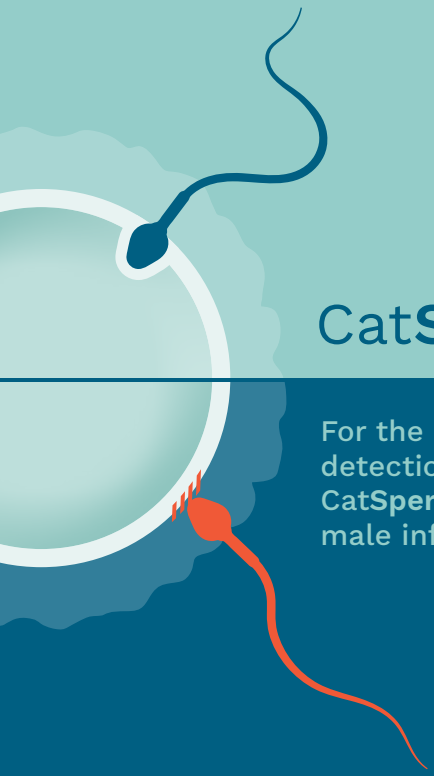
Patient Information



Cat**Sper** Test

For the early detection of Cat**Sper**-related male infertility

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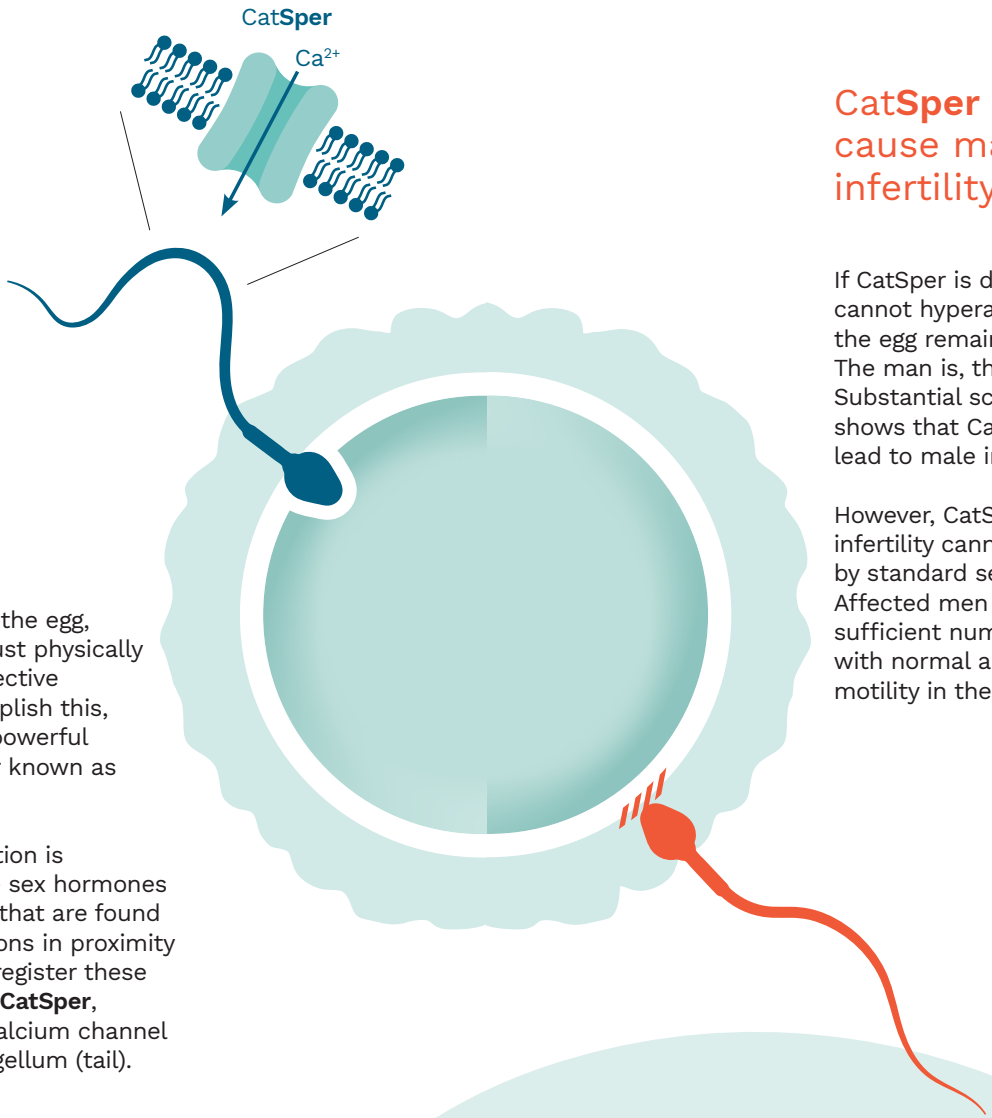
CatSper: the key to the egg



The role of CatSper in fertilization

In order to fertilize the egg, the sperm cells must physically penetrate the protective egg coat. To accomplish this, sperm generate a powerful swimming behavior known as **hyperactivation**.

