

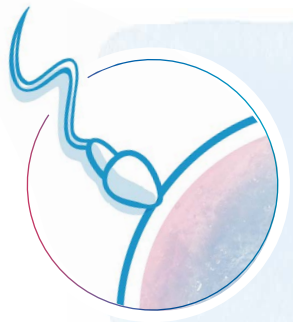
HBA™ Assay & PICSI® Dish

The importance of selecting the right sperm



CooperSurgical®
Fertility Solutions

1 in 200 million

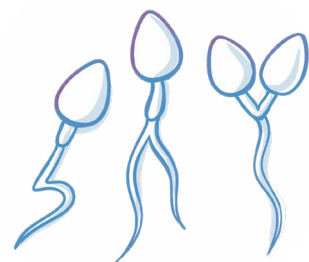


On average, a healthy male will produce **200 million sperm** during every ejaculation!¹ However, during natural conception, only one of these sperm among millions will fertilize the egg.

Looks aren't everything

Even in a healthy man's ejaculate, many sperm are **immature** (not fully formed), **immotile** (not good at swimming) or carry **damaged DNA** (the information needed to form a healthy baby).

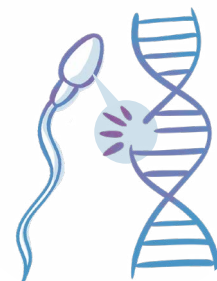
Some sperm cells might look normal and be active; however, they may not be able to fertilize the egg.



Immature



Immotile

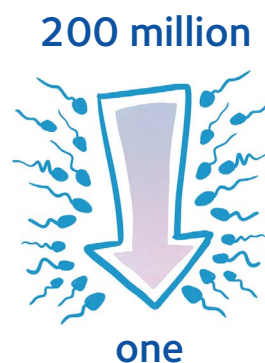


Damaged DNA

How the body chooses

During natural conception the female body is clever enough to actively choose only the best performing sperm for her egg.

You can imagine the route the sperm must take to reach the woman's egg (fertilization) as an obstacle course. This obstacle course is a test to make sure only the strongest sperm makes it! This is how the female body narrows down 200 million sperm (on average) to the one which contributes genetically to her future child.

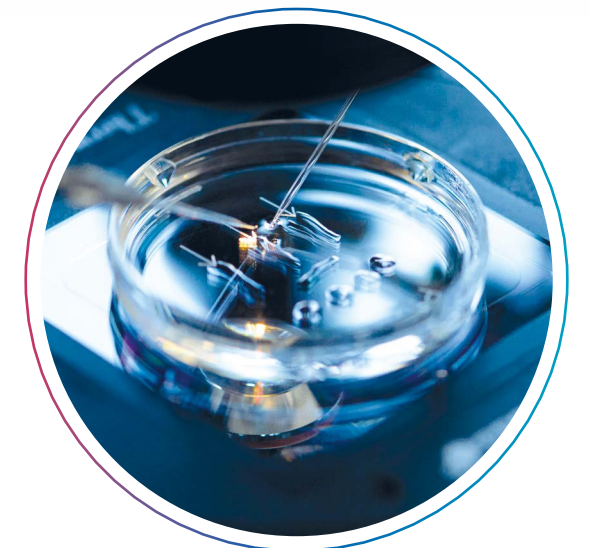
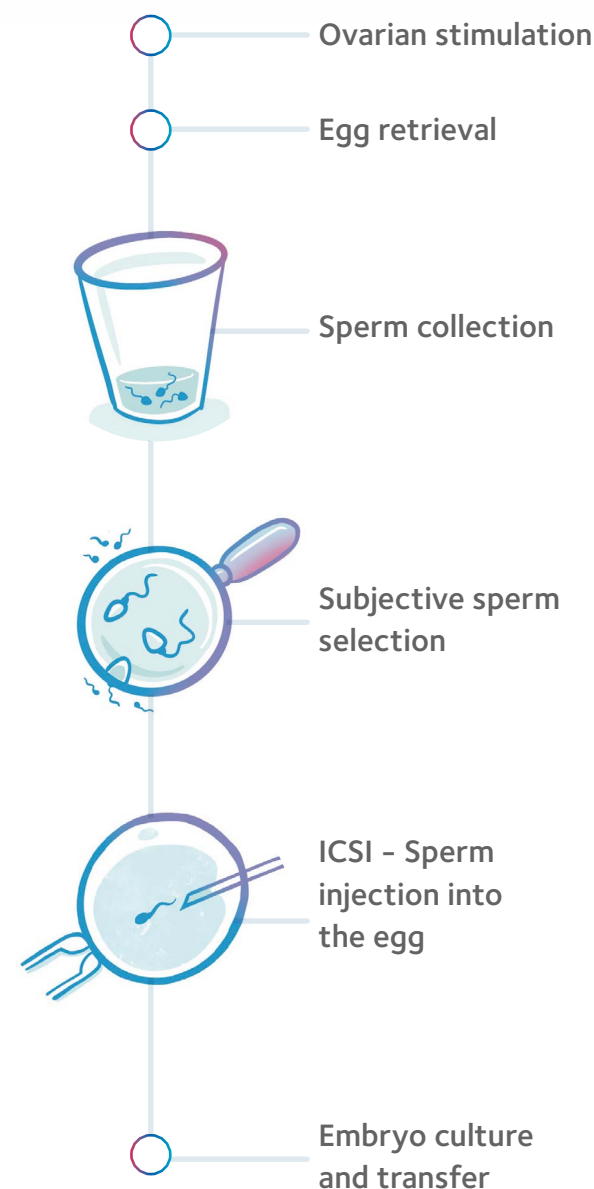


