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MedNews

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Quarterly Newsletter | Issue 9 January - March 2022

Esco Medical participates at the 6th UEARS, annual DFS and PCRS meetings

Inside Story

The 6th UEARS Conference in Cairo, Egypt

The 6th Upper Egypt Assisted Reproduction (UEARS) Conference" was held last February 22–25, 2022 at the Cairo Marriott Hotel in Egypt. The organizing committee invited international and national presenters that made the conference more exciting and informative.

With the main theme, "Infertility: Back to the Future", the UEARS program was packed with keynote presentations, plenary talks, symposia, workshops, poster presentations and products that were displayed at an exhibition hall. Some of the highly interesting topics presented during the various sessions include: "Genital infections and fertility", "Critical appraisal of advanced sperm selection techniques", "Guidelines dilemma for PCOS diagnosis", "Three challenges to assisted reproduction, revisited after 20 years" and many more.

Esco Medical exhibited its Mini MIRI® humidity incubator through our partner distributor in Egypt, Egyptian Import Office (EIO). The Mini MIRI® humidity incubator is a two-chamber,

Continue reading to page 2

Esco Medical Participates at the 6th UEARS and the Annual DFS Meeting

Continued from Page 1.

humidified mini benchtop incubator built on the robust and reliable MIRI® design. The compact design and direct heat regulation help prevent vapor condensation and further translate to faster temperature and gas recovery. This scaled-down version is a perfect-fit for IVF laboratories that prioritize on footprint and affordability.

The annual DFS meeting in Nyborg, Denmark

The annual Danish Fertility Society (DFS) meeting was successfully held last March 11-12, 2022 at the Hotel Nyborg Strand, Denmark. For the past years, the DFS has been setting up a working group made of professionals in the field of fertility/ reproductive medicine. These professionals have been actively with organizing forum to discourse the collaboration between fertility and the society.

This year was no different from previous meetings as the group discussed and shared fertility related topics that are essential to understand. Some of the issues talked in this year's annual meeting include the "HIV-Hep guideline", the "Investigation of known sperm donor" and the COPL (Copenhagen Pregnancy Loss) project. Just like in previous years, Esco Medical participated as one of the exhibiting sponsors wherein the MIRI® and MIRI® II-12 incubators were displayed.

The MIRI® is a multiroom incubator for embryo culture with 6 independent chambers preventing cross contamination without causing any disturbance to the neighboring chambers even when the lids are opened/closed. On the other hand, the Esco Medical MIRI® II-12 incubator is a 12-chamber incubator intended to provide a stable culture environment at or near body temperature and CO_2/N_2 gases for the development of gametes and embryos during in vitro fertilization (IVF) / assisted reproduction technology (ART) treatments.

The 70th PCRS meeting in California, USA

The 70th Pacific Coast Reproductive Society (PCRS) meeting was held at the Renaissance Esmeralda Resort & Spa, Indian Wells, California from March 23-27, 2022 with the theme "Ohana: Growing Families Through Compassionate Care, ART, and Science".

Pacific Coast Reproductive Society is a multidisciplinary medical specialty society providing Continuing Medical Education (CME) to physicians and allied healthcare professionals presented by leaders in reproductive medicine. The annual meeting is a gathering among professionals for the exchange of information, and the advancement of the ideologies of reproductive medicine to ensure quality medical care for patients.

Beijing To Subsidize Fertility Treatment As Part of a National Healthcare Plan

As part of China's response to the country's dropping birth rates, couples who use the city's public medical insurance program will be covered for 16 different types of fertility therapy.

Since the implementation of the three-child policy last year, China's birth rate has continued to drop, despite efforts to encourage families to have a third child. According to the Chinese cable television news agency CGTN, the number of births per woman in China in 2021 was 1.15, one of the lowest in the world.

This shift in Beijing's insurance program has the potential to expand to other cities. 'The city is now under pressure to include assisted reproductive technologies to the insurance scheme after Beijing's move,' said an employee at a Shanghai infertility treatment center to Sixth Tone.

China is also considering new steps to help families cope with the stress of child-rearing. Longer maternity leave is one among them, as is expanding the number of nurseries accessible.

Fertility Policies Expose Accessibility Variations Across EU

A new study assessed 43 European countries based on fertility policy and treatment accessibility, revealing a patchwork of procedures.

Fertility Europe, a European organization with 25 member nations, collaborated with the European Parliamentary Forum for Sexual and Reproductive Rights to develop the European Atlas of Fertility Treatment Policies. Each nation was given a score, with 100 percent being categorized as an "ideal country," with appropriate regulation, a wide range of fertility therapies available to different family kinds, public funding for treatments, and a focus on the patient perspective.

