# MEDNEWS

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## **Empowering Lives:** Esco Medical Joins **Walking Egg Project** for Affordable Infertility Care in **South Africa**

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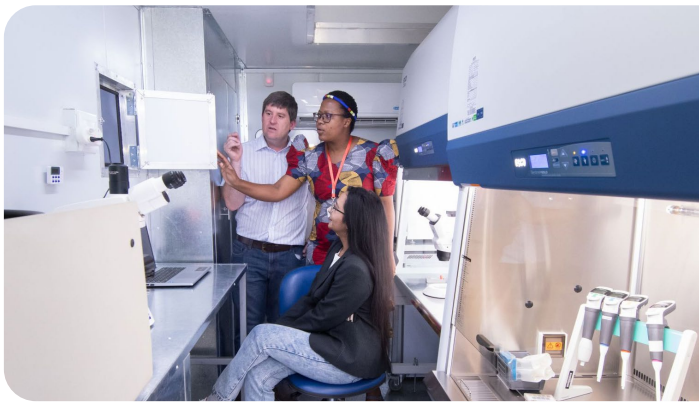
**QUARTERLY** NEWSLETTER **ISSUE** 17 **JANUARY - MARCH** 2024

# **Empowering Lives:** Esco Medical Joins **Walking Egg Project** for Affordable Infertility Care in **South Africa**


Esco Medical proudly announces its participation in thegroundbreaking Walking Egg Project, an innovative initiative in South Africa that seeks to revolutionize the landscape of Assisted Reproductive Technology (ART) and make infertility care accessible to all.

The collaborative effort involves key players such as the University of Pretoria, Belgium's Hasselt University, and The Walking Egg NGO. Esco Medical contributes by providing essential IVF equipment, including Multi-Zone ART Workstation, Airstream® Class II BSC, Air Purifyer, and CelCulture® $CO_2$ Incubator to support the project's mission.

In a world where access to infertility care is often limited, the Walking Egg Project is committed to breaking down barriers. The collaboration, backed by Esco Medical's support, aims to make high-quality ART services available to individuals facing infertility challenges, irrespective of their socioeconomic status.



At the heart of this collaboration is a pioneering mobile IVF laboratory, a world-first initiative equipped with cutting-edge ART equipment supplied by Esco Medical. Spearheaded by Gerhard Boshoff, Acting Deputy Director of Medical Science at Steve Biko Academic Hospital's Reproductive Biology Laboratory, as part of a joint PhD project under the auspices of the Universities of Pretoria and Hasselt and supervised by Profs Carin Huyser and Willem Ombelet, this mobile unit employs a simplified IVF culture system developed by The Walking Egg. This innovative approach not only makes infertility treatment affordable but also demonstrates its effectiveness.

"Infertility care goes beyond medical treatment; it is about fulfilling the dreams of parenthood and alleviating the emotional burden associated with infertility," Professor Vanessa Steenkamp, Deputy Dean of Teaching and Learning at UP's Faculty of Health Sciences, emphasizes the profound impact of accessible care on individuals and families.

Professor Willem Ombelet, a pioneer in infertility research from Hasselt University and The Walking Egg, underscores the global significance of this collaboration. By showcasing the success of the mobile IVF laboratory, the initiative aims to set an example for the world, proving the affordability and effectiveness of IVF.

As partners in this transformative journey, Esco Medical invites everyone to join in championing accessible and affordable reproductive healthcare. Together, with collaborators like The Walking Egg, the goal is to break down barriers, uphold fundamental rights, and change lives. Stay tuned for updates and opportunities to get involved in this life-changing endeavor.