How does sperm selection happen if I choose ICSI?

What is ICSI?

ICSI stands for **Intracytoplasmic Sperm Injection**, a method where a sperm is injected directly into the egg.

With ICSI, all the natural selection mechanisms are bypassed. So, how do we re-create an obstacle course outside of the body, making sure the best sperm is selected for fertilization?



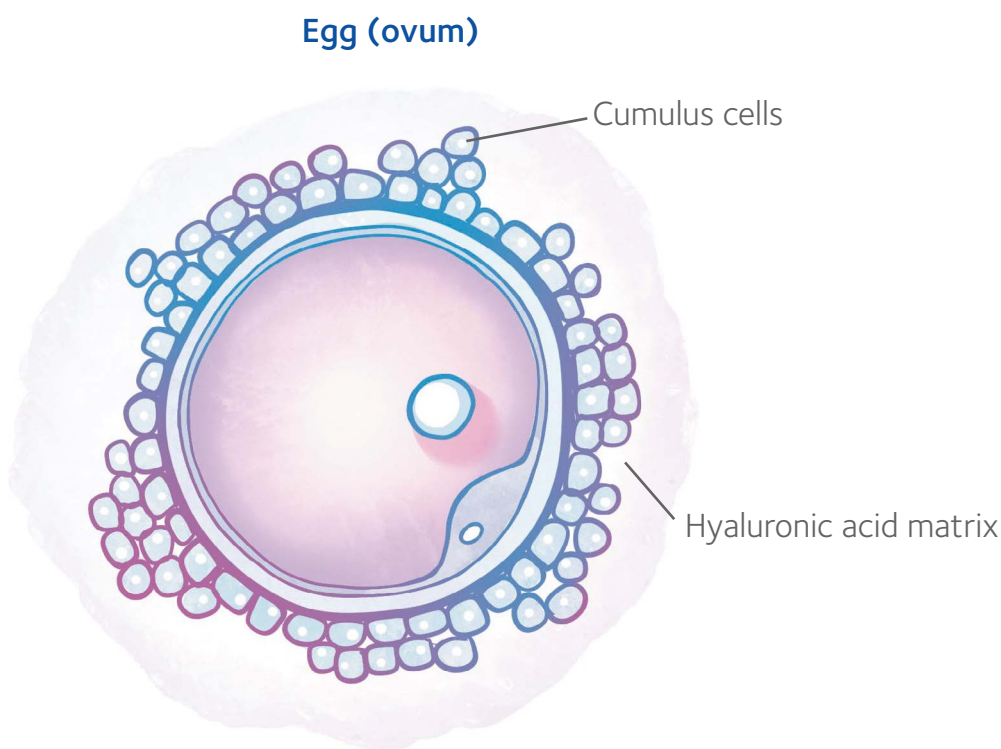
First, the embryologist looks at sperm under the microscope and evaluates its appearance and motility (ability to swim). Based on these criteria, a decision is made on which one will be injected into the egg for fertilization.



However, using this subjective method, some sperm can look completely normal and healthy but be immature and/or carry damaged DNA. If they are picked for fertilization, this can lead to poor embryo quality and even pregnancy loss.²

How do we mimic the body's natural sperm selection?

Hyaluronan, also known as hyaluronic acid (HA), is a substance that naturally occurs throughout the body. It is a major component of the outside part of the human egg cell to which sperm must bind to successfully fertilize a human egg.



