

Research Project

Name of Institution and department:

King's College Hospital – Neurointerventional Imaging Research Group

Link to website:

<https://www.kch.nhs.uk/>

<https://www.kcl.ac.uk/people/thomas-booth>

City and Country of Institution:

London, United Kingdom

RESEARCH GROUP

The Neurointerventional Imaging Research Group at King's College Hospital, led by Dr Thomas Booth, is dedicated to improving clinical outcomes in neurovascular interventions. The group integrates robust clinical data collection with radiological expertise to evaluate the real-world safety and efficacy of endovascular techniques and devices. Its mission is to deliver evidence-based insights that guide device selection, procedural practice, and post-treatment monitoring, empowering interventional radiologists to make informed, patient-centered decisions.

TITLE OF PROPOSED RESEARCH PROJECT

Device Outcomes in Intracranial Aneurysm Treatment: An Evaluation of Safety and Efficacy

OBJECTIVES

- Evaluate the safety profile of commonly used aneurysm treatment devices (e.g., coils, flow diverters, stent-assisted coiling) in a multicentre cohort.
- Assess efficacy outcomes, including immediate angiographic occlusion and short-term re-intervention rates.

- Identify procedural or anatomical predictors of device-related complications or treatment failure.

APPLICANT'S DUTIES

- o Orientation to the approved research protocol and ethical framework (ethics already in place).
- o Define key metrics including device used, aneurysm morphology, occlusion grade (Raymond-Roy), intra-procedural complications, antiplatelet use, and early follow-up outcomes.
- o Retrospective chart review of intracranial aneurysm cases treated over the last 3–5 years locally and liaison with collaborating sites.
- o Systematically extract local data including demographics, aneurysm location and size, devices used, rationale for treatment choice, procedural complications, occlusion grades, and follow-up outcomes.
- o Perform basic statistical analysis with guidance, including complication rates by device and success rates stratified by aneurysm morphology.
- o Identify trends and potential predictors of adverse outcomes using cross-tabulations and regression analysis.

APPLICANT'S BENEFITS

- o Participation on scientific outcomes of the project i.e. presentations to congresses or publications of papers
- o Opportunity to co-author peer-reviewed research manuscripts based on study findings.
- o Opportunity to contribute to and potentially present at neurointerventional scientific meetings such as ESMINT and SNIS with mentoring support.

- **Project Leader:**

Dr Thomas Booth, Consultant Interventional Neuroradiologist at King's College Hospital and Reader in Neuroimaging at King's College London.

- **Members:**

The team consists of Consultant Interventional Neuroradiologists at King's College Hospital and professionals from the School of Biomedical Engineering & Imaging Sciences, including academics, researchers, PhD students, and clinicians.