Sperm hyperactivation is triggered by female sex hormones (e.g. progesterone) that are found in high concentrations in proximity to the egg. Sperm register these hormones through **CatSper**, a sperm-specific calcium channel localized in the flagellum (tail).

CatSper defects cause male infertility

If CatSper is defective, sperm cannot hyperactivate, and the egg remains unfertilized. The man is, therefore, infertile. Substantial scientific evidence shows that CatSper defects lead to male infertility.

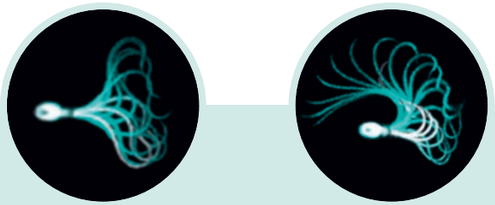
However, CatSper-related infertility cannot be detected by standard semen analysis. Affected men often have a sufficient number of sperm with normal appearance and motility in the ejaculate.

The Cat**Sper** Test: Shedding light on unexplained infertility

Cat**Sper**-related infertility: only ICSI can lead to fertilization success

Men with CatSper-related infertility are unable to conceive naturally. Treatments such as intrauterine insemination (IUI) and conventional in-vitro fertilization (IVF) are also ineffective. Pregnancy can only be achieved through the intracytoplasmic sperm injection (**ICSI**) method, which involves injecting the sperm directly into the egg cell, bypassing the egg's protective coat.

Since CatSper defects cannot be detected by standard semen analysis, affected men are often misdiagnosed with "unexplained" infertility. This frequently results in inappropriate or ineffective fertility treatments—or no treatment at all.



Normal motility

Hyperactivated motility

Flagellar beat of a sperm cell before (left) and after (right) the activation of CatSper by the sex hormone, progesterone

Scientific breakthrough in male-infertility research

Current studies estimate that approximately one in a hundred infertile men with normal semen quality suffers from a CatSper defect. The underlying cause is genetic mutations in the CatSper gene(s).[1]

To address this, scientists and clinicians at the Centre of Reproductive Medicine and Andrology at the University of Münster in Germany developed the so-called **CatSper Test**. This test helps identify patients with CatSper-related infertility at an early stage.

The Cat**Sper** Test: early detection of male infertility

Early detection of CatSper defects can prevent unsuccessful treatment attempts, reducing medical risks for the woman and increasing the likelihood of successful outcomes.

Cat**Flux**: the simple solution for the Cat**Sper** Test

Truion's **CatFlux Solutions** makes it simple to integrate the CatSper Test into a standard semen analysis. The procedure quickly and reliably determines whether a CatSper defect is present, enabling evidence-based therapy selection for couples with unexplained infertility.

If the test indicates a CatSper defect, additional genetic testing is recommended. This not only confirms the presence of a CatSper mutation and related infertility but also helps evaluate the risk of passing this condition on to the child.

Does the Cat**Sper** Test make sense for you?

Ask your doctor if the Cat**Sper** Test is right for you.

The Test is especially recommended:

- for men with unexplained infertility (number, motilty, and appearance of the sperm is normal)
- before a planned IUI (intrauterine insemination)
- before a planned IVF (in vitro fertilization)
- to identify the cause of infertility for couples undergoing an ICSI (intracytoplasmic sperm injection)

Information and Contact

Stamp

1 Scientific References

- *Human fertilization in vivo and in vitro requires the CatSper channel to initiate sperm hyperactivation.* Young et al. (2024) J. Clinical Investigation
- *A novel copy number variation in CATSPER2 causes idiopathic male infertility with normal semen parameters.* Luo et al. (2019) Human Reproduction
- *Specific loss of CatSper function is sufficient to compromise fertilizing capacity of human spermatozoa.* Williams et al. (2015) Human Reproduction

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