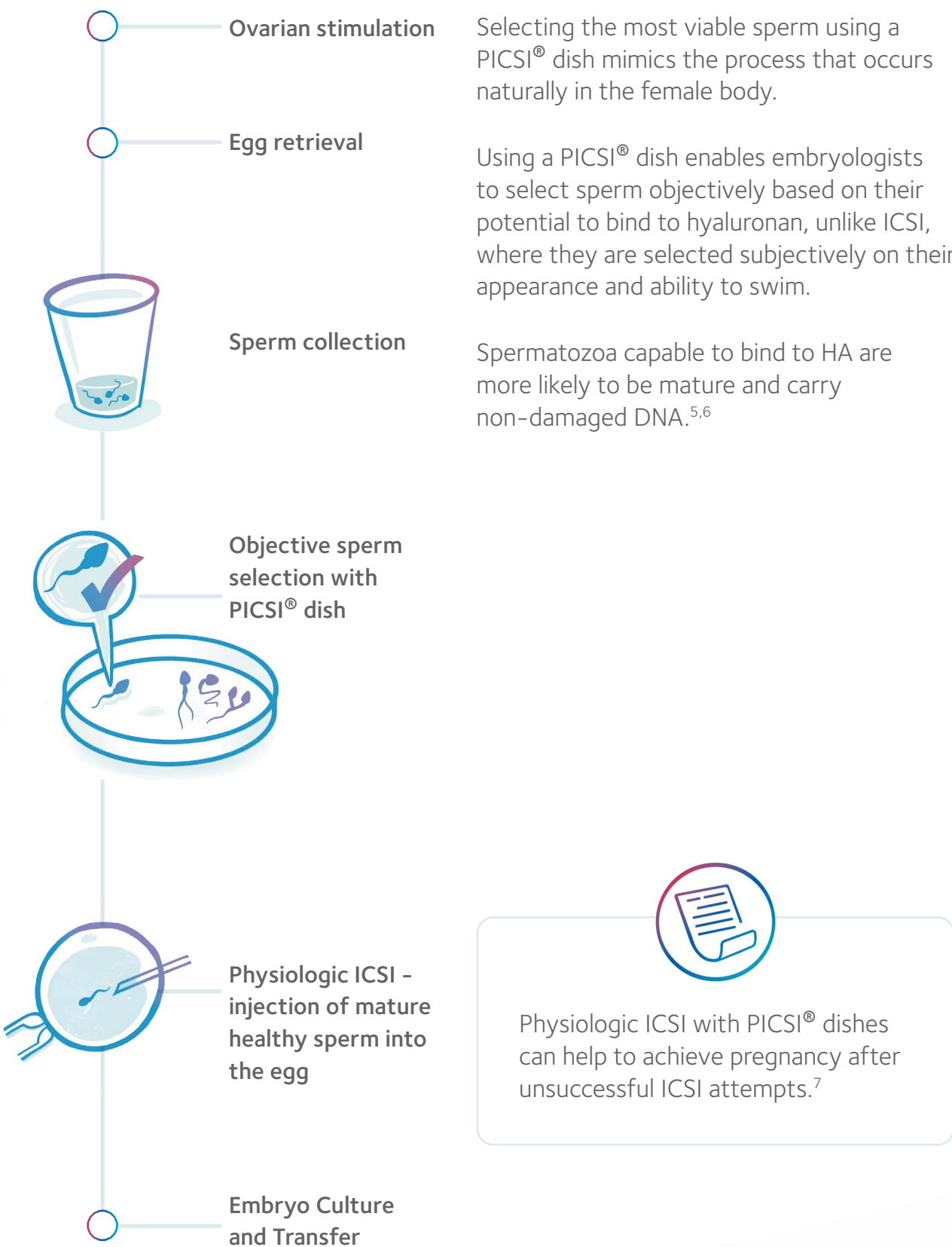
Only fully matured sperm have developed HA receptors and can bind to the outside of the egg. A sperm's ability to bind to HA correlates with its maturity and normal chromosome count.^{4,5}

Selecting a sperm for ICSI based on its ability to bind to HA, a process sometimes referred to as "physiologic ICSI," reduces the chance of picking an unfit, DNA-damaged sperm, and has been shown to reduce the risk of miscarriage.³

To select mature sperm based on their ability to bind to HA, embryologists can use a PICSI® dish – a special dish for ICSI, containing small drops of HA.

How does a PICSI® dish help?

Objective sperm selection for improved pregnancy survival



Selecting the most viable sperm using a PICSI® dish mimics the process that occurs naturally in the female body.

