B1. Details of other ionising radiation

Give details by completing the table below:

Procedure	No of procedures	Estimated procedure dose *(use national Diagnostic Reference Levels where available)*
CT scan brain (only patients unable to have an MRI scan brain)	1	5mSV

C1. What is the total research protocol dose from the exposures in A1 and/or B1, and what component of this is the additional dose over and above standard practice? What are the risks associated with these two doses (total and additional)?

The dose and risk assessment should be set out below. This should be prepared by a Medical Physics Expert (MPE) who is a registered health care professional and has expertise relevant to the planned exposures. Where the study involves different types of exposure (for example, both radioactive materials and other ionising radiation, or more than one imaging method), advice may need to be sought from other MPEs with relevant expertise. The lead MPE should produce a combined assessment for the ethics committee, giving the names of any other MPEs who have contributed to the assessment. Further guidance is available by clicking on the information button or in the document "Approval of research involving ionising radiation", available here: http://www.nres.npsa.nhs.uk/applicants/guidance/

There is a preference for scanning this patient group with MRI if possible. CT will be performed where MRI is unavailable.

Participation in the standard trial will involve a CT scan at the time of presentation with stroke. Participants who agree will be recruited to the imaging 'sub-study'. These patients will receive an additional CT at the end of the three years. The CT scan at the time of stroke would have been given whether or not the patient went on to participate in the trial and is considered the baseline.

CT scan for stroke will involve a single non-contrast run through the head. From NRPB – W 67 Doses from Computed Tomography (CT) Examinations in the UK – 2003 review. A typical dose for a head scan is 1.5mSv but due to variation in protocols, machines and patient sizes, this could be as much as 5mSv per scan.

Based on a risk coefficient for developing fatal radiation induced cancer (all ages) of 5%/Sv (ICRP), two CT brain scans would lead to a risk of 1.5/10,000 for a typical dose to 5/10,000 for a maximum radiation exposure incurred as part of the trial. This is comparable with the annual risk of dying in a road traffic accident.

Only the scan at the time of stroke would be routine, the scan at the end of the study would be additional.

Special attention must be paid to pregnant/potentially pregnant women or those who are breast feeding, or other potentially vulnerable groups.

C2. Declaration by lead Medical Physics Expert

I am satisfied that the information in sub-sections A and/or B and the assessment in sub-section C provide a reasonable estimate of the ionising radiation exposure planned in this research and the associated risks.

Signature:..... Date: ~~23/07/2009~~ 28/1/10

C3. Details of person acting as lead Medical Physics Expert

- [x] Chief Investigator
- [ ] Sponsor
- [ ] Study co-ordinator
- [ ] Student
- [ ] Other – please give details
- [ ] None

Access to application for training purposes *(Not applicable for R&D Forms)*

Optional – please tick as appropriate:

☐ I would be content for members of other RECs to have access to the information in the application in confidence for training purposes. All personal identifiers and references to sponsors, funders and research units would be removed.

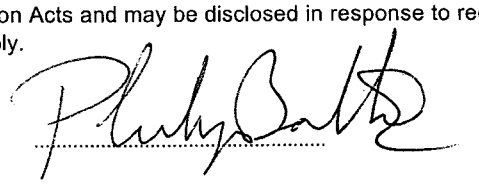
Signature: .....

Print Name: Professor Philip Bath

Date: 10/08/2009 *(dd/mm/yyyy)* 29 December 2009

Declaration by Principal Investigator or Local Collaborator

1. The information in this form is accurate to the best of my knowledge and I take full responsibility for it.
2. I undertake to abide by the ethical principles underpinning the World Medical Association's Declaration of Helsinki and relevant good practice guidelines in the conduct of research.
3. If the research is approved by the main REC and NHS organisation, I undertake to adhere to the study protocol, the terms of the application of which the main REC has given a favourable opinion and the conditions requested by the NHS organisation, and to inform the NHS organisation within local timelines of any subsequent amendments to the protocol.
4. If the research is approved, I undertake to abide by the principles of the Research Governance Framework for Health and Social Care.
5. I am aware of my responsibility to be up to date and comply with the requirements of the law and relevant guidelines relating to the conduct of research.
6. I undertake to disclose any conflicts of interest that may arise during the course of this research, and take responsibility for ensuring that all staff involved in the research are aware of their responsibilities to disclose conflicts of interest.
7. I understand and agree that study files, documents, research records and data may be subject to inspection by the NHS organisation, the sponsor or an independent body for monitoring, audit and inspection purposes.
8. I take responsibility for ensuring that staff involved in the research at this site hold appropriate contracts for the duration of the research, are familiar with the Research Governance Framework, the NHS organisation's Data Protection Policy and all other relevant policies and guidelines, and are appropriately trained and experienced.
9. I undertake to complete any progress and/or final reports as requested by the NHS organisation and understand that continuation of permission to conduct research within the NHS organisation is dependent on satisfactory completion of such reports.
10. I undertake to maintain a project file for this research in accordance with the NHS organisation's policy.
11. I take responsibility for ensuring that all serious adverse events are handled within the NHS organisation's policy for reporting and handling of adverse events.
12. I understand that information relating to this research, including the contact details on this application, will be held by the R&D office and may be held on national research information systems, and that this will be managed according to the principles established in the Data Protection Act 1998.
13. I understand that the information contained in this application, any supporting documentation and all correspondence with the R&D office and/or the REC system relating to the application will be subject to the provisions of the Freedom of Information Acts and may be disclosed in response to requests made under the Acts except where statutory exemptions apply.

