

Philosophy and Practice of Ancient Egyptian Medicine

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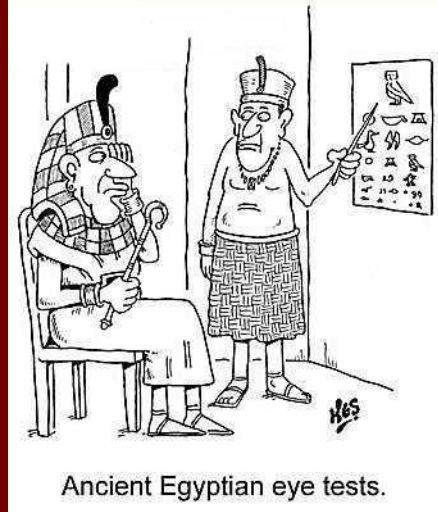
Egyptian Culture

- Civilization far exceeded that of other groups who settled elsewhere
- More is known about Egypt than any other ancient culture
- Egyptian society was held together by an absolute monarchy



Ancient Writing

- Hieroglyphics



Ancient Writing

- Hieroglyphics
 - Carved in stone or written on paper scrolls called papyri



Immortality



Immortality



Book of the Dead

Mummies



Mummies

- Preserved by dessication
- Powdered natron packed into body cavities
- Heart and kidneys left in place
- Other internal organs removed and placed in jars or wrapped separately



Medical Examination of Mummies

- Autopsy



Medical Examination of Mummies

- Autopsy
- X-rays



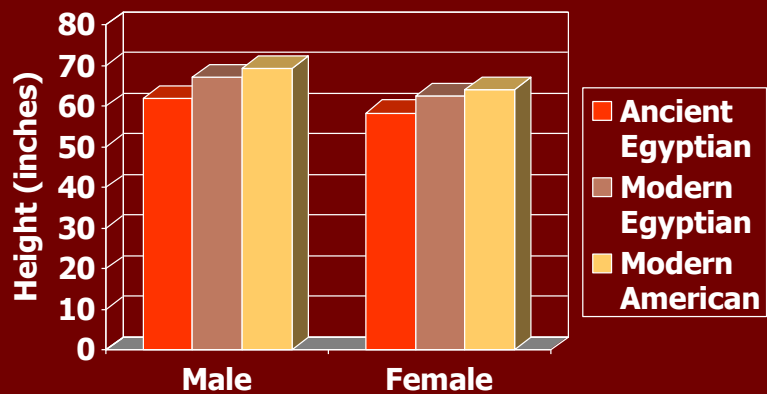
Medical Examination of Mummies

- Autopsy
- X-rays
- CT scans



Growth

Average Adult Height



Life Expectancy

- Average age of marriage was 15-20 years for men and 12-13 years for women
- Half of Egyptians died by age 34
- 90% died by age 50
- Ramses II lived to be 92 years old

Diseases Found in Mummies

- Heart
 - Pericarditis
 - Atherosclerosis
- Lungs
 - Emphysema
 - Pneumoconiosis
 - Pneumonia
 - Tuberculosis

Diseases Found in Mummies

- Kidneys
 - Kidney stones
 - Glomerulosclerosis
- Digestive system
 - Tapeworm, including guinea worm
- Bone
 - Osteoarthritis
 - Evidence of violent deaths
- Brain
 - Stroke
- Few cases of cancer

Dental Medicine

- Few dental caries
- Extreme wear on the crowns
- Dental bridge attached by gold wire



Egyptian Healers

- Theurgic or upper class
 - Priests
 - Practiced rituals and magic
 - Called on the gods
 - Interpretation of dreams

- Inferior class
 - Physicians (swnw)
 - Used natural means of healing



Egyptian Healers

- Lowest ranks
 - Bandagers
 - Trainees
 - Both were managed by physicians

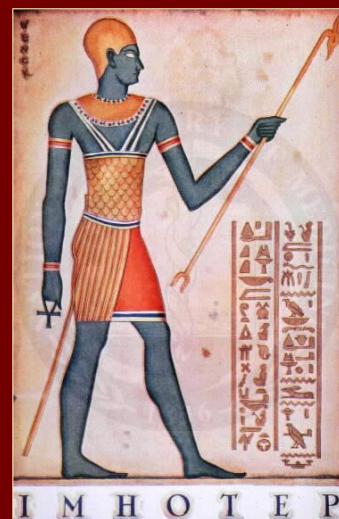


Dualism

- First step in the transition from magical to rational
- Causes of illness
 - Displeasure of the gods
 - Natural causes