Using a PICSI® dish enables embryologists to select sperm objectively based on their potential to bind to hyaluronan, unlike ICSI, where they are selected subjectively on their appearance and ability to swim.

Spermatozoa capable to bind to HA are more likely to be mature and carry non-damaged DNA.^{5,6}

Physiologic ICSI with PICSI® dishes can help to achieve pregnancy after unsuccessful ICSI attempts.⁷

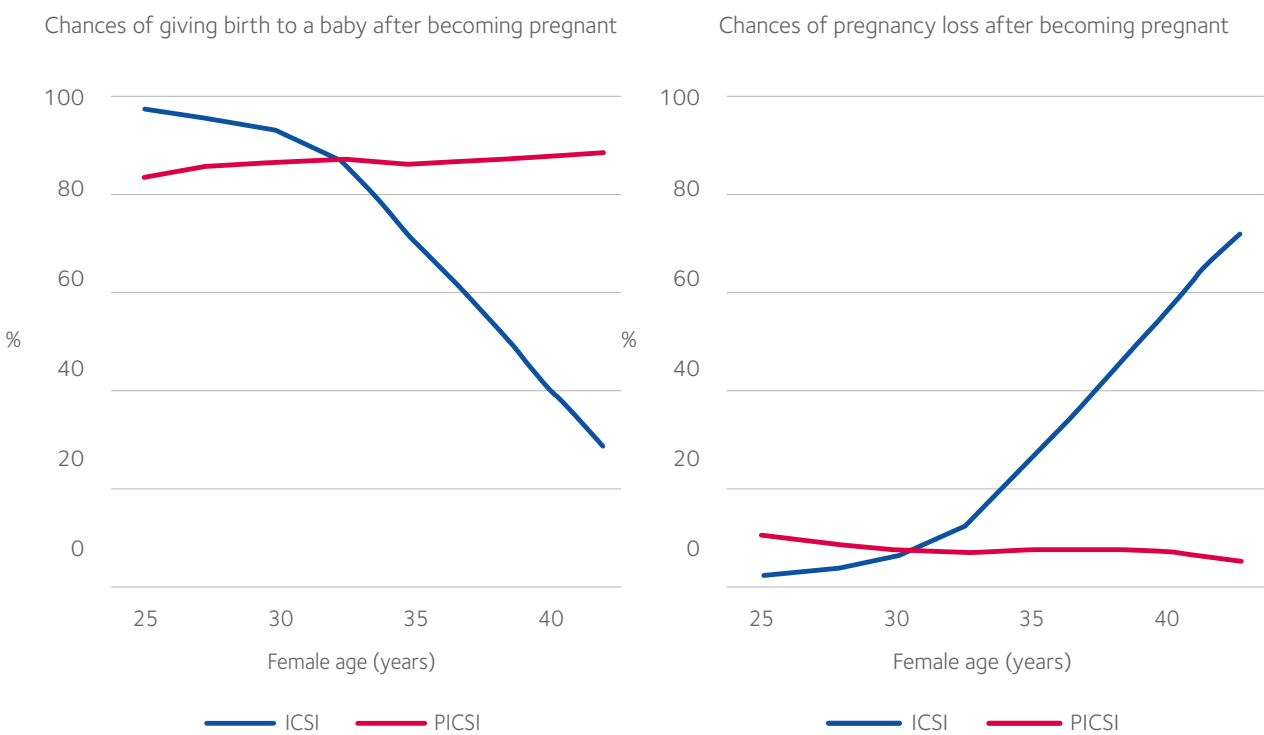
Improving your chances

It was demonstrated in a large randomized controlled trial, that physiologic ICSI using a PICSI® dish significantly decreases miscarriage rates compared to standard ICSI.³

Advanced-age couples may particularly benefit from using HA-based sperm selection. Using PICSI® dishes may help to mitigate the negative effects of advanced maternal age and improve chances of having a baby.⁶

A study was published showing that physiologic ICSI using a PICSI® dish can help to achieve pregnancy after unsuccessful ICSI attempts.⁷

