



CooperSurgical®

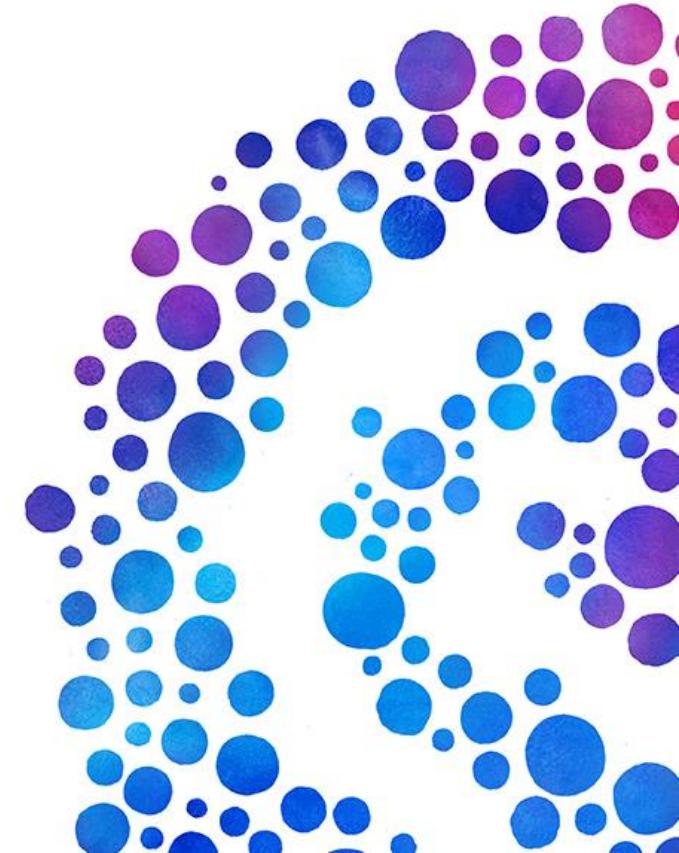
Because Sperm Counts



Southwestern Embryology Summit 2025

Leonard LaPetina, Clinical Application Scientist, CooperSurgical Inc. Fertility Solutions

January 2025



Is there enough focus on andrology?



CooperSurgical®

Infertility affects

1 in 10 men¹

Up to 50%²
of all infertility cases involve male factor³



<https://unsplash.com/>

1. Barratt, C.L.R., et al. A global approach to addressing the policy, research and social challenges of male reproductive health. *Hum Reprod Open*. 2021 Mar 21;2021(1):hoab009

2. Calvert JK, Fendereski K, Ghaed M, Bearely P, Patel DP, Hotaling JM. The male infertility evaluation still matters in the era of high efficacy assisted reproductive technology. *Fertil Steril*. 2022 Jul;118(1):34-46.

3. Agarwal, A., Mulgund, A., Hamada, A. et al. A unique view on male infertility around the globe. *Reprod Biol Endocrinol* 13, 37 (2015). <https://doi.org/10.1186/s12958-015-0032-1>

Effective sperm preparation and selection are crucial for IUI / IVF / ICSI outcomes

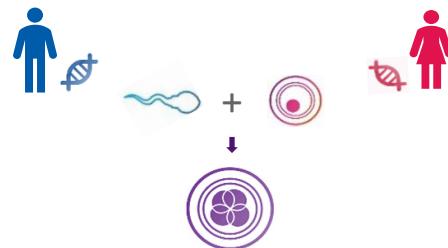


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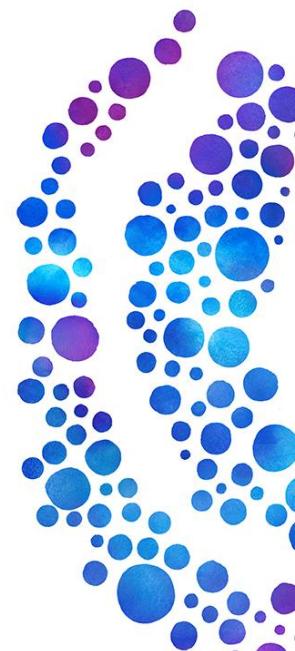
Up to 50% of all infertility cases involve male factor^{1,2}



50% of the embryonic genome comes from sperm



Sperm DNA quality influences cycle outcome³



1. Calvert JK, Fendereski K, Ghaed M, Bearely P, Patel DP, Hotaling JM. The male infertility evaluation still matters in the era of high efficacy assisted reproductive technology. *Fertil Steril*. 2022 Jul;118(1):34-46.

