HUMAN FERTILISATION AND EMBRYOLOGY AUTHORITY
SCIENTIFIC AND CLINICAL ADVANCES GROUP

Committee:	Scientific and Clinical Advances Group
Meeting Date:	14th February 2006
Agenda Item:	9
Paper Number:	SCAG (02/06)05
Paper Title:	**Assisted hatching fact sheet**
Author:	Hannah Darby
For Information or Decision?	Information and Decision
Recommendation to the Committee:	Members are asked to: • To consider the information presented in this fact sheet • Decide if it sufficiently reflects SCAG's position on assisted hatching

1.1 Assisted hatching is a method in which the outside coating of the embryo, called the zona pellucida, is disrupted or thinned either mechanically, chemically or with a laser. It is thought that this makes it easier for the embryo to hatch out of the zona pellucida, therefore increasing the chances of implantation and pregnancy. There are currently 55 centres in the UK that are licensed to carry out assisted hatching.

1.2 SCAG has been monitoring the developments in assisted hatching since 2003 and the Group considered a review of relevant literature at the November 2005 meeting. The Group decided that an assisted hatching fact sheet should be posted on the HFEA website as patient information. The proposed fact sheet is at Annex A.

1.3 Members are asked to:

- To consider the content of the assisted hatching fact sheet presented to them
- Decide if it sufficiently reflects SCAG's position on assisted hatching

Annex A

Assisted Hatching Fact Sheet

What is assisted hatching?

One of the main reasons for unsuccessful IVF or ICSI cycles is failure of the embryo(s) to attach to the wall of the uterus (implant). The technique of assisted hatching has been suggested to increase the chance of pregnancy for some groups of patients.

When an embryo is transferred to the uterus it will remain there for several days prior to implantation. Before an embryo can implant it needs to hatch from its outside coating called the zona pellucida.

Assisted hatching thins or makes a small hole in the zona pellucida either mechanically, chemically or with a laser. It is thought that this makes it easier for the embryo to hatch, therefore increasing the chances of implantation and pregnancy. This process is carried out immediately before embryo transfer, which is then carried out in the normal way.

How successful is it?

There have been several studies looking at the effectiveness of assisted hatching and the data are inconclusive. It is unclear if assisted hatching improves everyone's chance of getting pregnant although it may be beneficial to some patient groups.

Who might benefit from assisted hatching?

Assisted hatching may be beneficial for the following groups of patients:

- Older patients
- Patients who have had several unsuccessful IVF or ICSI cycles
- Patients with embryos which have thickened zona pellucidas

What are the risks?

This technique is relatively new so the safety and outcome data available is fairly limited, although results to date indicate that babies born following assisted hatching are no more likely to be born with an abnormality than those following IVF without assisted hatching.

In assisted hatching only the outer coating of the embryo is subject to this procedure and the cells of the embryo are not disturbed. However, any manipulation of embryos can potentially damage them.

Assisted hatching may also result in an increased chance of multiple births.

Where is assisted hatching available?

There are currently 55 clinics in the UK that are licensed to carry out assisted hatching. Details of these clinics can be found in the HFEA Guide to Infertility and Directory of Clinics.

References

1. Seif et al. Assisted hatching on assisted conception (IVF & ICSI) review. The Cochrane Database of Systematic Reviews 2005; Oct 19; (4):CD001894.

2. The Practice Committee of the ASRM. The role of assisted hatching in *in vitro* fertilization: a review of the literature. Fertility and Sterility. 2004; 82: S164-S165.

3. Germond et al. Hatching: How to select the clinical indications. Annals New York Academy of Sciences 2004; 1034: 145-151.