The atlas discovered that 38 countries have laws governing assisted reproduction and that the availability of reproductive treatments favored heterosexual couples. Insemination with donor sperm was available to heterosexual couples in 41 nations, single women in 30 countries, and female-only couples in 19 countries. Most nations (35) provided some support for up to six cycles of IVF, while just three had full funding and six had no money at all.

Belgium, Israel, and the Netherlands had the highest scores (86%) in the study. The UK received a 75 % in the upper-middle ranks, albeit this score did not differentiate countries that make up the UK, where state-funded IVF access differs.

Albania (13 %), Armenia (26 %), Poland (27 %), and Ireland (27 %) had the lowest ratings (27). Ireland had no assisted reproduction legislation and no public support for fertility treatments as one of the lowest scorers on the atlas, classified as 'exceptionally poor.' According to the Irish Examiner, a single cycle of IVF in Ireland can cost up to €5,000, with accompanying expenditures occasionally exceeding €10,000.

The researchers made a five-point request to policy-makers based on the findings of the atlas. One is to recognize a universal right to have a child throughout the EU. The second is to ensure equal access to fertility treatments. The third is the provision of public funding for these treatments. Another point is the encouragement of the public sector to provide better information on fertility issues. And lastly, to remove the stigma associated with infertility.

Reversing the damaging aging process in egg cells: A discovery

Increasing numbers of women worldwide are delaying having their first child until they are in their late thirties, if not their forties. Their eggs are rapidly degrading at this age, and even with IVF, their chances of conception are slim.

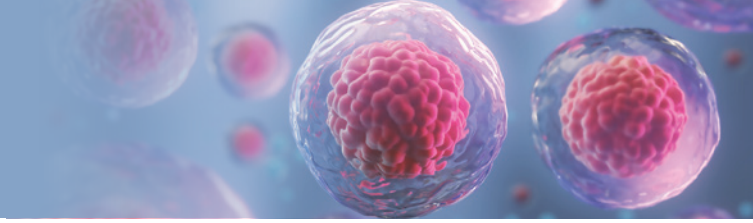
The foremost objective of molecular biologist Dr. Michael Klutstein, head of the Chromatin and Aging Research Lab in the Faculty of Dental Medicine at the Hebrew University of Jerusalem, is to reverse that deterioration (HU). Recent research from his group, led by Ph.D. student Peera Wasserzug-Pash, has brought this potential one step closer. In conjunction with Hadassah Medical Center and Shaare Zedek hospitals' clinicians, published in the journal Aging Cell.

The genetic material of a woman's egg cells begins to deteriorate while she is very young. Her eggs have typically accumulated so much DNA damage in her forties that they cannot develop and fertilize. One of the aging processes that prevent an egg cell from growing correctly was discovered by Dr. Klutstein's team. The loss of regulatory mechanisms, which generally prevent dangerous regions of DNA from becoming active, is the most critical.

Continue reading to page 4

Reversing the damaging aging process in egg cells: A discovery

Continued from Page 3.



It's a strange concept to consider parts of our DNA contain bits of genetic material that can be harmful. Virus-like sequences or fragments of viruses make up nearly half of the human genome. If they are permitted to activate through expression, they can cause significant DNA damage. Barbara McClintock, who got the Nobel Prize in 1983 for her work in this area, was the first to uncover this concept.

