

Research and Innovation @ ART



Baris Ata, MD, M.Sc.

Medical Director, ART Fertility Clinics, Dubai

WHY Is Research need in Reproductive Medicine and its importance

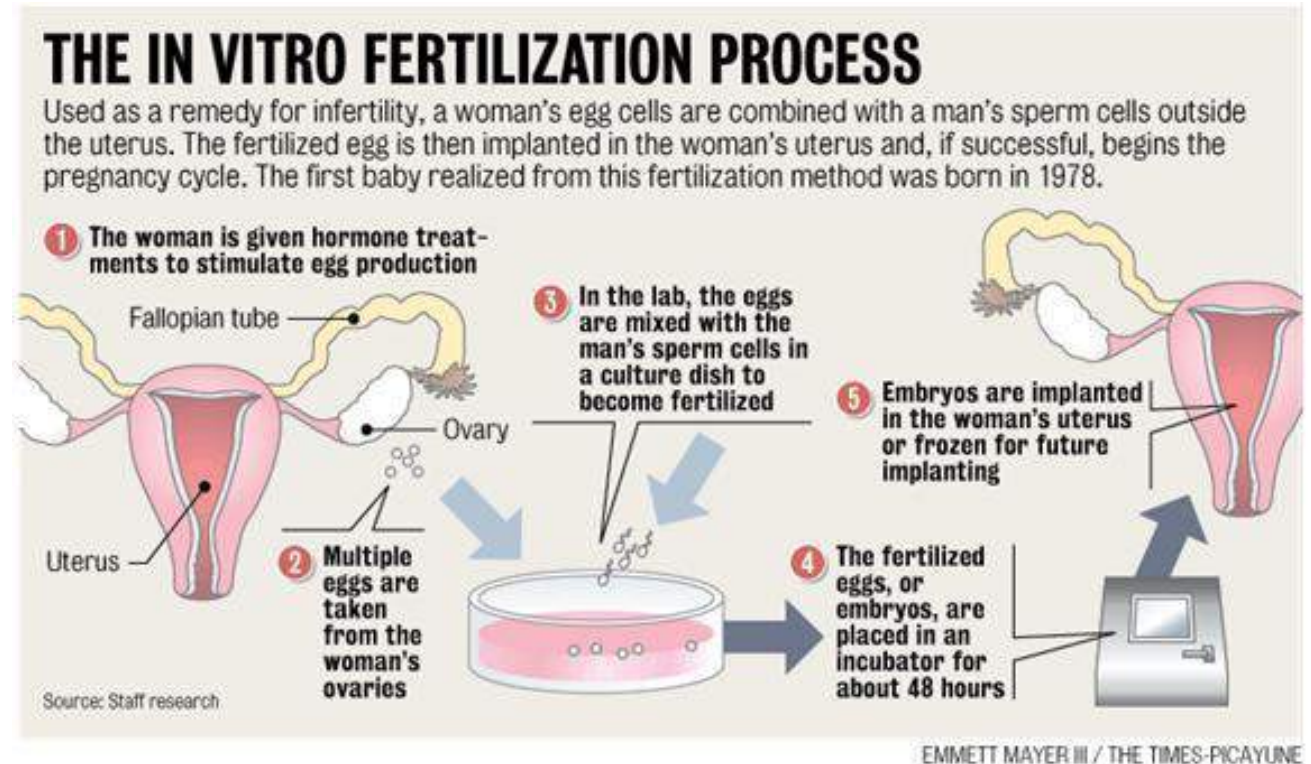
- Reproductive Medicine is a very new science...only 45 years old. Other branches of medicine like Orthopedics, Cardiology etc. are 100s of years old
- Typically most of the advances in Medicine are done via research in Western Europe, North America through Government grants to universities. However, as embryo research is not allowed by the Catholic church, these grants are not given.
- As a result most of the advances in Reproductive medicine have occurred via private funding and clinics. Private institutions like IVI RMA, CCRM, Eugin have been at the forefront of research. A few University programs like UZB, Cornell University have also contributed towards advances in Reproductive Medicine.
- The Pharmaceutical Industry has focused on Stimulation Hormones.. However their most recent advances are more then 5 years old.
- Use of Genetic Testing and techniques is now at the forefront for improving pregnancy rates and delivering healthy babies
- At ART Fertility Clinics, we focus on proprietary research .. We have over 40 ongoing research studies and our Drs and embryologists have published over 125 scientific articles in high impact industry journals.

