

### Teenagers to be examined for long-term liver study

#### Siemens ultrasound systems used in ALSPAC research project

The Avon Longitudinal Study of Parents and Children (ALSPAC), a long-term health research project based within the department of Social Medicine at Bristol University, has taken delivery of two ACUSON S2000™ ultrasound systems from Siemens Healthcare for Acoustic Radiation Force Impulse (ARFI) imaging. The technique will be used to investigate non-alcoholic fatty liver disease in 16-18 year old adolescents as part of a study funded by the UK Medical Research Council.

The liver examinations will be made possible by the first commercially available implementation of ARFI in the S2000's Virtual Touch™ application. It uses an acoustic 'push pulse' to interrogate the mechanical strain properties or stiffness of deep tissue, a method similar to a physical palpitation examination.

The ALSPAC study, also known as 'Children of the 90s', has collected a large amount of information on parents and children over the last 18 years since the mothers were pregnant. Detailed liver scanning will help ALSPAC investigate how common non-alcoholic fatty liver is in a cohort of healthy young adults and the risk factors associated with it, something currently unknown. With future follow-up of the study participants, it will also be possible to determine the potential risk that non-alcoholic fatty liver disease can have later in life.

Providing ALSPAC receive the necessary funding, the future health of the teenagers will be monitored right through until they are in their 70s and 80s. Future exploration will also be carried out to investigate what effect various factors such as diet, exercise and genetics have on how the liver functions and the potential development of non alcoholic fatty liver disease.

“ARFI is an innovative new technology, allowing our sonographers to standardise measurements and quantify the amount of fibrosis in the liver. This is something we didn’t think we would be able to do when first submitting our application for the project so the S2000 will make a big difference to our research,” said Debbie Lawlor, Professor of Epidemiology and Deputy Director of the MRC Centre for Casual Analyses in Translational Epidemiology.

“We are delighted that the S2000 is playing a part in a long-term look at non-alcoholic fatty liver disease,” said Cliona Cunningham, Ultrasound Product Specialist at Siemens Healthcare. “ARFI is a quick, non-invasive solution and delivers high quality imaging for detailed ultrasound scans of the liver. This research on the teenage generation may be influential in shaping the direction of knowledge into the future – we look forward to following the study closely.”

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#### **About Siemens Healthcare**

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#### **About ALSPAC**

ALSPAC, The Avon Longitudinal Study of Parents and Children (also known as Children of the 90s) is a unique ongoing research project based in the University of Bristol. It enrolled 14,000 mothers during pregnancy in 1991-2 and has followed most of the children and parents in minute detail ever since.

Approximately 424 words

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**Picture caption:** The two ACUSON S2000s™ from Siemens Healthcare will be used by ALSPAC for ARFI liver imaging in 16-18 year olds.

(Left to right): Debbie Lawlor, Professor of Epidemiology and Deputy Director of the MRC Centre for Casual Analyses in Translational Epidemiology; Dr. Janice Ash-Miles, Consultant Radiologist; Cliona Cunningham, Ultrasound Product Specialist at Siemens Healthcare; Janice Miles, Ultrasound Sales Manager at Siemens Healthcare; Helen Smith, Sonographer for ALSPAC and University Hospitals Bristol; Paul Snell, Senior Data Manager for ALSPAC; Cathy Bauer, Sonographer for ALSPAC; Larissa Duffy, Senior Clinic Manager for ALSPAC.

