Title	Thriving through puberty: Exploring neuro-biology and mental health of adolescents with Chronic Liver Disease and liver transplantation.
To start	October 2020 entry - Application deadline: **Sunday 28th June 2020**
Award(s)	1 fully funded KMRT KCH Joint Research Committee full time PhD Studentship for Home/EU students only. Overseas applicants are not eligible for this studentship.
Project	Puberty is a period characterized by significant neuro-biological changes. These can drive behaviours like risk taking and cause high emotional sensitivity. This is especially important in the liver setting. We have made huge progress to increase the survival rates of children with serious liver disease. However, young people following liver transplantation have difficulties adhering to treatment and a much greater likelihood of mental health problems. In addition, their cognitive function and health related quality of life are worse than unaffected peers. We want to know why. Data on growth and pubertal development in children and young people with liver disease and following liver transplantation remain scarce. This needs to change because we know there is a tight relationship between puberty and chronic illness on a biological, psychological and social level. The liver plays a major role in sex hormone metabolism with normal liver function a prerequisite for optimal gonadal function. Liver conditions redirect blood flow away from the liver, likely disrupting this critical process. To help our patients not only survive, but to thrive, we now want to investigate how adolescence and brain maturation is affected by liver disease. We are pleased to offer a PhD opportunity to join our team and work with young people aged 11-30 years to examine the impact of liver disease on pubertal development. The project will use validated assessments of development and cognition to determine the potential longitudinal impact of liver disease on pubertal development. The project has wide scope. For example, we may include imaging data (MRI & spectroscopy) to examine how the brain structure, function and chemistry changes during adolescence. We will assess pubertal staging and growth as well as severity of the liver disease and cognitive and behavioural skills. We will explore educational outcome and health related quality of life in our patient population and compare with existing published data. This innovative multidisciplinary project provides unmatched breadth and depth of skills training and has the potential to rapidly affect our understanding on pubertal development in young people with liver disease and compare this with existing published data on healthy peers and those with other chronic conditions. This project will support our efforts to manage our patients holistically and ensure that their developmental needs are met. This is particularly relevant during adolescence, typically associated with change in health care setting from paediatrics to adults and risk taking behaviours such as non-adherence and substance misuse. The proposed project would involve close collaboration between King's Health Partners, including the following CAGS: Child Health Clinical Academic Group, Clinical Neurosciences Clinical Academic Group, Behavioural and Developmental Psychiatry, Clinical Academic Group, Imaging and Biomedical Engineering Clinical Academic Group) to implement this joint research. King's Paediatric Liver Centre is a national hub providing a highly specialised service to children with liver problems. It is the largest service of its type in the world, treating over 3000 young patients a year. Children are assessed and treated for neonatal liver diseases, chronic (long-standing) liver disease and acute liver failure. The service also runs a liver transplant programme and is at the forefront of pioneering new treatments. King's College Hospital has the only joint paediatric and adult liver facility in the world and the service has a unique multidisciplinary 'young adult liver service' providing care for young people aged 16-25 years. The Institute of Psychiatry, Psychology and Neuroscience at King's, the largest academic psychiatric community in Europe links with South London and Maudsley NHS Foundation Trust to access approximately 30,000 outpatients. Thus, working here

	provides exposure to a unique resource of basic science and clinical expertise for the student. The Centre for Neuroimaging Sciences is equipped with state of the art imaging facilities, including two GE 3T MRI clinical research scanners and support from a dedicated team of engineers, physicists, statisticians, radiologists, and image analysts. The student will have comprehensive training, including in the acquisition and analysis of paediatric and adolescent data, the psychological assessment of patients with liver disease, data computation and analysis, as well as specific training in clinical ethics, recruitment and assessment. Training in the analysis of MRI spectroscopy data will be provided as needed.
Supervisors	Dr Marianne Samyn & Prof Grainne McAlonan Consultants: Dr Jemma Day, Dr Jonathan Muircheartaigh Dr Ritika Kapoor, Prof Anil Dhawan.
Entry requirements	Applicants should have (or be expected to obtain) a 2:1 or 1st class honours degree in a subject relevant to the proposed project. If applicants already possess (or expect to obtain) a research-based MSc degree, a merit or distinction level is required. This project would be particularly suitable for candidates with an interest in developmental psychology, neuropsychology, neuroscience, neurodevelopment, neuroimaging.
Award types and eligibility	Departmental studentships are based on King's College London rates stipend, currently a minimum of £17000 per annum.
How to apply	Applicants must complete and submit an online admissions application, via the admissions portal by midnight (11:59 GMT), **Sunday 28th June 2020** On the 'Choosing a programme' page, please select "Forensic and Neurodevelopmental Science MPhil/PhD". Further information can be found at https://www.kcl.ac.uk/study/postgraduate/apply/research-courses.aspx In your application, you will be asked to include: • Academic Transcripts - where applicable, academic transcripts must be submitted with the online admissions application • Details of your qualifications (you will need to attach copies) • Details of previous employment • A personal statement describing your interests and why you wish to apply for this project. Please include this as an attachment rather than using the text box. • Academic References - all admissions applications require one supporting reference. If the applicant is relying on his/her referees to submit references directly to the College after he/she has submitted his/her admissions application, then the applicant must ensure that their chosen referees are made aware of the funding deadline. In the Funding section, please tick box 5 and include the following reference: **FANS-KMRT-2020** Please note there is no need to complete the Research Proposal section in your application as the project has already been set. You are welcome to email Marianne Samyn (Marianne.1.samyn@kcl.ac.uk) for more information regarding the project and studentship." If you have any queries regarding the application process, please contact the Postgraduate Research Administrator.

	Only shortlisted applicants will be contacted.
Closing Date	11:59pm GMT, Sunday 28th June 2020
Interviews	Will be notified by email, interview dates TBC.