2. Agarwal, A., Mulgund, A., Hamada, A. *et al.* A unique view on male infertility around the globe. *Reprod Biol Endocrinol* 13, 37 (2015). <https://doi.org/10.1186/s12958-015-0032->

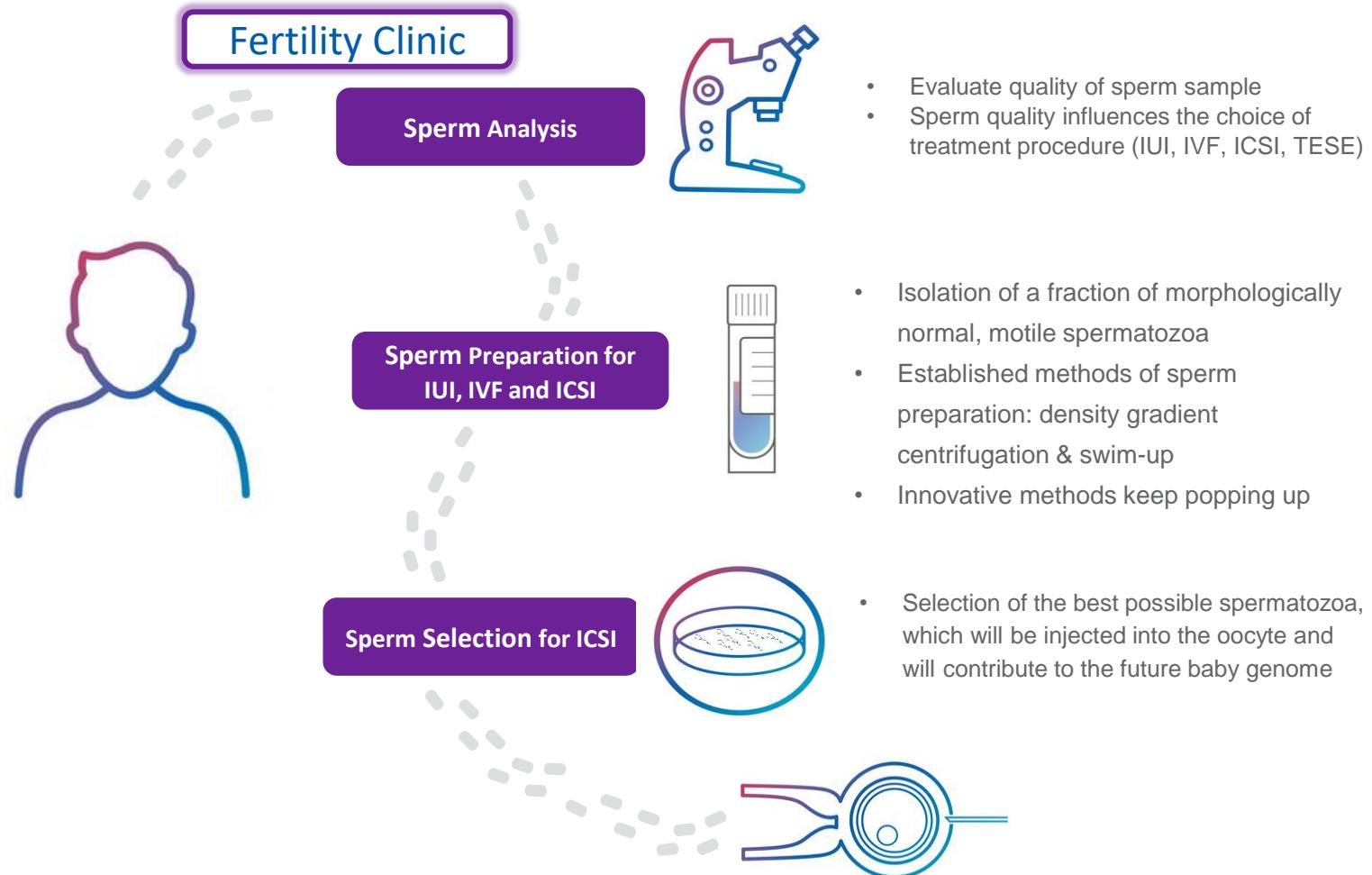
3. Tomlinson M, Lewis S, Morroll D; British Fertility Society. Sperm quality and its relationship to natural and assisted conception: British Fertility Society guidelines for practice. *Hum Fertil (Camb)*. 2013 Sep;16(3):175-93

