

How Liv Hospital is Redefining IVF Success Rates through Advanced Selection Technologies

The Genetic Blueprint: PGT-A

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As reproductive medicine advances, the definition of IVF success has evolved. Previously, success was measured by the number of oocytes and embryos collected to maximize pregnancy chances. Today, institutions like Liv Hospital are leading a shift toward precision IVF, emphasizing quality over quantity through advanced biotechnologies. This approach helps reduce the emotional and physical burden of infertility.

At the core of Liv Hospital's elevated success rates lies a meticulous focus on gamete and embryo selection. While standard protocols remain the backbone of treatment, the integration of Microfluidic Sperm Selection (the "Microchip" technique) and Preimplantation Genetic Testing for Aneuploidy (PGT-A) has revolutionized outcomes for couples facing complex infertility challenges.



ivf1



ivf2

Traditional sperm preparation uses centrifugation to separate viable sperm. However, research indicates this process can cause oxidative damage and DNA fragmentation, which may compromise embryo development. Liv Hospital has adopted the Microfluidic Sperm Selection technique to address this. Often referred to as "chip technology," this method mimics the natural physiological barriers of the female reproductive tract. The device consists of microchannels that act as filters; only sperm with the best motility, morphology, and the lowest DNA fragmentation can swim through the narrow passages against a fluid flow. Clinically, this technique enables embryologists to select high-quality sperm without the risks associated with centrifugation. Using sperm with preserved genetic integrity leads to higher blastocyst formation rates, which positively impact pregnancy outcomes.

The Genetic Blueprint: PGT-A

Even with high-quality sperm and eggs, embryos that appear normal under the microscope may still have chromosomal abnormalities (aneuploidy), which are a leading cause of implantation failure and early miscarriage.

Liv Hospital uses PGT-A (formerly PGS) to enhance genomic precision in the embryology lab. This technique involves safely biopsying trophoctoderm cells from a blastocyst-stage embryo and analyzing them to confirm the correct number of chromosomes (46).

For patients, especially those with advanced maternal age or recurrent pregnancy loss, PGT-A enables the transfer of only "euploid" (chromosomally normal) embryos. This approach reduces time to pregnancy and avoids unsuccessful transfers, aligning treatment with each patient's biological needs.

The Patient Journey: A Syllabus of Care

While laboratory technology is essential, Liv Hospital also prioritizes thorough patient clinical preparation. The effectiveness of advanced selection methods depends on strong foundational steps in the treatment cycle.

The process begins with ovarian stimulation. Customizing medication dosage and timing is critical to harvesting mature, high-quality oocytes. Because self-administration can be a source of anxiety for patients, the hospital provides extensive education on [IVF shots](#), ensuring patients feel confident and competent in administering their medication, which is vital for a consistent hormonal response.

After stimulation, the precise timing of the trigger shot and procedure is critical. Clinical teams follow strict protocols to protect patient safety and oocyte quality. Patients receive detailed instructions on egg retrieval, including fasting and anesthesia guidelines, to optimize conditions for both patient and gametes.

After oocyte retrieval and transfer to the embryology lab for Microchip selection or ICSI, patients focus on recovery. Managing the physical response is a key part of care. The medical team provides clear post-retrieval instructions, monitors for Ovarian Hyperstimulation Syndrome

(OHSS), and prepares the uterine environment for embryo transfer.

The Future of Fertility

The combination of Microfluidic Sperm Selection and PGT-A marks IVF's evolution from a procedure based on chance to one focused on precise selection. By selecting optimal sperm and confirming embryo genetic health, Liv Hospital aims to provide the safest path to parenthood.

In a field often driven by hope, these technologies offer greater statistical probability and clinical confidence.

Liv Hospital

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