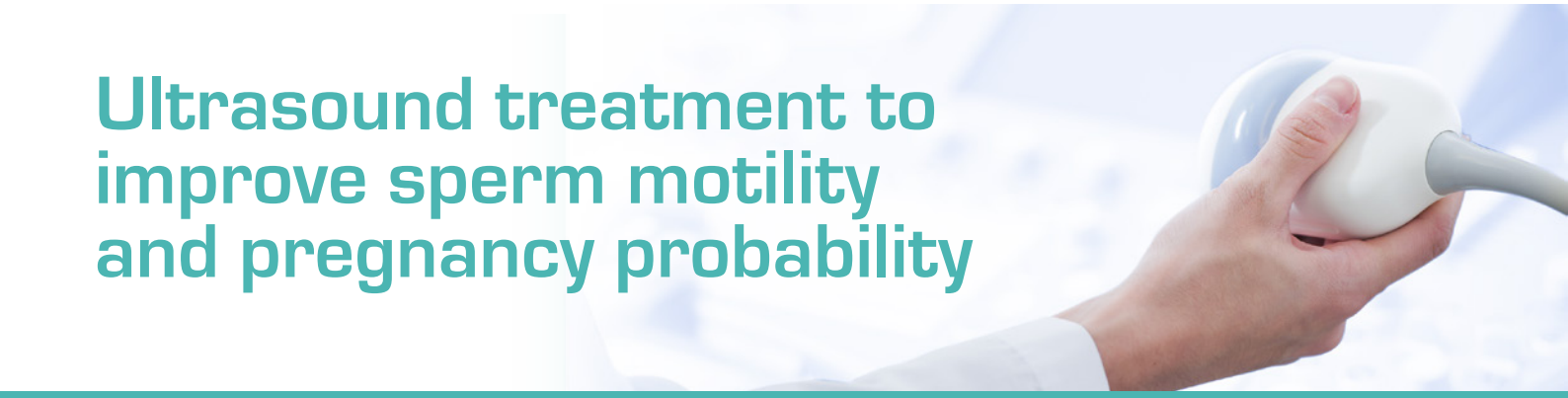
The failure of the procedure to keep these harmful components repressed and inactive is due to the aging process. Using mouse and human egg cells, Klutstein and his HU team discovered the details of these processes and how they are interconnected and ultimately prevent an egg cell from maturing.

Next, the team utilized substances that mimicked the natural processes that stop repressing parts of the egg cell's DNA and free the DNA-damaging viruses to corroborate their findings. The team was able to link the processes of genomic regulation loss and the expression of damaging elements in aging egg cells by artificially replicating the aging processes.

In the final part of their investigation, they investigated strategies to reverse the destructive aging processes in an egg cell. If viruses or components of viruses were released and activated in aging eggs, antiviral drugs might be able to stop the process and the damage it causes.

The researchers demonstrated that antiviral medications might reverse the process in mouse egg cells, allowing them to return to their young state! A similar achievement was conducted by inserting two genes into the DNA of mouse egg cells; the implanted genes create enzymes that block the cascade of events that leads to the activation of the DNA's harmful sections.

Ultrasound treatment to improve sperm motility and pregnancy probability



According to Monash University researchers, high-frequency ultrasound can increase sperm motility, potentially increasing a couple's chances of conceiving.

A team from Monash University's Department of Mechanical and Aerospace Engineering, led by Dr. Reza Nosrati, Professor Adrian Neild, and lead author Ph.D. student Junyang Gai, discovered that sperm treated with high-frequency ultrasound swim up to 30% faster to navigate the curved fallopian tube.

Furthermore, after 20 seconds of ultrasonic exposure, the quantity of sperm motile increased by 30%.

According to the WHO (World Health Organization), infertility affects 48 million couples and 186 million people globally. Male factor infertility is frequently caused by sperm motility, or the capacity of sperm to move efficiently through a woman's reproductive tract.

Only an invasive treatment with Pentoxifylline is currently known to induce twitching motility in sperm, but cells treated with this chemical die quickly.

This groundbreaking finding provides a non-invasive and effective means of raising the number of motile sperm and individual sperm motility and new insights into treatments for male infertility.

The ultrasound treatment has the potential to ease the burden on infertile couples by increasing fertility rates in natural reproduction or avoiding the need for more invasive interventions in assisted reproduction.

Professor Neild claims that the ultrasonic procedure is non-invasive and time-efficient and that just five to 50 seconds of high-frequency ultrasound can significantly improve sperm motility.

After collection during IVF procedures, the sperm samples can be treated, and can be easily integrated into a clinical workflow. The development of a portable platform for use in fertility clinics is currently underway.

Dr. Nosrati's internationally renowned work on microfluidics for male fertility and assisted reproduction has led to this recent accomplishment. She received numerous honors and awards, including the University of Toronto's Research Discovery Award, the Douglas R. Colton Medal for research excellence in Microsystems and Nanotechnology in Canada in 2016.

COVID Vaccine and its Impact on IVF Patients

A new study demonstrated that vaccination against COVID-19 did not affect reproductive outcomes in patients undergoing in-vitro fertilization (IVF). The findings, published in the Green Journal of Obstetrics and Gynecology, contribute to the growing evidence that the COVID-19 vaccine does not affect fertility.

