

Sheets

Introduction to dentistry



Lecture #1



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History of Dentistry

What is Dentistry?

- **Dentistry** is a branch of **medicine** that focuses on the **diagnosis, prevention, and treatment** of conditions, disorders, and diseases affecting the **teeth, gum, mouth and jaw**.

Its importance:-

It plays a role in maintaining overall health because oral health is closely linked to systemic health.

Definition of Dentistry

- According to the ADA (American Dental Association) **Dentistry** is the **evaluation, diagnosis, prevention, and/or treatment** (nonsurgical, surgical, or related procedures) of diseases, disorders, and/or conditions of the **oral cavity, maxillofacial area**, and/or the adjacent and associated structures and their impact on the human body; provided by a **dentist**, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law.

Origins of Dentistry

- Our knowledge of dentistry having been performed in **ancient** societies comes mainly from archaeological findings and historic records

Ancient beginnings

- A jaw was found in northern Italy
- Dating back around 14,000 years



- Using scanning electron microscopy, scientists revealed micro-scratches, chipping and cut marks on the tooth
- **Sharp flint tools**, were used to clean the tooth
- This marks an important development in the timeline of prehistoric dental surgery treatments



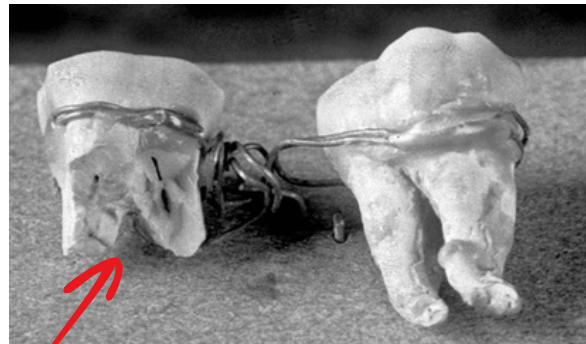
- Evidence from Mehrgarh (in present-day Pakistan) shows that as early as 7000 BCE, humans were performing dental drilling—indicating that basic dental practices existed over 9,000 years ago.



- 4500 BCE in Slovenia: Remains of a human lower jaw provide the first evidence of the use of **beeswax** as a restorative material.
- Beeswax was an excellent ancient filling material because it had **antibacterial** and **anti-inflammatory** properties.
- It could be softened at warm temperatures but solidified at body temperature.



- Ancient Egypt (2500 BCE): Early dental practitioners.
- Discovery of a historic dental bridge, known as the “Giza Bridge.”
- Due to inflammation, the root of the tooth on the left underwent resorption, causing it to become mobile. A bridge was installed to connect the two teeth, allowing the tooth on the right to support and stabilize the mobile tooth on the left. This is now known as a **splint**.



Theories for the origin of dental decay

- Records indicate that the first mention of the “tooth worm” dates back to 1800 BCE.
- **The Legend of the Worm** describes a creature that drinks the blood and consumes the roots of teeth, causing toothaches.
- This belief was shared by many civilizations—from the Mayans to the Chinese—and persisted until the 18th century, highlighting the superstitious origins of dentistry and medicine.



Ancient Greece and Rome

■ Hippocrates (460–370 BCE):

- Known as the “Father of Medicine.”
- Wrote about using ointments to relieve tooth pain.
- Described techniques for extracting teeth that were beyond repair.

■ Aristotle (384–322 BCE):

- Studied human teeth in the context of comparative anatomy (He compared human teeth with those of animals).



The Hippocratic Oath

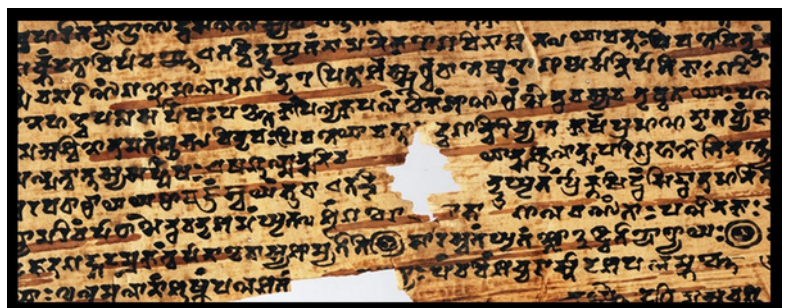
Early appliances

- Around 300 BCE in Egypt and Greece, loose teeth were supported using gold wires.



