

# The Life of Moses Maimonides, a Prominent Medieval Physician

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## ABSTRACT

**Moses Maimonides was the most prominent Jewish medieval physician. His 10 medical treatises, all now available in English translation, show his humanism as a physician and emphasis on preventive medicine. In these works, one can see his treatment of the whole ill patient (i.e., body and mind or psyche and soma) and how that allowed him to be both a practicing physician and teacher. His medical writings confirm his knowledge of Greek and Persian as well as contemporary medieval medicine. His descriptions of many diseases such as hepatitis, pneumonia, diabetes, asthma, and many others are remarkably modern by current standards. His legacy as a physician, theologian, philosopher, and astronomer lives on for posterity. He was a physician of whom modern medicine would be proud if he were alive today.**

## MAIMONIDES' LIFE

Moses Maimonides was born in Cordova, Spain, on March 30, 1138. It was the eve of the Passover Holiday. He is called Rambam according to the Hebrew acronym of his name Moses son of Maimon. He is known to the secular world by his Greek name Maimonides, the suffix "-ides" meaning "son of." Persecution by the Almohades, a fanatical Islamic sect from North Africa, forced the Maimon family to flee Cordova in the year 1148. The family wandered through southern Spain and northern Africa for the next 10 years and finally settled in Fez, Morocco.

Little is known of Maimonides' early life and medical education. He must have been an avid reader, since his medical writings show a profound knowledge of ancient Greek authors in Arabic translation and of Muslim medical works. Hippocrates, Galen, and Aristotle were some of his Greek medical inspirations, while Rhazes of Persia, al-Farabi, and Ibn Zuhr, the Spanish-Arabic physician, were some of his Muslim authors frequently quoted by Maimonides.

The Maimon family left Morocco in 1165, traveled to Palestine, landing in Acco, and from there to Egypt, where they settled in Fostat (Old Cairo). After the death of his father in 1166 and the death of his brother in a shipwreck shortly thereafter, Maimonides was left with his brother's wife and child to support. Yet, only after

another year of illness following his brother's death did he enter into the practice of medicine as a livelihood. He was appointed court physician to Vizier al-Fadil, regent of Egypt during the absence of the sultan, Saladin the Great, who was fighting in the Crusades in Palestine. It was at this time that Richard the Lion-Hearted, also fighting in the Crusades, is reported to have invited Maimonides to become his personal physician, an offer that Maimonides declined. His reputation as a physician grew in Egypt and neighboring countries, and his fame as a theologian and philosopher became world-renown.

In 1193, Saladin died and his eldest son, al-Afdal Nur al-Din Ali, a playboy, succeeded him. As a result, Maimonides' medical duties became even heavier, as described in the famous letter he wrote to his friend, disciple, and translator, Rabbi Samuel ibn Tibbon, in the year 1199:

My duties to the Sultan are very heavy. I am obliged to visit him every day, early in the morning, and when he or any of his children or concubines are indisposed, I cannot leave Cairo but must stay during most of the day in the palace. It also frequently happens that one or two of the officers fall sick and I must attend to their healing. Hence, as a rule, every day, early in the morning, I go to Cairo and, even if nothing unusual happens there, I do not return to Fostat until the afternoon. Then I am famished but I find the antechambers filled with people, both Jews and Gentiles, nobles and common people, judges and policemen, friends and enemies – a mixed multitude who await the time of my return.

I dismount from my animal, wash my hands, go forth to my patients, and entreat them to bear with me while I partake of some light refreshment, the only meal I eat in twenty-four hours. Then I go to attend to my patients and write prescriptions and directions for their ailments. Patients go in and out until nightfall, and sometimes, even as the Torah is my faith, until two hours and more into the night. I converse with them and prescribe for them even while lying down from sheer fatigue. When night falls, I am so exhausted that I can hardly speak (Rosner, 1998b).

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Maimonides was also the spiritual leader of the Egyptian Jewish community. At age 33, in the year 1168, shortly after settling in Fostat, he completed his first major work, *Commentary on the Mishnah*. In 1178, 10 years later, his magnum opus, *Mishneh Torah*, was finished. This monumental work is a 14-book compilation of all biblical and talmudic law and remains a classic to this day. In 1190, Maimonides' great philosophical masterpiece, *Guide for the Perplexed*, was completed.

