DOCTORING and New Approaches to Medical Education in the USA

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The UCLA Doctoring Program

UCLA's Doctoring Program

- 10 years old, with continuous evolution
- Single largest element of the curriculum
- Integrated, Longitudinal, Progressive
- Focus on key skills for a learner / for a humanistic physician

Topics Underrepresented in the Curriculum

- Ethics and law
- Health promotion and disease prevention
- Public health and community medicine
- Clinical decision-making
- Analysis of the medical literature
- Cost containment
- Continuity of care
- Domestic violence

UCLA's Doctoring Program

"Everything you need to know that they don't teach you in traditional individual classes or rotations"

Integrated throughout the curriculum:

don't "Learn it and Leave it"

Overview

- Why (needs assessment)
- What (content)
- How (process of change)
- How (process of the program itself)

Medicine 50-100 Years Ago

The Environment

- More “science” in the basic sciences than in clinical medicine
- Clinical “research” consisting of observation only
- No research *Methodology*
- Very few therapies

Medicine 50-100 Years Ago

The Environment: Choice of Therapies

- Drug tx often based on “folk” experience
- Invasive therapy limited by adverse effects
- Little ability to compare outcomes

Medicine 50-100 Years Ago

The Environment

- Very little new information
- Poor access to new information
- No critical analysis of new information

Medicine 50-100 Years Ago

Teaching Response

- Teach the basic sciences in great detail
- Learn at the feet of the master (imitate "expert" behavior)
- Memorize diseases / treatments
- Rely on personal experience for professional growth

The Archetypal Medical Student

- Intelligent
- Hard-working
- Academically successful
- Able to learn lots of new information
- Able to follow orders / behave as told

The Archetypal Medical Student

- No prior medical knowledge or skills
- Not chosen for ability to think independently
- Concerned about learning “efficiently”

Medical Education: Traditional Approach

Emphasis on Facts (Rote Learning)

- No prior knowledge on which to build
- A great deal to know (best sub-divided into “specialties”)
- Hard to access information independently
- Teachers = “experts” in fairly limited fields

Medical Education: Traditional Approach

- No learning theory
- No decision making theory
- No clinical epidemiology / EBM
- No way to “practice” without risk to patients
- In-grained tradition
- “Turf” considerations

Medical Education: Traditional Approach

Piecemeal "Specialty-based"

- Abdominal Pain is for Surgery
- Dyspnea is for Pulmonary …unless it's CHF
- Depression is for Psychiatry
- Perhaps there's an Ethicist, who does …?

Medical Education: Traditional Approach

Learn what a specialist knows

- **Anatomy:** all the branches of the inferior gastric artery
- **Microbiology:** the life cycle of diphyllobothrium lata
- **Pediatrics:** the classification of inborn errors of metabolism

Problems with the Traditional Approach

Facts are wrong: Entire New Sciences

- Osler's textbook … and Harrison's
- Clinical Immunology
- Genetics
- Endocrinology

Problems with the Traditional Approach

Diseases change

- **Common**
  - Tertiary syphilis
  - Rheumatic heart disease
  - Epiglottitis
  - Occult Bacteremia
  - Mastoiditis
- **Rare** (or non-existent)
  - AIDS / Opportunistic infections
  - Hepatitis C
  - Epiploic Appendagitis/ Deep Cerebral DVT
  - Penetrating trauma
  - Seat-belt injuries
  - OD

Problems with the Traditional Approach

Facts are wrong: Changing treatment

- Surgery
  - Lap chole / ...oscopy by internists/ lithotripsy/ non-surgical treatment of pediatric trauma
- Pharmacotherapy (masses of new drugs)

Problems with the Traditional Approach

Facts are wrong: pharmacotherapy

- NE for AMI
- Theophylline is great for asthma
- ß-aerosols are dangerous in asthma
- No ß-blockers in CHF

Problems with the Traditional Approach

Huge amount of new information

- Clinical Research
- Learning theory
- Decision making theory
- EBM

Where will we find room in the curriculum?