IVF is multi step procedure

IVF consists of;

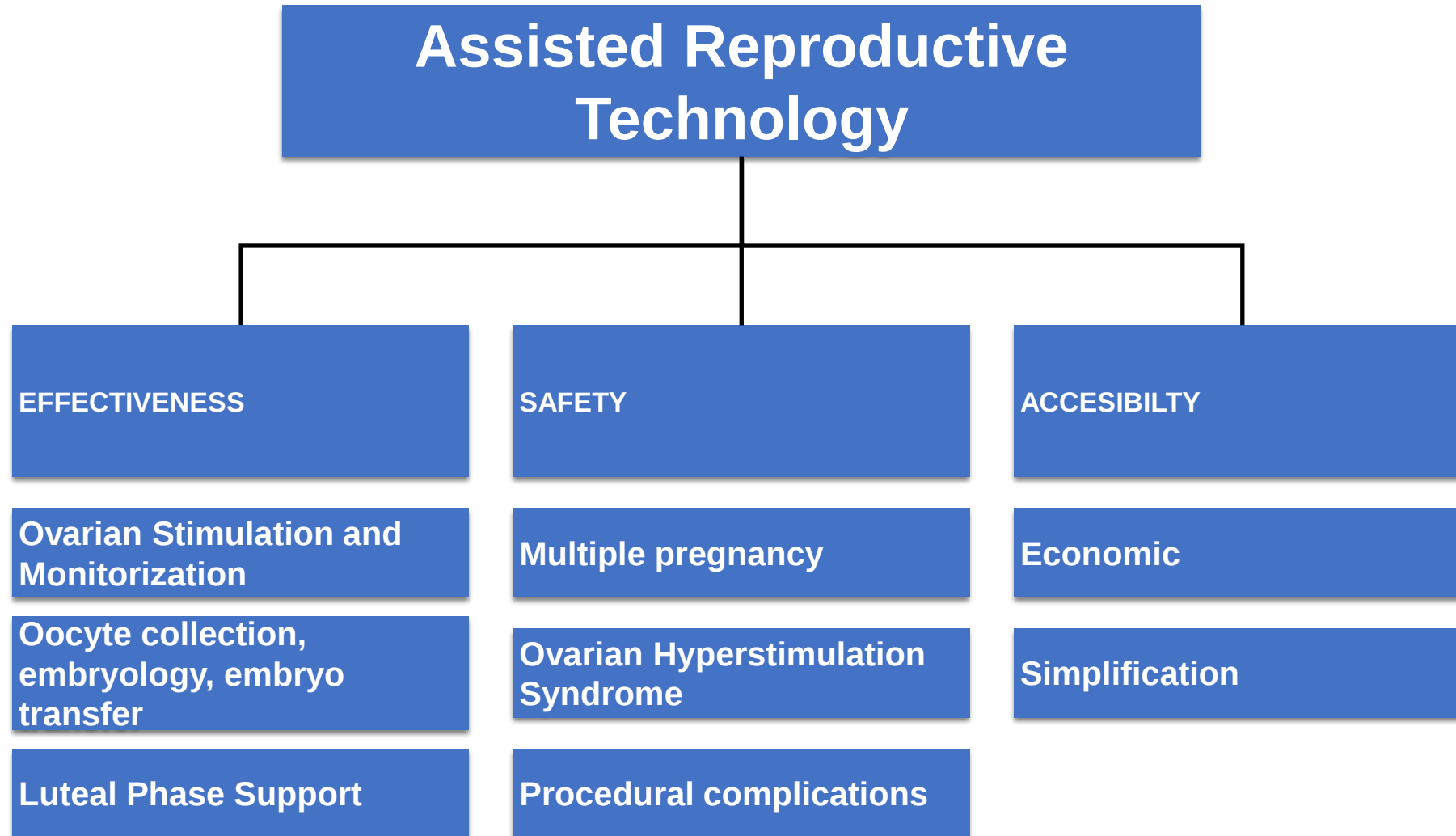
1. Ovarian stimulation to ensure multiple eggs for fertilization.
2. Egg collection
3. Laboratory procedures to produce to best embryos.
4. Embryo transfer
5. Hormonal support to the womb for the embryos to attach.

