Successful embryo implantation

Solutions for optimised embryo implantation

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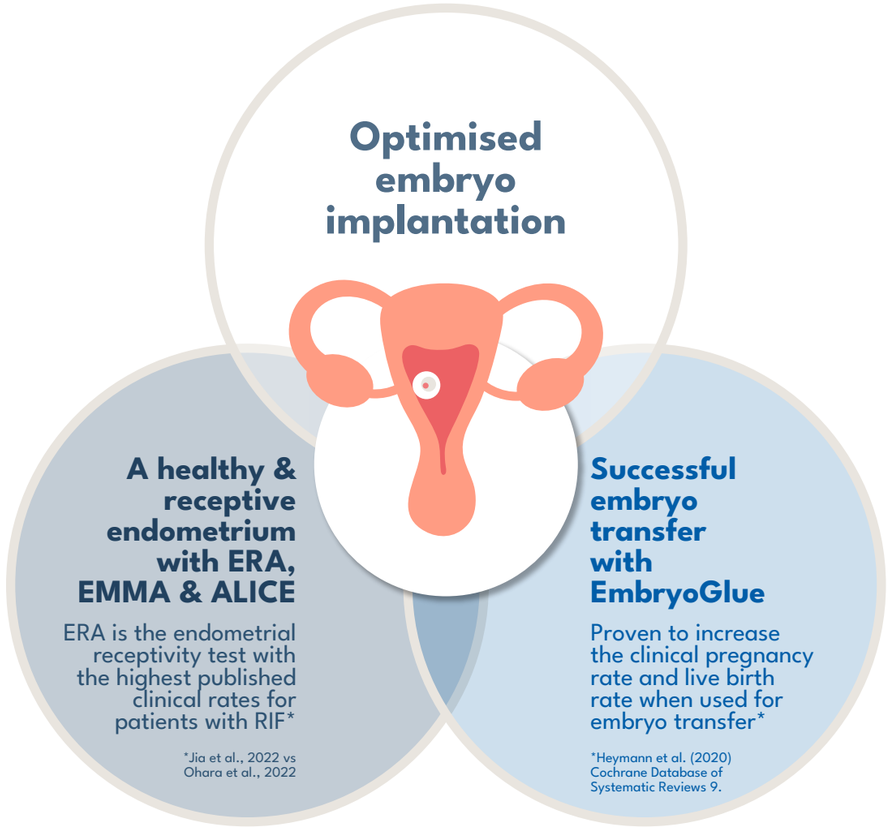
Take home message

The Vitrolife Group offers the most optimal and complete IVF journey. We now have the chance to ensure the best conditions for the right embryo to implant with the help of solutions with strong scientific data and documentation. We maximise the possibilities for a successful embryo implantation and the best clinical outcome by;

- **Enable the optimal uterine environment by preparation of a healthy and receptive endometrium**
- **Offering a specifically developed and documented transfer medium**

Creating the best conditions for the embryo to implant

Combining Igenomix's portfolio of reproductive genetic testing services with Vitrolife's best-in-class IVF device portfolio, the Vitrolife Group supports clinics and patients across the fertility journey. We offer our customers and patients ground-breaking solutions to create the best conditions for an embryo to implant with one single goal: to fulfil the dream of having a healthy baby.



Solutions for optimised embryo implantation

Planning and performing infertility treatment to support the best possible patient outcome is hard work. Each patient is unique. Optimal implantation requires a perfect interaction between embryo and uterus, which is why we should ensure a healthy and receptive endometrium. Numerous studies have shown that hyaluronan creates a bridge between the embyro and the endometrium.

Preparing the endometrium and optimising the transfer protocol are two factors that play an important role for success in all patient treatments.

A healthy and receptive endometrium: ERA, EMMA & ALICE

Ensuring a healthy and receptive endometrium can optimise the outcome of an IVF transfer. Igenomix leads the research in the field of endometrial assessment and pioneered the development of tests to address both endometrial receptivity and endometrial microbial health.

The endometrial receptivity test (ERA) with most scientific background on the market

ERA is backed by more scientific publications than any other endometrial receptivity test on the market. The ERA test has been performed on more than 200,000 women worldwide, with 3 in every 10 women having a displaced WOI[3]. This extensive clinical experience paired with artificial intelligence (AI), allows for continual refinement of the ERA predictor algorithm, making ERA the most precise test for personalised transfer timing. The initial indication for ERA is repeated implantation failure (RIF), offering an implantation solution to those women who have not achieved a successful pregnancy otherwise.

ERA improves implantation and pregnancy rates

In an externally published study, women with RIF undergoing a pET guided by ERA experienced significantly improved pregnancy and implantation rates versus women with RIF who underwent a transfer at the standard timing and without ERA testing[2]. The ERA test can also be beneficial for women who are at increased risk for having a displaced WOI, including women with a BMI >303,4, adenomyosis[5], or an atrophic endometrium[6].

Table 4
Comparison of the clinical outcomes between the endometrial receptivity analysis (ERA) and conventional frozen embryo transfer (FET) groups.

Clinical outcome	ERA group (n = 140)	FET group (n = 141)	P Value
Embryos transferred per patient, *N*	1.56 ± 0.50	1.58 ± 0.50	>0.05
High-quality embryos transferred per patient, *N*	0.74 ± 0.75	1.01 ± 0.72	>0.05
Biochemical pregnancy rate, *n* (%)	88/140 (62.86%)	55/141 (39.01%)	<0.01
Clinical pregnancy rate, *n* (%)	70/140 (50.00%)	35/141 (24.8%)	<0.01
Implantation rate, *n* (%)	91/218 (41.7%)	42/223 (18.83%)	<0.01

A healthy endometrial microbiome

Endometrial Microbiome Metagenomic Analysis (EMMA) evaluates the endometrial flora, offering a complete view of microbial health and providing information to guide personalised treatment in order to balance the endometrial microbial environment and improve reproductive prognosis.