Problems with the Traditional Approach

New concerns

- Patient-centered care
- Outcomes research
- Ethics
- Diversity
- Cost effectiveness / Social concerns

Problems with the Traditional Approach

Bad teaching

- Too many lectures
- Too much hierarchy
- Few incentives for teaching
- Little or no training as an educator

Just because you know something…
doesn't make you a teacher

Problems with the Traditional Approach

Piecemeal approach

- Overlapping skills / knowledge (redundancy)
- Other skills / knowledge fall between the cracks
- Overlapping / interdependent problems in individual patients

Problems with the Traditional Approach

Piecemeal approach

- Overlapping / interdependent problems in individual patients
  - ENT cancer patient with sepsis
  - CAD patient with brittle DM
- "Call a consult …"

Problems with the Traditional Approach

Piecemeal approach

"Call a consult …" but what if (EM)

- **work-up of the multi-trauma patient**
- **"She can't hear" = ASA toxicity**
- **1-car MVA = TCA OD**
- **Stroke = Hypoglycemia**
- **Nausea = CO**
- **tension HA = suicidal depression**

Problems with the Traditional Approach

We lose skills

- if they are not practiced in everyday life
- if they are not reinforced in everyday life
- if we never see them modeled (or routinely see them devalued)

This is especially true re attitudinal skills

Nihon-no Igaku Kyo-iku

The Inui Report

- Passive learning / too many lectures
- Too little integration of basic and clinical science
- No systematic curriculum
- No training in teaching methods

Medical Education: New Approach

Emphasis on Skills, not Facts

- How to learn
- How to access information
- ** How to assess information critically (even new modern scientific information can be wrong)

Medical Education: New Approach

Life long learning

- **Enthusiasm**
- **Lasting skills (not transient facts)**
- **Self-teaching**
- **Peer-teaching**

Medical Education: New Approach

Humanistic traits

- **Interpersonal**
  - Patient-centered (POEs vs DOEs)
  - Shared decision making
- **Social**
  - Gender
  - Ethnicity
  - Cost
- **Cultural**
  - In society
  - Within medicine

Medical Education: New Approach

Ethics

- Vis-à-vis individual patients
  - Beneficence vs non-maleficence
  - Privacy
- Issues of Social Justice
- Re resuscitation
- Re research
- Professionalism / conflicts of interest

Medical Education: New Approach

- Integrative / Ongoing
- Learning what a doctor needs to know
- Critical thinking: There isn't one "truth"

Medical Education: New Approach

Tools: Active learning

- Problem-based
- Case-based
- SPs
- Computer-based Tools
  - Internet
  - Simulations
- Clinical Epidemiology

Medical Education: New Approach

Tools: Active learning

- Group learning
  - Reinforcement
  - Self assessment
  - “Where do I stand vis-a-vis my peers?”

Medical Education: New Approach

Tools: Don't forget the role of the teacher

- Knowledge / Experience / Wisdom
- Guidance / Direction
- Feedback pro and con
- Role model / Mentor

Teachers also need to be taught.

Medical Education: New Approach

Tools: Thinking out of the box

- Site visits
- Patient groups
- AA
- Street kids
- Homeless
- Debates

UCLA's New Curriculum

Principles: Integration

- Between the basic sciences and clinical medicine
- Early introduction to clinical skills
- Early introduction to clinical approaches

UCLA's New Curriculum

Principles: Integration

- Later return to basic sciences

Not merely a forgotten foundation, but something that can inform and enrich clinical thinking (pharmacology) and skills (functional anatomy)

UCLA's New Curriculum

Principles: Teaching for doctors - *not* for anatomists, nor for thoracic surgeons

- **We will do residencies**
- **We can go back if needed**
- **Evaluation by non-specialists**
- **Evaluation by students**

UCLA's New Curriculum

- Teaching how to learn
- Teaching critical thinking
- Continuous reinforcement

UCLA's Doctoring Program

- Longitudinal, over all 4 years
- Progressive
- The key skills for a learner / for a humanistic physician
  - "Everything you need that they don't teach you in traditional individual classes"
- Integrated throughout the curriculums:

  don't "Learn it and Leave it"