Research Licence Inspection Report

Project Title	The effect of biomass reduction on embryo development after biopsy of either one or two blastomeres
Centre Name	Assisted Conception Service, Glasgow Royal Infirmary
Centre Number	0037
Research licence Number	R0175
Centre Address	ACS Suite, Glasgow Royal Infirmary 10 Alexandra Parade Glasgow G31 2ER
Treatment centres donating to this research project	0037
Inspection date	14 May 2008
Licence Expiry date	31 August 2010
Licence Committee Date	19 November 2008
Inspector(s)	Dr Chris O'Toole Dr Vicki Lamb
Fee Paid - date	Not applicable – interim inspection
Person Responsible	Dr Maybeth Jamieson
Nominal Licensee	Dr Helen Lyall

About the Inspection:
The purpose of the inspection is to ensure that researchers comply with the HF&E Act 1990, Code of Practice, licence conditions and directions.

The report is used to summarise the findings of the inspection highlighting areas of firm compliance and good practice, as well as areas where further improvement is required to improve patient services and meet regulatory standards. It is primarily written for the Licence Committee who make the decision about the centre's research licence application. The report is also available to patients and the public following the Licence Committee meeting.

Brief Description of the Centre and licensed project

The Assisted Conception Service at Glasgow Royal Infirmary has held an HFEA research licence since September 2006 and this licence is due to expire on the 31 August 2010.

The licence is held for a project entitled: **The effect of biomass reduction on embryo development after biopsy of either one or two blastomeres.** The lay summary of the proposed research project, submitted by the centre is as follows:

"Some couples are at risk of transmitting a genetic disorder to their children. This is because one or both of them carry a gene for that specific disorder. One option for these couples is to become pregnant and then undergo a prenatal test such as amniocentesis or chorionic villus sampling at 10-16 weeks. If the fetus is found to be affected then the couple have to decide whether they wish to continue with the pregnancy or have a termination.
Other couples suffer repeated miscarriages due to the fetus having a chromosome abnormality. In vitro fertilisation followed by Perimplantation Genetic Diagnosis (PGD) allows the diagnosis of abnormalities in embryos at an early stage, before they are replaced in the womb. This involves removing one or two cells from an embryo and performing a test on each cell. Only embryos free from the specific genetic disease are transferred to the patient.
Some tests are more reliable if more than one cell is removed and tested but there is debate about the effect this has on the embryo's development. This study aims to assess the impact of removed cell size and cell number upon subsequent development of the embryo.
Embryos which are unsuitable for treatment and, which have been donated for research, will be examined to quantify the impact of the size of the cells removed as well as the number".

The project is licensed for the following purposes:

- Increasing knowledge about the development of embryos
  Human Fertilisation and Embryology (Research Purposes) Regulations 2001 s2(a)

Research activities of the Centre	Research on human embryos	**X**	
	Storage of licensed material		
	Creation of embryos for research		
	Derivation of human embryonic stem cells		
	Cell nuclear replacement		

Summary for Licence Committee

The inspectorate were satisfied with the organisation of the project and with the changes made by the PR since the last inspection. The inspectorate recommends the continuation of the research licence.

Report of Inspection findings

1. **Organisation**

Desired Outcome: The centre is well-organised and managed and complies with the requirements of the HFE Act.

Summary of findings from inspection
Evidence of: *(Delete areas not reporting on)*

- Leadership and management
- Organisation of the centre
- Staffing
- Funding

Full time equivalent staff

Principal investigator	1
Laboratory scientists	1
Administrators	0
Collaborators	0
Support staff (receptionists, record managers, quality and risk managers etc)	The clinical team at centre 0037 are responsible for obtaining consent from patients who wish to donate embryos to the project.

Background information
The Person Responsible has completed the HFEA's Persons Responsible Entry Programme to the satisfaction of the Executive. Research work is primarily carried out by one of the clinical embryologists at the centre. She shares her time between research and clinical work but a clear separation procedure is in place to ensure that she is not involved in clinical decisions for potential donors. This is achieved by ensuring that she is not involved in the grading of embryos when embryos are selected for transfer or freezing. This policy is outlined in the project protocol and evidence of this procedure in practice was seen in patient records belonging to patients donating embryos to the research project. Research issues are discussed at the laboratory team meetings, which are held on a weekly basis. Evidence of such discussions was found/ seen in the minutes of a recent laboratory meeting.
Issues for consideration
None.
Executive recommendations for Licence Committee
None
Areas not covered in this inspection
Resource management

2. Premises and equipment

Desired Outcome: The premises and equipment are safe, secure and suitable for their purpose.

Summary of findings from inspection: *(Delete areas not being reported on)*

- Suitability of premises
- Safety of equipment
- Servicing and maintenance of equipment

Background information
There have been no changes in the premises or equipment used in the project since the last inspection. Embryos donated to research are biopsied using the micromanipulation equipment in the treatment laboratory. Following culture within a designated incubator in the treatment laboratory the embryos are spread onto slides which are then taken up to the university laboratory for fixation and analysis. The Research embryologist confirmed that these slides are anonymised by marking them with the patient's date of birth and a research number. This procedure is documented in the research SOP. Equipment within the laboratory is serviced regularly and a maintenance record for key pieces of equipment is kept.
Issues for consideration
None
Executive recommendations for Licence Committee
None
Areas not covered in this inspection
Storage facilities – embryos are not stored for research use.

3. Donation of material

Desired outcome: Ensure donors are recruited in a proper way and their consent is respected.

