

Jonathan UNDERWOOD

Date of Birth: 10/10/1981

Current Address: 61 Rhydheilig Avenue, Cardiff

Mobile: 07980571113

Email: jonathan.underwood@wales.nhs.uk

Alternative: junderwood@doctors.org.uk

Web: <http://www.imperial.ac.uk/people/jonathan.underwood>

Google scholar: <https://scholar.google.co.uk/citations?user=OOQr5uV4AAAAJ&hl=en>

GMC number: 6129917 (full registration with licence to practice)

PERSONAL PROFILE

I am currently an infectious diseases and acute medicine consultant physician at the University Hospital Wales after completing specialty training at a number of specialist infectious diseases centres in London. I took time out of specialty training to complete a PhD at Imperial College London, where I studied HIV-associated cognitive impairment in treated HIV-disease. I remain active in the field, publishing and presenting my research both nationally and internationally. Throughout my career, I have consistently been involved in clinical audit, quality improvement and teaching both at the bedside and in the lecture theatre, all of which I plan to continue and develop as a consultant. My long-term career goal is to be a clinical academic studying neurological degeneration associated with infections.

Present appointment

- Consultant Physician – Cardiff and Vale University Health Board
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EDUCATION

Degrees and Qualifications

- CCTs in Infectious Diseases and General Internal Medicine, GMC – February 2018
- PhD, Imperial College London – May 2017
- Diploma of Tropical Medicine and Hygiene (Distinction) – May 2016
- Specialty Certificate Examination in Infectious Diseases – October 2013
- Diploma of HIV medicine (DipHIV) – March 2013
- MRCP (UK) – July 2008
- MBBS with Distinction in Clinical Practice, Imperial College London – July 2005
- AICSM (Associate of Imperial College School of Medicine) – July 2005
- Cardiovascular Science BSc. 2:1 (Hons), Imperial College London – July 2003

Prizes and awards

- Highly commended poster award – British HIV Association, April 2019
- Best research presentation – HIV CNS UK meeting, March 2018
- Highly commended poster award – British HIV Association, April 2017
- Margaret Johnson prize for best oral research presentation – British HIV Association, April 2016
- Gordon M Holmes prize (for Medicine finals) – July 2005
- Distinction in Clinical Practice (finals) – July 2005
- Honours in Clinical Pharmacology and Medicine (finals) – July 2005
- ICSM 'Colours' for outstanding contribution to the medical school – March 2005
- Distinction in Pathology – July 2004
- Merit in Medicine and Surgery (3rd Year exams) – July 2002

PROFESSIONAL EXPERIENCE

I am currently a consultant infectious diseases and acute medicine physician at the University Hospital Wales, where I manage a broad range of patients both in in-patient, ambulatory care and outpatient settings. I was awarded CCTs in infectious diseases and general internal medicine in February 2018 following training in a variety of different specialist centres. I have acquired a broad experience of managing acutely unwell patients with general medical problems as well as community and hospital acquired infections, infections in the immunocompromised (particularly HIV) as well as multi-drug resistant and imported infections.

Infectious Diseases & General Medicine Specialty Training (North Thames rotation) - October 2009 to February 2018

- Infectious Diseases and Microbiology – St George's Hospital
- Infectious Diseases and Tropical Medicine – University College London Hospitals
- Acute Medicine – University College London Hospitals
- HIV, Infectious Diseases and General Medicine – St Mary's Hospital
- Infectious Diseases – Northwick Park Hospital
- Critical Care Medicine – Guy's and St Thomas' Hospital
- Microbiology and Infectious Diseases – Guy's and St Thomas' Hospital
- Infectious Diseases and General Medicine – Ealing Hospital

Core Medical Training (North West Thames rotation) – August 2007 to August 2009 Foundation Training (St Mary's and Charing Cross Hospitals) – August 2005 to August 2007

RESEARCH

I completed a PhD in 2017 at Imperial College London, where I studied the mechanisms of HIV-associated cognitive impairment and the possible role of antiretroviral neurotoxicity, using advanced neuroimaging and multivariate analysis techniques. I am GCP trained and have experience of designing studies, recruiting patients, collecting and collating data, statistical analysis (including multivariate and machine learning methods), project management and collaborating in large international consortia. During this period of study, I also co-supervised three BSc. students' research projects.