In addition embryos can be genetically tested, frozen for future utilization, and transferred in other menstrual cycles.



Success in each step of the way determines your chances of completing your family.

Our Research Covers All Aspects of Every Step



We develop innovative ovarian stimulation protocols and improve established ones.

Comparison of a novel flexible progestin primed ovarian stimulation protocol and the flexible gonadotropin-releasing hormone antagonist protocol for assisted reproductive technology

Süre Yıldız, M.D.,^a Ergin Turkoglu, M.D.,^a Berk Angun, M.D.,^a Alper Eratan, M.D.,^a Süreyya Uman, M.D.,^a and Baris Ata, M.D., M.Sc.¹

Step-Down of FSH- Dosage During Ovarian Stimulation – Basic Lessons to Be Learnt From a Randomized Controlled Trial

Barbara Lawrenz^{1,2*}, Carol Coughlan¹, Laura Melado¹, Sheryl Digma¹, Junard Sibal³, Alliza Jean³ and Human M. Fatemi¹

Comparison of automated and manual follicle monitoring in an unrestricted population of 100 women undergoing controlled ovarian stimulation for IVF

Baris Ata^a, Ayse Seyhan, Shauna Leigh Reinblatt, Einat Shalom-Paz, Srinivasan Krishnamurthy, and Seang Lin Tan

R^BMO

ARTICLE

Reintroducing serum FSH measurement during ovarian stimulation for ART



BIOGRAPHY

Dr Barbara Lawrenz currently holds the position of Specialist – Obstetrics and Gynecology IVF, as well as being the Scientific Director at the ART Fertility Clinic, Abu Dhabi, UAE. Her main research topic is individualization of ovarian stimulation for IVF treatment, with a special focus on luteal phase support.

Barbara Lawrenz^{1,4*}, Laura Melado¹, Sheryl Digma¹, Junard Sibal³, Carol Coughlan¹, Claus Yding Andersen², Human M. Fatemi¹



frontiers
in Endocrinology

ORIGINAL RESEARCH
published: 20 November 2019
doi: 10.3389/fendo.2019.00806



Significant Serum Progesterone Variations on the Day of Final Oocyte Maturation in Stimulated IVF Cycles

Upma Shanker^{1,2*}, Barbara Lawrenz^{2,3*}, Lell Bungum^{1,4}, Leyla Depret Blixio², Francisco Ruiz¹, Carol Coughlan⁴ and Human M. Fatemi^{1,2,4}

We work on technical aspects.

Ex-vivo oocyte retrieval for fertility preservation

Human M. Fatemi, M.D., Ph.D.,^a Dimitra Kyrou, M.D.,^a Majedah Al-Azemi, M.D.,^a Dominique Stoop, M.D.,^a Philippe De Sutter, M.D.,^b Claire Bourgain, M.D., Ph.D.,^c and Paul Devroey, M.D., Ph.D.^a

^a Department of Reproductive Medicine, ^b Department of Gynecology and Oncology, and ^c Department of Pathology, Academic Hospital at the Dutch-speaking Brussels Free University, Brussels, Belgium

Human Reproduction, Vol.35, No.1, pp. 80–90, 2020

Advance Access Publication on December 30, 2019 doi:10.1093/humrep/daz241

human
reproduction

ORIGINAL ARTICLE *Infertility*

Isthmoele and ovarian stimulation for IVF: considerations for a reproductive medicine specialist