Patient's andrology journey: sperm analysis, prep and selection



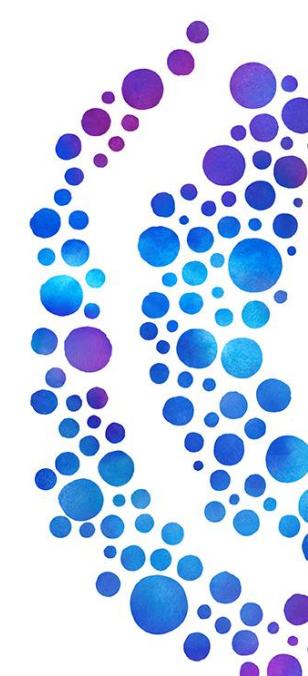
CooperSurgical®

Aiming for best practice in andrology while providing the entire solution



More informative sperm assessment +
Media with innovative formulation +
Optimized protocols +
Single sperm selection method with proven clinical efficiency

Best practice



Sperm preparation media



CooperSurgical®

Support and protect sperm function^{1,2}



Capacitation

Acrosome Reaction

Fertilization

Head

Tail

Potential to undergo
acrosome reaction

Hyperactivation

Release of enzymes
in acrosome cap

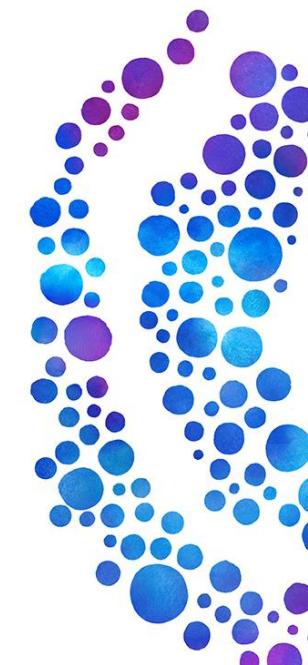
albumin

HCO_3^-

alkaline
pH

alters membrane to prepare the
sperm for acrosome reaction

elevates intracellular Ca^{2+} levels
which support hyperactivation



1. WHO laboratory manual for the examination and processing of human semen (5th edn) 2010

2. de Lamirande E, et al. *Mol Hum Reprod* 1997; 3: 175-94.

