

Oosight Imaging System

Key Benefits

- Non-invasive, high-contrast imaging
- Accurate and reproducible
- Automated measurement and analysis tools
- Reporting, still, streaming, and movie capability

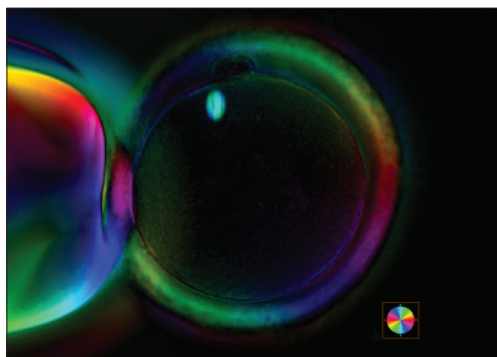


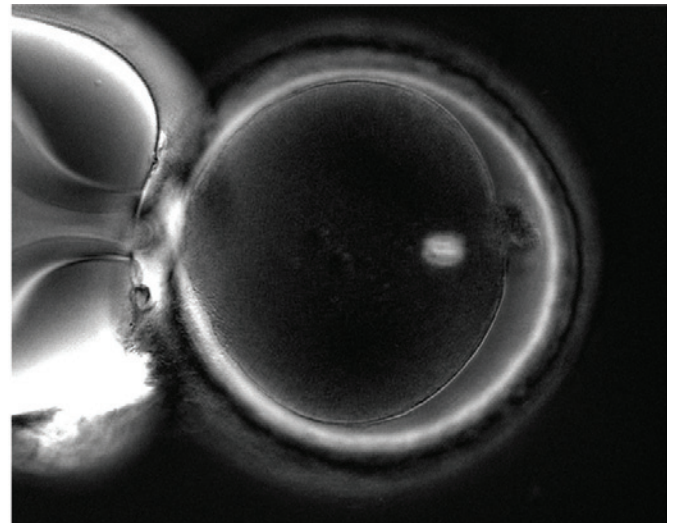
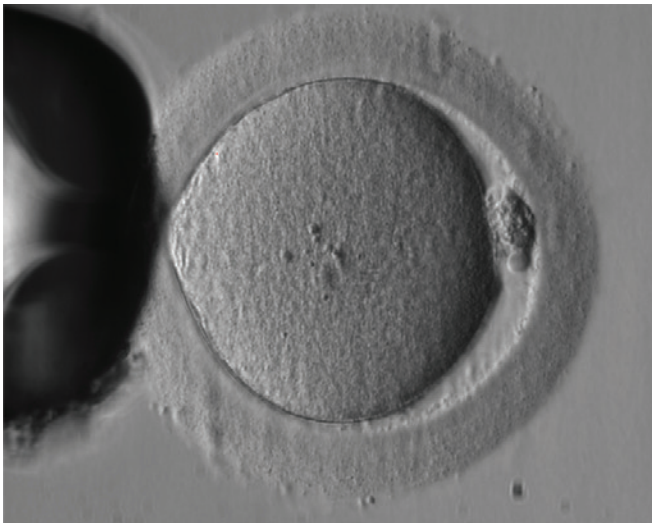
Reveal Critical Structures in the Oocyte, Improve Grading, and Enable New Discoveries

Adding Oosight™ to your lab can improve success by giving you a quantitative and reproducible method to measure biological disruption in either fresh or previously frozen oocytes. You can now select oocytes for ICSI and embryos for implantation, and use the system to help improve enucleation efficiency.

Understanding the oocyte is critical to understanding embryogenesis, and studies show that a disrupted spindle apparatus or a weakened zona pellucida in the oocyte can yield lower pregnancy rates. In fact, it has been shown that pregnancy is up to 8 times more likely when the inner zona pellucida is well-ordered.¹

Our unique and patented solid-state, liquid crystal technology is an easy add-on to your ICSI workstation. Oosight software runs on your computer to capture, display, and analyze your images. Snap an image and click a button to report the data. Meaningful data on molecular order within the sample are organized into an intuitive, exportable report. It's really that simple.

