Disease and Healing in the Classical world **by M. Liston**

In ancient societies of the Mediterranean, people suffered from not only most of the health issues that trouble us today, but many other problems that we think of as easily cured. Infections from minor cuts, childhood illness, and diseases carried by contaminated food and water all could cause permanent damage or death. Without an accurate understanding of the causes of disease, the ancient doctor often had few effective means of combating illness.

There are a wide variety of sources for information about health, disease and treatment in the past. The most direct information comes from the analysis of skeletons. Many diseases and injuries will leave permanent marks on the skeleton, particularly if the patient suffered for more than a few weeks with the condition. A wide variety of infections will leave characteristic patterns of change on the bones. Traumatic injuries such as fractures and torn muscles will also leave their marks on the skeleton, even when they have healed.

Archaeology can also give us clues about ancient health, through the excavation and analysis of material found in doctor's homes, sanctuaries of gods such as Asclepius who were associated with healing, and even medical equipment buried in graves. Surgical instruments, including scalpels, bone saws, and tools for trephination (cutting holes through the skull) have been found. Probes for cleaning wounds and needles for suturing them are also common. Medicine bottles, sometimes with traces of their contents, have also been identified.

Finally, written sources have preserved a lot of information on ancient disease and medical practice. Ancient medical writers describe not only theories of disease and treatment but provide hundreds of case histories, with symptoms, treatment, and outcome for the patients. Among the Greeks, the writings of Hippocrates are the most influential. Hippocrates was a physician born about 460 BC. He probably wrote some texts, but many works attributed to him were clearly written by other authors. They borrowed the name and fame of Hippocrates to make their own contributions seem more reliable. The Hippocratic writings develop the theory of the four humors (blood, black bile, yellow bile, and phlegm). The balance of these humors and their interactions with the four elements (earth, air, fire and water) were believed to be responsible for disease. This theory dominated medical practice for two millennia.

Cornelius Celsus, born about 25 BC, wrote an encyclopedia in Latin, which covered a wide variety of topics including medicine. There is some debate about whether he was actually a practicing physician or not, but his work gives an excellent summary of medical practice of his day, with a greater emphasis on the use of drugs than other ancient writers. A more specialized work on gynecology and obstetrics was written by Soranus of Ephesus, who practiced in Rome during the reigns of Trajan and Hadrian. The Greek physician Galen, born about AD 130 in Asia Minor, spent most of his career in Rome and rose to the position of court physician to the emperor Marcus Aurelius. He wrote a huge collection of medical texts in Greek, and continued to be the major authority on medical practice in Europe until the Renaissance.

It is difficult today to appreciate the impact disease had on ancient cultures. In cultures that lacked sanitation systems and antibiotic treatments, it was not unusual for 50% of all deaths in the society to be children under the age of 10-12 years. This pattern has been found repeatedly in cemeteries in Greek and Roman sites, although Roman plumbing systems improved health conditions slightly. For those who survived childhood, almost everyone could still expect to suffer a life-threatening illness or infection at some point in their life.

It is sometimes difficult to accurately diagnose diseases when looking back across centuries, but it is clear that there were a number of common causes of disease and death that we can recognize today. Respiratory disease was a major problem. The constant use of open fires for cooking,

light and heating meant that everyone had to breathe smoke much of the time. The resulting irritation contributed to high rates of bronchitis, pneumonia, and other bacterial and viral infections. Tuberculosis was also a major threat. Many long-term TB patients develop lesions on their bones as well as in their lungs, and these can be found on ancient skeletons. Ear infections are a common complication of respiratory disease, but are not considered very serious today. However, skeletal remains reveal that an untreated infection of the inner ear could spread through the skull into the brain, causing death.

Fevers of all kinds were also a threat. While today we recognize fever as a symptom of some underlying disease, to the ancient doctor they were a specific ailment. Many recurring fevers were probably associated with malaria. This parasitic disease is spread by some species of mosquitoes, and the warm climate of the Mediterranean provided an ideal environment for these insects. Alternating fevers and chills, with general weakness in between, are repeatedly described by ancient medical writers, and are recognizable as symptoms of malaria today.

