AACC

Better health through laboratory medicine.

PEARLS OF LABORATORY MEDICINE

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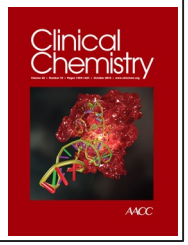
On behalf of the IFCC Task Force on Ethics



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CCTC
Clinical Chemistry Trainee Council

In this presentation I will discuss:

- **Motivation**: Should we teach medical ethics to laboratorians?
- **Curriculum**: What medical ethics topics should be taught?
- **Learning Techniques**? How should ethics be taught?

In this presentation I will NOT discuss:

- History of biomedical ethics or specific topics in lab medicine
- See Pearl by Ann Gronowski & IFCC Ethics Task Force
  Entitled: *Ethics in Laboratory Medicine*

Why am I giving this talk?

- I am a clinical laboratorian trained in laboratory medicine, clinical biochemistry and medical genetics
- Involved in ethical debates

Motivation:
Should we teach medical ethics to laboratorians?

- Most medical educators agree that medical professionals should receive training in ethics & currently they do not receive enough.
- Laboratorians may face unique ethical dilemmas
- The Academy of Clinical Laboratory Physicians & Scientists has proposed Curriculum Content for Clinical Pathology Residency Training:
  - "*Develop an understanding of the role of ethics in medical and managerial decision making*."
- Commission on Accreditation in Clinical Chemistry (ComACC):
  - *"As an administrator, a clinical chemist must be a competent manager of people, capital equipment, budgetary resources, and have a working knowledge of the ethics of medicine and science."*

Smith BR *et al*. *Clin Chem* 2006;52:917-49.
ComACC Postdoctoral Program Requirements. C.1.d.4. Revised 2015.

ACGME Requirements

"Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Residents are expected to demonstrate:

1) compassion, integrity, and respect for others;
2) responsiveness to patient needs that supersedes self-interest;
3) respect for patient privacy and autonomy;
4) accountability to patients, society and the profession;
5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation"

Liasion Committee of Medical Education includes ethics in its standards and the Romanell Report offers useful information on curriculum in medical ethics (see references).

ACGME Common Program Requirements. Section IV.A.5.e. Revised 2016.

Curriculum:
What medical ethics topics should be taught?

- Informed consent & refusal of treatment
- The clinical relationship-truthfulness, trust and good communication
- Confidentiality and good clinical practice
- Medical research
- Human reproduction
- The “new genetics”
- Children
- Mental disorders and disabilities
- Life, death, dying and killing
- Vulnerabilities created by the duties of doctors and medical students
- Resource allocation
- Rights

J Med Ethics 1998; 24:188-92.

Ethics Checklist

Ethical Issues (please tick any that apply)	
Patient's wishes are unclear, or patient refuses treatment	
Questionable capacity to consent or refuse treatment	
Disagreement involving relatives	
End of life issues	
Issue over goal of care or appropriateness of current treatment	
Confidentiality or disclosure issue	
Resource or fairness issue	
Other (please note)	
No notable ethical issues	✓

Sokol DK. Brit Med J 2009;338:b879.

Ethics to be considered in Laboratory Medicine

- Confidentiality of medical information
- Genetic Testing-
  - Confidentiality
  - Counseling-risk/benefit, value of prognostic information
  - Medically actionable results
- Allocation of resources
- Codes of conduct
- Publishing Issues
- Conflicts of interest and industry relations with laboratory
- Test ordering –
  - Conflicts of interest
  - Informed consent
  - Counseling risk/benefit, value of prognostic info
  - Mandatory testing & autonomy (screening programs, drugs, HIV, prisoners, pregnant patients)
  - Biobanking, informed consent and future use of specimens
  - Testing on fetal tissue
- Medically actionable results - informing the patient (& family?)
- Properly trained testing personnel (POC issues)

Learning Techniques: How should ethics be taught?

Cultural Transmission

- Classical humanities
  - Philosophy
  - History
  - Art
  - Religion
  - Law
- Profession oriented
  - Professional oaths
  - Codes of behavior
- Internalization of basic values

Musick DW. *Med Health Care Philos* 1999; 2:239-54.

Learning Techniques: How should ethics be taught?

Affective Developmental

- Interpersonal communication
- Stress management
- Personal growth & development
- Community medicine
- Development of attitudes & behaviors
  - Compassion
  - Sensitivity
  - Empathy towards patients & colleagues & self

Musick DW. *Med Health Care Philos* 1999; 2:239-54.

Learning Techniques: How should ethics be taught?

Cognitive Developmental

- Development of logical & critical thinking
- Progression of increasing levels of maturity & thinking & reasoning
- Has been criticized for being too abstract

- Probably need a blend of all three

Musick DW *Med Health Care Philos* 1999; 2:239-54.