Imhotep

- First physician known to history
- Born around 2650 BC in Memphis
- Served the pharaoh Djoser (2630 - 2611 BC)



Imhotep

- Built Egypt's first pyramid



Step Pyramid at Sakkara

Imhotep

- Built Egypt's first pyramid
- After his death, he was elevated to Egyptian God of Medicine



Imhotep

- Built Egypt's first pyramid
- After his death, he was elevated to Egyptian God of Medicine
- Commemorated in 1928 Egyptian postage stamp



Female Physicians

- Peseshet was the earliest known female physician – “Overseer of the female physicians”
- More than 100 prominent female physicians in Egypt



Peseshet

Anatomy and Physiology

- Embalming provided opportunities to study the internal organs
- The heart was the most important organ
 - Seat of intelligence and emotion
- The brain was not seen to be of any importance

Anatomy and Physiology

- Air was recognized as vital to life
 - Air passed through the trachea to the heart and lungs
 - Then traveled in the blood to other organs through vessels called metu
 - Secondary metu led to the surface of the body, releasing sweat, tears, semen, and urine

Anatomy and Physiology

- Disease was transported as a foul substance, ukhedu, to various organs
- The goal of healing was to expel the ukhedu in the feces
- Pus was ukhedu attempting to escape from the body, so drainage of pus was encouraged

Anatomy and Physiology

- Buildup of ukhedu in the organs led to decay of the flesh (aging)
- Laxatives were taken routinely to prevent ukhedu from building up

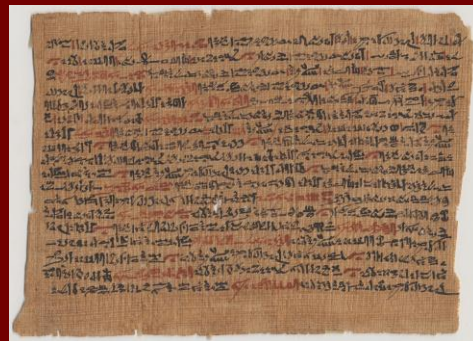
Healing Arts

- Kahun papyrus (1800 BC)
 - Oldest known medical papyrus
 - Gynecological diseases and pregnancy



Healing Arts

- Hearst papyrus (2000 BC)
 - Magical remedies
 - Doubts as to its authenticity



Healing Arts

- Belief in the supernatural
- Temples were places of healing



Edfu Temple

Healing Arts

- Isis (Mother Earth) and Osiris (Sun God) created agriculture and the medical arts
- Horus had healing powers and the gift of prophecy



Horus standing on a crocodile

Amulets



Hand and Foot



Hearts



Hippopotamus



Scarab Beetles



Tawaret



Nephthysis, Horus, Isis

Surgery

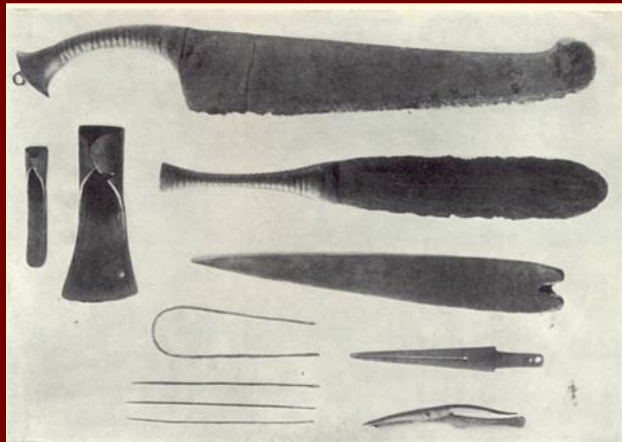
- Edwin Smith papyrus (1600 BC)
 - Rational scientific approach to medicine
 - Surgical practice arranged according to general parts of the body