I have been fortunate to have the opportunity to present my work both nationally and internationally and have recently been invited to join an international taskforce to improve research into and clinical management of HIV-associated cognitive impairment. Additionally, I have presented to patient and community groups and have helped write lay summaries of my research field and patient information for community websites.

Selected publications (h-index 10 – Google Scholar)

- Underwood, J., Cole, J. H., Leech, R., Sharp, D. J., & Winston, A. (2018). Multivariate Pattern Analysis of Volumetric Neuroimaging Data and Its Relationship With Cognitive Function in Treated HIV Disease. *JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES*, 78(4), 429-436. doi:[10.1097/QAI.0000000000001687](https://doi.org/10.1097/QAI.0000000000001687)
- Underwood, J., De Francesco, D., Leech, R., Sabine, C. A., & Winston, A. (2018). Medicalising normality? Using a simulated dataset to assess the performance of different diagnostic criteria of HIV-associated cognitive impairment. *PLOS ONE*, 13(4). doi:[10.1371/journal.pone.0194760](https://doi.org/10.1371/journal.pone.0194760)
- Cole, J. H., Caan, M. W. A., Underwood, J., et al on behalf of the COBRA collaboration. (2018). No evidence for accelerated ageing-related brain pathology in treated HIV: longitudinal neuroimaging results from the Comorbidity in Relation to AIDS (COBRA) project.. *Clin Infect Dis*. doi:[10.1093/cid/cix1124](https://doi.org/10.1093/cid/cix1124)

- *Van Zoest, R. A., *Underwood, J., De Francesco, D., et al on behalf of the COBRA collaboration. Structural brain abnormalities in successfully treated HIV infection: associations with disease and cerebrospinal fluid biomarkers. *The Journal of Infectious Diseases* (2017), 217(1), 69-81. doi:[10.1093/infdis/jix553](https://doi.org/10.1093/infdis/jix553)
- Underwood, J., Cresswell, F., Salam, A. et al. Complications of miliary tuberculosis: low mortality and predictive biomarkers from a UK cohort. *BMC INFECTIOUS DISEASES* (2017), 17, 7. doi:[10.1186/s12879-017-2397-6](https://doi.org/10.1186/s12879-017-2397-6)
- Underwood, J., Cole, J., Caan, M. W. A., et al on behalf of the COBRA collaboration. Grey and white matter abnormalities in treated HIV-disease and their relationship to cognitive function. *CLIN INF DIS* (2017) 65 (3): 422-432. doi:[10.1093/cid/cix301](https://doi.org/10.1093/cid/cix301)
- Cole, J. H., Underwood, J., Caan, M. W. A., et al on behalf of the COBRA collaboration. Increased brain-predicted ageing in treated HIV disease. *Neurology* (2017) 8(14), 1349-1357. doi:[10.1212/WNL.0000000000003790](https://doi.org/10.1212/WNL.0000000000003790)
- De Francesco, D., Underwood, J., Post, F., et al on behalf of the Pharmacokinetic and Clinical Observations in People Over Fifty (POPPY) study group (2016), Defining cognitive impairment in people-living-with-HIV: the POPPY study. *BMC Infectious Diseases* (2016) 16:617. doi:[10.1186/s12879-016-1970-8](https://doi.org/10.1186/s12879-016-1970-8)
- Underwood, J., De Francesco, D., Post, et al and the Pharmacokinetic and Clinical Observations in People Over Fifty (POPPY) study group (2016), Associations between cognitive impairment and patient-reported measures of physical/mental functioning in older people living with HIV. *HIV Med.* doi:[10.1111/hiv.12434](https://doi.org/10.1111/hiv.12434)
- Underwood, J., & Winston, A. (2016). Guidelines for Evaluation and Management of Cognitive Disorders in HIV-Positive Individuals. *Curr HIV/AIDS Rep*, 13(5), 235-240. doi:[10.1007/s11904-016-0324-x](https://doi.org/10.1007/s11904-016-0324-x)
- Scott, J., Underwood, J., Garvey, L. J., et al. (2016). A comparison of two post-processing analysis methods to quantify cerebral metabolites measured via proton magnetic resonance spectroscopy in HIV disease. *Br J Radiol*, 89(1060), 20150979. doi:[10.1259/bjr.20150979](https://doi.org/10.1259/bjr.20150979)
- Winston, A. & Underwood, J. (2015). Plasma Biomarkers of HIV-associated Cognitive Disease. *EBioMedicine*, 3, 12-13. doi:[10.1016/j.ebiom.2015.11.052](https://doi.org/10.1016/j.ebiom.2015.11.052)
- Underwood, J., Robertson, K. R., & Winston, A. (2015). Could antiretroviral neurotoxicity play a role in the pathogenesis of cognitive impairment in treated HIV disease? *AIDS*, 29(3), 253-261. doi:[10.1097/QAD.0000000000000538](https://doi.org/10.1097/QAD.0000000000000538)
- Winston, A. & Underwood, J. (2015). Emerging concepts on the use of antiretroviral therapy in older adults living with HIV infection. *CURRENT OPINION IN INFECTIOUS DISEASES*, 28(1), 17-22. doi:[10.1097/QCO.000000000000117](https://doi.org/10.1097/QCO.000000000000117)
- Underwood, J. (2013). RECURRENT UTI IN NON-PREGNANT WOMEN Don't forget the embalming fluid for treating recurrent infections. *BMJ-BRITISH MEDICAL JOURNAL*, 346, 1 page. doi:[10.1136/bmj.f3933](https://doi.org/10.1136/bmj.f3933)
- Underwood, J., Klein, J. L., & Newsholme, W. (2011). Escherichia coli bacteraemia: how preventable is it? *J Hosp Infect*, 79(4), 364-365. doi:[10.1016/j.jhin.2011.07.005](https://doi.org/10.1016/j.jhin.2011.07.005)
- Cowie, M. R., Komajda, M., Murray-Thomas, T., Underwood, J., & Ticho, B on behalf of the POSH investigators. (2006). Prevalence and impact of worsening renal function in patients hospitalized with decompensated heart failure: results of the prospective outcomes study in heart failure (POSH). *EUROPEAN HEART JOURNAL*, 27(10), 1216-1222. doi:[10.1093/eurheartj/ehi859](https://doi.org/10.1093/eurheartj/ehi859)