Bower Manuscript (400 CE)

- It is an ancient Indian medical text found in 1890 in Kaschgar, Central Asia.
- It is inscribed on birch bark and identifies among others, prescriptions for dental and oral care.



Ancient Mayans (600 CE)

- Installed Gem stones on teeth for decoration.



Dental Amalgam (600 CE)

- Reports of dental Amalgam (an alloy of mercury combined with one or more other metals), being used as a tooth filling.
- T'Ang Dynasty in China.



The Pelican (1363)

- Guy de Chauliac, the most important French surgeon of the XIV century (14th century).
- Credited for describing the pelican as **an instrument to extract teeth.**



Barbers and Dentistry

- Up until the mid-eighteenth century, the main providers of dental services were barber-surgeons.



Golden Age of Islamic Civilization – Key Figures & Contributions

Name	Dates	Nationality / Role	Contributions to Dentistry & Medicine
Al-Razi الرازي	865–925 CE	Physician	Book AlHawi (كتاب الحاوي) section on tooth preservation includes mixture for brightening toothpaste
Abubakr Al-Akhawayni Al-Bokhari (البخاري)	983 CE	Persian physician	Author of Hidayat al Mutallimin fi-al-Tibb (هداية المتعلم في الطب); recommended cauterization of the tooth with a hot iron for toothache, extraction as last resort
Abu Al-Qasim Al-Zahravi (الزهرابي)	936–11013 CE	Arab physician and surgeon from Al-Andalus	Father of surgery; Kitab al-Tsarif (كتاب التصريف) volume-30 – encyclopedia on medicine; earliest illustrations of dental instruments
Avicenna (ابن سينا, Ibn Sina)	981–1037 CE	Physician, poet, philosopher	Wrote al-Qanun fi'l-Tib (القانون في الطب), Volume 5 – includes work on health, including oral health

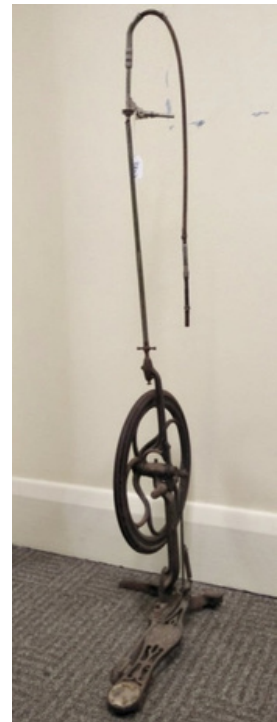


Pierre Fauchard (1728)

- French surgeon-dentist.
- Assembled the first comprehensive work on dentistry, published as *Le Chirurgien Dentiste* (“The Dental Surgeon”).
- Considered the **Father of Modern Dentistry**.
- Compiled in two volumes: included everything known about the dental field, anatomy, physiology, and pathology of the teeth and surrounding structures.
- Listed dental instruments and procedures at the time.

Foot Operated Dental Drill (1790)

- **John Greenwood**, a prominent New York dentist.
- Created the **first foot operated dental drill** from his mother’s foot-treadle spinning wheel for sewing.



Composite Resin (1962)

- Dental composite resins are synthetic resin dental cements used as restorative material, offering better appearance than amalgam.
- Modern composite resins based on Bis-GMA, a metachrylate monomer used in composite restorative. materials is invented by **Rafael Bowen**.



Clear Aligners (1997)

- Invisalign was created by Zia Chisti in San Jose, California.
- Clear aligners are important because they straighten teeth, are nearly invisible, removable, and more comfortable than braces.



Digital Intraoral Scanners

- First invented in the 1980s
- Now polished and refined scanners are present and are an essential part of digital Dentistry. They capture accurate 3D images of teeth and gums and make dental procedures faster and more precise.

