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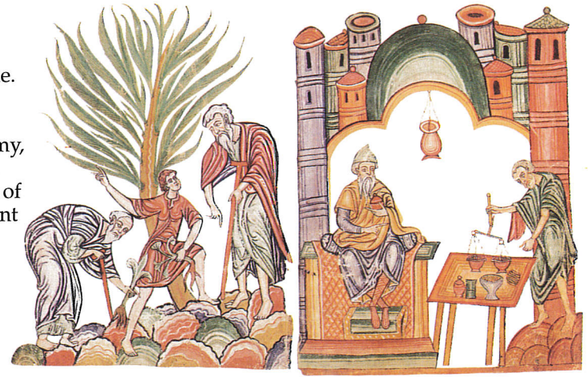
Title page of the *Canon of Medicine*

Medicine

Early Islamic medicine was very sophisticated for its time. Doctors knew a great deal about the diagnosis and treatment of diseases, anatomy, childcare, public health, and even psychiatry – and much of this knowledge is still relevant today. Medicine was also well taught, with students traveling thousands of miles to study at famous centers such as Baghdad's 'Adudi hospital.



CANON OF MEDICINE
The most famous book by scholar Ibn Sina (p. 24) is the *Canon of Medicine*. Ibn Sina based much of this book on the writings of ancient Greek physicians. A huge work, it covers such basic subjects as anatomy and hygiene, describes a vast range of diseases and injuries, and lists hundreds of different medicines.

THE ART OF THE PHARMACIST
The Islamic world produced the first skilled, specially trained pharmacists, who made their own medicines and worked closely with physicians. By the early ninth century, privately owned pharmacies were opening in Baghdad, where a flourishing trade with Asia and Africa provided a variety of medicinal herbs and spices. Pharmacies were soon appearing in other cities.

Ivory handle decorated with a lion head motif

Metal handle decorated with a ram's head

Eighteenth-century surgical knives

Pointed blade for piercing and then cutting the skin

UNDER THE KNIFE
The great 10th-century surgeon az-Zahrawi, from Islamic Spain, wrote a book describing techniques such as treating wounds, setting bones, and removing arrows. Not all these operations were painful because Muslim surgeons were the first to use painkillers. Az-Zahrawi designed many types of surgical instruments and similar ones were used for hundreds of years.

Blade folds into handle for safety.

Scalpel

Scissors

Folding handles

BLOODLETTING
Like the ancient Greeks, Muslim physicians believed that bleeding a patient could cure many diseases. Although this practice seems crude today, the early Islamic doctors knew a great deal about blood and how it traveled around the body. One 13th-century Egyptian writer, Ibn an-Nafis, wrote about the circulation of blood, some 400 years before this was "discovered" in Europe.

HERBAL MEDICINE
The ancient Greek surgeon Dioscorides wrote a famous herbal encyclopedia that was translated into Arabic. Its five books describe all kinds of herbs, spices, roots, juices, and seeds that were used to make medicines and other preparations. This page from a 10th-century Arabic version of Dioscorides shows henna, a plant used widely in the Arab world as a dye.

IN STORAGE
Many medicines were made with fresh herbs, but these could not always be found all year round. Herbalists therefore dried leaves, seeds, and other plant parts, so that they were available for use at any time of the year. Herbs were stored in glass or pottery jars, and these were usually sealed with a cork or stopper.

Dark color to keep out light

Pottery storage jars

Vessel has rounded bottom to aid mixing

Mortar and pestle

WELL-PREPARED
Pharmacists and physicians often prepared medicines by grinding the ingredients together using a mortar and pestle. They made their preparations carefully, often following a standard textbook such as the 11th-century al-Aqrabadhin, which describes many different medications.

Mathematics

Modern mathematics was made possible by Islamic scholars. This was because Muslim mathematicians in Baghdad gathered ideas from both ancient Greece and India, as well as adding contributions of their own. In addition to studying subjects such as arithmetic and geometry, they also founded the science of algebra – a word that comes from the Arabic *al-jabr*, a term describing a method of solving equations.

ARABIC NUMBERS
The numbers we use today began life in India. The Indians used place-value (which gives a value to a number according to its position) and the zero, which was unknown in the West. These ideas, which made arithmetic much easier than before, were in use in India in the 6th century. They were taken up by Muslims by the 9th century and probably passed to Europe in a 12th-century translation of an Arabic book on mathematics.