UB start-up provides innovative digital sperm analysis to infertile couples worldwide

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Couples struggling with fertility problems have a new option for assessing their ability to have a child with the start-up of a new Buffalo-based company called LifeCell Dx, Inc. (LCDX).

The company was founded by Lani J. Burkman, Ph.D., a reproductive physiologist in the Department of Gynecology and Obstetrics at the University at Buffalo School of Medicine and Biomedical Sciences and a nationally recognized specialist in andrology, the medical specialty dealing with male reproduction.

Burkman provided sophisticated sperm evaluation services at Women & Children's Hospital of Buffalo for 14 years, using her proprietary methods and computer-assisted semen analysis. Her new patent-pending technologies now make digital semen analysis available to affiliated clinical sites worldwide through the Internet.

Over the past 20 years, Burkman has developed unique sperm fertility tests, including special methods for computer tracking of vigorous swimming patterns and binding of sperm to the cover of human eggs. She has focused on sperm functioning that can predict whether a man is fertile, as well as on studies on marijuana and methamphetamine -- chemicals that alter sperm fertility.

Previously, she was a member of the Norfolk, Va., clinic that performed the first successful in vitro fertilization in the U.S, and produced key advances in sperm evaluation. Her UB laboratory carried out clinical and

basic research on new contraceptive drugs, on the use of sperm for toxicity testing and on the negative effects of nicotine on sperm.

LCDX supplies the necessary equipment -- including a microscope and camera -- at no cost to U.S. and Canadian clinics who become affiliated with the company. Clinic physicians create a digitized video of the sperm sample and transmit the video over the Internet to the LCDX central computer lab in Buffalo. The proprietary videos are analyzed by Burkman and her staff, who provide a detailed LCPredict report to the clinician, along with a video clip.

LCDX is the first business to offer advanced semen analysis using sperm video transmission through the Internet (e-fertility diagnostics). Burkman says her mission is to make reliable fertility testing accessible to the millions of infertile couples who are begging for an answer to their key question: Can these sperm produce a pregnancy?

International expansion to serve infertile couples in any country is projected to begin in 2010, with the company hiring 20 new technical and management employees over the next several years. The LCDX methods and laboratory are now certified by the New York State Department of Health.

Burkman said experts estimate that 15 percent of younger couples will seek help in having a child --- including having a semen analysis as the first step.

"In the U.S., more than 90 percent of these infertile couples have no easy access to expert andrology testing," said Burkman. "They are desperate for answers and are looking for specialized help close to home. The current barriers include lack of computer-assisted semen analysis and andrology training in most laboratories, great distance from the nearest andrology lab and the fact that semen has to be analyzed within one hour

of collection.

"The current basic semen analysis is the only option offered at thousands of traditional laboratories around the globe," noted Burkman. "This basic test, which hasn't changed much in 50 years, can't predict whether the man's sperm could fertilize an egg. It relies on subjective, manual methods -- basically 'eye-balling' the sample through a microscope -- and is poorly standardized. Semen data from these labs are often unreliable," she said.

At the outset, patients will pay out-of-pocket for the advanced semen analysis. "If the report shows that the sperm have low fertility potential, their choices are finally clear," said Burkman. "Couples want to make informed decisions. With our LCPredict information, they can move forward. They can change their treatment options, go for a sperm donor or have the partner's sperm injected into the egg -- called intracytoplasmic sperm injection. Knowing the true sperm potential, they may choose to use donor embryos or adopt."

The LifeCell Dx service is available in Buffalo and in Boston, Mass., where the first affiliated clinical laboratory is located. Four more clinics will be operational after a brief training period. Expansion throughout the U.S. will take place in the coming months.

Source: University at Buffalo (news : web)