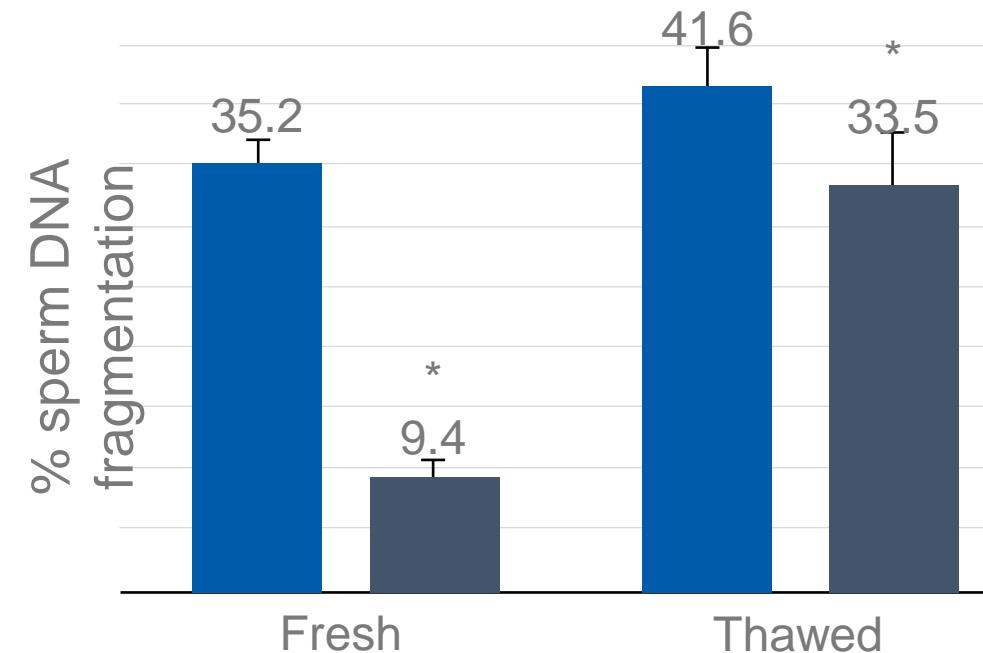
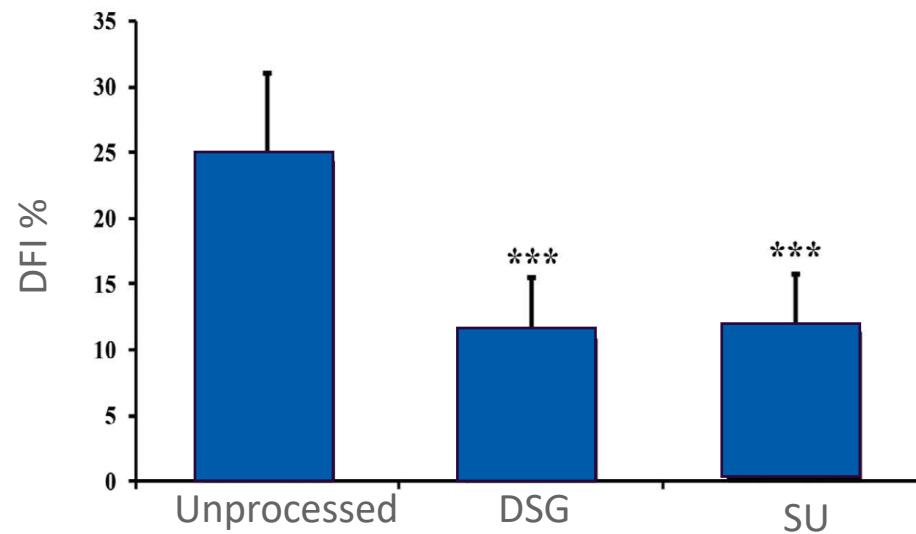
Sperm preparation – comparison of methods



CooperSurgical®

Sperm preparation reduces percentage of sperm with DNA damage¹

Less effective for frozen-thawed sperm²



1. Zhao F, et al. *Sci Reports* 2016; 13:6:39051.

2. Meseguer M, et al. *Fertil Steril* 2010; 95:124-8

ZyMōt® Multi: Sperm Separation Device



CooperSurgical®

1. Sample applied through device's inlet port, connected to lower sample chamber.^{1,2}
2. This chamber is separated from upper collection chamber by microporous membrane.^{1,2}
3. Optimal sperm saturation achieved at 30 minutes.^{1,2}
4. These parameters yield optimal sperm collection efficiency and motility, with 8µm pore demonstrating highest degree of normal morphology.^{1,2}



