

---

derived their extensive knowledge of anatomy from various sources, namely: **Greek Books on Animal Dissection, Egyptian Embalment and Taxidermy** (Egyptian Mummies were known to Arab anatomists), **Careful observations of Anatomical Structures and Skeletons of dead bodies in starvations and accidents at the time of peace, Observation of underlying structures during Surgical treatment of wounds at the time of wars, and Dissection of pregnant mothers to extract living foeti.** However, **Human dissection of dead bodies** was a reality.

The fact that most surgeons, who were also the private doctors of the Caliphs, were vocal about the need for dissection as a prerequisite for surgical practice can only indicate that dissection was carried out publically or secretly but with implicit blessing of the Caliphs themselves. Indeed, anatomy and dissection were extensively covered in Avicenna's "Al Canon" and Haly's "Liber Regius" with unprecedented description, including many discoveries and pioneering works. Furthermore, there had never been a single reported incidence in history to indicate that one Muslim doctor was punished for snatching a dead body or dissecting a cadaver, though reports on mal-practices were documented thoroughly. Consecutively, there must have been some precautions laid down for such a deadly mission. These may include cadaveric dissection of unbelievers (kaffirs) who died after being captured or during fighting. Dissection of Human feti was performed on a large scale. Dead bodies of insane Muslims with no relative to claim them, may have also been considered. Ibn Al Nafis was certainly a genuine anatomist; he vehemently attacked Galen's and Avicenna's concept of invisible interventricular pores of the heart, because dissection (as he said), refuted the presence of such pores; he also discovered coronary blood vessels and pulmonary circulation. Avicenna's comments on optic chiasma and extraocular muscles were unprecedented and could only indicate a pioneering work based on his personal dissection of human bodies. Arabs left indelible imprints on Anatomical terms such as **nucha** (from Arabic nucha'a, pertaining to spinal cord), **saphinous** (from Arabic safin, the conspicuous), **cephalic** and **basilic** veins (from Arabic al bazili, the draining and al kafili, the sponsoring), **colon** (from Arabic al colon), **cornea** (from Arabic carania, the hardened layer), and **ass** (from Arabic asst, the tail-end).

#### Infection/Anti-sepsis and Drugs

Arabs raised the dignity of the medical profession from that of a menial calling to one of the learned professions. They developed the science of **Chemistry as applied to Medicine**; they established **Hospitals** in the principal cities. The herbal *De Materia Medica of Dioscorides* (1st century A.D.) was studied closely. New medications, including mineral, vegetable as well as animal substances were added to make up a voluminous Arabist materia medica. They introduced a number of new drugs for pre- and post-operative treatment and innovated many pharmacological methods, such as **making drugs into tablets, syrups and paste.** They discovered and used **soap** (from Arabic sapon), **alcohol** (from Arabic alghol, a liquor used for skin cleansing), **alkali, sherbet, borax** (from Arabic borac), **elixir** (from Arabic exeer, a rejuvenating essence), **talc** (from Arabic talq, a body powder), **coffee, sugar, candy, amber, ambergris, saffron,** and **odour** (from Arabic ottor, a perfume). They did not only invent the **apothecary** or **pharmacy**, but developed a number of new vehicles including **syrups** (from Arabic sharab, a sweetened medicine), **juleps** (from Arabic jallab, the attractive after adding rose water), the use of **tragacanth** as a demulcent, and many other concoctions of the apothecary. They also promoted the use of **camphor** (from Arabic kafoor, used for smell, massage, and sexual suppression), **cassia, cloves, mercury, myrrh** and **senna** in hospital practice. Furthermore, they manufactured special **cabinets for drug storage and safekeeping.** Indeed the word **drug** derives its etymology from the Arabic word (deriaq or teriaq). Furthermore, Arabs invented the **Arabic numerals** which replaced the cumbersome Roman numerals; they invented the **zero** (from Arabic cipher) and the **naught** (from Arabic nogta) thus introducing mathematical fractionation and decimal concept (i.e. units, tens, hundreds, and thousands) in the numbering system. Arabic numbering system had facilitated doctors' communication on drug dosage and orientation for space and time. Islam prevents the mixing of a diseased (infected) patient with a non-diseased; it instructs its followers to run from lepomatous patients the way they run from the lion; it also advised not to enter or leave a plague-endemic area, thus introducing the quarantine principle in the control of infectious diseases. In fact, when Rhazes came to Baghdad, he was chosen by the Caliph (out of 100 doctors) to be the