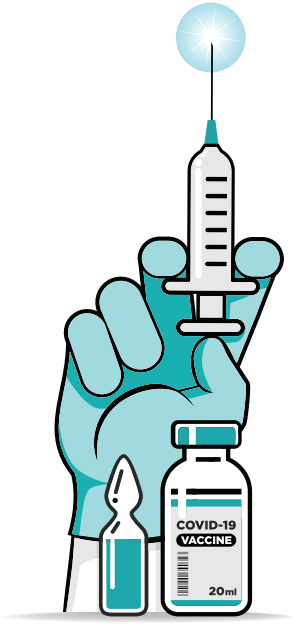
Researchers from the Icahn School of Medicine at Mount Sinai (Icahn Mount Sinai) in New York City and Reproductive Medicine Associates of New York (RMA of New York) compared rates of fertilization, pregnancy, and early miscarriage in IVF patients who had received two doses of Pfizer or Moderna vaccines to the same outcomes in non-vaccinated patients.

Dr. Aharon works at Icahn Mount Sinai and the RMA of New York as a fellow in reproductive endocrinology and infertility. "Our findings that vaccination had no impact on these outcomes should be reassuring to those trying to conceive or are in early pregnancy."

Patients who had their eggs extracted from their ovaries and fertilized with sperm in a laboratory, resulting in frozen embryos and then thawed and transferred to the womb, as well as patients who had medical treatment to encourage egg development, were included in the study.

The participants in the study were treated at RMA of New York between February and September 2021. Patients undergoing IVF treatment are constantly watched, allowing researchers to acquire early data on embryo implantation and pregnancy losses that might otherwise go missed in other studies.

The new study's release coincides with the highly contagious Omicron variety outbreak. COVID-19 vaccine has been shown in previous studies to protect pregnant women from serious illness, provide antibodies to their infants, and not increase the risk of preterm birth or fetal growth abnormalities. However, COVID-19 substantially increases the risk of severe illness and death.



1st Quarter
Esco Medical Events and Webinars

Implementation of Time-Lapse, Benefits, and Results [Webinar]

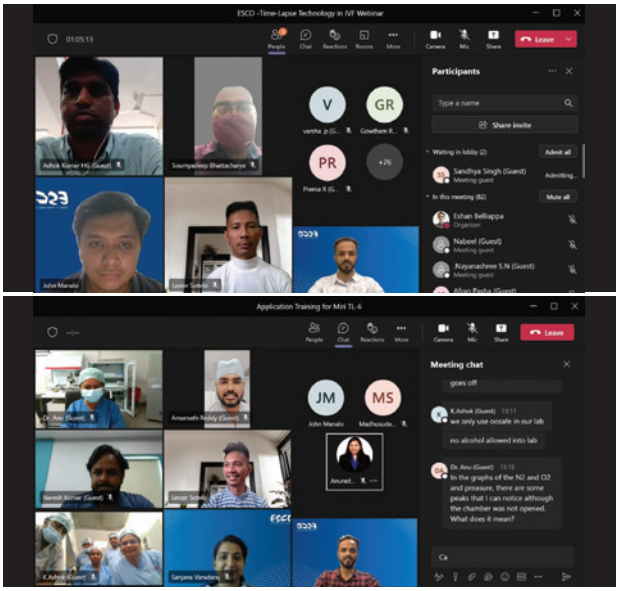
Date January 11, 2022

Speaker Irene Cuevas-Saiz

6th Upper Egypt Assisted Reproductive Conference

Date February 22-25, 2022

Location Cairo Marriot Hotel, Egypt



Danish Fertility Society Meeting

Date March 12-13, 2022

Location Nyborg, Denmark

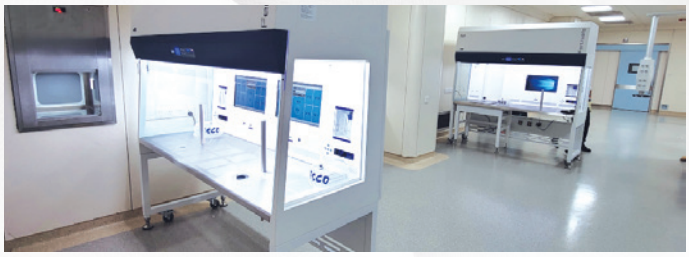
Time-Lapse Webinar

Date March 22, 2022

Location India

Speakers Lester Sotelo and John Manalo

1st Quarter
Installations



China

Clinic: The First Affiliated Hospital of Zhengzhou University
Address: Zhengzhou, China
Date Installed: February 23, 2022
Devices installed: Esco Multi-Zone ART Workstation

India

Clinic: Rohit Fertility
Address: India
Date Installed: March 23, 2022
Devices installed: MIRI® Time-Lapse

Egypt

Clinic: Ganin IVF
Address: Cairo, Egypt
Date Installed: January 5, 2022
Devices installed: MIRI® Time-Lapse