Surgery

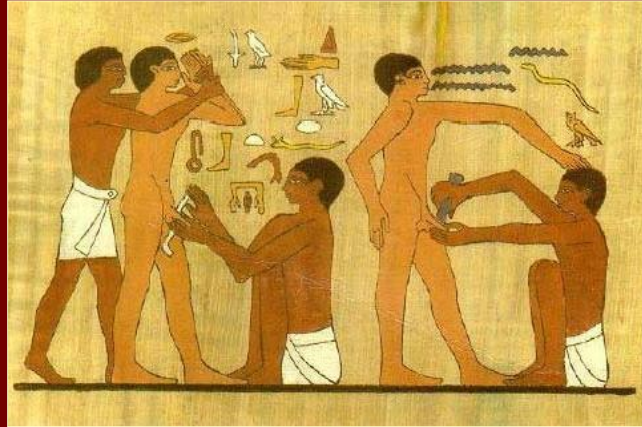


Surgery



Surgery

- Circumcision



Surgery

- Circumcision
- Repair of wounds
 - Splinting
 - Stitching
 - Bandaging
- Prosthetics



Obstetrics and Gynecology

- Diseases of the female reproductive tract
- Fertility aids
- Contraceptives
 - Drink a mixture of beer, celery, and oil
 - Apply substances to vagina to increase acidity
 - Crocodile dung and sour milk
- Pregnancy tests
- Sagging breasts

Obstetrics and Gynecology

- Childbirth
 - Birthing stool made of bricks
 - Midwives
- Mothers typically nursed for 3 years
 - Natural birth control
 - Averaged 4 children



Medicinal Remedies



Medicinal Remedies

- Ebers papyrus (1550 BC)
 - Oldest complete medical book in the world
 - 110 pages
 - 700 magical formulas and remedies



Medicinal Remedies

- Prescriptions included:
 - Name and amount of the ingredients
 - Directions for preparing the medicine
 - Instructions for taking the medicine

- Routes of administration
 - Ointments applied topically
 - Oral medications

Medicinal Remedies

- Common solvents
 - Water
 - Honey
 - Beer
 - Vegetable oils
 - Animal fats

Medicinal Remedies

■ “Active” ingredients

– Djaret

- Untranslated plant material
- Diarrhea, eye problems



Boswellia sacra

– Frankincense

- Aromatic resin from *Boswellia*
- Pain in the head or limbs



Frankincense

Medicinal Remedies

■ “Active” ingredients

– Castor bean plant (ricinus)

- Laxative
- Topical



Castor beans



Ricinus

Medicinal Remedies

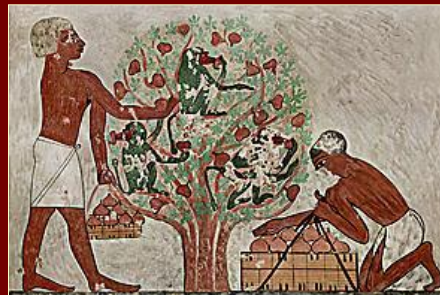
- “Active” ingredients
 - Castor bean plant (ricinus)
 - Laxative
 - Topical

 - Aloe
 - Eye problems
 - Immortality



Medicinal Remedies

- “Active” ingredients
 - Figs
 - Abdominal pains
 - Urinary disorders
 - Hippopotamus bites



Medicinal Remedies

■ “Active” ingredients

- Figs
 - Abdominal pains
 - Urinary disorders
 - Hippopotamus bites

- Colocynth
 - Strong laxative
 - Abortifacient



Citrullus colocynthis

Medicinal Remedies

■ Derived from animals

- Stallion semen to restore sexual drive
- Raven blood to treat hair problems
- Fish skulls for headache
- Pig eyes for blindness

Medicinal Remedies

- Malachite (copper salt)
 - Green eye shadow
 - Used only topically (antibacterial)
 - Malachite jewelry protected from epidemics



Medical Advice

- "Do not slight a small illness for which there is a remedy; use the remedy."
- "Do not say 'My illness has passed, I will not use medication.'"
- "A remedy is effective only through the hand of its physician."

Medical Advice

- "A timely remedy is to prevent illness by having the greatness of the god in your heart."
- "Do not be despondent when you are ill; your death is not made yet."
- "Do not pamper yourself when you are young, lest you be weak when you are old."

Resources

- Brier, B., and Hobbs, H. Daily Life of the Ancient Egyptians. Greenwood Press, Westport, CT, 1999.
- M.P. Donahue. Nursing: The Finest Art: An Illustrated History, 3rd ed. Mosby Elsevier, Maryland Heights, MO, 2011.
- J. Worth Estes. The Medical Skills of Ancient Egypt. Watson, Canton, MA, 1989.