Minutes of the Derby Medical Society, Tuesday 20th October 2026
Royal Derby Hospital Education Centre Lecture Theatre

AI in Medicine: Hype, Hope or Healthcare Revolution
Miss Gita Lingham
Clinical Research Fellow and Colorectal Surgical Trainee

Apologies: Dr Stuart Holloway
Dr Sarah Milner

The meeting opened with a summary of minutes from the previous meeting read by Dr McIntyre. Full minutes are available on the DMS website.

Dr Murali Gembali introduced the speaker for the evening, Miss Gita Lingham. Miss Lingham has connections to Derby where she spent her childhood before going to university to study medicine. After graduation she has gone on to pursue a career in surgery. She is currently a surgical trainee in East of England specialising in colorectal surgery. Currently she studying for a PhD and is based at Saint Mark's hospital. Her PhD focuses on AI support In the area of inflammatory bowel disease. In 2025 she was awarded the John Nichols prize for research.

Miss Lingham opened her talk by explaining she was not an expert in AI. AI can be defined as a *programme or set of programmes developed using tools such as machine learning and neural networks and used to generate content, analyse complex patterns or automate complex tasks*. AI has certainly generated strong and varied reactions. For example Stephen Hawking commented that 'the development of full AI could spell the end of the human race'; Elon Musk has said 'we need to be super careful with AI. Potentially more dangerous than nukes'; Sam Altman has commented that AI won't replace humans but humans with AI will replace those without AI'. Alan Turing in 1950 famously said 'the original question can machines think? I believe to be too meaningless to deserve discussion'.

Miss Lingham used a short interactive session where people were encouraged to share their thoughts about AI which was revealing in the spread of opinions. She went on to explain some of the current terms used and where these terms sit: generative AI is within deep learning which is within machine learning which sits within artificial intelligence.

Perhaps one of the biggest challenges facing AI within Healthcare is the pace of change. Research literature is rapidly expanding on the ways in which AI can support current clinical practice and explained how a model can be developed. Using spotting pneumothorax as an example, a model is generated through a series of steps: the initial model is compared with the reference label and there then follows repeated adjustment of parameters. It is clear that the model is only as good as its trainer. It is critical that model undergoes a period of training validation and testing (practice, tune then test). The real test remains it's performance in a new clinical setting. It is clear that virtually all branches within medicine can find ways in which AI is supportive.

The audience were challenged with a series of X-rays and images that included mammograms, hip X-rays, chest X-rays, images from Crohn's disease and dermatology

lesions. This series of images helped illustrate how difficult it is to detect important lesions. Research in all these areas have demonstrated the value of AI in improving detection rates

Miss Lingham explained however, that AI is far more than just spotting things. In medicine, ambient voice technology has been shown to reduce the time spent generating notes. In robotics it is now possible for machines to undertake complex automated suturing. AI has helped to improve surgical navigation in real time by identifying key structures and tissue planes. In the workplace humanoid robots can undertake many tasks that traditionally done by staff so freeing up important clinical time.

Miss Lingham expanded on how we embrace technology and change behaviours illustrating this by our use of Google Maps. It's clear that in healthcare AI won't be needed for every decision we make. It can be useful to question its place on the basis of does it improve care. Concerns have also been raised about what happens when things go wrong. In guidance from the GMC it is clear that doctors and physician and anaesthesia associates are responsible for the decisions they take when using technologies like AI. If things do go wrong liability will depend on the facts but responsibility may extend beyond the individual clinician. It is also important to address some of the issues that might arise through consent for example in an ambient voice technologies the patient should be informed the tool is being used.

There are also other concerns that need to be acknowledged. There is the issue of automation bias where people rely on computer aided detection which can result in becoming less attentive. There is also a deskilling paradox and this has been identified whilst doing colonoscopies.

Miss Lingam drew her talk can we close by illustrating robotic technologies in practice and the sorts of tasks they currently can undertake. It is foreseeable that such technologies could progress to doing complex surgical procedures in the future.

She concluded her talk with her thoughts on where we are with AI: there is hype; there is evidence; there is work to do.

It was a lively and engaging question and answer session

20 members signed the register