Established in 2008, the HIV Molecular Research Group (HMRG) is internationally recognized for its translational research into long-term co-morbidities associated with HIV infection and its treatment with antiretrovirals and research into models of testing to increase early diagnosis of HIV.

The HMRG, based on the Mater Misericordiae University Hospital (MMUH) campus, coordinates international, collaborative, translational research in HIV. The group comprises researchers with laboratory, statistical and clinical research expertise and is funded through a number of streams including Science Foundation Ireland, the Health Research Board and several industry supporters. The group’s research focuses around four principal themes:

- **Models of HIV detection.** The Mater-Bronx Rapid HIV Testing Project (M-BRiHT) involves collaborations between UCD, MMUH and the Jacobi Medical Centre in the Bronx, New York, and aims to increase early detection of HIV, a core strategy to reduce onward HIV transmission. M-BRiHT combines rapid HIV testing with novel, computer-based video counseling and offers unselected HIV screening to attendees to the MMUH Emergency Department. Sponsored by UCD and funded by Gilead Sciences, M-BRiHT launched in September 2012 and has already recruited over 4,000 subjects, with plans for international expansion to sites in the UK and Italy in 2013.

- **Bone disease in HIV.** Low bone mineral density and osteoporosis is common in those with HIV. The HMRG coordinates a number of international collaborative projects to define the natural history and pathogenesis of bone disease in HIV including the establishment of the HIV UPBEAT cohort, the largest international prospective cohort of HIV positive and negative subjects (N=484). With funding from the Health Research Board and GlaxoSmithKline, HIV UPBEAT has started to yield very exciting results that will be published in 2013.

- **Cardiovascular disease (CVD)** is also increased in HIV. The Reverse Cholesterol Transport Study (RCTS), co-funded by the EU through the European AIDS Treatment Network (NEAT) and Science Foundation Ireland is exploring mechanisms of dyslipidaemia in HIV. RCTS expands on early work by HMRG published in the Journal of Infectious Diseases in 2012 on mechanisms of increased CVD in HIV, and is recruiting 100 subjects with HIV at MMUH and the Chelsea and Westminster Hospital in London.

- **HIV Immunology.** Through the MMUH-ID Cohort Project, the HIV Immunology Study, supported by a number of industry partners, aims to explore additional tests that better reflect and predict immune responses to antiretroviral therapy. This study, in collaboration with Rush University Medical Centre in Chicago, has recruited over 200 subjects.

In addition to a number of publications and conference presentations, HMRG’s achievements were recognized in 2012 with the award, by the British HIV Association, of the ‘Brian Gazzard Lectureship in HIV Medicine’ to Dr. Mallon.
Dr Patrick Mallon
Associate Dean for Research & Innovation / Consultant in Infectious Diseases
Location: Mater Misericordiae Hospital
Contact: 01 716 4495
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I lead the HIV Molecular Research Group, which focuses on translational research into toxicities of antiretroviral therapy, strategies to increase population HIV testing and studies aimed at better understanding immune responses to antiretroviral treatment.

Major ongoing studies include the HIV UpBEAT Study, the largest, prospective controlled study into bone disease in HIV internationally; the M-BRiHT Study, an international collaborative study of the first ED-based HIV screening programme in Ireland; and the Mater Immunology Study part of the Mater HIV4D Cohort Project. In 2012 I was awarded the Brian Gazzard Lectureship in HIV Medicine by the British HIV Association.

Dr John (Jack) Lambert
Senior Lecturer in Medicine / Consultant in Infectious Diseases
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Current research focused on infections in pregnancy and treatment of HIV and hepatitis C. He successfully developed a database at the Rotunda and Mater to monitor pregnant women with various infectious diseases, and also monitoring HIV drug levels in HIV positive pregnant women in receipt of HIV therapy. Active in hepatitis C treatment and also developing national policies and strategies.

Dr Lambert is the recipient of a €238K two year grant from ViiV Access and Government Affairs department, to develop a pediatric AIDS database in two clinics in Eastern Cape South Africa. This database will capture information on 2500 children, approximately 2000 of whom are on HIV treatment and capture important safety and clinical data on these children.