1. ZyMōt® Instructions for Use

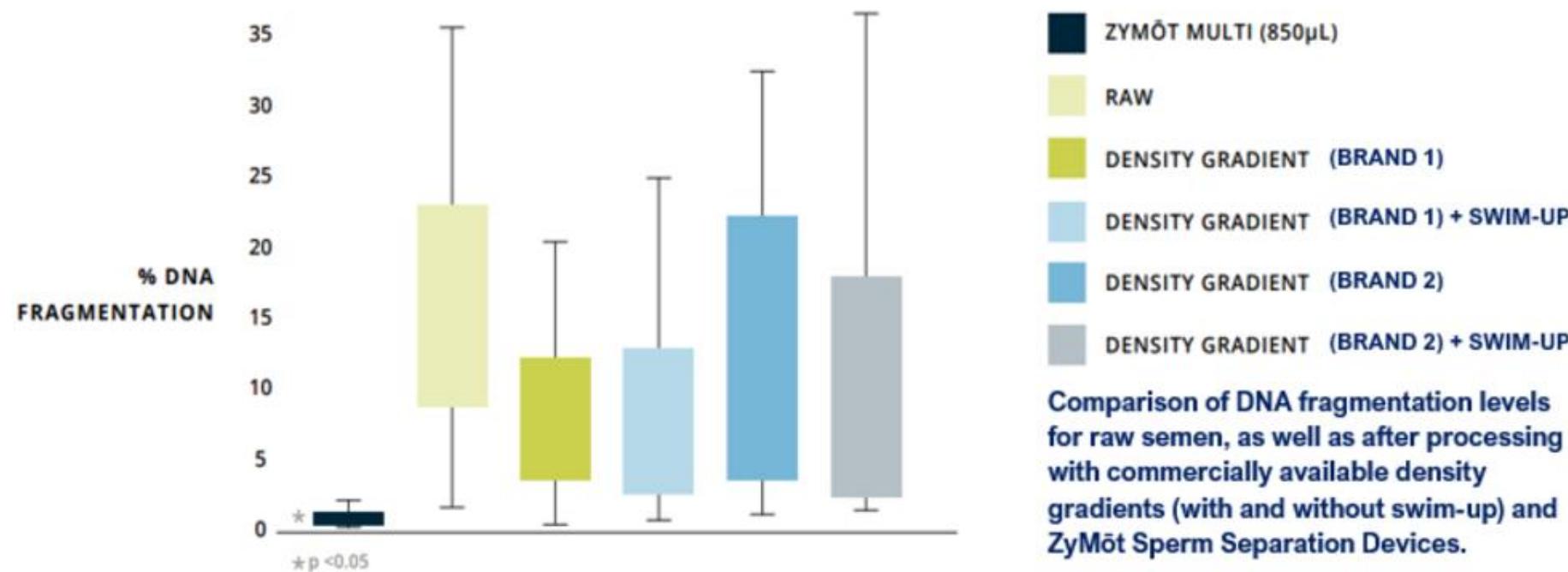
2. Asghar W, et al. (2014) *Adv. Healthcare Mater.* DOI: 10.1002/adhm.201400058

DNA fragmentation index Reduction: a comparison¹⁻⁴

With the ZyMōt® Multi (850µl)



CooperSurgical®



1. Dimakopoulou, A.P., et al. (2019) Elevated semen oxidative stress in male partners as novel marker of recurrent pregnancy loss. ENDO 2019, New Orleans, March 24, 2019.

2. Jayasena, C.N., et al. (2019) Reduced testicular steroidogenesis and increased semen oxidative stress in male partners as novel markers of recurrent miscarriage. *Clinical Chemistry*. Volume 65, January 2019, p.161.

3. Quinn, M.M., et al. (2018) Microfluidic sorting selects sperm for clinical use with reduced DNA damage compared to density gradient centrifugation with swim-up in split semen samples. *Hum Reprod*. July 10, 2018

4. Broussard, A., et al. (2019) Sperm DNA fragmentation (SDF) was most effectively improved by a sperm separation device compared to different gradient and swim-up methods. *Fertility and Sterility*, Volume 111, Issue 4, e15.

