



ORIGIO® ANDROLOGY



SpermSlow™

Selecting the right sperm is crucial

CoperSurgical
Fertility and Genomic Solutions

Approaching natural sperm selection for ICSI

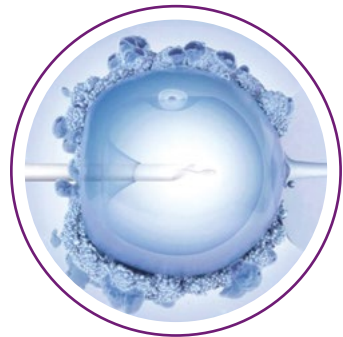
Men with lower sperm counts, who frequently require the ICSI procedure, often carry sperm populations with damaged DNA. Sperm with compromised development and damaged DNA can still look completely normal and healthy, but if selected for injection can lead to poor embryo quality and pregnancy loss.

- All forms of natural sperm selection are bypassed with the ICSI procedure – sperm is selected by the embryologist only
- In most cases the sperm selected for ICSI will be chosen solely on their morphology (good looks)

Selecting a sperm for ICSI based on its ability to bind to Hyaluronan (HA) removes the chance of picking a DNA damaged sperm.²

ICSI

Intra Cytoplasmic Sperm Injection (ICSI) is a common ART treatment, especially applied where male factor infertility is involved. In this procedure, a single sperm is carefully selected and injected into the egg for fertilization.



Hyaluronan (HA)

- HA is a common, naturally occurring substance throughout the human body.
- It is the main component in the protective cell layer that surrounds the egg cell.
- A sperm's ability to bind to HA correlates to its maturity, morphology (structurally normal), and high DNA integrity (intact genes)

The natural and biodegradable alternative to PVP

Conventional sperm selection for ICSI uses a media containing a synthetic polymer (PVP), where sperm are selected regardless of their maturity and only based on their morphology.

SpermSlow enables a more natural form of sperm selection to occur before ICSI.

SpermSlow contains HA, which is a biological and biodegradable component mimicking nature's own way of selecting the best sperm. With SpermSlow, only the HA-bound sperm are chosen by your embryologist for injection.

Sperm selected using HA binding can improve embryo quality and lower the rates of early miscarriage.^{2,3}

During natural conception, a sperm that reaches the egg will bind and initiate fertilization. Only fully developed and mature sperm will bind. If a sperm is immature or damaged, it will not have receptors for HA and will therefore not bind to the egg – no fertilization will occur.



SpermSlow

Because sperm are important too!

Several studies comparing Hyaluronan based sperm selection to regular sperm selection (PVP)¹ demonstrate:

- Significantly higher embryo developmental rate²
- Better embryo quality²
- Lower rates of DNA damage in HA- selected sperm^{1, 2}
- Lower rates of early miscarriage^{1, 3}

Next step

Discuss with your clinic if SpermSlow would be the right option for you and your partner.

References

1. Kato, Y., Nagao, Y., 2012. Effect of polyvinylpyrrolidone on sperm function and early embryonic development following intracytoplasmic sperm injection in human assisted reproduction. *Reproductive Medicine and Biology*. doi:10.1007/s12522-012-0126-9
2. Parmegiani, L., Cognigni, G.E., Bernardi, S., Troilo, E., Ciampaglia, W., Filicori, M., 2010. "Physiologic ICSI": Hyaluronic acid (HA) favors selection of spermatozoa without DNA fragmentation and with normal nucleus, resulting in improvement of embryo quality. *Fertility and Sterility* 93, 598–604. doi:10.1016/j.fertnstert.2009.03.0333.
3. Worrlow, K.C., Eid, S., Woodhouse, D., Perloe, M., Smith, S., Witmyer, J., Ivani, K., Khoury, C., Ball, G.D., Elliot, T., Lieberman, J., 2013. Use of hyaluronan in the selection of sperm for intracytoplasmic sperm injection (ICSI): Significant improvement in clinical outcomes—multicenter, double-blinded and randomized controlled trial. *Human Reproduction* 28, 306–314. doi:10.1093/humrep/des417

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