

Issue 7

Liver Focus

Highlighting research whilst cutting through the medical jargon! Liver Focus is produced by the NIHR Birmingham Liver BRU Patient and Public Involvement Panel, Centre for Liver Research.



A citrus zest and an unusual new test!

What do oranges and lemons have to do with liver disease?

Scientists at the University of Birmingham and liver doctors at Queen Elizabeth Hospital Birmingham have found that patients with liver cirrhosis are breathing out high levels of a chemical which occurs naturally in citrus fruit.

Breath was collected from patients at a transplant assessment clinic, and from relatives who attended with them.

The breath was taken to the Molecular Physics labs at the University where it was analysed using an extremely sensitive instrument which measures tiny traces of chemicals.

Patient breath samples were then compared to those of their healthy relatives. Their pre-transplant and post-transplant breath samples were also compared. The team were very surprised to find 'limonene' at very high levels in the breath of patients with liver cirrhosis.

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Limonene is found in citrus fruits and gives them their orange/lemon flavour. It serves no function in the body and is not thought to be toxic, and is usually removed by the liver.

The team believe that the cirrhotic liver cannot clear limonene so it passes into the blood and is then stored in the fat of patients.

As a result of these findings, the team are now trying to secure funding to investigate whether a breath test can diagnose liver cirrhosis earlier.



At present, there are no good early screening tests which can warn of impending problems in time to prevent further liver damage.

If further testing and development is successful, this could be the breakthrough that is desperately needed for liver diagnosis.

Read more about this study:

[www.ebiomedicine.com/article/S2352-3964\(15\)30079-7/abstract](http://www.ebiomedicine.com/article/S2352-3964(15)30079-7/abstract)

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KEEPING YOU **Informed**

**Would you like to join our
volunteer panel and
contribute to the design of
future clinical trials?**

Please email LiverResearch@contacts.bham.ac.uk providing a brief paragraph as to why you are interested. One of our researchers will be in touch to provide you with more information.

The time commitment is about 2 hours per month from your own home via email, and attending two meetings a year in Birmingham. A medical background is not required and some financial support can be provided towards travel costs to attend meetings.



The University of Birmingham and Queen Elizabeth Hospital Birmingham liver research teams hold many free events which the public are invited to. Details of all future events, information videos, training courses and fundraising work can be found on at www.birmingham.ac.uk/clr-ppi.