Maimonides died on December 13, 1204, and was buried in Tiberias. Legend relates that Maimonides' body was placed upon a donkey and the animal set loose. The donkey wandered and wandered until it finally stopped in Tiberias, and that is the site where the great Maimonides was buried.

### MAIMONIDES' WRITINGS

Maimonides was a prolific writer. We have already mentioned his famous trilogy: *Commentary on the Mishnah*, *Mishneh Torah*, and *Guide for the Perplexed*. Each of these works alone would have indelibly recorded Maimonides' name for posterity. However, in addition to these, he also wrote a *Book on Logic* (Ma'amar ha'Higayon), a *Book of Commandments* (Sefer ha-Mitzvot), an *Epistle to Yemen* (Iggeret Teman), a *Treatise on Resurrection* (Ma'amar Techiyat ha-Metim), commentaries on several tractates of the Talmud, and over six hundred responsa. Several additional works, including the so-called Prayer of Maimonides, are attributed to him but are, in fact, spurious, the prayer having been written in 1783 by Marcus Herz in Germany (Rosner, 1967).

Over and above all these books, Maimonides also wrote 10 medical works. The first is called *Extracts from Galen or The Art of Cure* (Barzel, 1992). Galen's medical writings consist of over 100 books and required 2 volumes just to catalogue and index them all. Maimonides therefore extracted what he considered the most important of Galen's pronouncements and compiled them verbatim in a small work intended primarily for the use of medical students. This work, like all of Maimonides' medical books, was originally written in Arabic.

The second of Maimonides' medical writings is the *Commentary on the Aphorisms of Hippocrates*. In this work, Maimonides occasionally criticizes both Hippocrates and Galen where either of these Greeks differs from his own views. For example, in chapter five, Hippocrates is quoted as having said, "A boy is born from the right ovary, a girl from the left," to which Maimonides remarks, "A man would have to be either prophet or genius to know this" (Rosner, 1987).

The third of Maimonides' medical works, the most voluminous of all, is the *Medical Aphorisms of Moses* (Pirkei Moshe). This book comprises 1500 aphorisms based

mainly on Greco-Persian medical writers. There are 25 chapters, each dealing with a different area of medicine, including anatomy, physiology, pathology, symptomatology and diagnosis, etiology of disease and therapeutics, fevers, bloodletting, laxatives and emetics, surgery, gynecology, hygiene, bathing, diet, drugs, and medical curiosities.

A few excerpts from this most important work will give the reader the flavor of Maimonidean medical thinking. Maimonides speaks of cerebrovascular disease: "One can prognosticate regarding a stroke, called apoplexy. If the attack is severe, he will certainly die but if it is minor, then cure is possible, though difficult...the worst situation that can occur following a stroke is the complete irreversible suppression of respiration" (Rosner, 1989). Maimonides explains that diabetes mellitus was seldom seen in cold Europe whereas it was frequently encountered in warm Africa. He also reports this disease to be associated with the imbibition of suave water of the Nile (Maimonides lived in Fostat). Clubbing of the fingers associated with pulmonary disease, already described by Hippocrates, is beautifully depicted: "With an illness affecting the lungs called hasal, namely phthisis, there develops rounding of the nail as a rainbow" (Rosner, 1989). The signs and symptoms of pneumonia are remarkably accurately described: "The basic symptoms which occur in pneumonia and which are never lacking are as follows: acute fever, sticking [pleuritic] pain in the side, short rapid breaths, serrated pulse and cough, mostly [associated] with sputum" (Rosner, 1989). Hepatitis is just as beautifully described: "The signs of liver inflammation are eight in number as follows: high fever, thirst, complete anorexia, a tongue which is initially red and then turns black, biliary vomitus, initially yellow egg yolk in color which later turns dark green, pain on the right side which ascends up to the clavicle.... Occasionally a mild cough may occur and a sensation of heaviness which is first felt on the right side and then spreads widely" (Rosner, 1989).