Summary of findings from inspection: *(Delete areas not being reported on)*

- Recruitment of donors
- Ensuring prospective donors have access to further guidance
- Ensuring prospective donors have time to consider donation properly
- Ensuring patient consent is not breached
- Donor and patient records

Background information
The nursing team are responsible for providing patients with the information about the research project and for providing the associated consent form. This information is given once patients have responded to down regulation and are attending the unit for their first scan. Consent is then taken from the patients on the day of egg collection. This system ensures that patients have two weeks to consider the information before making a decision about whether to consent to donating to the research project. The PR recently carried out a survey of patients who had consented to the use of their embryos in research. A patient questionnaire was sent to 20 patients whose embryos had been included in the biomass study on 21 March 2008. The centre received 7 (37%) responses. The questionnaire included questions on the following issues: • Did you find the patient information easy to understand? • Did the patient information leaflet contain all the information you needed? • Did you have enough time to consider the information before giving consent? • Were the nursing and medical staff able to answer any question you had? • Were the embryology staff able to answer any questions you had? • What is the ideal time, in your opinion, to receive the information form? The majority of the responses were positive. One patient responded that they would have preferred to be given the patient information at the time of the first injection. This is the time that the information is supposed to be given. Following the receipt of this response the PR reviewed the process of giving patients information about the research project and ensured all necessary staff were aware of this process and that information is given at the correct time.
Issues for consideration
None
Executive recommendations for Licence Committee
None
Areas not covered in this inspection
None

4. Patient information and consents

Desired outcome: Ensure that patients are informed in order to give informed consent

Summary of findings from inspection: *(Delete areas not being reported on)*

- Patient information
- Consent forms
- Patient information for projects deriving embryonic stem cells
- Consent forms for projects deriving embryonic stem cells

Background information
There have been no changes to the patient information or consent forms since the last inspection
Outcome of record audit
Three research records were audited and cross referenced with the original patient files. All HFEA and specific research consents were seen to be in place.
Issues for consideration
None
Executive recommendations for Licence Committee
None
Areas not covered in this inspection
None

5. Scientific practice

Desired outcome: Procedures are robust to ensure material is used appropriately

Summary of findings from inspection: *(Delete areas not being reported on)*

- Standard operating procedures
- Minimisation of material loss and wastage
- Ability to achieve set aims and objectives

Summary
The centre has been licensed to conduct research since September 2006. The project studies the effect of biomasss reduction on embryo development after biopsy of either one or two blastomeres. The use of embryos in research was licensed as a Licence Committee of the Authority was satisfied that the activities of the project of research were necessary or desirable for increasing the knowledge about the development of embryos [Human Fertilisation and Embryology Act Schedule (2)(a)].
Embryo usage
During the period 01/06/2007 to 21/03/2008 85 fresh embryos were received by the research team and 45 of these were used in the project. The other 40 embryos did not meet the inclusion criteria for the project, which is that the embryos should contain 6-8 cells at 70-74 hours post-insemination. In the initial application, the PR had expected to use 100 embryos each year. The PR anticipates that 150 fresh embryos will be used in the project in the next 12 months.
Lay summary of research undertaken
This study is designed to investigate the effects on subsequent development of removing either one or two cells from an embryo. This is the technique used to perform preimplantation genetic diagnosis for couples at risk of passing on a genetic disorder to their children. The study commenced in December 2006 and a total of 137 embryos have been donated by couples undergoing IVF or ICSI treatment. These embryos were not suitable for the patients' treatment or for cryopreservation. The embryos were cultured for 24 hours after the time of embryo transfer and 70 were at a suitable stage to be included in the study. These then had either one or two cells removed in the same way that biopsy is carried out for preimplantation genetic diagnosis (a control group had no cells removed). The embryos continued in culture for a further 3 days when they were observed and fixed for analysis. No embryos remained in culture for longer than six days from the time they were fertilised. It is still too early to analyse the results of the project but it has been shown that the fixation and cell staining methods are working adequately.

Peer reviewer comments
Not applicable as this was an interim inspection.
Spot check of stored donated material
Not applicable as embryos are not stored for research
Issues for consideration
None
Executive recommendations for Licence Committee
None
Areas not covered in this inspection
Quality assurance systems

Report compiled by:

Name……Chris O'Toole……..…….

Designation…..Head of Research Regulation…….

Date…….4 June 2008…….……

Appendix A: Centre Staff interviewed

PR and two members of the research team.

No conflicts of interest were declared

Appendix B: Licence history for previous 3 years

Licence	Status	Type	Valid from	Valid to
R0175/2/a	Active	Research Project	01/09/2007	31/08/2010
R0175/1/a	Expired	Research Project	01/09/2006	31/08/2007

Appendix C:

RESPONSE OF PERSON RESPONSIBLE TO INSPECTION REPORT

Centre Number…….037……

Name of PR…… Maybeth Jamieson…….

Date of Inspection…… 14th May 2008……..

Date of Response……19th June 2008……

Please state any actions you have taken or are planning to take following the inspection with time scales

Thank you for your helpful comments during our recent inspection. We are not planning any major changes to the project or its organisation. However, I will continue to monitor patient satisfaction with the consent process.

I have read the inspection report and agree to meet the requirements of the report.

Signed……by email…… ……

Name……Maybeth Jamieson…….

Date……19th June 2008……

2. Correction of factual inaccuracies

Please let us know of any factual corrections that you believe need to be made (NB we will make any alterations to the report where there are factual inaccuracies. Any other comments about the inspection report will be appended to the report).

There are no factual inaccuracies