Ethics Training in Laboratory Medicine

Contents lists available at ScienceDirect

Clinica Chimica Acta

journal homepage: www.elsevier.com/locate/clinchim

Variability of ethics education in laboratory medicine training programs: Results of an international survey

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Survey on ethics training

Aim:

- To determine the mode and extent of teaching of ethics in training programs in clinical chemistry and laboratory medicine

Method:

- Online survey of teaching of ethics relevant to laboratory medicine
- Directors of training programs who were recruited via email to leaders of national organizations

Response:

- 80 directors in 24 countries who directed 113 programs
- Respondents directed postdoctoral training of scientists (42%) or physicians (33%), post-masters degree programs (33%), and PhD programs (29%)
- Most programs (82%) were 2 years or longer in duration

Clin Chim Acta 2015; 442:115-8.

Countries and Organizations

Table 1
Countries (A) and accrediting organizations (B) of training programs directed by survey respondents.

A. Countries of respondents who identified themselves*		
Albania	Indonesia	Poland
Argentina	Italy	Serbia
Australia [2]	Japan	Slovak Republic
Canada [8]	Lithuania	The Netherlands
Croatia	Malaysia	Tunisia
Finland	Morocco	Turkey [4]
Iceland	Nepal	United States (14)
India [12]	Paraguay	Uruguay

B. Accrediting organizations	Number (%)
Commission on Accreditation in Clinical Chemistry (North America)	27 (36%)
Canadian Academy of Clinical Biochemistry	8 (11%)
Accreditation Council for Graduate Medical Education	6 (8%)
Royal College, not otherwise specified	3 (4%)
Other	18 (24%)
None or no response	18 (18%)

* The numbers are minimum estimates as not all respondents identified themselves. The number of respondents who identified themselves from each country is indicated in parentheses if greater than one.

Areas and Topics

Table 2
Training in selected areas of ethics as reported by all 80 surveyed programs (A) and according to type of program (B).

A. Topics taught	Training Is offered (% of programs)	Training Is required (% of programs)
Research ethics	28 (35%)	19 (24%)
Medical ethics	23 (29%)	17 (21%)
Professional ethics	16 (20%)	13 (16%)
Business ethics	6 (8%)	3 (4%)
Any of four ethics categories	36 (45%)	26 (32%)
All four ethics categories	3 (3.8%)	3 (3.8%)

B. Topics taught according to type of program

	Number and % of programs that teach each area*			
Topic	Training after a masters degree (25)	Doctoral science degree is awarded (22)	Postdoctoral training of scientists (32)	Postmedical training (25)
Research ethics	11 (44%)	10 (45%)	10 (31%)	11 (44%)
Medical ethics	9 (36%)	11 (50%)	7 (22%)	10 (40%)
Professional ethics	6 (24%)	5 (23%)	5 (16%)	7 (28%)
Business ethics	1 (4%)	2 (9%)	7 (28%)	3 (12%)

* The 80 surveyed directors led the 104 programs above and 9 additional programs that did not fit into any of the 4 categories represented in this table.

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Topics in Research Ethics and Time

Table 3
Most-frequently covered topics in research ethics (A) and time devoted to teaching of research ethics in 25 training programs that offer formal training in research ethics.

A. Topics covered	Covered by number (and %) of programs
Responsibility of investigators	23 (92%)
Protection of participants	22 (88%)
Helsinki Declaration	21 (84%)
Publication ethics	21 (84%)
Biobanking	12 (48%)

B. Time devoted to teaching of research ethics

Number of teaching hours	Number (%) of programs
1–3	9 (35%)
4–6	5 (19%)
7–9	5 (19%)
10–12	3 (12%)
More than 13	4 (15%)

Clin Chim Acta 2015; 442:115-8. Reproduced with permission from IFCC the copyright holder.

Most frequent topics taught in medical ethics

Table 4
Most-frequently covered topics in teaching sessions in 22 training programs that offer formal training in medical ethics.

Topic	Covered by number (and %) of programs
Principles of medical ethics	20 (91%)
Patient privacy	17 (77%)
Ethical decision-making	13 (59%)

Plans for teaching ethics

Majority of programs (54%) were planning changes in ethics training:

- Developing new modules on special subjects
- Annual sessions on ethics
- Workshop on laboratory ethics
- Self-learning opportunities
- Case studies in small group teaching
- Creation of a national commission

Best new tools to teach ethics:

Online resources and tools including self-assessment

Clin Chim Acta 2015; 442:115-8.

Future goals for ethics training

- Ethics training for senior trainees appears to be too limited
- Ethics training should cover core concepts and techniques and include the main topics of research, medical, professional and business ethics.
- Examples and case studies, should be practical and relevant to clinical laboratorians.
- The curriculum should preferably be internet-based with interactive modules.
- Efforts to construct and implement this curriculum should be encouraged and supported by stakeholders in clinical chemistry and laboratory medicine.

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Disclosures/Potential Conflicts of Interest

Upon Pearl submission, the presenter completed the Clinical Chemistry disclosure form. Disclosures and/or potential conflicts of interest:

The author has no commercial interests related to the topic of the presentations.

- ***Employment or Leadership**: Founder and chairman of BioCule (Lifeind ehf.) a company developing techniques for 2D electrophoresis of nucleic acids*
- ***Stock Ownership:** BioCule (Lifeind ehf.)*
- ***Research Funding:** BioCule (Lifeind ehf.)*
- ***Patents:** Three on 2D electrophoresis of nucleic acids*

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