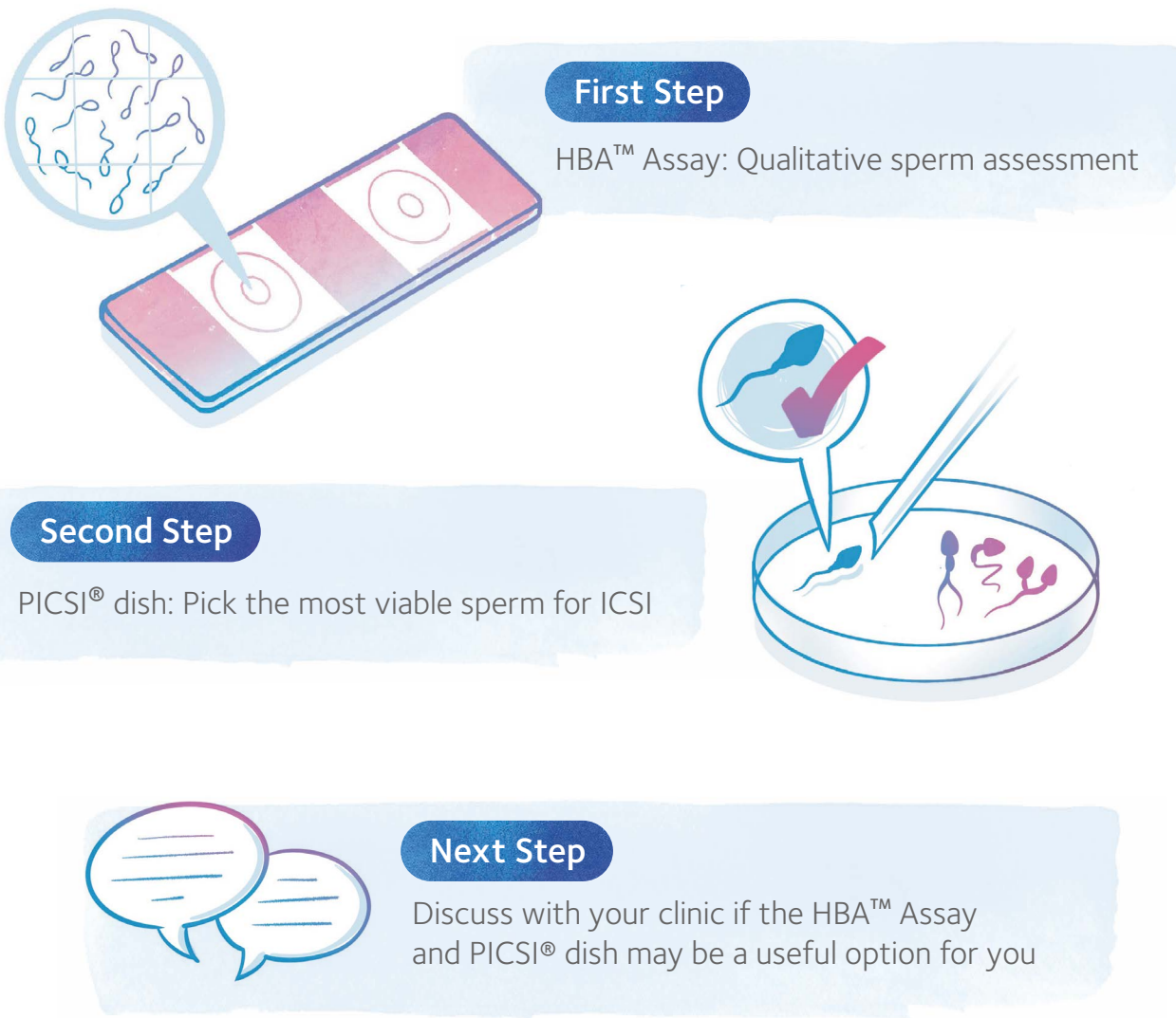
Modeled, predicted live birth rate and miscarriage rate with female age following ICSI or physiologic ICSI using PICSI® dish.³



Data from HABSelect - a randomized controlled trial on 2752 patients from 16 clinics in the UK

How do we know if there are enough mature sperm in a sample?

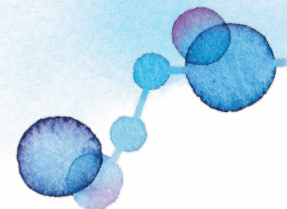
To understand whether there are enough mature sperm in a sample, specialists use the hyaluronan binding test, the so-called HBA™ Assay. This is a diagnostic tool which helps to calculate the percentage of mature sperm and to make more conscious decisions about future treatment tactics.



Did you know?

The HBA™ Assay and PICSI® dish were tested in a large multicenter study to investigate their effectiveness in the ICSI procedure. The study found that using the HBA Assay and PICSI® dish together led to a **significant reduction in pregnancy loss**.⁸

Speak to your clinician today



Ask your clinician if the HBA™ Assay and PICSI® dish could give you the best chance of IVF success.



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