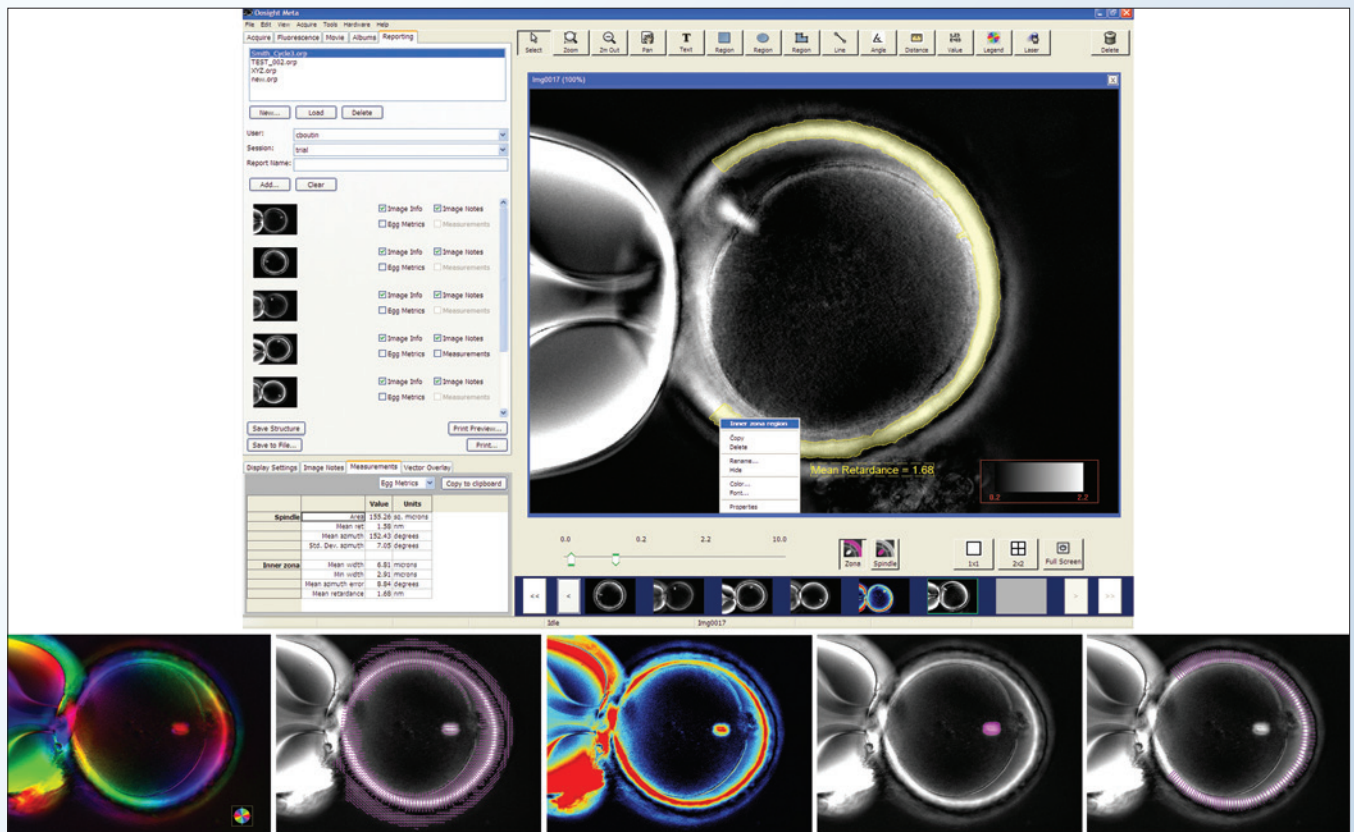




In a conventional contrast image (left) of a human MII oocyte taken just prior to ICSI, structures such as the spindle and multiple layers of the zona pellucida remain invisible. In an Oosight image (right) the spindle is clearly seen to be nicely barrel shaped and the three layers of the zona pellucida are all visible.

Oocyte outperforms all other systems

No other contrast-enhancement technique delivers the performance of Oosight. With unprecedented resolution and calibrated setup, Oosight provides the sensitivity and reproducibility required of a grading routine, as well as the speed needed for micromanipulation.

