

### ***Surgery in the past, surgery today***

Surgery is probably no longer the most feared medical procedure. Many of us will go under the surgeon's knife at some point in our lives. We have come to think of surgery as a safe, painless and reliable method to cure us from illness, but this was not always the case. With no pain control and the risk of infection, surgery used to be painful, horrific and dangerous in roughly equal measure and many people died on the operating table. It was usually the last resort for both patient and practitioner.

### ***Early surgery in the Neolithic and Egyptian periods***

The earliest form of surgery was trephining, which involved cutting a small round hole in the head. It was practised as early as the Neolithic period, for reasons that remain a mystery. There are many theories about the reasons behind this practice. The only thing we know for sure is that some patients survived the procedure, and sometimes even had more than one performed. Later, the Egyptians practised trephining in an effort to cure migraines - the idea was to 'let out' the illness that was causing the headaches.

### ***The influence of the Greeks and war on Roman surgery***

Roman surgeons had ample opportunity to pick up surgical skills at the infamous gladiator schools and during the many wars that Rome inflicted on its neighbours and others further afield. Their surgical instruments were similar to those employed by the Greeks. Turpentine and pitch were used as antiseptics, but internal surgery was still considered too risky. The Romans also performed amputations, trephining and eye surgery. The most famous surgeon in Rome was Galen, who was surgeon to the Roman emperor.

### ***Medieval barber-surgeons and war***

But many surgeons were not surgeons in the modern sense. In fact, most were barbers, who combined small surgical operations with performing bloodletting and tooth extraction. In the medieval period, barber-surgeons travelled around the country. They would take up residence in a castle, treat the occupants and also care for any soldiers who were injured in the many small battles that were undertaken between rival factions.

### ***The decline of women surgeons***

Women continued to train as surgeons throughout the 1500s and 1600s, often treating the poor. In fact they were not pushed out of surgical practice until the 1700s, when surgical training moved to the universities - from which they were banned.

### ***Pare and new methods of surgery in the 1500s and 1600s***

From the 1500s to the middle of the 1600s surgeons experimented with new methods. Cauterising wounds was still popular and helped prevent infection, but some surgeons rejected these established methods in favour of more innovative approaches. In the mid-1500s Ambroise Paré, a French war surgeon, popularised the use of ligatures to control bleeding after amputation.

### ***The experience of surgery with newly found pain relief***

In the early 1800s the most important talents a surgeon could possess were speed and accuracy. Surgeons were famed for their speed, particularly in amputation. As there was still no effective anaesthetic, they had to perform their procedures quickly and were limited to external tumours, amputation and trephining. The development of new anaesthetic gases changed the experience of surgery for patient and surgeon. With the patient rendered unconscious, surgery could become more invasive and this also gave the surgeon the opportunity to be both slower and more methodical. The anaesthetic gas ether was first used in 1846 but was soon replaced by chloroform, which was originally used to relieve the pain of childbirth.

### ***Improved surgery in the 1940s***

By the beginning of the 1900s surgery was usually less painful and risky, but many patients continued to die from internal infection and blood loss. It was not until the development of safe blood transfusion and antibiotics such as penicillin in the early 1940s that surgery became relatively safe.

### ***Specialist surgeons***

X-rays also allowed surgeons to plan their surgery effectively by allowing them to see exactly what was wrong. Safer gases and intravenous anaesthetics replaced chloroform, and surgery became more specialised - surgeons spent many years studying a speciality, such as orthopaedics or cardiac surgery.

### ***Complex surgery from the 1900s***

As the 1900s progressed, surgery became more complex. Transplant and replacement surgery become relatively common. Elective surgery - non-life-saving procedures - is now performed regularly and some surgery has been developed principally for cosmetic purposes. Keyhole surgery and microsurgery are used increasingly to minimise exposure to infection and reduce the shock of surgery. While surgery has become safer, it remains a risky business.