B. Lawrenz^{1,2,*}, L. Melado¹, N. Garrido³, C. Coughlan¹, D. Markova⁴, and H.M. Fatemi¹

Reprod. Med. Online - Vol. 14 No. 4, 2007 471–476. Reproductive Medicine Online; www.rbmonline.com/Article/2380 on web 28 February 2007

Article

Prospective randomized comparison of Wallace and Labotect embryo transfer catheters



Baris Ata was born in 1974 and received his medical degree from the Istanbul School of Medicine in 1998. After his residency training in Obstetrics and Gynecology he attended several courses on laparoscopic and hysteroscopic surgery, prenatal ultrasonography, biostatistics and clinical research around the world. Following a certification programme in infertility and assisted reproduction at the American Hospital of Istanbul, he continues research within the same department. His major areas of interest are clinical infertility and assisted reproduction.

Collection of 125 Oocytes in an In Vitro Maturation Cycle Using a New Oocyte Collection Technique: A Case Report

Michael H. Dahan, MD,¹ Baris Ata, MD,^{1,2} Resa Rosenberg, MD,³ Jin Tae Chung, MSc,⁴ Weon Young Son, PhD,¹ Seang Lin Tan, MD, MBA¹



Cochrane Database of Systematic Reviews



BIOGRAPHY

Agine Bayram received her Master of Science in Molecular Medicine from Yeditepe University in 2015 and Bachelor Degree in Molecular Biology and Genetics from Bogazici University in 2008. Since 2015, she has been working in ART Fertility Clinic, Abu Dhabi as a senior embryologist. Her primary research interests include embryology and reproductive biology.

Agine Bayram^{1,*}, Neelke Do Munk¹, Ibrahim Elkhathib¹, Ana Arnanz¹, Ahmed El-Damen¹, Andres Abdala², Carol Coughlan², Nicolas Garrido², Laura Melado Vidales¹, Barbara Lawrenz^{1,4}, Human M. Fatemi¹

Application of seminal plasma to female genital tract prior to embryo transfer in assisted reproductive technology cycles (IVF, ICSI and frozen embryo transfer) (Review)

Ata B, Abou-Setta AM, Seyhan A, Buckett W

We concentrate on genetics and embryology

Journal of Assisted Reproduction and Genetics (2019) 36:1847–1854
https://doi.org/10.1007/s10815-019-01520-y

EMBRYO BIOLOGY

Cleavage stage mitochondrial DNA is correlated with preimplantation human embryo development and ploidy

Aşina Bayram¹ · Neelke De Munck¹ · Ibrahim Elkhatab¹ · Ana Aranz¹ · Alberto Liñán¹ · Human M. Fatemi¹

ORIGINAL ARTICLES: GENETICS

Optimal euploid embryo transfer strategy, fresh versus frozen, after preimplantation genetic screening with next generation sequencing: a randomized controlled trial

Alison Coates, B.Sc., ** Allen Kung, B.S., ** Emily Mounis, M.S., * John Heila, M.D., * Brandon Barbo, Elizabeth Barbieri, M.D., * Baris Ata, M.D., * Jacques Cohen, Ph.D., * and Santiago Munné, Ph.D. *

RESEARCH ARTICLE

Clinical reassessment of human embryo ploidy status between cleavage and blastocyst stage by Next Generation Sequencing

Alberto Liñán¹*, Barbara Lawrenz^{2,3}*, Ibrahim El Khatib¹, Aşina Bayram¹, Ana Aranz¹, Carmen Rubio⁴, Rupali Chopra⁵, Human M. Fatemi¹

Case Report

What Drives Embryo Development? Chromosomal Normality or Mitochondria?

