



Milestones in Pediatric Surgery

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The earliest example of elective pediatric surgery has to be the operation of circumcision.¹ Quite why this assumed such importance is not known though it was illustrated among the petroglyphs of the ancient Egyptians in at least the twenty-fourth century BCE. In the Bible, it is recorded as a mark of the covenant between God and Abraham.

Genesis Chap 17 Verse 10–12. (KJV)

This is my covenant, which ye shall keep, between me and you and thy seed after thee; Every man child among you shall be circumcised.

And ye shall circumcise the flesh of your foreskin; and it shall be a token of the covenant betwixt me and you.

And he that is eight days old shall be circumcised among you, every man child in your generations, he that is born in the house, or bought with money of any stranger, which is not of thy seed.

Classical physicians such as Hippocrates (460–370 BCE) described surgical intervention, including specific treatment for long-bone fractures. The Roman physician Aulus Celsus, in his book “*De Medicina*” (~30 AD), described relatively complex surgery for cleft palate and tonsillectomy as part of a wider manual for surgical and medical therapies (Fig. 1.1).

Western medicine declined with the fall of the Western Roman Empire, but the medical flame was kept alive in the Arab world by Kitab at Tasrif (also known as *Albucasis*), in Cordoba, Spain, who published an encyclopedia of medicine, including diverse subjects such as cleft palate, hydrocephalus, and hypospadias. A version of this widely known text was illustrated by Serafeddin Subuncuoglu, a Turkish

¹Circumcidere (Latin) “to cut around.”

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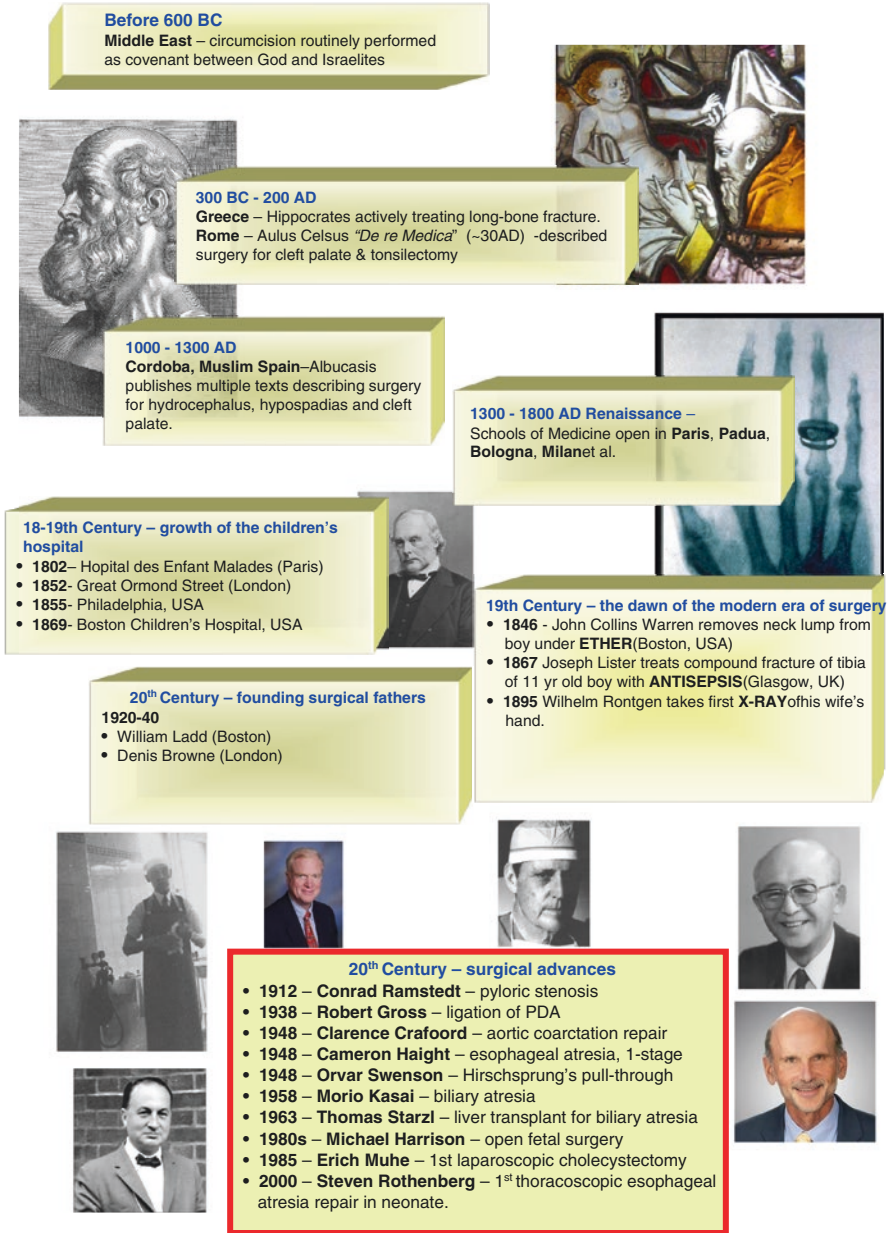