Indonesia

Clinic: RS Pondok Indah Hospital
Address: Jakarta, Indonesia
Date Installed: February 14, 2022
Devices installed: MIRI® Time-Lapse

Continue reading to page 8

1st Quarter **Installations**

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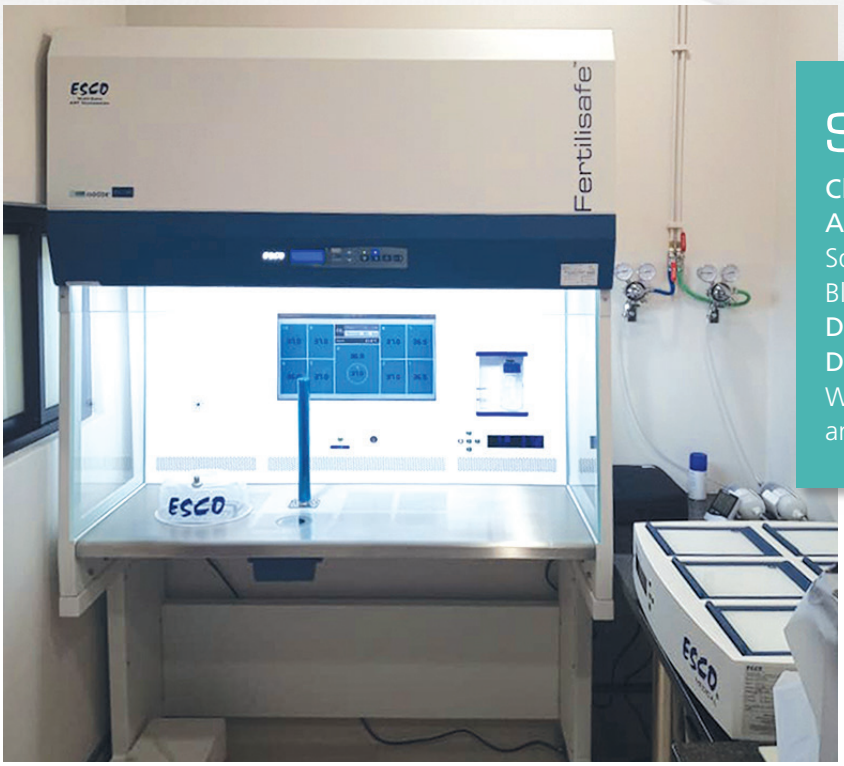
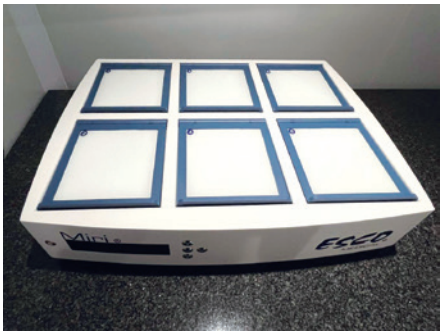
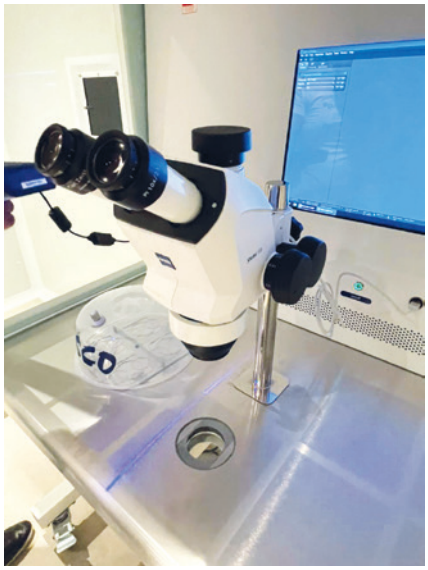


South Africa

Clinic: Ruach Fertility & Gynaecology
Address: Suite 51, First Floor Preller Square, Graaf Reinet Street,Dan Pienaar, Bloemfontein 9301, South Africa
Date Installed: January 6, 2022
Devices installed: Esco Multi-Zone ART Workstation, MIRI® Multiroom Incubator, and CelCulture® CO_2 Incubator



Clinic: Hope Fertility & Endometriosis Clinic
Address: Mediclinic Sandton Cnr Peter Place &, Bram Fischer Dr, Bryanston, Sandton, 2191, South Africa
Date Installed: February 2, 2022
Devices installed: Esco Multi-Zone ART Workstation, MIRI® Multiroom Incubator, and AVT



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Users of Esco Medical products should not hesitate to contact us if there are any unclear points or ambiguities in this newsletter.

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