The Aims of Medical Education

Harisios Boudoulas, MD, Dr, Dr Hon
Professor, Honorary Professor
Academician (an. mem.)
The Goal of the Physician

Maintain or restore human health (prevention, diagnosis, treatment of diseases or injuries, relief of suffering)

• Knowledge
• Competence to apply the knowledge to the patient
• Medical Ethics
Physician: Some Characteristics

• Capacity to absorb a mass of facts

• Knows the human body: how each cell works; how cells work together to produce a human being; how disease disrupts normal function

• Capacity to communicate effectively with people-patients

• Effectively uses the knowledge to evaluate the patient fast and to act decisively

• Psychological stability

• High ethical standards
Education – Definition

Education in the largest sense is any act or experience that has a formative effect on the mind, character or physical ability of an individual.
The Quality of the Student and the Teacher in Education

“The fate of an institution lies in the men and women who work in its halls and in the ideals which they cherish and teach”

Sir William Osler
Teacher of Medicine

"A teacher affects eternity; he can never tell where his influence stops". Henry B Adams

- To be a teacher of medicine is one of civilization's highest callings
- The teacher should provide an example of intense personal integrity and a constant example of what it takes to be a great physician
Student of Medicine

"Never regard study as a duty, but as the enviable opportunity to learn... " Albert Einstein

- The future of medicine will depend not only on the advances in medical science and technology but mostly on humanistic values of the physician
- Intense program of training with attention to detail, integrity, honesty, responsibility and dedication to the sick
- Excellence is transmitted from mentor only to reactive student
Medical Training; An Overview
(Students, Residence, Fellows)

Graduation from College
  ↓ Examination-interview

Medical School
  ↓

National Boards (Step I, all basic sciences)
  ↓

National Boards (Step II, all clinical sciences)
  ↓

Medical Degree Diploma
  ↓

Internship
  ↓

National Boards (Step III, clinical)
  ↓

Letters-interview
  ↓

Specialty (sub-specialty)
  ↓

National Boards
Hospital and Medical School

- Must provide high quality education
- Evaluation is needed on regular intervals (e.g. every five years) to assess qualifications
Physician

Clinical Experience

Science/Technology
Basic Mechanisms and Thinking should be Emphasized

"Education with inert ideas is not only useless; it is, above all things, harmful..."

Alfred North Whitehead

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"The Master said, He who learns but does not think, is lost. He who thinks but does not learn is in great danger!"

Confucius

“Αυτός που μαθαίνει αλλά δε σκέπτεται έχει χαθεί. Αυτός που σκέπτεται αλλά δε μαθαίνει κινδυνεύει!”

Κομφούκιος
β-adrenergic Receptors

RESPONSE TO AGONIST

ACTIVE RECEPTOR

RESTING CELL

AGONIST (ISOPROTERENOL)

PHYSIOLOGIC RESPONSE

↑ Heart Rate

↑ Contractility
The Quality of Medical Care for an Individual Patient is Related to the Clinician’s Decision and Action

DECISION
(What to do)

ACTION
(How to do)
From the Disease to the Individual Patient
Do not lose contact with the patient.
Diagnostic Process - Self Assessment

- History
- Physical Examination

  - Initial Impression
    - ECG, X-rays, Other
      - Support Initial Impression
      - Do Not Support Initial Impression

      - Impression Based on Previous Evaluation
        - Other Diagnostic Studies
          - Support Initial Impression
          - Do Not Support Initial Impression

            - Impression Based on Previous Evaluation
              - Support Initial Impression
              - Do Not Support Initial Impression

                - Final Impression

                - Re-evaluation

                - Re-evaluation

                - Re-evaluation

Wooley CF, Sparks EA, Olsen S, Boudoulas H. A cardiovascular teaching laboratory; The master class in ambulatory teaching. *Hellt J Cardiol* 2008; 48: 7-16
Diogenes
How to Achieve Your Goal: A Mosaic Approach

- Accept your mistakes
- Dissimilarity is the rule
- Concentration
- Basic mechanisms in biology
- Knowledge, knowledge, knowledge...
- Patient should be at the center of each action
- What to do
  - Family history
  - Medical history
  - Medical ethic
- Laboratory

Basic mechanisms in biology
"Errare Humanum Est"

«Τούτον τον ιατρόν ισχυρώς επαινέσουσιν τον σμικρόν αμαρτάνοντα» Ιπποκράτης

«Το δις εξαμαρτείν ούκ ανδρός σοφού»
The Care of the Patient

"...the secret of the care of the patient is in caring for the patient."

Peabody, FW
“if a doctor’s life may not be a divine vocation, then no life is a vocation and nothing is divine”

Stephen Paget – Confessio Media
CONTINUOUS EDUCATION

Ο ΒΙΟΣ ΒΡΑΧΥΣ Η ΤΕΧΝΗ ΜΑΚΡΗ
Ιπποκράτης
The Evolution of Medicine and the Physician

Clinical Observation

Clinical Picture – Pathology Correlation

Pathophysiologic Mechanism (cardiac catheterization)

Biochemistry – Hematology Labs

Imaging Techniques

Genetics, Proteomics, Bioinformatics

Molecular Mechanisms, Systems Biology

21st Century Hippocrates
Metamorphosis of Diseases

- Certain Infectious Diseases
- Iatrogenic Diseases
- Life Expectancy
- New Diseases
- Atherosclerosis
The Continuous Evolution of Medicine and the Constant Role of the Physician

Continuous changing of diseases

Clinical Applications

Medical Technology

Medical Science

The Physician must follow the evolution of medicine
The Aims of Medical Education

Student-Teacher humanistic value

Hospital and medical school qualifications

Basic mechanisms; thinking, not memorizing

Action, what to do

Mosaic approach

Ethics

Continuous education; self-assessment

Application to individual patient; do not lose contact with the patient

Art-Science

Continuous education; self-assessment

Attention to detail; no disruptions or interruptions

Student-Teacher humanistic value
The Superior Physician
He is skeptical toward the data of his own profession, welcomes discoveries which upset his previous hypothesis, and still animated by human sympathy and understanding.

Alfred North Whitehead, *Dialoges* (Lucien Price) 1954