

SURGERY THROUGH TIME

- Chaz Was there *any* surgery in prehistoric times?
- Maz Very little – people who think everything comes from the spirits aren't going to develop surgical techniques.
- Maz They could trephin.
- Chaz Yes, but that was spiritual – letting out evil spirits – not surgery. Any medical benefit was pure chance. It wasn't until the Egyptians that we got *real* medicine.
- Maz They were the breakthrough civilisation, weren't they? The Egyptians were good at first aid – they had stitching and bandaging ... and cautery and lancing. AND they wrote it down. I wonder why they progressed so much?
- Chaz Mummification, I would guess – it certainly gave them bandaging ... *and* the surgical instruments they used.
- Maz And knowledge of the insides of the body
- Chaz Ye...ah, but Egyptian doctors didn't go inside the body – no anaesthetics.
- Maz So no internal surgery.
- Chaz Very little until the 19th century
- Maz And after the Egyptians?
- Chaz They just got better at external surgery. The Greeks could reset dislocations...
- Maz ... by jumping on the bones!
- Chaz 'Manipulating with the feet' is a better description! And of course, WAR was a key influence – they HAD to be able to heal wounds.
- Maz – so the Romans improved especially, I guess.
- Chaz well yes ... they had the gladiators to heal as well.
- Maz Of course! Galen started in a school of gladiators.
- Chaz And there were spin-offs into ordinary surgery. The Romans learned how to remove polyps and goitres, and invented new surgical and midwifery instruments...
- Maz ... and the Caesarean section ...
- Chaz Ah – but remember that in those times the mother always died – so it wasn't really a medical advance.
- Maz ... saved the baby ...
- Chaz ... and then of course, there's the BIG SURPRISE! In the Middle Ages, surgery – unlike everything else, DIDN'T go backwards.
- Maz Of course! War! All those wonderful 'wound diagrams' of wounds they could treat!
- Chaz Surgery was left to barber-surgeons, not to trained doctors, but they learned how to use wine as an antiseptic, and things like opium and hemlock as anaesthetics...
- Maz ... Theodoric of Lucca's: 'clever and ingenious surgeons'!...
- Chaz Precisely! There was even some internal surgery – for bladder stones, for instance.
- Maz So they were quite advanced?
- Chaz Ah ... hold your horses. They had no idea that dirt carried disease, so deep wounds still caused death from bleeding, shock or infection – and they still trephined for epilepsy
- Maz To let out the evil spirits?
- Chaz ... until the 18th century!
- Maz Ambroise Paré in the 16th century tried to make surgery less barbaric.
- Chaz Yes he did – he started treating gunpowder wounds with a soothing digestive – poultice – and he used catgut ligatures to tie arteries instead of cautery.
- Maz Why?
- Chaz Well it's down to scientific method. He noticed that the patients treated with the digestive recovered better than those he had cauterised. It wasn't strictly a scientific experiment, but it had the same effect, and these were the years of the 'Scientific Revolution'.
- Maz Which was how Paracelsus discovered laudanum – the first real painkiller.

Chaz But nevertheless, the fact is that there was no real breakthrough until the Industrial Revolution. Before then operations were horrific.

Maz But all that changed after 1900, didn't it? Simpson and chloroform, Lister and carbolic acid, Landsteiner and blood groups...

Chaz Well, strangely enough, historians have noticed that the first adventurous internal operations – such as Thomas McDowell's ovariectomy in 1809 – occurred BEFORE those advances: i.e., it wasn't the advances which caused the more adventurous surgery; it was the fact that surgeons wanted to be more adventurous which led to the development of anaesthetics, antiseptics and transfusions.

Maz So why DID surgery develop?

Chaz Well of course surgery couldn't have *continued* to advance without anaesthetics, antiseptics and transfusions, but you also have to take into account inventions such as X-rays, and scientific discoveries such as laughing gas and germs, and the needs of war, and even social factors – like the fact that Queen Victoria had a baby under chloroform and Edward VII had an appendectomy.

Maz And surgery advanced hugely...

Chaz ... by the end of the 19th century, doctors were routinely seeking a surgical solution to MANY illnesses.

Maz And that laid the foundations of modern surgery.

Chaz Well, absolutely: 20th century surgery is just a long list of triumphs – brain surgery, plastic surgery, open-heart surgery, transplant surgery, replacement surgery, keyhole surgery ...

Maz ... and is all this because of modern technology, like CAT scans and antibiotics?

Chaz ... AND better understanding of how the body works, I think

Maz ... like Roy Calne's discovery of immuno-suppressants for transplant surgery.

Chaz Yes. Nowadays we can go into the heart of a foetus and correct a defect while the baby is still in the womb!

Maz That is truly AMAZING – I'm glad I'm alive now and not in past times!!!