*For more information and updates, visit the Walking Egg Project website.*

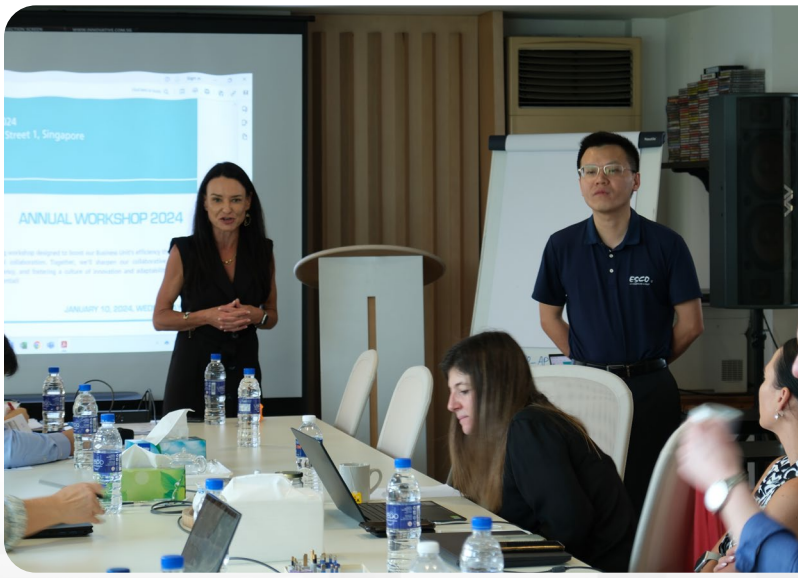
# Esco Medical **Annual Meeting Highlights:** Collaborative Strategies for **Enhanced Customer Satisfaction** and Future Solutions in IVF

Esco Medical kicked off the year by organizing its annual meeting, a pivotal event that brought together key personnel from diverse departments such as sales, Research and Development (R&D), product management, marketing, service, and finance within the Esco Medical business unit. This strategic assembly served as a platform for sharing best practices and innovative ideas, fostering collaboration to develop comprehensive strategies aimed at enhancing our commitment to customer satisfaction.

The meeting played a crucial role as a forum for cross-functional teams to merge their expertise and insights. Through harnessing the collective intelligence of these diverse departments, Esco Medical aimed to establish a dynamic and cohesive approach to meet the evolving needs of our customers.

In line with our commitment to addressing global infertility issues, future plans, including the introduction of new equipment and solutions, were also discussed. This underscores Esco Medical's dedication to continuously developing solutions to contribute to solving this significant global problem.

The annual meeting not only celebrated past successes but also laid the groundwork for future achievements. As we persist in advancing in vitro fertilization (IVF) solutions, our unwavering commitment to innovation and customer-centricity remains at the forefront. Join us on this journey by delving into the annual meeting highlights through the video, and witness the passion and dedication propelling Esco Medical toward a brighter and more successful future.




# Addressing **Global Infertility Issues:** the Current Challenges and **The Solution**



According to a report by the World Health Organization (WHO), approximately 1 in 6 people worldwide are facing infertility issues, presenting a global concern that urgently needs to be tackled. Dr. Gitau Mburu, a fertility scientist at WHO, stated that infertility is a global issue affecting people worldwide, occurring in all countries and in all walks of life.

Infertility is defined as a disease of the male and female reproductive system, characterized by the failure to achieve pregnancy after 12 months or more of regular unprotected sexual intercourse. Around 85% of the causes of infertility can be explained by female factors such as ovulatory dysfunction, endometriosis, and others, as well as male factors and possible tubal disease. The remaining 15% of causes of infertility are considered “unexplained infertility.”

Two of the most commonly used infertility treatments are ovulation induction and ovarian stimulation. The former requires the use of pharmacological treatments to induce the ovulation phase, while the latter intends to develop mature ovarian follicles. To achieve fertilization at the time of ovulation, either IUI (intrauterine insemination) or IVF (in-vitro fertilization) may be used. IUI is done by placing the sperm into the uterus during ovulation. On the other hand, IVF is done either by placing the spermatozoa together with the oocyte inside a controlled environment such as an incubator or by directly injecting the spermatozoa into the oocyte.

Incubators are typically used for people treating infertility issues with IVF, considering that fertilization happens outside of the woman’s body. Esco Medical manufactures this specific type of incubator, namely the MIRI® Multiroom Incubators and MIRI® Time-Lapse Incubator. Engineered with precision and expertise, these state-of-the-art incubators offer unparalleled control over environmental conditions crucial for optimal embryo development.

It is important for couples trying to conceive to consider making lifestyle changes such as maintaining a healthy weight (following the optimal body mass index), abstaining from cigarette smoking, reducing alcohol consumption, and increasing nutritional intake of folic acid supplements, fruits, vegetables, and whole grains. Aside from having a healthy lifestyle, the evaluation of infertility should also be done to develop a suitable plan. Female infertility is frequently associated with age, causing a deterioration in the number of follicles and oocytes produced. With age, it is also more likely that oocytes are produced with an incorrect number of chromosomes, increasing the likelihood of lower quality gametes and the possibility of birth defects and miscarriage.