Efficient Andrology System¹⁻⁴



CooperSurgical[®]

A GAME-CHANGER FOR YOUR LAB.

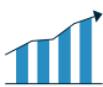
ZyMöt[®] Sperm Separation Device

FEWER STEPS

The ZyMöt device requires less than half the sample handling steps compared to other sperm preparation, reducing the potential for costly error.



MORE EMBRYO TRANSFERS
Increased euploidy rates mean more opportunities for embryo transfers.



PATIENT REQUEST
Patients are starting to ask for the ZyMöt device. Having it available in your clinic can potentially help you attract more patients.



CONSISTENCY
Helps get the best possible sperm sample, even with less experienced tech personnel.

GREATER EFFICIENCY

Reduce the hands-on prep time by up to 80% and free up your lab technician's time for other tasks.



LESS WASTE!

Reduce the amount of sperm preparation media, tubes, pipettes, and other equipment by up to 90%.

CUSTOMER REQUESTED



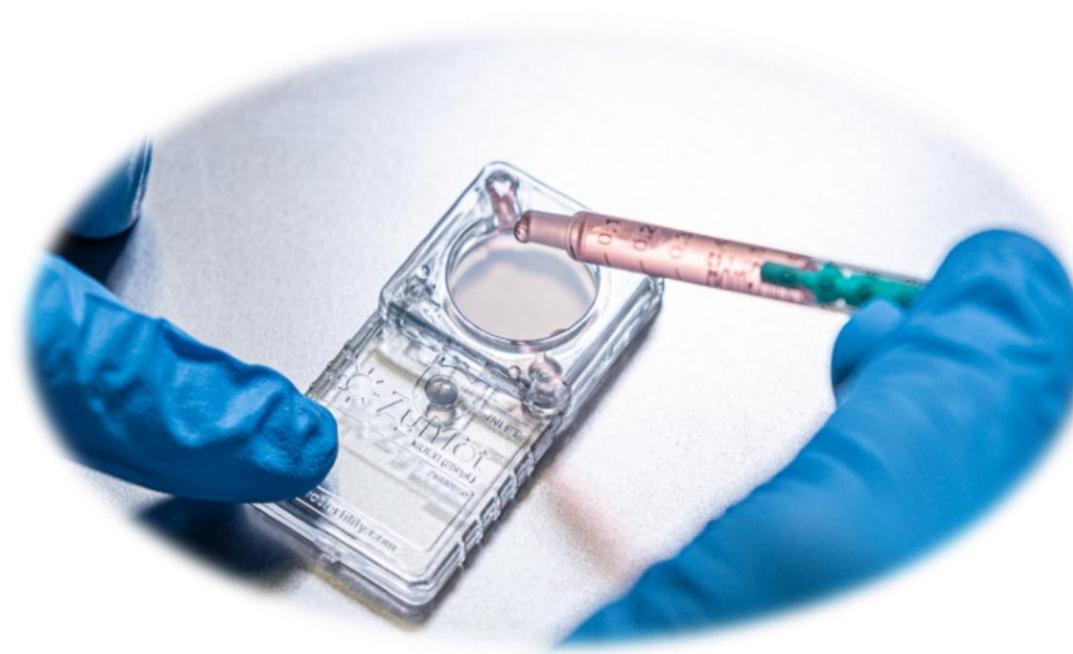
More than 90% of labs that have used the ZyMöt device continue to use them.

SCALABILITY

The ZyMöt device helps save time and users can quickly become proficient with the standardized use procedure set out in the Instructions for Use (IFU).



