



Web News

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Ancient Dentistry and Teeth On-Line.

More resources are now becoming available on the World Wide Web to explore ancient Greek and Roman dental practices and teeth.

In the very early days of western medicine, illness was considered to be a consequence of divine castigation. This is illustrated in many Greek texts such as the Illiad. Hippocrates of Cos (c460-377 B.C.), known as the father of medicine, developed the rational school of medicine, the basis of his teaching being the negation of divine intervention in an illness. His thinking can be seen in the following example: "When a person has an ulcer of long duration on the side of the tongue, one should examine the teeth on that side to see if one of them does not perhaps present a sharp point." The ulcer is no longer simply accepted as a manifestation of divine displeasure but a logical cause is offered instead. Hippocrates maintained that disease was caused by disequilibrium and that where there was equilibrium between the humours there was health. Cures lay in removing the humour that was in excess although any intervention was to be employed with the maximum of frugality. Extraction of teeth was only to be resorted to if the teeth were extremely loose. The texts which form the Hippocratic corpus can be found at <http://classics.mit.edu/Browse/browse-Hippocrates.html>. These texts were taught at universities until well into the 18th century.

Common medical and dental practices in Rome are described in the treatise De Medicina by Aulus Cornelius Celsus (14 B.C. – 37 A.D.). Experts are undecided as to whether Celsus was a medical practitioner or just a well-informed writer. He does, however, provide considerable detail about tooth extraction as follows:

"In the mouth too some conditions are treated by surgery. In the first place, teeth sometimes become loose, either from weakness of the roots, or from disease drying up the gums. In either case the cautery should be applied so as to touch the gums lightly without pressure. The gums so cauterized are smeared with honey, and swilled with honey wine. When the ulcerations have begun to clean, dry medicaments, acting as repressants, are dusted on. But if a tooth gives pain and it is decided to extract it because medicaments afford no relief, the tooth should be scraped round in order that the gum may become separated from it; then the tooth is to be shaken. And this is to be done until it is quite moveable: for it is very dangerous to extract a tooth that is tight, and sometimes the jaw is dislocated. With the upper teeth there is even greater danger, for the temples or eyes may be concussed. Then the tooth is to be extracted, by hand, if possible, failing that with the forceps. But if the tooth is decayed, the cavity should be neatly filled first, whether with lint or with lead, so that the tooth does not break in pieces under the forceps. The forceps is to be pulled straight upwards, lest if the roots are bent, the thin bone to which the tooth is attached should break at some part. And this procedure is not altogether free from danger, especially in the case of the short teeth, which generally have shorter roots, for often when the forceps cannot grip the tooth, or does not do so properly, it grips and breaks the bone under the gum. But as

soon as there is a large flow of blood it is clear that something has been broken off the bone. It is necessary therefore to search with a probe for the scale of bone which has been separated, and to extract it with a small forceps. If this does not succeed the gum must be cut into until the loose scale is found. And if this has been done at once, the jaw outside the tooth hardens, so that the patient cannot open his mouth. But a hot poultice made of flour and a fig is then to be put on until pus is formed there: then the gum should be cut into. A free flow of pus also indicates a fragment of bone; so then too it is proper to extract the fragment; sometimes also when the bone is injured a fistula is formed which has to be scraped out. But if teeth become loosened by a blow, or any other accident, they are to be tied by gold wire to firmly fixed teeth, and repressants must be held in the mouth, such as wine in which some pomegranate rind has been cooked, or into which burning oak galls have been thrown. In children too if a second tooth is growing up before the first one has fallen out, the tooth which ought to come out must be freed all round and extracted; the tooth which has grown up in place of the former one is to be pressed upwards with a finger every day until it has reached its proper height. And whenever, after extraction, a root has been left behind, this too must be at once removed by the forceps made for the purpose which the Greeks call rhizagra.

A translation of Celsus' De Medicina can be found at

<http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Celsus/home.html>

Herbal remedies used by the Romans can be found in the De Materia Medica of Dioscorides Pedanius (First century A.D.). This work remained the basis of pharmacology until the early 1800s. In this work, olives, in various forms are considered beneficial for the teeth. Amurca, the sediment of olive oil "extracts spoiled teeth, boiled to the consistency of honey with unripe olive oil and smeared around them." The oil of the wild olive is recommended as a mouth rinse for moist, rotten, gums and to settle loose teeth. Dioscorides writes that loose teeth can also be settled with mastic and that the green sprigs of the plant clean the teeth and are to be used instead of reed toothpicks. Remedies for toothache include figs "taken on wool and put into the cavities of teeth," and bitumen or pitch wrapped around affected teeth. Book One of De Materia Medica by Dioscorides based on the 1655 edition by John Goodyer can be found at <http://www.cancerlynx.com/dioscorides.html>.

Apart from ancient texts much can, of course, be found out about dental practices through the work of archaeologists. The first use of dental appliances or bridges comes from the Etruscans, who from as early as 700 B.C. were able to make dental appliances with exceptional skill. Skilled Etruscan workmen made gold dental bridges for women so that they could show off their wealth. Some Etruscan women had their incisors removed so that they could be fitted with the gold prosthetics. An illustration of one of the finest Etruscan specimens can be found at <http://phoenicia.org/dentstry.html> along with examples of Phoenician dental work. The Romans learned dental techniques from the Etruscans and there are several references to teeth in Roman literature. For example, Horace (65-8 B.C.) wrote in one of his satires that a witch, Canidia, ran so fast that her dentures fell out. The composition of ancient teeth can also tell a story. Archaeologists from the University of Athens believe that they have found the cause of the plague which ended Athenian dominance of the classical world. The DNA from dental pulp found in a burial pit dating back to 430 B.C. was analysed and linked to the organism that causes typhoid. Scientists have long debated the cause of the plague which killed almost a third of the Athenian population and its armed forces between 430 and 426 B.C. Previous assumptions about the cause of the plague had been based on the work of the 5th century Greek historian, Thucydides. Typhoid had previously been rejected because the symptoms described by

Thucydides did not fit with the modern day typhoid. The researchers from the University of Athens suggest that the discrepancies in symptoms could be explained by the possible evolution of typhoid fever over time. The research paper describing their work can be found at

http://www.elsevier-international.com/journals/supfile/flat/ijid_athens.pdf