In today’s time, fertility care is still inaccessible for most people. This is due to IVF fertility treatment being mostly funded out of pocket, resulting in a devastating financial burden. People from developing countries are struggling more financially compared to those from developed countries. The accessibility of fertility treatment in developing countries is also limited by the urgency of other healthcare needs and the fact that government-funded treatments are limited or non-existent, leaving people with no other choice than to pay for the treatment out of their own pockets.

**Source:**
Bibliography 1 in 6 people globally affected by infertility: WHO [WWW Document], n.d. URL https://www.who.int/news/item/04-04-2023-1-in-6-people-globally-affected-by-infertility (accessed 3.2.24). Carson, S.A., Kallen, A.N., 2021.

Diagnosis and Management of Infertility. JAMA 326, 65–76. https://doi.org/10.1001/jama.2021.4788 Njagi, P., Groot, W., Arsenijevic, J., Dyer, S., Mburu, G., Kiarie, J., 2023.

Financial costs of assisted reproductive technology for patients in low- and middle-income countries: a systematic review. Hum. Reprod. Open 2023. https://doi.org/10.1093/hropen/hoad007

# Stress Management in IVF and its Link to Infertility

Struggling with infertility can be an emotionally draining journey and undergoing in vitro fertilization (IVF) often adds an extra layer of stress to an already challenging situation. Infertility affects millions of couples worldwide, impacting their emotional well-being in profound ways. The process of fertility treatment, particularly IVF, can be physically demanding and mentally exhausting. Studies indicate that individuals undergoing fertility treatments often experience higher stress levels compared to the general population.

Understanding the complex relationship between stress and infertility is crucial. While stress alone may not directly cause infertility, it can significantly influence various physiological processes in the body, potentially affecting fertility outcomes. Chronic stress can disrupt hormonal balance in women, leading to irregular menstrual cycles and ovulation problems. In men, stress may impact sperm production and quality, contributing to fertility issues. Moreover, stress can compromise the immune system and increase inflammation, negatively impacting reproductive health.

Perceiving high levels of stress during IVF poses a risk to pregnancy outcomes, such as failed implantation, improper placentation, spontaneous abortion, and premature delivery. Recent research highlights how stress during early pregnancy can disrupt maternal hormonal equilibrium and immune function, potentially affecting the fetal environment.

Coping with the uncertainties, disappointments, and demands of fertility treatment requires proactive strategies to safeguard emotional well-being. Prioritizing self-care through activities like meditation, yoga, or spending time in nature can promote relaxation and rejuvenation. Seeking support from loved ones or joining a support group can provide valuable outlets for sharing experiences and receiving encouragement. Open communication with a partner fosters a supportive environment, while setting realistic expectations and staying informed about the IVF process can help alleviate anxiety.

In addition to lifestyle adjustments, incorporating stress-reducing supplements during the IVF journey can offer additional support. Vitamin D, linked to mood regulation, may help reduce feelings of anxiety and depression. Omega-3 fatty acids, found in fish oil supplements, have anti-inflammatory properties and may improve mood. Magnesium supplements can promote relaxation and alleviate muscle tension, contributing to a sense of calmness.

It is clear that individuals facing infertility encounter distress, depression, anxiety, and a decline in their overall quality of life. Therefore, it is crucial for healthcare professionals and counselors specializing in infertility to adopt a holistic approach that integrates strategic planning, emotional support, and the incorporation of supplements to alleviate stress. Personalized treatment plans, regular check-ins, counseling sessions, and access to support groups can further enhance emotional well-being and help individuals navigate the IVF journey with resilience and hope.

**Source:**

An, Y., Sun, Z., Li, L., Zhang, Y., & Ji, H. (2012, December 5). Relationship between psychological stress and reproductive outcome in women undergoing in vitro fertilization treatment: Psychological and neurohormonal assessment. Journal of Assisted Reproduction and Genetics, 30(1), 35–41. https://doi.org/10.1007/s10815-012-9904-x

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Zanettoullis, A. T., Mastorakos, G., Vakas, P., Vlahos, N., & Valsamakis, G. (2024, January 5). Effect of Stress on Each of the Stages of the IVF Procedure: A Systematic Review. International Journal of Molecular Sciences, 25(2), 726. https://doi.org/10.3390/ijms25020726

# Tips Before Buying
# ART Workstation

**Assisted Reproductive Technology (ART)** has undergone significant advancements over the past two decades, resulting in the availability of numerous enhanced ART equipment and In vitro Fertilization (IVF) workstations in the market, specifically designed for the manipulation of eggs or embryos. These advancements aim to improve the chances of pregnancy, addressing global infertility issues.

