

# Revolution in liver disease diagnosis could help NHS priority list

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A ground-breaking scan that can identify and help to treat liver disease, could make painful and invasive liver biopsies a thing of the past, thanks to a trial being led by the University of Birmingham.

Nearly 15 million people in the UK are affected by liver disease and this number is increasing. Most suffer from fatty liver disease which is linked to obesity, diabetes and alcohol excess and in severe cases can cause cancer or death. The Chief Medical Officer for England, Dame Sally Davies, identified it as a priority for the NHS in her report on the state of the nation's health and called for urgent action to reverse the trend.

Patients who are suspected of having liver disease will usually be sent for an invasive biopsy to assess the level of damage. But, as well as being painful and uncomfortable, biopsies have some drawbacks, including the fact that they cannot be used over and over again on the same patient. The new scan, called LiverMultiscan, could be used numerous times which means doctors will find it easier to monitor the progress of the disease and adapt the treatment plan accordingly for the individual.

The trial is a collaboration between clinicians and scientists at the National Institute for Health Research (NIHR) Birmingham Liver Biomedical Research Unit at the University of Birmingham, the University of Edinburgh and medical imaging company Perspectum Diagnostics. It is supported by a grant of £1.2 million from the UK's innovation agency, the Technology Strategy Board.

Until now, non-invasive tests such as blood tests and routine scans have been limited in detecting liver damage, especially in the early stages where patients have the most to gain from treatment. The only current accurate way to diagnose liver disease is through a liver biopsy where a needle is put into the liver and a sample of tissue is taken. This is uncomfortable and carries a small risk of serious complications.

Alex Morris, 40, from Birmingham, has had two liver biopsies. The first one, at Birmingham's Queen Elizabeth Hospital in 2012, confirmed she was suffering from liver disease.

She said that the ground breaking scan would be far preferable to a biopsy.

"Biopsies are not nice, not at all. They are a necessary evil, to diagnose you and to monitor whether you are getting any worse, but they are not nice," she said.

"The staff, the nurses, the doctors, they were all fantastic and explained what was happening the whole time. I was nervous and scared going in, and they really do everything they can to put you at your ease. But the anxiety of knowing you may be about to be diagnosed with a disease, together with undergoing a procedure does make it scary.

"If it comes down to a scan or a biopsy, and you can get the same result from both, I would choose a scan every time."

Miss Morris said that her biopsies took her about a week each to physically recover from.

If successful, LiverMultiscanTM, which uses a new type of MRI (magnetic resonance imaging) technology could be used throughout the UK to diagnose patients with liver disease without resorting to biopsies and could be available to patients in the NHS within three years.

Over the next two years the clinical study being undertaken will further assess LiverMultiscanTM and will also use the technology to monitor a group of patients with primary sclerosing cholangitis to see how well changes in the liver can be tracked over time.

Dr Peter Eddowes, Clinical Research Fellow in Hepatology at the University of Birmingham said:

"Liver disease often has no symptoms and people can go for years not knowing their liver is damaged. Current non-invasive tests lack the sensitivity to reliably pick up early liver disease"

**[Dr Gideon Hirschfield \(/staff/profiles/iandi/hirschfield-gideon.aspx\)](#)**, the chief investigator on the study said:

"We are pleased to run this study in Birmingham alongside our partners in Edinburgh and Oxford. We hope LiverMultiscanTM will improve the care of liver patients and enable us to provide a quicker, cheaper and most importantly, safer diagnosis."

This research is supported by the National Institute for Health Research (NIHR) Birmingham Liver Biomedical Research Unit.

## Notes to editor

Dr Eddowes is available for interview. Contact him direct on [p.eddowes@bham.ac.uk](mailto:p.eddowes@bham.ac.uk) or telephone (0121) 414 3344 ext. 46846 or **[Kara Bradley](#)** (<mailto:k.j.bradley@bham.ac.uk>), in the University press office on 0121 414 5134 to arrange.

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