The fourth of Maimonides' medical writings is his *Treatise on Hemorrhoids* (Rosner, 1984a). This work was written for a nobleman, as Maimonides says in the introduction—probably a member of the sultan's family. There are seven chapters dealing with normal digestion, foods harmful to patients with hemorrhoids, beneficial foods, as well as general and local therapeutic measures, such as sitz baths, oils, and fumigations. Maimonides disapproves of bloodletting or surgery for hemorrhoids except in very severe cases. Here Maimonides provides an insight into the etiology of disease in general, in that he regards operative excision of hemorrhoids with skepticism, because surgery does not remove the underlying causes that produced the hemorrhoids in the first place.

The fifth work is Maimonides' *Treatise on Cohabitation* (Rosner, 1984a), written for the nephew of Saladin, Sultan al-Muzaffar Umar ibn Nur Al-Din. The sultan

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indulged heavily in sexual activity and asked Maimonides, his physician, to aid him to increase his sexual potency. The work consists mainly of recipes of foods and drugs, which are either aphrodisiac or anti-aphrodisiac in their actions. Maimonides advises moderation in sexual intercourse and describes the physiology of sexual temperaments.

The sixth medical book of Moses Maimonides is his *Treatise on Asthma*. The patient for whom this book was written suffered from violent headaches that prevented him from wearing a turban. The patient's symptoms began with a common cold, especially in the rainy season, forcing him to gasp for air until phlegm was expelled. The patient asked whether a change of climate might be beneficial. Maimonides, in 13 chapters, explained the rules of diet and climate in general and those rules specifically suited for asthmatics. He outlined the recipes of food and drugs and described the various climates of the Middle East. He stated that the dry Egyptian climate was efficacious for sufferers from this disease and warned against the use of very powerful remedies.

The last chapter of this work deals with concise admonitions and aphorisms, which Maimonides considered "useful to any many desirous of preserving his health and administering to the sick" (Rosner, 1994). The chapter begins as follows: "The first thing to consider... is the provision of fresh air, clean water, and a healthy diet" (Rosner, 1994). Fresh air is described in some detail: "City air is stagnant, turbid, and thick, the natural result of its big buildings, narrow streets, the refuse of its inhabitants...one should at least choose for a residence a wide-open site...living quarters are best located on an upper floor...and ample sunshine.... Toilets should be located as far as possible from living rooms. The air should be kept dry at all times by sweet scents, fumigation, and drying agents. The concern for clean air is the foremost rule in preserving the health of body and soul" (Rosner, 1994). Here are Maimonides' prophetic statements more than 800 years ago about air pollution.

The seventh medical work of Maimonides is his *Treatise on Poisons and Their Antidotes*. It is one of the most interesting and popular works, because it is very scientific and modern in its approach and was, therefore, used as a textbook of toxicology throughout the Middle Ages. The book was written at the request of Maimonides' noble protector, the grand vizier and supreme judge al-Fadil, who asked Maimonides to write a treatise on poisons for the layman by which to be guided before the arrival of a physician. Maimonides makes the following recommendations for the treatment of a snakebite:

When someone is bitten, immediate care should be taken to tie the spot above the wound as fast as possible to prevent the poison from spreading throughout the body; in the mean-

time, another person should make cuts with a lancet directly above the wound, suck vigorously with his mouth, and spit it out. Before doing that, it is advisable to disinfect the mouth with olive oil, or with spirit in oil.... Take care that the sucking person has no wound in his mouth, or rotten teeth...should there be no person available to do the sucking, apply cupping – glasses, with or without fire; the heated ones have a much better effect because they combine the advantages of sucking and cauterizing at the same time.... Then apply the great theriac.... Apply some medicine to the wound that will draw the poison out of the body (Rosner, 1984a).

The eighth book is the *Regimen of Health* (*Regimen Sanitatis*), which Maimonides wrote in 1198 during the first year of the reign of Sultan al-Malik al-Afdal, eldest son of Saladin the Great. The sultan was a frivolous and pleasure-seeking man of 30, subject to fits of melancholy or depression due to his excessive indulgence in wine and women and his warlike adventures against his own relatives and in the Crusades. He complained to Maimonides his physician of constipation, dejection, bad thoughts, and indigestion. Maimonides gives advice on hygiene, diet, and drugs in the absence of a physician. The extremely important third chapter contains Maimonides' concept of "a healthy mind in a healthy body" (Rosner, 1990), one of the earliest descriptions of psychosomatic medicine. He indicates that the physical well being of a person is dependent on his mental well being, and vice versa. The final chapter summarizes his prescriptions relating to climate, domicile, occupation, bathing, sex, wine drinking, diet, and respiratory infections.

