Medical Science Is Tentative: The Role of Research

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What Do I Know For Certain?
Do I really know what I think I know or have I just taken the beliefs and opinions of others?

Adayashanti
Science has finally figured out a way to create life out of nothing

- God is sitting in Heaven when a scientist says to Him, "Lord, we don't need you anymore. Science has finally figured out a way to create life out of nothing.
- "Oh, is that so? Tell me...," replies God.
- "Well," says the scientist, "we can take dirt and form it into the likeness of You and breathe life into it, thus creating man.
- "God says, "Well, that's interesting. Show Me."
- "So the scientist bends down to the earth and starts to mold the soil.
- "Oh no, no, no...," interrupts God. "Get your own dirt."
Medical Science Is Tentative

- Uncertain
- Conditional
- Contingent on or dependent on other things
“If we knew what we were doing, it wouldn't be called research. ”

- Einstein
Why Research?

• Evaluate new approaches to improving health & health care systems

• To Improve the HEALTH of our Community
Definition: Health

- Health, from the Anglo-Saxon word “hale” meaning “whole”
  - The English “holy” is based on the root “whole”
  - Health = Whole = Holy
  - Condition of being sound in body, mind, or spirit
Medical Science Is Tentative

**Imhotep (2655-2600 BC)**
- Considered the founder of medicine
- Author of the medical text, the Edwin Smith papyrus - contains anatomical observations, ailments, physical exams, treatments, and prognosis

**Hippocrates (460 BC- 370 BC)**
- Referred to as the father of Western medicine
- Established medicine as a discipline and profession distinct from other fields

**Sir William Osler, M.D., (1849 –1919)**
- Possibly the greatest icon of modern medicine.
- His text “The Principles and Practice of Medicine” – focus on history & physical exam
It is much more important to know what sort of a patient has a disease, than what sort of disease a patient has.

-William Osler
How Tentative Is Medical Science

CPR: As Easy As A- B- C

- Cardiopulmonary Resuscitation: Easy As A- B- C
- Airway
- Breathing
- Circulation

American Heart Association 2005

American Heart Association 2010
How Tentative Is Medical Science - Diabetes
Four humors of Hippocratic medicine: black bile, yellow bile, phlegm, and blood.
The First Documented Case of Cancer

• The oldest documented case of cancer is from ancient Egypt (1500 bc). A papyrus documented 8 cases of tumors occurring on the breast.

• Hippocrates believed that an excess of black bile in any given site in the body caused cancer. This was the general thought of the cause of cancer for the next 1400 years.
Even Breast Cancer Screening is Tentative

• U.S. Preventive Services Task Force mammogram not needed until age 50
  – (Nov 2009)

• Two recent studies showed screening for Breast Cancer at age 40 reduces mortality by 10-26%.
  – (September 2010)

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The Field of Cancer is also Tentative

Art or Practice  Research  Science
What is Research?

Any systematic investigation, including research development, testing and evaluation, designed to develop or contribute to knowledge.

Search and search again – “re-search”
Common Types of Research

• Quality of Life
• Screening
• Prevention
• Treatment

• Observational
  – many people are not aware of this
• Interventional
Examples of Results from Different Types of Research?

- Seatbelts
- Parachutes
- Penicillin
- Aspirin
- Cancer Prevention
- Cancer Treatments
Summary

- Medical Science Is Tentative
- Life Is Tentative
- Research helps to make it less tentative
- Research help us understand Cancer
Thank You

• Cancer Specialists

• Community Leaders

• Cancer Patients and Their Families
When you have exhausted all possibilities,

Remember this...you haven't.

- Author Unknown