

History of Surgery

History of Surgery – Structured Overview

1. Prehistoric and Ancient Foundations

Era	Region	Key Contributions	Evidence
Prehistoric (??M–10k?BCE)	Worldwide	• Trepanation (drilling holes in skulls) for trauma or ritual • Use of sharpened stones, shells, and bone tools	Skeletal remains with healed cranial holes; cave paintings
Ancient Egypt (?3000–30?BCE)	Nile Valley	• Early anatomical knowledge (mummification) • Instruments: scalpels, forceps, probes (metal bronze)	Papyrus Ebers, Edwin Smith Surgical Papyrus (?1600?BCE) – systematic wound descriptions
Mesopotamia & Indus (?2500–500?BCE)	Fertile Crescent, South Asia	• Suturing techniques, cauterization, cataract surgery	Cuneiform tablets; Sushruta Samhita (India) – detailed surgical manuals
Ancient Greece (?500–30?BCE)	Greece	• Hippocratic Corpus: ethical principles, “humoral” theory of disease • Development of instruments (scalpel, forceps)	Hippocratic Oath, writings of Hippocrates, Aristotle
Roman Empire (?200?BCE–500?CE)	Mediterranean	• Galen’s anatomical studies (based on animal dissection) • Emphasis on ligatures and hemostasis	Galen’s “De Anatomicis Administrationibus”

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2. Classical Islamic Golden Age (8th–14th?c)

Figure	Main Works	Innovations
Al?Zahrawi (Abulcasis) (936–1013)	<i>Al?Tasrif</i> (30?volume medical encyclopedia)	• Over 200 surgical instruments (e.g., forceps, scalpels, catheters) • Detailed descriptions of suturing, ligature, and treatment of fractures
Ibn al?Nafis (1213–1288)	Commentaries on Galen	• Early concepts of pulmonary circulation influencing anesthesia safety
Avicenna (Ibn Sina) (980–1037)	<i>The Canon of Medicine</i>	• Systematic classification of diseases; emphasis on postoperative care

Impact: Translated works later entered Europe (12th?13th?c), providing a bridge between antiquity and the Renaissance.

3. Medieval Europe (5th–15th?c)

Development	Details
Barber?surgeons	Performed bloodletting, tooth extraction, wound care; often trained via apprenticeships.
Guilds & Regulations	13th?century statutes in Paris, Bologna, and London began licensing surgeons.
Anatomical Study	Limited due to religious prohibitions; occasional dissections (e.g., Mondino de Luzzi, 1316).

4. Renaissance & Early Modern Era (15th–18th?c)

Milestone	Year	Significance
Andreas Vesalius publishes <i>De humani corporis fabrica</i>	1543	First accurate human anatomy; corrected Galen's errors, laying groundwork for precise surgery.
Ambroise Paré introduces ligature of arteries	1564	Replaced cauterization; reduced mortality in amputations.

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Milestone	Year	Significance
William Harvey describes systemic circulation	1628	Understanding blood flow enabled