Signature of Principal Investigator or Local Collaborator: 

Print Name:

Date: 12/08/2009 29 December 2009

21. What external funding will be provided for the research at this site?

- ○ Funded by commercial sponsor
- ◉ Other funding
- ○ No external funding

Please give details of the funding:
The trial is jointly funded by the 'Alzheimer's Society UK' and 'The Stroke Association UK' for the first 3 years.

Type of funding	Details (including breakdown over years if appropriate)
(i) Block grant	£399,145 for 3 years. Further funding will be applied at 18 months in preparation for the main 5 year phase.
(ii) Per participant	
(iii) Other (give details)	

Which organisation will receive and manage this funding?
The University of Nottingham, Division of Stroke Medicine.

23. Authorisations required prior to R&D approval

This section deals with authorisations by managers within the NHS organisation. It should be signed in accordance with the guidance provided by the NHS organisation. This may include authorisation by clinical supervisors, line managers, service managers, support department managers, pharmacy, data protection officers or finance managers, depending on the nature of the research. Managers completing this section should confirm in the text what the authorisation means, in accordance with the guidance provided by the NHS organisation.

This section may also be used by university employers or research support staff to provide authorisation to NHS organisations, in accordance with guidance from the university.

1. Type of authorisation:
Stroke Services

	Title	Forename/Initials	Surname
	Mrs	Dawn	Good
Post	Head of Stroke Services		
Qualifications			
Organisation	Department of Stroke Medicine		
Work Address	South Corridor, 1st Floor City Hospital Campus Nottingham		
PostCode	NG5 1PB		
Work E-mail	dawn.good@nuh.nhs.uk		
Work Telephone	01159691169		
Mobile			
Fax			

Signature: D Good

Date: 18/1/10

the imaging sub study.

Potential diagnostic benefits to patients:
The tests may not offer any additional benefits to patients but may help in predicting cognitive decline after stroke.

Potential benefits to society:
The study will add to the knowledge about cognition after stroke. The study may help in developing models to predict cognitive decline after stroke based on the initial scan of patients. If the main study is positive and shows that intensive blood pressure and lipid lowering after stroke is better than present standard/moderate lowering, the substudy will give additional information about imaging changes associated with drug treatment.

Risk to the participant:
The amount of X-ray exposure form one CT-scan is about the same as the background exposure from living in Nottingham for 3 years or Cornwall for 1 year.
Availability of alternative techniques involving less /no radiation:
MRI scan is the preferred imaging modality as it gives more information about brain structural features associated with cognitive change.
Participants will have a CT scan if an MRI is contraindicated or the study centre is unable to do an MRI."

D3. Declaration by lead Clinical Radiation Expert

I am satisfied that the exposure to ionising radiation planned in this research study (as defined in A1 and/or B1) is reasonable and that the risks are adequately described in the participant information sheet for the study.

Signature:.... Joanna M. Wardlaw Date: 23/07/2009

D4. Details of lead Clinical Radiation Expert

	Title	Forename/Initials	Surname
	Professor	Joanna Marguerite	Wardlaw
Post	Professor and Honorary Consultant Neuroradiologist		
Details of professional registration	BSc MBChB MRCP(UK) DMRD FRCR MD FRCP FMedSci		
Organisation	University of Edinburgh		
Address	Division of Clinical Neuroscience Western General Hospital Crewe Road Edinburgh		
Post Code	EH4 2XU		
Telephone	01315372943		
Fax	01313325150		
Mobile			
Email	jwardlaw@staffmail.ed.ac.uk		

Employers responsible for radiation facilities at research sites must have written procedures to meet the requirements of the Ionising Radiation (Medical Exposure) Regulations 2000 (IRMER). R & D offices for NHS sites will seek confirmation from local radiation experts that local IRMER authorisation procedures have been followed. Where the local Medical Physics Expert or IRMER Practitioner disagrees with the assessments made in this Section and/or the care organisation is unable to adhere to the protocol, this should be discussed with the Chief Investigator and the lead experts for the study. Any necessary variation in the protocol or participant information sheet at particular sites should be notified to the main REC as a substantial amendment and an ethical opinion sought.

D2. Declaration by the sponsor's representative

If there is more than one sponsor, this declaration should be signed on behalf of the co-sponsors by a representative of the lead sponsor named at A64-1.

I confirm that:

1. This research proposal has been discussed with the Chief Investigator and agreement in principle to sponsor the research is in place.
2. An appropriate process of scientific critique has demonstrated that this research proposal is worthwhile and of high scientific quality.
3. Any necessary indemnity or insurance arrangements, as described in question A76, will be in place before this research starts. Insurance or indemnity policies will be renewed for the duration of the study where necessary.
4. Arrangements will be in place before the study starts for the research team to access resources and support to deliver the research as proposed.
5. Arrangements to allocate responsibilities for the management, monitoring and reporting of the research will be in place before the research starts.
6. The duties of sponsors set out in the Research Governance Framework for Health and Social Care will be undertaken in relation to this research.
7. I understand that the summary of this study will be published on the website of the National Research Ethics Service (NRES), together with the contact point for enquiries named in this application. Publication will take place no earlier than 3 months after issue of the ethics committee's final opinion or the withdrawal of the application.

Signature: .....

Print Name: Paul Cartledge
Head of Research Grants & Contracts
Research Innovation Services
The University of Nottingham

Date: 24/7/09