

The success of IVF is influenced by its indication for treatment e.g. tubal damage, endometriosis, male factor or unexplained infertility. For some groups of patient the chance of achieving a pregnancy is low. A possible explanation for this is failed hatching.

### What is Assisted Hatching?

An egg is surrounded by a shell (zona pellucida), which remains present in the early embryo. For implantation to occur in the womb, the embryo has to break through this shell, a process known as 'hatching'.

Hatching occurs naturally when the embryos are inside the uterus, around 4 to 5 days after the embryo transfer, and involves the developing embryo 'escaping' from the zona pellucida. Once successfully hatched it is able to make physical contact with the endometrium (lining of the womb). If implantation occurs it may continue to develop into a pregnancy. Embryos with an impaired ability to 'hatch' will not develop into a pregnancy.

Assisted Zona Hatching (AZH) is a technique designed to assist embryos to hatch successfully. It involves creating a small hole in the zona pellucida of the developing embryo following IVF or ICSI, through which the embryo can 'hatch'. This is performed on day 3 following egg collection, immediately prior to embryo transfer.



The start of AZH

### Who needs AZH?

Assisted hatching has been shown to improve the chances of pregnancy in patients with repeated failed treatment cycles of IVF and ICSI despite good embryo quality (2 or more failed cycles). There is uncertainty in the literature still over the benefit of AZH in:

- Women over 38
- Patients having frozen embryos replaced

We therefore only recommend AZH in these cases when there has been at least one failed attempt. Only the embryos that have been chosen to be replaced will have assisted hatching performed on them.

## What are the risks?

There is a risk that embryos might be damaged during the assisted hatching procedure itself. This risk is about 1%.

During the early stages of embryo development, the zona pellucida is a protective barrier against foreign bodies. A breach in this barrier could therefore potentially expose the developing embryo to harmful microorganisms within the uterus. This may have a detrimental effect on the further development of that embryo.

Several follow up studies have been done on children born following this procedure with no evidence of increased risk of abnormality.