

Groundbreaking discoveries in the fight against liver disease

UWA and Resonance Health's imaging technology helps patients avoid painful biopsies.

Medical imaging technology developed at the University of Western Australia (UWA) and commercialised by Resonance Health has helped more than 30,000 people worldwide to avoid invasive biopsies that test for liver diseases.

The relationship between UWA and Resonance Health – a company that began at UWA – is a leading example of universities and healthcare companies working together to commercialise breakthrough discoveries.

'Resonance Health and UWA have built a very synergistic, collaborative relationship over a long period,' says Resonance General Manager Sander Bangma. 'Resonance has been able to draw on UWA's capacity for innovation and its world-class researchers and facilities, and UWA has drawn on our skills in developing and commercialising products for global markets.'

The relationship stretches back more than a decade. UWA Professor Tim St Pierre, an eminent physicist, led a team in 2000 that developed the technology for Resonance's flagship product, FerriScan®, which measures liver-iron concentration through a non-invasive magnetic resonance imaging-based technology. It was developed from research by Professor St Pierre in the UWA School of Physics.

Professor St Pierre, who is also Chief Scientific Officer at Resonance Health, formed Inner Vision Biometrics, which

was spun out of UWA to commercialise the technology. The company became Resonance Health in 2003 through a backdoor listing on ASX. Resonance Health is now capitalised at \$10 million.

Within a year, Resonance Health achieved marketing clearance for FerriScan from the Therapeutic Goods Administration and CE Mark Approval, to gain market access in Australia and the European Union. US Food and Drug Administration market clearance followed in 2005.

FerriScan has now helped patients in more than 30 countries to avoid needle-based liver biopsies that can be painful and potentially dangerous. Bangma says, 'We are immensely proud that a technology initially developed at UWA is helping so many people, and that Resonance Health, a local company formed in Perth, has been able to turn this technology into a commercial success and build such a global footprint. FerriScan is now considered the gold-standard for non-invasive measurement of liver iron concentration'.

In another collaboration with UWA, Resonance has launched HepaFat-Scan® to measure liver fat and help treat non-alcoholic fatty liver disease – the most common liver disease in the Western world that is estimated to occur in about 30 per cent of adults in the United States. Resonance, in conjunction with UWA, was named Overall Innovator of the Year in the 2014 WA Innovator of the Year Awards for HepaFat-Scan.



Sander Bangma, Resonance Health General Manager

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'HepaFat-Scan is attracting significant interest from liver surgeons who want to know how much fat is in the liver before they conduct a surgery,' says Bangma.

Resonance has recently begun a trial with UWA researchers and local clinicians to better understand the clinical usefulness of HepaFat-Scan in liver surgery. The research is expected to be published in academic journals and provide peer-reviewed evidence to help quicken the take-up of HepaFat-Scan among liver surgeons worldwide.

In another study, Resonance is collaborating with the prestigious Children's Healthcare of Atlanta to conduct a clinical study using HepaFat-Scan on paediatric patients with non-alcoholic fatty liver disease. The results of the study, produced in conjunction with one of the world's leading authorities on

paediatric liver disease, Dr Miriam Vos, may help clinicians to develop protocols for the routine use of HepaFat-Scan for children with fatty liver disease. 'This market has strong growth prospects given the expected rise in fatty liver disease as obesity rates increase.'

Resonance is now a sustainable company from which new products can be launched. It reinvests its revenue into research and development, and has several new products in the pipeline. One of those includes a recently developed prototype for a non-invasive test to diagnose liver fibrosis, which was developed with researchers from UWA and other institutes. It could eliminate the need for painful and costly liver biopsies for fibrosis measurement (scarring of the liver), and help Resonance develop a suite of products to measure disease in the liver and, later, other organs. 'Our goal is to

give clinicians worldwide a total view of liver health,' says Bangma.

He says UWA's proactive, commercial approach – and the skills of its researchers – are key reasons for Resonance's success. 'UWA has been a fantastic partner. Working together, we have been able to take an early-stage technology, commercialise it, and help tens of thousands of patients worldwide. We've also been able to develop new products, produce academic studies, and create real value for Resonance, UWA, and the community. I would highly recommend UWA to other healthcare companies.'

To learn more about Resonance Health, visit resonancehealth.com.

Visit research.uwa.edu.au/ri to learn more about research impact at UWA.