



Medicine for Managers

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A Short History of Dentistry

Dentistry is an unpopular subject for many, because it is associated with pain and uncomfortable treatment. It is often forgotten that, if patients took necessary care of the dentition through hygiene and appropriate diet, dentistry would be little more than intermittent polishing of the teeth to remove any stain. Unfortunately, dental pain and dentistry has been around for millennia and demand is not declining!

Dentistry has been around for over 9,000 years and, as a profession, has its roots in the Indus Valley Civilisation, identified by archaeologists and dating back to 7,000 BC.

Indeed, teeth that have excavated to treat decay have been found. However, the first written records describing dentistry and the presence of tooth decay date back to 5000 BC in Sumerian texts. Indeed, the writings described **tooth worms** as the cause of decay and identified a variety of dental anomalies and complications.

The first actual dentist ever recorded was named **Hesy-Re** and he practised his dental trade in Ancient Egypt. His tomb states that he was a high-ranking doctor who principally carried out dental treatment.

The Ancient Greeks and the Romans further developed the knowledge base of dentistry. The ubiquitous Hippocrates and Aristotle wrote about dentistry in around 500 BC and those

writings included information about the management of decay and, for the first time, identified gum disease. The extraction of diseased teeth and even the first observations about wiring teeth appeared.

The presence of the primary child and the adult dentitions was also documented, together with patterns of dental eruption and the ages when teeth appeared.

The Romans were known to use mouthwashes, tooth powder and toothpicks and, amazingly, the first dentures appeared, carved out of ivory.

Aulus Celsus (c25BC - 45AD) a Roman writer, produced an encyclopaedia of philosophy, law, medicine and agriculture. Only the medical element has survived and includes reference to the management of tooth pain.

In China in the seventh century, dentistry began to develop further and there is evidence that a silver paste, perhaps not unlike modern day amalgam, was used as a filling material.

By the middle ages, although dentistry was still primitive, there was more focus on dentistry itself. The first textbook entirely about dentistry was published in 1530. Barber-surgeons extracted teeth and treated mouth sores, using blood letting to cure dental disease.

Ambroise Paré (1510-1590) was a French surgeon who developed a wide range of surgical techniques including the design of dental instruments, the creation and documentation of dental procedures and fillings for teeth. He actually advocated preventative procedures to care for teeth.



By the start of the eighteenth century, dentistry had become a more defined profession and is considered to be the period of the advent of modern dentistry.

Pierre Fauchard (1678-1761), considered to be the father of modern dentistry, was a French surgeon who developed and promoted dental fillings to treat cavities in teeth and pioneered the use of dentures and improving the way in which they could be attached to adjacent natural teeth. His book, "**The Surgeon Dentist, a Treatise on Teeth**" was influential in the



increased understanding of dental disease and its management. He designed dental instruments and identified that tooth decay occurred as a result of the consumption of sugar which formed acids resulting in destruction of natural tooth substance.



There was still no formal training in dentistry by the mid-nineteenth century but more systematic study and the award of qualifications became possible when **The Dental Hospital of London** and the **Metropolitan School of Dental Science** started accepting students in 1858.

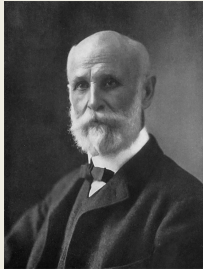
Guy's Hospital Dental School opened in 1889. The first awards of the **Licentiate in Dental Surgery (LDS)** were awarded in 1860 by the Royal College of Surgeons of England, following the 1858 Medical Act and the granting of a Royal Charter to the College.

By 1880, LDS diplomas were also awarded by surgical colleges in Edinburgh, Glasgow and Ireland.

The first **Dentist's Register** was published in 1878 and recorded 5,291 entries which included 423 dentists with an LDS and two with a DDM from Harvard University. The **British Dental Association** was established the following year in 1879.

Key foundations of dental care, applied to this day, are the result of the work of two dentists, regarded as founders of modern dentistry.

G V Black (1836-1915) was an American born in Illinois who trained as a dentist and embarked



on research, teaching in the Dental Department of the University of Iowa. He invented the foot-driven dental drill but his most notable work, well-known to twentieth century dentists, was his study of decay

(**caries**) and his identification of the correct way to prepare teeth for filling. Black published his concepts in the **Manual of Operative Dentistry** in 1896. Although influenced by modern ideas about minimalist cavity preparation and adhesive fillings, his work remains valid.

