clinical Epidemiology, a basic science for clinical medicine. Boston: Little, Brown and Company, 1985.
	Connelly DP, Benson ES, Burke MD, Henderson D. Clinical decisions and laboratory use; Minneapolis: University of Minnesota Press, 1982.
	Friedman RB, Young DS. Effects of disease on clinical laboratory tests. Washington: AACCC Press, 1989.
Haematology	Wintrobe MM. Clinical Haematology. Philadelphia: Lea and Febiger, 1981.
	Williams WJ. Haematology. New York: McGraw-Hill Book Company, 1977.
	Dacie BV, Lewis SM. Practical Haematology. London: Churchill Livingstone, 1984.
	Spivak JL. Fundamentals of clinical hematology. Cambridge: Harper & Row Publishers, 1980.
	Bloom AL, Thomas DD. Haemostasis and Thrombosis. London: Churchill Livingstone, 1981.
	Biggs R, Macfarlane RG. Human blood coagulation and its disorders. Oxford: Blackwell Scientific Publications, 1976.
	Mollison PL. Blood transfusion in clinical medicine. Oxford: Blackwell Scientific Publications, 1979.
	Barbier BM, Stossel FP. Haematology: "A pathophysiological approach". New York: Churchill Livingstone, 1984.
	Hall R, Malia RG. Medical Laboratory Haematology, London: Butterworths, 1984.
	Technical Manual of the AABB. Basel: S. Karger AG, 1985.
Medical microbiology	Jawetz E, Melnick JL, Adelberg EA. Review of medical microbiology. Los Altos: Lange Medical Publications.
	Lennette EH, Balows A, Hausler WJ, Shadomy HJ. Manual of clinical microbiology. Washington: Am. Soc. Microbiol, 1985.
	Lorian V. Antibiotics in laboratory medicine. London: Williams and Wilkins, 1986.

6.2. HANDBOOKS

6.3. SCIENTIFIC AND TECHNICAL LITERATURE

6.4. JOURNALS

1.	Clinical Laboratory Medicine
2.	Clinica Chimica Acta
3.	Annals of Clinical Chemistry
4.	Clinical Chemistry
5.	Scandinavian Journal of Clinical & Laboratory Investigation
6.	New England Journal of Medicine
7.	The Lancet
8.	Acta Endocrinologica
9.	Journal of Clinical Endocrinology and Metabolism
10.	British Medical Journal
11.	Current Advances in Clinical Chemistry
12.	Current Contents

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13.	Medline
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