

Professor Jaydip RAY PhD, MS, FRCS (ORL)

POSITIONS HELD

- 1. Deputy Lieutenant, South Yorkshire Lieutenancy**
- 2. Professor of Otology & Neurotology
University of Sheffield & Sheffield Hallam University**
- 3. Clinical Director
ENT / Hearing Services, Sheffield Teaching Hospitals**
- 4. Vice President
British Otolaryngology and Allied Research Society**
- 5. Deputy Specialty Lead; CRN in ENT
National Institute for Health Research**
- 6. Training Programme Director
Higher Surgical Training Programme in ENT
Yorkshire and Humber Deanery**
- 7. Council Member; Otology; Royal Society of Medicine**
- 8. Council Member; Specialist Advisory Committee for ENT
Joint Council for Surgical Training**
- 9. Court of Examiners for the Intercollegiate Examination
Royal College of Surgeons.**
- 10. South Yorkshire Research Ethics Committee (2008 – 2014)**

Professor Jaydip Ray is based in Sheffield, UK. After initial medical education in India, he completed his higher surgical training in the UK and had fellowship and research experience in Cambridge, UK; Sydney, Australia and Stanford, USA.

He has an active role in teaching and training and is involved in supervising and examining PhD, MD, MSc and BMedSci students on various research projects. He is an external quality assessor for masters courses in several UK universities He lectures widely and is involved in several national and international courses.

His main research interests include Balance disorders, Complex Hearing loss and Implantable Hearing Solutions. He has been the chief investigator on several multicentre international research projects and has an active role in research and innovations.

RESEARCH AND INNOVATIONS

1. Wearable Inertial Sensors in assessment of gait and stability

Project initially funded by Sheffield Hospitals Charity and INSIGNEO Bursary to assess the role of wearable inertial sensors in the assessment and monitoring of posture, gait and stability of patients. This has formed part of two successful projects for MSc in Neurology at University of Sheffield.

2. Low cost single camera based gait analysis system for balance assessment

This is a project in collaboration with the centre for Sports Engineering at SHU in conjunction with Prof. Steve Haake and Marcus Dunn. This is a translation of the technology used in monitoring goal line technology and in elite athletics. A low cost single camera based algorithm is being tested as a portable balance assessment system.

3. Wearable support for imbalance

This is an early stage project to explore various wearable options in balance and stability in reducing falls risks in balance disordered individuals.

4. Gait analysis for assessment of balance disorders

This was a project with Prof. Steve Haake and Ben Heller at SHU looking at the predictive use of gait analysis using the "Smart Floor" and DC stimulator to mimic imbalance to detect malingering for medicolegal tests. The feasibility study has been completed on student volunteers and formed part of a BMedSci student project.

5. 3D Virtual Reality Upper Airway Endoscopy

Part of a research project for an Academic Foundation Trainee done at SHU. Anatomical dissections and models were studied to create a 3D VR flythrough of the upper airway. Normal anatomy was then superimposed with pathological conditions and stroboscopy of the larynx. The prototype was exhibited at the International BACO conference in 2012 and has been used regularly in the teaching sessions during courses.

6. A novel neurobiomarker for tinnitus generation using fMRI

This joint project with Academic Dept of Radiology aimed at acquiring preliminary neurophysiological data on tinnitus generation. This formed the basis of two successful projects for MSc in Neurology at the University of Sheffield and will form the basis of a larger high powered study to provide a non-invasive, quantitative, objective neurobiomarker of tinnitus. This will enhance our understanding of the causes and the neurobiology of tinnitus and in turn this will allow better targeted treatment (e.g. deep brain stimulation), evaluation and monitoring of treatment. Funder Ryder Briggs Trust.

7. Genetics of Age Related Hearing Loss (NIHR)

NIHR Portfolio study. Funded by Action on Hearing loss. This is in collaboration with Antwerp University. The study will recruit 500 subjects with age related hearing loss and look at the known genetic backgrounds by

spectrophotometric analysis and gel electrophoresis in pools. Each of these three pools would be genotyped in triplicate on the GeneChip® Human Mapping 500K array pair from Affymetrix (Santa Clara, CA). Individual-based SNP genotyping will be performed using fluorescence-based competitive allele-specific PCR (KASPar).

8. Virtual Reality in the rehabilitation of balance disorders (NIHR)

NIHR F&S grant funded study. Prospective parallel group randomised controlled trial to test whether the use of virtual reality /augmented reality models improve clinical, psychological and patient centred outcomes compared to the usual exercises for patients with balance disorders. Support from SchAAR and from Academic Department of Ophthalmology (Dr. Charlotte Codina).

9. 3D Virtual Reality model of surgical simulation in ear surgery

Developed at low cost 3D VR surgical simulator of ear training, planning and rehearsal of middle ear and skull base surgery. BMed Sci project in collaboration with the anatomy department and the biomedical sciences department.

10. A Study of Medical, Psychological and Socio-economic Factors Influencing the Severity of Chronic Rhinosinusitis CRES (NIHR)

NIHR Portfolio study. This is a multicentre study looking at various contributory factors for chronic rhinosinusitis in varied populations by utilising prospectively collected data from large datasets..

INDUSTRY FUNDED STUDIES

11. BAHA Superpower Study

CI for this EU multicentre trial of an implanted bone conduction device that has a higher maximum power output than currently available comparable devices. NIHR Portfolio study. We also achieved first global recruitment on this trial.

12. QUIET I (AUTIFONY) :

National Co-ordinating Investigator for this multicentre UK study (£3.1m grant: part funded by Autifony and part by Translational Strategy Board). Looking at the efficacy of an oral investigational medicinal product in treating sudden onset tinnitus.

13. OTONOMY (multi dose) & OTONOMY (single dose):

UK section of multicentre international trial (\$35M) of transtympanic injection of inner ear instillation of investigational medicinal product.

14. AURIS TACTT3 and AMPACT2 Industry sponsored interventional drug trial on the treatment of tinnitus

Multicentre EU / US (€40M) trial of an interventional medicinal product for the treatment of tinnitus of sudden onset. The study involved 3 consecutive intratympanic injections of the investigational product with multiple objective audiological measurements.

15. Dymista study: The socioeconomic/other factors in patients using Dymista.

Patients changing over to this as an alternative to intranasal steroids.