Edward Angle (1855-1930) is regarded by many as the **father of orthodontics** (teeth straightening). He put the speciality on to a



scientific basis and referred to the misposition of teeth as **malocclusion**.

He then classified malocclusions, first published in 1899 and Angle's classification is still used to this day. He patented over 45 types of

orthodontic device and fitting.

The proposal to introduce a dental degree in London was first made in 1886 in the **Dental Record** but the first degree was actually issued in 1921 although the University recognised appropriate teachers from 1901. Other Universities also started issuing degrees and schools of dental surgery were established

across the United Kingdom in the early decades of the twentieth century.

The Royal Colleges of Surgeons in England, Scotland and Ireland all developed higher qualifications in dentistry.

In Scotland the REC Edinburgh awarded the first Higher Dental Diploma in 1919 with Glasgow following the following year. In England, the Fellowship in Dental Surgery was first awarded in 1947, Edinburgh followed in 1949 and Glasgow in 1967. The FDS by examination was replaced by the Membership of the Faculty of Dental Surgery (MFDS) as the higher qualification by all three colleges in 2002.

The Eastman Dental Clinic was opened in 1931 to provide dental care for disadvantaged children in central London. The clinic was integrated with the Royal Free Hospital in the Grays Inn Road in Holborn.

However, in 1948 it became independent of the Royal Free and the teaching function became the Postgraduate Dental Institute of the Postgraduate Medical Federation. It established a pre-eminent position in postgraduate dental education, believed by many to be the result of the forceful presence of

its Director from 1960, Professor Sir Robert Bradlaw, who vigorously ensured its involvement in all aspects of dental education and politics and strengthened the name of the Eastman Dental Hospital.



He was also instrumental in the creation of the RCS England Fellowship diploma.

The Eastman remained in Gray's Inn Road until 2019 when it co-located with the University College Ear, Nose, Throat, Balance and Hearing Services to Huntley Street, London WC1, where it is now part of the Royal National ENT and Eastman Dental Hospitals.

There are now sixteen dental schools in the UK, two of which are postgraduate, offering places to around 1,200 students a year.

Over the last 50 years, dentistry has seen huge changes with considerable improvements in knowledge, training, equipment, materials and facilities. The education of dentists, and the support of the dental team has improved considerably. The NHS provision of dental care, for all its shortcomings, has also had a considerable impact.



I have seen all those changes since I qualified at Guys in 1969. I did my whole training using a cord-driven dental drill and only used a high speed drill following graduation. The

basic amalgam fillings and the material called silicate, which was a poor cosmetic material for front tooth restorations, have over the years been replaced by a host of restorative



materials and there has been a revolution in restorative treatment following tooth loss, with dentures of metal and plastic, and crowns, bridges and implants.

The service has ceased to be about fillings and tooth brushing, though both still remain important, but has become much more about total oral care, health and hygiene.



In the first world war, 6,000 men were invalidated out of the army

because they suffered from a disease known as 'trench mouth' but was in fact Acute Necrotising Ulcerative Gingivitis.

Caused by poor oral hygiene, poor diet, alcohol and smoking, it is an overgrowth of bacteria



which causes gum destruction and tooth loss. Nowadays, when it occurs it can be vigorously

treated by preventing its spread and managing pain.

The gums are carefully treated using ultrasonic scalers and chemicals to clean the teeth and to remove any dead gum tissue. Sometimes antibiotics and pain medication are required and in severe cases surgery to manage the gums may be required.

It is hard to believe that six battalions were lost just because of gum disease!

The state of dental health is giving cause for concern over recent years.

The inclusion of fluoride in water is helpful in reducing decay, but, without appropriate dental care at home and in the dental practices, younger children are experiencing dental disease.

In a survey of five-year-olds last year, the national prevalence of dental decay was 29.3%.

Regional variations were significant and decay rates varied from 23.3% in the South-West to 38.7% in the North-West.

Another survey a year earlier, showed that a child with tooth decay will have on average three or four affected teeth.

This is not good enough and must be addressed by all agencies concerned with care of children as a priority.

Dentistry has many challenges in respect of all aspects of staffing, funding , education of the population and availability.

Rising costs of materials, equipment and insurance, rising patient expectations, the changes in technology and compliance with regulation all add to the difficulties of an industry which is struggling.

Let us hope that Mr Streeting in his infinite wisdom identifies the urgency and acts accordingly.

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