

# Significant medical technology developments over the past 75 years.

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“Over the last 75 years NHS healthcare science has played a vital role in the diagnosis, prevention and treatment of disease and the health of our population.” (NHS England).

In this context I thought I'd take a quick look at significant medical technology developments over the past 75 years.

In the home environment, it's striking how old a lot of our technology is. Almost everything we use on a daily basis (radio, television, washing machines, central heating, vacuum cleaners, dishwashers) originates in the 19<sup>th</sup> or early 20<sup>th</sup> centuries. And in transport, unless you're going by helicopter, hovercraft or rocket, your mode of travel will date from the 18<sup>th</sup> or 19<sup>th</sup> centuries with only planes scraping into the 20<sup>th</sup>. Admittedly digital technology has had a significant impact on our lives, but in many cases only by enabling us to do the same things differently. Even IT-related moral panics much beloved of the media have their civilisation-ending antecedents: jazz, rock 'n' roll, comic books, sex and violence on TV, punk rock, video games, video nasties and Liam Gallagher.

However, in medical technology, there are numerous products around today that were barely conceivable in 1948. Once I started looking more closely, I was surprised that some products I'd thought were post-WWII did in fact originate much earlier. The first effective endoscope appeared in 1853 while the first hip replacement was performed in 1891. Of course, there have been subsequent transformative developments in these products: fibre optics in endoscopy and more sophisticated materials for joint prostheses.

Nonetheless, there are numerous products around today that were barely conceivable in 1948. For instance, the technology behind the MRI scanner was refined in the 1970s and 1980s and two of the key figures were awarded the Nobel Prize for Physiology or Medicine in 2003. Another post-war technology was ultrasound with work on practical medical applications taking place during the 1950s. Imaging has provided unprecedented diagnostic insights and in both these cases major contributions were made by researchers from the UK.

Other medtech breakthroughs since the birth of the NHS include defibrillators, artificial hearts, the metered-dose inhaler, pacemakers, in vitro fertilisation, cochlear implants, the insulin pump, IV stents and artificial skin. The list goes on, but what's striking is the contrast between the surfeit transformative technologies in the medical field and the relative dearth in our domestic lives. If we factor out IT, our home-lives are not so different from those of our parents or grandparents, but when one enters a hospital, there's little comparison.

So, as well as celebrating 75 years of the NHS we should also remember those who have helped develop the technologies that enable it to function effectively. They may not necessarily have thought of themselves as healthcare scientists *per se*, but if one reframes STEM to stand for Science, Technology, Engineering and Medicine (sorry mathematicians!) that probably encapsulates the key elements that underpin medical technology: that's science and the application of science. Let's hope that students today will see this diverse and stimulating field as the career for them and the NHS or the medical technology sector as somewhere they'd like to work.

Finally, consider how different life as a patient is to what it would have been without the NHS, healthcare scientists or the medical technologies they've helped develop.

As the saying goes, “*The past might be a nice place to visit, but I wouldn't want to live there.*”