Assisted Reproduction: New Technology Identifies Previously Unknown Predictors of Embryo Viability

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Which embryos have the best opportunity to develop into a viable pregnancy? A new technology provides a surprising answer.

A major challenge in the field of IVF is selecting the single best embryo which is likely to result in a live birth. Currently, embryologists must remove the embryo from a standard incubator to perform 2 or 3 short evaluations of the developing embryo under the microscope, at fixed time-points over 3-5 days, in order to assess embryo quality prior to transferring an embryo to the patient.

(Photo: http://photos.prnewswire.com/prnh/20120918/562489 [1])

The EmbryoScope® Time-lapse system generates a movie allowing embryologists to monitor various characteristics of the embryo development over the entire incubation period, while maintaining optimum incubation conditions in a state-of-the-art incubator.

According to breakthrough scientific results, embryos which exhibit irregular division patterns have a much lower pregnancy potential. The results were made available online on August 27 in the journal *Fertility & Sterility*, and confirms the benefits of implementing the EmbryoScope® Time-lapse system from the Danish company Unisense FertiliTech A/S.

A clinical multi-center study from Equipo IVI, Spain, Maigaard clinic and Brædstrup Hospital in Denmark, including a total of 5225 embryos, reports significantly reduced implantation of embryos which have a second division cycle occurring in less than 5 hours (considered direct cleavage), compared to the implantation probability of "normally" developing embryos. The embryos with a short second division cycle will simply not have enough time for DNA replication, which is a prerequisite for a normal cell division.

Nearly 14% of all examined embryos exhibite
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