Fig. 1.1 Milestones in surgery



Fig. 1.2 Founding children's hospitals

physician, in 1465 and circulated widely as an atlas throughout the Middle East and Ottoman empire.

The first detailed textbook dedicated to children's conditions is credited to the Swiss surgeon Felix Wurtz, who published it in 1563.

The medical separation between the young and old was first made clear in the nineteenth century by the establishment of the great children's hospitals across the world, with the first being in Paris (Hôpital des Enfants Malades²) in 1802, followed some years later by Great Ormond Street Hospital (London) in 1852, Children's Hospital of Philadelphia in 1855 and Boston Children's Hospital in 1882 (Fig. 1.2).

Some of the first widely-read publications dealing specifically with children's ailments and congenital malformations also appeared in this century. For instance, "A Practical Treatise of Children" by Coley was published in 1846 in London. "The Surgical Diseases of Children" by John Cooper Forester from Guys Hospital, London, published in 1860, described both ether and chloroform anesthesia and the surgical treatment of imperforate anus.

²Now named the Necker-Enfants Malades hospital after Suzanne Necker, the wife of the Finance Minister of Louis XVI.

Special and separate care of infants probably began in Paris during the 1870s with the introduction of incubators, the concept of sterilization of feeding bottles, and others. Towards the end of this century, continental Europe appeared to be the area where most of the advances were emerging from, and most of the radical physicians were located. Harald Hirschsprung appeared omnipresent, describing not only the disease to bear his name but also the pathology and features of pyloric stenosis and enema reduction of intussusception.

The first half of the twentieth century, while devastated by world war and leaving most continental European cities desolate, bequeathed something like modern-day surgical practice. This was founded on effective, safe anesthesia with basic monitoring of vital signs and the ability to change physiology with intravenous blood and fluids, with operations carried out by trained, competent specialist surgeons experienced in visceral operations or problems of soft-tissue and bone reconstruction. Life-threatening post-operative bacterial infection no longer stalked the wards, limited by antiseptics and treated with antibiotic.

In the interwar period, the “founding fathers” of, at least Western, children’s surgery were practiced. In the USA, William Ladd³ and his successor Robert Gross were, for the first time, pediatric surgeons rather than interested bystanders. The influential “Abdominal Surgery of Infancy and Childhood” written by Robert Gross was first published in 1941. In England, Denis Browne⁴ (Great Ormond Street 1928–1957), an Australian by birth, was the first surgeon to concentrate solely on children, although he clearly did not believe in specialization, publishing innovative techniques in all sorts of fields. He became the first president of the **British Association of Pediatric Surgeons** in 1953—the first real international organization devoted to pediatric surgery. Their equivalents in Europe included Pepe Boix-Ochea in Barcelona, Theodor Ehrenpreis in Stockholm, David Vervat in Rotterdam, Fritz Rehbein in Bremen, Bernard Duhamel in Paris, Mattai Sulumma in Helsinki, and farther afield UC Chakraborty (Calcutta) and Raman Nair (Trivandrum) in India, Douglas Stephens in Australia, and Osamu Wakabayashi and Keijiro Suruga in Japan.

³William E. Ladd (1880–1967) Came to prominence as part of the rescue operation following a huge explosion in Halifax, Nova Scotia in 1917.

⁴Sir Denis Wolco Browne (1892–1967)—Came to London during WWI and stayed. Knighted in 1957.