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References:

1. CooperSurgical Internal Data
2. Anderson, A.R., (ASRM 2020) Virtual Scientific Congress –Euploidy rates and pregnancy outcomes using the ZyMöt™ device for sperm preparation
3. Zini, A. et al. (2000) Influence of semen processing technique on human sperm DNA Integrity. *Urology* 56 (6), 2000
4. Broussard, A., et al. (2019) Sperm DNA fragmentation (SDF) was most effectively improved by a sperm separation device compared to different gradient and swim-up methods. *Fertility and Sterility*, Volume 111, Issue 4, e15.

An entire portfolio of andrology products



CooperSurgical®

- **Sperm Diagnostics**

- Evaluating quality of the semen sample

HBA® Assay Kit



- **Sperm Separation and Preparation**

- Isolation of good quality spermatozoa for IUI/IVF/ICSI fertilization

ZyMot® Sperm Separation Device



ORIGIO® Sperm Preparation Medium



ORIGIO® Gradients & ORIGIO® Sperm Wash



SAGE® PureCeption® Medium



- **Sperm Selection**

- Selection of single mature spermatozoa with better chances of DNA integrity, normal chromosome count and fertilization potential¹

SpermSlow™ Media



PICSI® Dishes



- **Sperm Cryopreservation**

- Preservation of raw or prepared semen

ORIGIO® & SAGE® Media for Sperm Cryopreservation



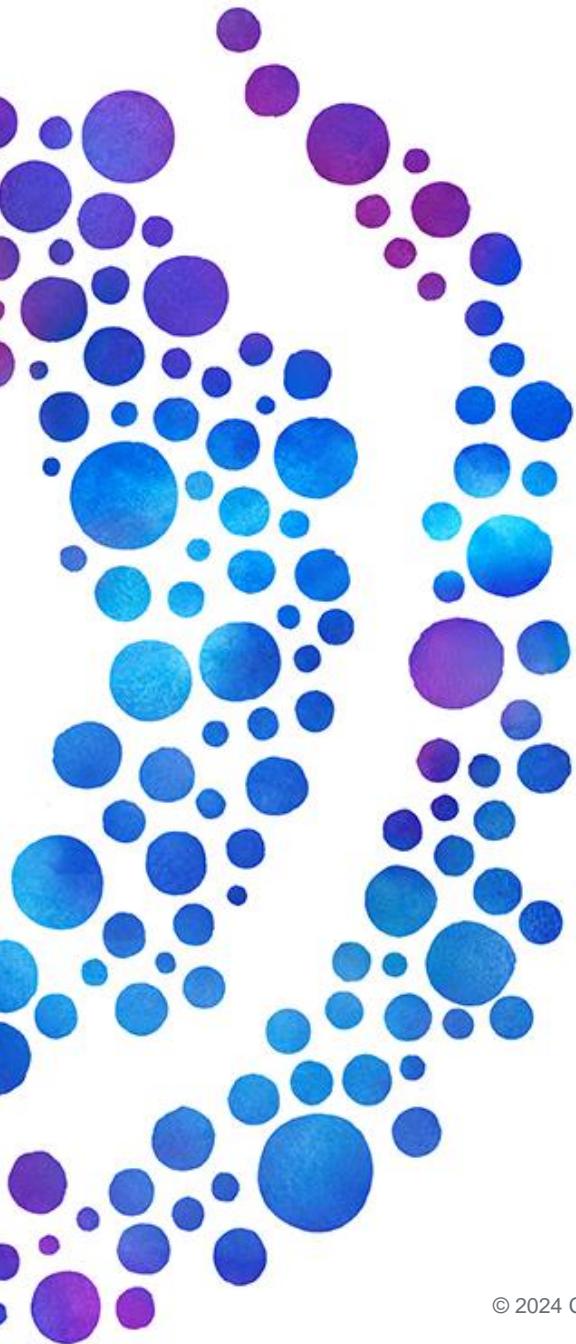
1. Huszar G, Jakab A, Sakkas D, Ozenci C, Cayli S, Delpiano E, Ozkavukcu S. Fertility testing and ICSI sperm selection by hyaluronic acid binding: clinical and genetic aspects. *Reprod BioMed Online* 2007; 14(5): 650-663



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Q & A





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