The Evolution of Surgery: From Ancient Practices to a Technological Future

The Early Days of Surgery:

In the early days of the world, surgery was not for the weak or faint-hearted. Prehistoric civilisations, such as the Greeks and Egyptians, performed basic procedures like trepanation—drilling holes in the skull—using large pieces of rock, often risking damage to the brain and major blood vessels. Amputations were carried out, and sutures were stitched with linen as if they were mere fabric, rather than vital medical interventions. Ancient texts, such as the Samhita from India, provide detailed descriptions of surgical techniques and how they were performed.

As time passed, surgery fell into a dark age. In medieval Europe, barbers, rather than trained medical professionals, often performed surgical procedures in hazardous and unsanitary conditions. Anaesthesia was nonexistent, forcing patients to endure excruciating pain while fully conscious. The absence of proper sanitation and anaesthesia led to a high risk of infections, increasing mortality rates.

The Influence of the Renaissance:

The Renaissance revived interest in human anatomy and the study of the body. Dissections provided real-life insights, correcting long-held misconceptions and paving the way for a more systematic approach to surgery. In the 17th and 18th centuries, one of the most significant advancements came from Ambroise Paré, a French barber-surgeon who introduced revolutionary practices in wound care. Paré's humane approach to battlefield surgery, including the use of ligatures instead of cauterisation, marked a shift away from earlier, more brutal methods. However, surgery remained dangerous due to the continued lack of anaesthesia and antiseptic techniques.

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Surgery in the 19th and 20th Centuries:

The 19th century marked a turning point in surgical history with the birth of modern surgical practices. In 1846, the introduction of ether anaesthesia allowed patients to undergo surgery without unbearable pain. This was soon followed by Joseph Lister's development of antiseptic techniques, which dramatically reduced post-surgical infections. The 20th century witnessed a revolution in surgical techniques, with groundbreaking advancements such as the discovery of penicillin, the development of X-rays, CT scans, and MRIs. These innovations paved the way for sophisticated surgical procedures, including organ transplants.

The Future of Surgery:

Today, the future of surgery is brighter than ever, driven by revolutionary technologies such as artificial intelligence, gene editing, and regenerative medicine. Innovations like 3D printing may one day enable the creation of functional, transplantable organs. As we look ahead, the field of surgery will continue to evolve, pushing the boundaries of what is possible in the pursuit of better health and longer lives.

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CITATIONS

McKellar, S. “A History of Surgery: From Superstition to Science.” Canadian Medical Association Journal, vol. 182, no. 8, 10 May 2010, pp. 809–809, https://doi.org/10.1503/cmaj.100436.

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