The ninth medical writing of Maimonides is the *Discourse on the Explanation of Fits* (Rosner, 1990). This work is sometimes considered to represent chapter five of the *Regimen of Health*. The sultan persisted in his overindulgences and wrote to Maimonides, who was himself ill, asking advice about his health. Maimonides confirms most of the prescriptions of the sultan's other physicians regarding wine, laxatives, bathing, exercise, and the like, and, near the end, gives a very detailed hour-by-hour regimen for the daily life of the sultan.

The final authentic medical book of Maimonides is the *Glossary of Drug Names* (Rosner, 1992). This work was discovered by Max Meyerhof, an ophthalmologist in Egypt, in the Aya Sofia library in Istanbul, Turkey, as Arabic manuscript number 3711. The work is essentially a pharmacopoeia and consists of 405 short paragraphs containing names of drugs in Arabic, Greek, Syrian, Persian, Berber, and Spanish.

To summarize the medical legacy of Moses Maimonides, one can say that his medical writings are varied, comprising extracts from Greek medicine, a series of

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monographs on health in general and several diseases in particular, and a more recently discovered pharmacopoeia demonstrating Maimonides' extensive knowledge of Arabic medical literature and his familiarity with several languages. Some people feel that Maimonides' medical writings are not as original as his theological and philosophical writings. However, his medical works demonstrate the same lucidity, conciseness, and formidable powers of systematization and organization so characteristic of all his writings. The *Book on Poisons, Regimen of Health, and Medical Aphorisms of Maimonides* became classics in their fields during medieval times. The many medical pronouncements in Maimonides' legal code have been compiled in a book entitled *Medicine in the Mishneh Torah of Maimonides* (Rosner, 1984b). The entire corpus of Maimonidean medical scholarship is captured in *The Medical Encyclopedia of Moses Maimonides* (Rosner, 1998a) and *The Medieval Legacy of Moses Maimonides* (Rosner, 1998b).

CONCLUSION

I would like to conclude by citing a paragraph from my first paper on Maimonides.

Maimonides died on December 13<sup>th</sup> 1204 and was buried in Tiberias, Israel. The Christian, Moslem and Jewish worlds mourned him. His literary ability was incredible and his knowledge encyclopedic. He mastered nearly everything known in the fields of theology, mathematics, law, philosophy, astro-nomy, ethics, and, of course, medicine. As a physician, he treated disease by the scientific [as opposed to the empiric and/or popular] method, not by guesswork, superstition, or rule of thumb. His attitude towards the practice of medicine came from his deep religious background, which made the preservation of health and life a divine commandment. His inspiration lives on through the years and his position as one of the medical giants of history is indelibly recorded. He was physician to Sultans and Princes, and as Sir William Osler said, "He was Prince of Physicians." The heritage of his great medical writings is being more and more appreciated. To the Jewish people he symbolized the highest spiritual and intellectual achievement of man on this earth; as so aptly stated, "From [the biblical] Moses to

Moses [Maimonides] there never arose a man like Moses," and none has since (Rosner, 1965).

The reader can find ample material and evidence to support the enormous significance and contributions to medicine of the medieval giant of Judaism known as Moses Maimonides by virtue of the available english translations of all of his medical writings.

HISTORICAL NOTE

In the early 1950s when the President of Yeshiva University, Dr. Samuel Belkin, was approached the famous nobel luriat Albert Einstein to lend his name to the new medical school, Einstein, suggested that the school be named Maimonides School of Medicine. In the end, Einstein did lend his name to the new medical school which opened its doors in September 1955. The author of the above mentioned article on Maimonides, Dr. Fred Rosner, is a member of the first graduating class from the Albert Einstein School of Medicine. At that first graduation in 1959, the guest was Hans Albert Einstein, son of the famous Albert Einstein.

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