## *Before investing in and utilizing an ART or IVF Workstation, it is crucial to consider several factors*

**1. Temperature and Environment** Control

Ensure that the workstation offers a stable and controlled environment, with precise management of temperature, humidity, and gas composition. This is imperative for maintaining the viability of embryos.

**2.** Energy **Efficiency**

Select an energy-efficient workstation that allows for minimal cabinet power consumption without compromising performance.

**3.** Air **Quality**

Opt for a workstation equipped with advanced air filtration systems to uphold a clean environment, thereby minimizing the risk of contamination.

**4.** Less **Noise,** Less **Vibration**

Choose a workstation with very low noise and vibration levels, making it suitable for delicate microscopic work and reducing the likelihood of disturbances.

**5.** Microscope **Integration Provision**

Look for a workstation featuring an integrated stereoscope in the work chamber. This facilitates the maintenance of culture dishes at a steady temperature during observation and manipulation, with fewer movements to decrease the risk of accidents.

**6.** Ease of **Cleaning**

Give preference to workstations that are easy to clean and maintain. Smooth surfaces simplify routine cleaning procedures.

**7. Built-in** Chambers

Opt for a workstation with built-in chambers, as they contribute to keeping your embryos secure while inside the workstation.

**CHOOSE** Esco **MAW**

The **Esco Multi-Zone ART Workstation (MAW)** is a vertical laminar flow workstation with multiple heating zones, allowing precise temperature control across the work surface. It comes with the provision for a built-in microscope and integrated MIRI® chambers. Available in various sizes and configurations, the Esco MAW is a reliable choice for those seeking an advanced and comprehensive solution in assisted reproductive technology.

# **#EscoSpotted:** Esco Medical Equipment around the world

**IPB University** – Bogor, Indonesia

**Equipment Installed:**
MIRI® Time-Lapse Incubator, MIRI® Multiroom Incubator, Multi-Zone ART Workstation, Anti-Vibration Table, CelCulture® C02 Incubator, MIRI® GA Gas and Temperature Validation Unit, Versati™ Tabletop Centrifuge, and Isotherm Incubator.

**Oasis Fertility Center** – South Perth, Australia

**Equipment Installed:**
MIRI® Time-Lapse Incubator


**St. Luke's Center for Advanced Reproductive Medicine and Infertility (CARMI)** – Taguig , Philippines

**Equipment Installed:**
Multi-Zone ART Workstation


**Australian Concept Fertility** - Karachi, Pakistan

**Equipment Installed:**
MIRI® Time-Lapse Incubator

# **#EscoSpotted:** Esco Medical Equipment around the world

**Tongji Hospital** - Hubei Province, China.
**Equipment Installed:**
CellMate

**Roicare Hospital & Clinics** - Shenyang, Liaoning Province, China.
**Equipment Installed:**
Mini MIRI®

**Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences (CSU)** - Beijing, China

**Equipment Installed:**
Multi-Zone ART Workstation, MIRI® Multiroom Incubator, and MIRI® Time-Lapse Incubator

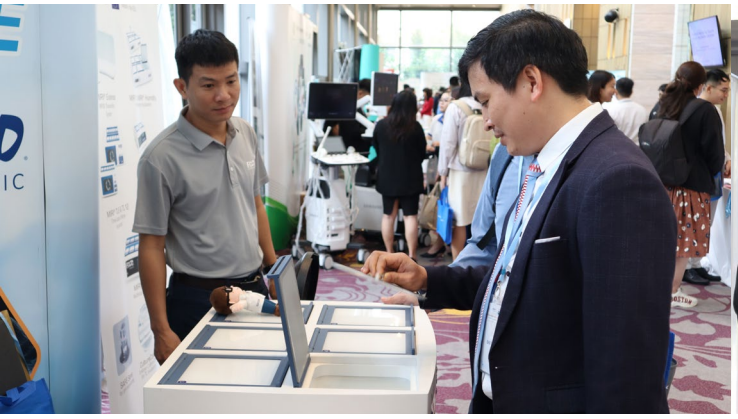
# Esco Medical Events


**Chinese Association of Reproductive Medicine (CARM)**

China
January 12-14, 2024


**Upper Egypt**
**Assisted Reproduction Symposium (UEARS)**

Egypt
February 8-9, 2024




**Clinical Embryology Conference (CEC)**
Vietnam
March 9, 2024