

Australian invention modernises IVF

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Geneva, Switzerland: The European Society of Human Reproduction and Embryology's Annual Meeting in Geneva has today heard that a world first Australian invention has modernised one of the key IVF processes by automating and standardising steps that are currently performed manually.

Genea Biomedx's Gavi automates key stages of vitrification - the process of freezing IVF patients' embryos for use in later cycles or whilst awaiting results from genetic screening.

In Australia, the leading technology is exclusive to Genea clinics meaning only Genea patients have access to Gavi and its vitrification outcomes.

Results presented today show clinical outcomes of day five embryos vitrified using the Gavi system are comparable to the traditional manual CRYOTOP® system. Gavi also offers time savings through standardising what is traditionally a highly manual process which is subject to environment and human variation.

"In IVF labs across the world, vitrification is currently undertaken many times each day, requiring a high level of manual dexterity and leading to variations between embryologists and clinics in the way embryos are handled and the outcomes achieved," Genea Biomedx General Manager Dr Tammie Roy said.

She added, "we know that the more experience an embryologist has in the manual process the better the outcomes. By implementing Gavi and therefore standardising the vitrification process, every embryo in the lab is treated exactly the same way despite the embryologist's level of experience".

In the Genea clinics that were assessed for this study the Gavi system provided immediate high level survival rates thus demonstrating the potential to reduce the learning curve that is experienced by embryologists in the manual process.

Vitrification of embryos is an essential component of an effective assisted conception program. Genea Medical Director, Associate Professor Mark Bowman said, "at Genea, most patients are likely to have more than one viable embryo so preserving extra embryos for patients to complete their family or try again is imperative." He added, "it's all part of our commitment to getting women pregnant in the least number of stimulated cycles."

The rise in popularity for social egg freezing also increases the need to standardise freezing processes and reduce the time it takes to complete in the laboratories.

"Genea Biomedx is giving IVF patients and clinics around the world the chance to benefit from our world leading Australian scientific and technological know-how," said Dr Roy.

Drawing on fertility group Genea's 31 years of IVF experience, Genea Biomedx has developed a suite of innovative IVF products with the aim to maximise the potential for couples to have a baby.

"Here at Genea, we are uniquely positioned as both a world leading fertility clinic and a world leading IVF technologies lab. Genea Biomedx is powered by real world knowledge from our fertility clinics and perfectly placed to come up with innovative advances that will help make more couples' dreams come true," Genea CEO Tomas Stojanov said.

Gavi has been internationally recognised, taking home the following prestigious awards:

- Gold in the 19th Annual Medical Design Excellence Awards (MDEA) Award Ceremony in New York, June 2017
- Best Overall in the Good Design Awards, May 2016

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Background: Results presented at ESHRE

To evaluate the potential improvements from a training and standardisation perspective, survival results across freeze scientists for the early stages of implementation at all Genea labs of Gavi™ (2015-2017) and Cryotop® (2009-2010) were retrospectively analysed. The average experience level of the vitrification scientist (x-axis), average cell survival % (y-axis) and number of embryos warmed were analysed to generate a model to define outcomes on a per scientist basis (Figures 3 and 4).

Data presented in the below figures demonstrates that the implementation of Gavi into the Genea clinics provided greater consistency in embryo survival irrespective of scientist experience level when compared to the results obtained during the implementation of the manual vitrification at Genea in 2009.

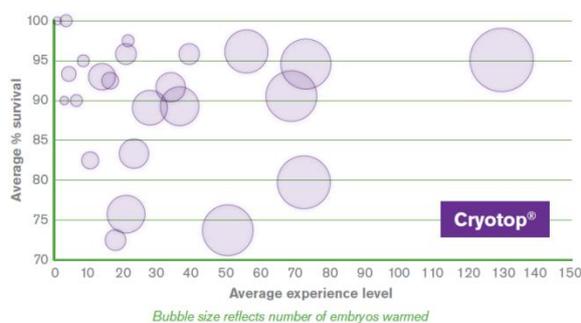


Figure 3: Recovered embryo survival by freeze scientist with Cryotop®

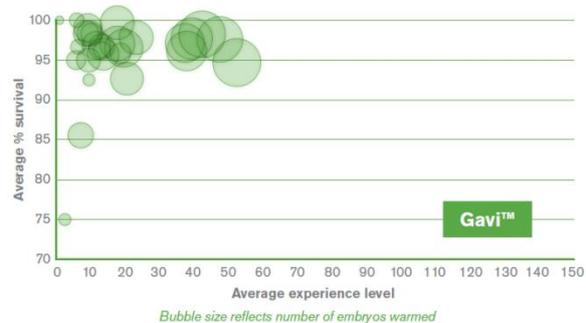


Figure 4: Recovered embryo survival by freeze scientist with Gavi™

About Genea Biomedx

Genea Biomedx creates and manufactures practical, accessible and precise fertility technologies that help standardise and automate fertility treatment. Its unique relationship with Genea Fertility means that Genea Biomedx is a manufacturer that truly understands the customers' perspective. As a result Genea Biomedx has developed the world's first automated vitrification instrument and has created a world leading bench top incubator with time-lapse functionality.

About Gavi, Geri, Gems and Gidget

- Gavi – the world's first automated vitrification instrument; Vitrification is a process used in IVF to preserve human egg cells (oocytes) or embryos by cooling them to deep sub-zero degrees. Approaching the process in an innovative way, Gavi uses an automated, standardized protocol aiming to provide consistent results in blastocyst vitrification.
- Geri - a benchtop incubator with individually controlled incubation chambers per patient to minimize disruptive events to the early-stage embryo. It also incorporates a camera for continuous monitoring of embryos as they develop.
- Gems - the latest generation of Genea's culture media for embryo cultivation.
- Gidget - an innovative witnessing and tracking system that provides electronic witnessing, lab workflow management and support for traceability and audit reporting.