



Fact Sheet

From ReproductiveFacts.org



The Patient Education Website of the American Society for Reproductive Medicine

Assisted hatching

Assisted hatching is a laboratory procedure that is sometimes done along with in vitro fertilization (IVF) treatment. IVF involves mixing eggs with sperm in a laboratory (as opposed to within a woman's body like in natural conception). Eggs are considered fertilized when a sperm succeeds in penetrating the egg. During IVF, the fertilized eggs are monitored for 3 to 6 days as they divide and develop into embryos. The best embryo can then be placed into the woman's uterus (embryo transfer) in the hopes of helping her become pregnant or it can be frozen for future use. While the embryo develops, it is surrounded by cells that make up a protective shell (zona pellucida). The embryo naturally breaks out of this shell as it grows. Occasionally, the doctor may ask the laboratory to make a small "crack" in the outer shell of the embryo right before it is placed into the woman's body (assisted hatching). The hope is that assisted hatching might help the embryo expand, implant into the uterine wall, and finally lead to a pregnancy.

How is assisted hatching done?

During assisted hatching, the outer shell of the embryo is artificially weakened by making a small hole in the zona pellucida. This can be done in several different ways. One method involves the application of an acid solution, called Tyrode's solution, to help melt a small hole in the shell. Another method involves the use of a laser to "crack" the shell.

Can assisted hatching cause problems with my embryo or pregnancy?

Rarely, assisted hatching can damage the embryo, making it unusable.

The risk for identical twins might be slightly increased when assisted hatching is applied.

Medical complications are higher in identical twin pregnancies than in normal, singleton pregnancies.

Medicines such as antibiotics and steroid hormones are sometimes prescribed around the day of the assisted hatching and embryo transfer. Uncommonly, side effects can occur from the use of these medications.

Will I benefit from assisted hatching?

Experts do not recommend the use of assisted hatching in all patients undergoing IVF treatments to conceive. Studies suggest that assisted hatching might help improve pregnancy chances for certain groups of patients. Assisted hatching may help improve pregnancy chances in women who have failed to get pregnant in previous IVF cycles and those with a poor prognosis (who are not likely to conceive).

Your health care provider can help you determine if assisted hatching might be useful to you.

Are there other reasons to do assisted hatching?

If preimplantation genetic diagnosis (PGD) is planned, assisted hatching of embryos on the third day after fertilization can make a biopsy for PGD easier. During a biopsy, a small amount of tissue is taken from the outer cells of the embryo (trophectoderm) around the fifth day after fertilization (blastocyst stage). It is easier to see the trophectoderm and remove the cells in a hatching embryo.

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