Analysis for Infectious Chronic Endometritis (ALICE) tests specifically for the most frequent bacteria causing chronic endometritis (CE), a known cause of infertility. Marked by endometrial inflammation and often undiagnosed due to no visible symptoms in most cases, CE itself affects up to 30% of infertile patients and upwards of 60% in the case of RIF or recurrent pregnancy loss[7,8].

Although each of our endometrial tests can be ordered individually, Igenomix offers the EndomeTRIO test, where with a single endometrial sample both endometrial receptivity and the endometrial microbiome can be assessed, thus giving providers a better understanding of their patient's overall endometrial status in order to improve the chances of pregnancy.

Successful embryo transfer

A full infertility treatment from stimulation, embryo culture, embryo selection and uterine preparation is a long process all leading up to one important moment. The embryo transfer. The perfect embryo is selected, a healthy endometrium is ensured, and now we want to provide it with the best chance for implantation. Two meta-reviews present the same outcome. Using EmbryoGlue, a hyaluronan rich medium, for transfer increases the chances for pregnancy and live-birth[9,10].

Designed to promote embryo implantation

EmbryoGlue is a medium developed exclusively for embryo transfer and is the only existing transfer medium with a proven implantation-enhancing effect[9]. EmbryoGlue has the basic composition of a rich blastocyst culture medium and contains a high concentration of hyaluronic acid and recombinant human albumin. It can be used for transfer of all embryo developmental stages.

How to optimise transfer

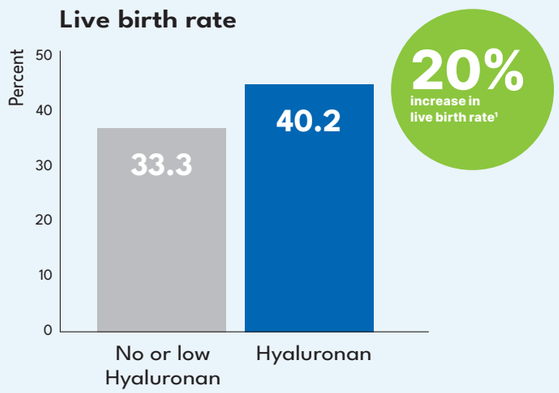
A meta-analysis from 2022 on transfer interventions showed that three methods stand out with positive outcomes in terms of clinical pregnancy rate and with significant clinical evidence for their effectiveness[10].

- **Hyaluronic acid-enriched media (EmbryoGlue)**
- **Ultrasound guidance**
- **Soft transfer catheter**

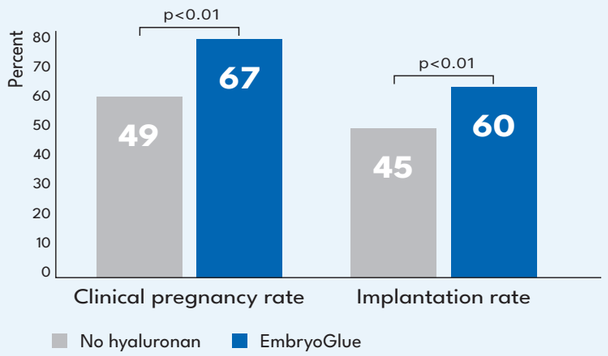
The clinical outcome of using EmbryoGlue

The Cochrane review from 2020 shows an increased live birth rate from 33.3% to 40.2%[9]. According to a numbers needed to treat calculation, one additional live birth was achieved for every 14 patients. Published RCTs from the Cochrane review suggest patients ≥35 years of age and patients with previous implantation failures may benefit more from the use of EmbryoGlue[11,12].

Live birth rate



Frozen embryo transfers with PGT embryos



Do not hesitate to use EmbryoGlue for your PGT transfers. Recent data indicates that biopsied embryos benefit from being transferred in EmbryoGlue compared to a medium without hyaluronan. The data showed an increase in both the clinical pregnancy and implantation rates[13].

Orders & customer support

Scan the code or visit www.vitrolife.com to learn more about optimised implantation and how it can help your practice. Please contact your Vitrolife Group representative for clinical support.

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Contact our Vitrolife customer support team for more information:
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1. Ruiz et al. (2013) Fertil Steril. 100(3):818-24. **2.** Jia et al. (2022) Med Sci Monit. 28:e935634. **3.** Comstock et al. (2017) Reprod Sci. 28(11):3171-3180. **4.** Bellver et al. (2021) Reprod Sci. 28(11):3171-3180. **5.** Kaur et al. (2017) Hum Reprod Sci. 11(4):353-358. **6.** Valbuena et al. (2018) ESHRE Abstract. Hum Rep. 31:255-256. **7.** Cicinelli at al. (2014) Reprod Sci. 21(5):640 **8.** Cicinelli et al. (2015) Hum Reprod 30(2):323-30. **9.** Heymann et al. (2020) Cochrane Database of Systematic Reviews 9. **10.** Tyler et al. (2022) Hum Reprod Update 28. **11.** Urman et al. (2008) Fertil Steril (90):3. **12.** Friedler et al. (2007) Hum Reprod Vol 22, Issue 9. **13.** Reed (2022) Poster PCRS.

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