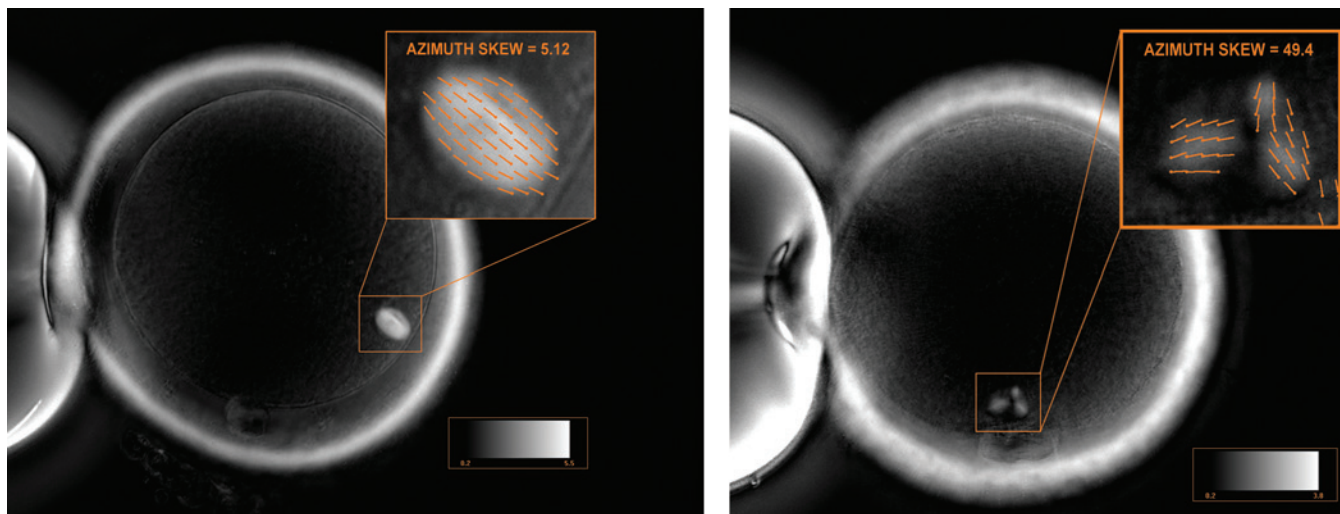


Oosight software visualization tools include (left to right): slow-axis orientation color map, orientation vector overlay, retardance color map, automated SpindleFinder™, and automated ZonaFinder™.

Note: The Oosight™ Imaging System is meant to be used for research purposes only.

Screening with Oosight can make all the difference

Oosight enables you to determine which subpopulation of oocytes are at high risk for producing chromosomally abnormal embryos. Approximately 1 in 20 cycles contains oocytes that are immature but are nevertheless falsely labeled MII using conventional imaging techniques. Oosight can prevent the potentially damaging effects that result from injecting immature oocytes. The system can also help screen for oocytes with highly disrupted spindles, such as those that are multi-polar.



On the left, this human MII oocyte has a normal barrel-shaped spindle, while on the right, this human MII oocyte has an abnormal tri-polar spindle. Note that you can also measure the inner zona and spindle retardances with exceptional accuracy.

	Oosight Basic SpindleCheck	Oosight META
Solid-State LC Optics	✓	✓
Circular Polarizer and Interference Filter	✓	✓
High-Resolution CCD Camera	✓	✓
C-Mount for your Microscope	✓	✓
Image Capture Software	✓	✓
Automated SpindleFinder™		✓
Automated ZonaFinder™		✓
Reporting Tools		✓
Movie Capture		✓

Improve the efficiency of cryopreservation

Whenever a clinical application is known to alter the state of the biological material being used, it is imperative that checks and balances are in place to monitor the extent of that change. Oosight can help do this for cryopreserved oocytes by providing a method that helps ensure that vital structures in the oocytes are re-formed to their original pre-frozen state.

“Because spindle screening can improve efficiency of gamete selection, it should be considered when choosing eggs for freezing or fertilization by ICSI.”

– Nicole Noyes, MD, NYU Fertility Center

Specifications

Optical

Wavelength of operation	546 nm
Spatial resolution	Diffraction limited
Relay optics	0.6x to 0.7x C-mount

Electrical

Power source	5V 3A with universal input voltage adapters
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Image Acquisition

Image output format	TIFF
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Scientific CCD Camera

Sensor size	1/2-inch diagonal
Image size	1392 x 1024 pixels
Pixel dimensions	4.65 x 4.65 μ m
Digital output	8-bit
Binning modes	1 x 1, 2 x 2

Computer Requirements

Platform	PC-compatible with Intel Pentium™-class CPU 2 GHz or higher and Microsoft® Windows® 7 (English-language version) 32-bit
Memory	1 GB or more
Hard disk	80 GB or larger (7200 rpm or faster for best performance)
Display	19-inch color monitor or larger
USB ports	USB 2.0 interface with at least 2 available ports

Environmental Requirements

Operating requirements	Indoor
Operating temperature	15 °C to 40 °C
Operating humidity	65%, non-condensing
Operating altitude	2000 meters
Storage temperature	-10 °C to 55 °C
Storage humidity	100%, non-condensing
Pollution degree	2

Microscope Compatibility

Oosight systems are compatible with many research-grade microscopes, including those made by Leica®, Nikon®, Olympus®, and Zeiss®. Contact us for a list of microscopes or for a configuration sheet for your microscope.

Accessories

Glass-bottom dishes	Available from vendors such as: WPI, Willco Wells®, MaTek®
Heated stages or chambers	Available from Tokai Hit®, Research Instruments, microscope manufacturers
Strain-free microscope objectives	Available from microscope vendors. Avoid using phase-contrast objectives

References

1. Shen Y, et. al. High magnitude of light retardation by the zona pellucida is associated with conception cycles. Human Reproduction, 2005 Jun; 20(6):1596-606.

For more information, please visit our website at www.perkinelmer.com/oosight

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