Book Chapters

- Underwood, J. (2014). Bone, joint and soft tissue infections. In A. Brent, R. Davidson, & A. Seale (Eds.), *Oxford Handbook of Tropical Medicine* (pp. 1008 pages). Oxford University Press.

Selected presentations

- 'Identification of brain injury using a novel definition of cognitive impairment' - **J. Underwood et al** on behalf of the CHARTER study group. Oral presentation at the Conference on Retroviruses and Opportunistic Infections (2018).
 - 'Medicalising normality? Using a simulated dataset to assess the performance of different diagnostic criteria of cognitive impairment' - **J. Underwood et al** on behalf of the POPPY study group. Poster presentation at the British HIV Association conference (2017). Highly commended poster award winner.
 - 'Brain MRI changes associated with poorer cognitive function despite suppressive antiretroviral therapy' – **J. Underwood et al** for The Co-morBidity in Relation to Aids (COBRA) Collaboration. Oral presentation at the British HIV Association conference (2016). Margaret Johnson prize for best oral research presentation.
 - 'Brain MRI changes associated with poorer cognitive function in treated HIV-infection' – **J. Underwood et al** for The Co-morBidity in Relation to Aids (COBRA) Collaboration. Oral presentation at the Conference on Retroviruses and Opportunistic Infections (2016).
 - 'Associations between Cognitive Impairment and Patient-reported Measures of Physical/Mental Functioning in Older People Living with HIV' – **J. Underwood, D. De Francesco, F. Post, et al** on behalf of the POPPY study group. Poster presentation at the European AIDS Clinical Society Conference (2015).
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AUDIT

I have been actively involved in clinical audit since medical school. Latterly in my registrar training, I have initiated, designed and lead audit projects, including supervising junior doctors collecting and analysing data and have recently submitted data for a national clinical audit. Earlier this year, I led an audit of drug- and IV catheter-related adverse events for the OPAT service at UCLH, which was presented at the 28th European Congress of Clinical Microbiology and Infectious Diseases in April 2018 and has recently been published in the Journal of Antimicrobial Chemotherapy. I am currently leading several audits to improve clinical care in my current role at the University Hospital Wales.