Dr Lambert and his team at the Mater, CRCC and Rotunda Hospitals were the recipient of a €1,000 prize for the best poster award for the HIV 11 conference held in Glasgow, Nov 2012. This conference was attended by over 3000 delegates from Europe and Worldwide. And such an award is recognition of the hard work of all involved. The study involved collecting TDM therapeutic drug monitoring samples on HIV infected pregnant women from during pregnancy, and labour and delivery and post partum, and comparing HIV drug levels in these women at different stages of pregnancy and in the cord blood samples.

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Researchers Supported

Dr Gerard O’Connor, Research Fellow
Dr Aine Cotter, Research Fellow
Dr Jane O’Halloran, Research Fellow
Mr William Tinga, PhD Student
Mr Robert Maughan, PhD Student
Ms Siobhán Semelka, Clinical Research Nurse
Ms Elizabeth Cegielski, Clinical Research Nurse
Mr Aislinn Hammond, Data Manager
Mr Brendan Rogers, Laboratory Scientist
Ms Aislinn Ni Flaitheartaigh, Clinical Research Assistant
Ms Kathleen Coyne, Clinical Research Assistant
Ms Aisling Lacey, Research Student

Active national and international collaborations & projects:

Prof Caroline Sabin, University College London
HIV UPBEAT and HRB Bone
Prof Jakob Compton, University of Cambridge
HIV UPBEAT
Prof Yvette Calderon, Jacobs medical Centre, Albert Einstein College of Medicine, The Bronx, New York; M-BRiHT
Prof Peter Reiss, University of Amsterdam. RCTS Study
Prof Alan Landay, Rush University Medical Centre, Chicago HIV Immunology Study
Prof Dermot Kenny, Royal College of Surgeons in Ireland, Platelet Dysfunction in HIV
Dr Anton Pozniak, St Stephens AIDS Trust in London
Prof Juliet Compston, University of Cambridge.
HIV UPBEAT and HRB Bone Mineral Density Study
Prof Caroline Sabin, University College London
Prof Peter Reiss, University of Amsterdam
Prof Yvette Calderon, Jacobs Medical Centre
Prof Alan Landay, Rush University Medical Centre
Dr Anton Pozniak, St Stephen’s AIDS Trust
Prof Caroline Sabin, University College London
Prof Peter Reiss, University of Amsterdam
Prof Caroline Sabin, University College London

Grants

Title: Exploring Low Bone Mineral Density in HIV: Knowledge Exchange and Dissemination Scheme
Funder: Health Research Board
Start/End Dates: 2012-13
Amount: €24,653

Title: In vitro examination of toxicity of investigational antiretroviral agents
Funder: AChiva GmbH & Co
Start/End Dates: September 2012 – June 2013
Amount: €51,000

Title: The Mater Bronx Rapid HIV Testing Project (M-BRiHT Project)
Funder: Gilead Sciences
Start/End Dates: 2012-2014
Amount: €161,119

Title: The Mater Misericordiae University Hospital ID-HIV Cohort Project
Funder: Janssen-Cilag, Merck Sharpe and Dohme, Bristol Myers Squibb
Start/End Dates: 2011-2014
Amount: €43,543

Title: The HIV Reverse Cholesterol Transport Study: HIV RCTS: Integration Grant
Funder: EU FP7 European AIDS Treatment Network (NEAT)
Start/End Dates: 2011-2013
Amount: €50,000 (€15,000 to UCD)

Title: Exploring Low Bone Mineral Density in HIV
Funder: Health Research Board
Start/End Dates: October 2010 – 2013
Amount: €215,906

Title: Understanding the Pathology of Bone Disease in HIV-infected Patients
Funder: GlaxoSmithKline
Start/End Dates: May 2010 - 3 years
Amount: UK£596,000 (€913,526)

Title: The St. Marys and The Mater Maraviroc Switch Study. A prospective, randomised study to assess safety, changes in platelet reactivity, plasma cardiac biomarkers, immunological and metabolic parameters in HIV-1 infected subjects undergoing a switching in antiretroviral therapy
Funder: Pfizer
Start/End Dates: 2009-2012
Amount: UK£148,188 (€134,231)

Title: Exploring antiretroviral-induced adipose tissue toxicity through translational research
Funder: Science Foundation Ireland
Start/End Dates: May 2009 - 2013
Amount: €199,761
Publications:


7. Cotter AG, Mallon PW. The crosstalk between bone and fat in HIV-infected patients, with a focus on lipodystrophy. Clin Rev Bone Miner Metab. 2012; 10;266-276.


