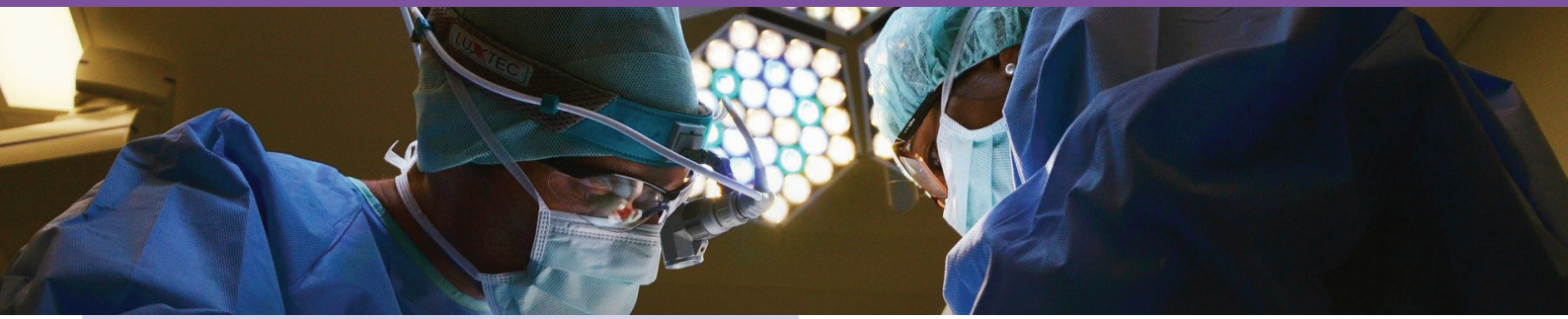
MIDLANDS ENGINE HEALTH
Focus on MedTech - Ophthalmic Technology and Devices Research Centre



The Midlands produces world-class research, consultancy and education in the areas of ophthalmic medical devices, diagnostic instrumentation and treatments for eye disease. This is epitomised by the Ophthalmic Technology and Devices Research Centre, a four-way partnership between industry, academia, NHS and private practice.

The incidence of eye diseases increase with age, leading to poor vision, an increased risk of falls, reduced independence and an impaired quality of life. With the ageing population and increased visual demands (particularly from internet-enabled smartphone and tablets) required for daily living tasks, the need for good vision is increasingly critical. Advances in lens design allow eye growth to be modified to reduce risk of developing high errors in refraction in children.

Generally, advances in technology are only slowly integrated into specialist health areas, often as a result of the introduction of high cost, low volume diagnostic instruments that enjoy limited access beyond specialist centres. Such an approach impedes the enhancement of primary care to reduce the burden on overstretched hospital and GP services. The Ophthalmic Technology and Devices Research Centre combines the specialist fields of biological science, photonics, medical pathophysiology, drug delivery, biomedical engineering, material science, imaging, sensor technology, informatics and software engineering to the field of ophthalmology to overcome these challenges.

Professor James Wolffsohn, Associate Pro-Vice Chancellor at Aston University

"The eye is increasingly recognised as a window to the health of the body, allowing direct viewing of the only end-arteriolar blood vessels and part of the brain (the optic nerve head) visible non-invasively. The Ophthalmic Technology and Devices Research Centre has spun off several companies in the Midlands and beyond and is working with a range of other SMEs to multinationals to translate technological advances to clinical practice. Of particular interest are better biomarkers for ocular health, advanced non-invasive imaging techniques, ophthalmic medical devices to overcome the loss of near vision with ageing and to control the short-sightedness epidemic, tele-ocular health facilitation, and artificial intelligence applied to ocular images to improve diagnosis and management decisions in ocular and systemic (such as cardiovascular) disease."

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