

## LASER ASSISTED HATCHING



Laser is used to produce a small hole in the membrane (zona)

Assisted hatching is a scientific technique that can improve the implantation of embryos into a woman's uterine lining by creating an opening through which the embryonic cells can hatch out. Pregnancy cannot occur unless the human embryo hatches.

The unfertilised oocyte is surrounded by a membrane called zona pellucida. The zona pellucida ensures that only one sperm enters and fertilises the egg. After fertilisation, the embryo begins to cleave into a two-cell, then a four-cell and so on. It is at this early cleavage stage that assisted hatching can be performed on embryos.

It has been shown that women older than 37 years of age have a tendency to produce oocytes with a harder and/or thicker zona pellucida than younger women. The same can be said for women with a high level of follicle stimulating hormone (FSH).

The problem of a harder zona pellucida is that the embryo may not hatch and thus not attach to the woman's womb. Hatching of the embryo is necessary to achieve pregnancy. It has been reported that up to 75% of normal embryos may never hatch. Laboratory procedures involved in IVF may add to the hardening of the zona, as the embryo is not

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continually exposed to the enzymes present in the natural environment of the fallopian tubes.

There is also evidence to suggest that the process of freezing and thawing embryos causes the zona to harden and using assisted hatching can be beneficial.

At City Fertility Centre we offer laser assisted hatching, which is a gentle and safe way to weaken a part of the zona pellucida. Several studies have shown that using a laser is superior to chemical and manual hatching. Laser assisted hatching has several advantages including; minimal handling of the embryo and delivering fast and exact control over the drilling of the hole.

Laser assisted hatching is performed by the scientists, prior to the embryos being transferred back to the uterus.

Recent meta-research (comparison of different relevant research) showed that women who have undergone repeated IVF treatments without results, increase their chances of a pregnancy by use of laser assisted hatching.

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