Food poisoning and contaminated water led to many diseases. Infants and young children are very vulnerable to death from dehydration due to severe diarrhea caused by polluted water. In ancient cemeteries there is often a large number of burials of children around 3-4 years of age. This is generally when children were being weaned, which exposed them to more diseases from unclean food and water at the same time as they lost the antibodies supplied in breast milk. Epidemics of cholera, typhus and typhoid also killed thousands of all ages.

Finally, the absence of antibiotics and preventive vaccinations meant that the simplest scratch or cut could be deadly. Symptoms of tetanus are often described by Greek physicians, and the outcome was always death. Infected wounds were so common that many ancient medical writers clearly thought that pus was *necessary* for healing and they describe various medicines that encourage the right kinds of pus! If a wound was healing cleanly, it had to be bound up with various irritating medicines to insure an infection.

Given the hazards of ancient life, what options were available to a patient? Ancient medicine was a mix of folklore, religion, and professional medical treatment. Most people would have known a variety of home remedies that included herbal medicines, magical spells and superstitions. Pliny the Elder, writing in the first century AD, describes many of these popular remedies. Some of these probably were useless or even harmful. For example, he suggests that burning the fat of a hyena will ease a difficult labor for the mother, and pig dung is good for wounds made with iron weapons. On the other hand, he recommends using spider's webs to stop bleeding, and a medicine made from ferns for intestinal worms. Both of these are recognized as effective treatments today.

The ancient patient could also turn to a practicing doctor for help. Physicians were found in most large towns, and many had trained extensively, by serving as apprentices to other doctors. Although their position in society improved through time, physicians were generally seen as skilled craftsmen, rather than as professionals. Greek physicians were especially valued, even among the Romans. One of the most common treatments doctors prescribed was bleeding. A vein was opened and the patient's blood was allowed to pour out. Often the process was encouraged by various tools which sucked the blood out faster. This treatment was considered effective for a wide variety of ailments, including battle wounds. In fact, wounds were often allowed to bleed freely, and many patients probably bled to death, who might otherwise have had a chance of survival. A variety of surgical techniques was developed, including cataract surgery using a needle to push the clouded lens of the eye out of the way. Surgeries were of course performed without anesthesia. At most, the patient would be given some wine, or a drink containing an opium compound to dull the pain.

Most doctors were skilled at bandaging injuries and setting broken bones. Many writings include descriptions of elaborate splints for broken and dislocated bones. Dressings for wounds included pouring wine over the bandages. This was probably also fairly effective, not because there was enough alcohol in the wine to kill bacteria, but because the pigments in grapes have antiseptic properties.

If the patient could afford to travel, or if the case was desperate enough, it was possible to visit one of the great centers of healing dedicated to Asclepius. This deity apparently was once a mortal physician, whose father was believed to be Apollo. His sanctuaries became the major hospitals of the ancient world, and were located in or near many large cities. The patient who sought the god's help would ritually bathe, then

spend the night in the sanctuary. The god would appear in a dream, which the priest-physicians would interpret in the morning. The patient would offer a sacrifice to the god, and often would leave more permanent offerings at the sanctuary as well. Clay models of body parts, including legs, arms, ears, breasts and genitals have all been found in excavated sanctuaries of Asclepius. Presumably they were left behind in gratitude for healing, or as a reminder to the god of what part still needed to be fixed.

Beginning in the fifth century BC, dietetics also became an important part of medicine. Special diets were initially prescribed for athletes, but the practice spread when diet was used to treat and even prevent disease. Many of the recommendations were based on the four humors, so hot foods were prescribed for cold conditions, etc. To preserve good health, diet was combined with exercise, bathing, and massage to produce a regimen that seems almost modern. By avoiding acute disease or injury, it was possible to live to a healthy old age in antiquity—if the doctor didn't kill you first!