Selected audits

- 'Intravenous catheter-related adverse events exceed drug-related adverse events in outpatient parenteral antimicrobial therapy' – University College London Hospitals (2017-2018)
 - 'Native vertebral osteomyelitis' – University College London Hospitals (2017)
 - 'Complications of miliary tuberculosis: low mortality and predictive biomarkers from a UK cohort.' – Northwick Park Hospital (2012-2015)
 - 'E. Coli Bacteraemia - How Preventable is it?' – Guy's and St Thomas' Hospital (2010-2011)
 - 'John Hunter Clinic *Trichomonas vaginalis* Audit' - Chelsea and Westminster Hospital (2008-2009)
 - 'Bipolar Affective Disorder and the NICE guidelines' – The West London Mental Health Unit (2007)
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TEACHING

I have actively taught throughout my medical career in a variety of guises, including at the bedside, in small groups, using problem-based scenarios and didactic sessions. This includes presentations to multi-disciplinary teams at departmental meetings and grand rounds. I regularly taught 5th year undergraduate medical students at Imperial College as part of their infectious diseases curriculum and have annually tutored groups of students, focusing on clinical examination and presenting at the bedside, to prepare them for their medical school 'finals'. I have also lectured as part of the undergraduate programme at King's College London and Imperial College London and on MSF's global health and humanitarian medicine course. I have also organised a successful training day for my registrar colleagues. I have attended 'teaching for teachers' courses run by Imperial College London and the London Deanery to further my teaching skills.

In 2012, I was nominated for a 'teaching excellence for NHS teachers' award and was selected as a 'local teaching hero' at North West London Hospitals NHS Trust. In 2014, I took the opportunity to teach at an advanced HIV practitioner's postgraduate training course in Mbale, Uganda as well as giving a guest lecture at the Busitema University School of Medicine. In addition, I have also helped supervise three undergraduate BSc. Students, aiding them with the collection, analysis and presentation of their work. I have recently set up a regular teaching programme for doctors working in acute/general medicine at the University Hospital Wales. I plan to continue teaching throughout my career and look forward to further opportunities in the future.

LEADERSHIP & MANAGEMENT

In my current role as a consultant physician, I have taken on several leadership and management roles, principally initially focussing on acute medicine quality improvement work. I have written a handbook to improve the induction doctors into acute medicine at the University Hospital Wales. Recognising a deficiency in acute/general medical teaching I have started a weekly medical teaching programme. As a more senior trainee I became more involved in aspects of management. During my ST3 year at Ealing Hospital was involved in several aspects of management including redesigning the junior doctor rota, working as the junior doctors' representative regarding management issues and helping with the redesign of the acute medical service. I was involved in the redesign of acute medical services at St Thomas' Hospital and led a successful quality improvement project for the high dependency unit at St Mary's Hospital. I have also attended a management and leadership course and the RCP consultant survival guide course to develop my skills in this area.

Outside of medicine, I enjoy sport, particularly rugby and until a career-ending injury I played semi-professionally for Rosslyn Park (national division 1) and was previously selected for the England Counties 2007 squad. At medical school, I captained the 1st XV team to victory in the United Hospitals and JPR Williams Challenge cups. I have also captained an invitational 7's team both in the national 7's league and at international tournaments. As captain, I was responsible for the selection, training and motivation of my players, in addition to leading on the field during games. These roles allowed me to build skills in good time management, communication, leadership and organisation, which have all helped during my professional career.

REFEREES

Dr Philip Gothard

Consultant in Physician at University College Hospital
Training Programme Director for Infectious Diseases
philip.gothard@gmail.com

Professor Alan Winston

Professor of HIV and Genitourinary Medicine at Imperial College London
Consultant Physician at St. Mary's Hospital, London
a.winston@imperial.ac.uk

Professor Graham Cooke

Professor of Infectious Diseases at Imperial College London
Consultant Physician at St. Mary's Hospital, London
g.cooke@imperial.ac.uk