A. Bayram,¹ I. Elkhatab,¹ A. Aranz,¹ A. Linan,¹ F. Ruiz,² B. Lawrenz,^{2,3} and H.

human reproduction

ORIGINAL ARTICLE Embryology

Intracytoplasmic sperm injection is not superior to conventional IVF in couples with non-male factor infertility and preimplantation genetic testing for aneuploidies (PGT-A)

Neelke De Munck^{1,*}, Ibrahim El Khatib¹, Andrea Abdala¹, Ahmed El-Damen¹, Aşina Bayram¹, Ana Aranz¹, Laura Melado¹

Journal of Assisted Reproduction and Genetics (2019) 36:1867–1875
https://doi.org/10.1007/s10815-019-01544-4

ASSISTED REPRODUCTION TECHNOLOGIES



mtDNA dynamics between cleavage-stage embryos and blastocysts

Neelke De Munck¹ · Alberto Liñán^{1,2} · Ibrahim Elkhatab^{1,2} · Aşina Bayram¹ · Ana Aranz¹ · Carmen Rubio³ · Nicolas Garrido⁴ · Barbara Lawrenz^{1,2} · Human M. Fatemi^{1,2}

ARTICLE

Array CGH analysis shows that aneuploidy is not related to the number of embryos transferred

Baris Ata^{a,b}, Brian Kaplan^c, Hal Danzer^d, Michael Opsahl^e, Seang Lin Tan^{a,g}, Santiago Munné^f

Human Reproduction, Vol.34, No.6, pp. 998–1010, 2019
Advance Access Publication on May 22, 2019 doi:10.1093/humrep/daz055

human reproduction

ORIGINAL ARTICLE Embryology

The clinicians' dilemma with mosaicism—an insight from inner cell mass biopsies

B. Lawrenz^{1,2,*}, I. El Khatib³, A. Liñán³, A. Bayram³, A. Aranz³, R. Chopra⁴, N. De Munck³, and H.M. Fatemi¹



Journal of Assisted Reproduction and Genetics (2021) 33:885–894
https://doi.org/10.1007/s10815-020-02250-8

ASSISTED REPRODUCTION TECHNOLOGIES

Does blastocyst mitochondrial DNA content affect miscarriage rate in patients undergoing single euploid frozen embryo transfer?

Ahmed El-Damen¹ · Ibrahim Elkhatab¹ · Aşina Bayram¹ · Ana Aranz¹ · Andrea Abdala¹ · Suzan Samir¹ · Barbara Lawrenz^{1,2} · Neelke De Munck¹ · Human M. Fatemi¹

Safety is our priority

High dose cabergoline in management of hyperstimulation syndrome

Baris Ata, M.D.,^{a,b} Ayse Seyhan, M.D.,^a Serbulent Orhan

Dual renin-angiotensin blockage cryopreservation is not a risk-free at high risk for ovarian hyperstimulation syndrome

Baris Ata, M.D.,^{1,2} Kayhan Yakin, M.D.,³ Cengiz Alatas, M.D.,³ and Bulent Urman, M.D.³

EXPERT
REVIEWS

Pathophysiology of ovarian hyperstimulation syndrome and strategies for its prevention and treatment

Expert Rev. Obstet. Gynecol. 4(3), 299–311 (2009)

Baris Ata and
Togas Tulandi

Combined modalities for the prevention of ovarian hyperstimulation syndrome following an excessive response to stimulation

Michael I

Individual luteolysis post GnRH-agonist-trigger in GnRH-antagonist protocols

B. Lawrenz, F. Ruiz, N. Engelmann & H. M. Fatemi

Avoiding ovarian hyperstimulation syndrome with the use of gonadotropin-releasing hormone agonist trigger

Human Mousavi Fatemi, M.D., Ph.D.,^a and Juan Garcia-Velasco, M.D., Ph.D.^b

GnRHa trigger and luteal coasting: a new approach for the ovarian hyperstimulation syndrome high-risk patient?

Barbara Lawrenz^{a,b,c}, Peter Humaidan^c, Shahar Kol^d, Human M Fatemi^e

of complication rates ires after transvaginal ultrasound-guided oocyte pick procedures for in vitro maturation and in vitro fertilization cycles

Ayşe Seyhan, M.D.,^a Baris Ata, M.D., M.C.T.,^{a,b} Weon-Young Son, Ph.D.,^c Michael H. Dahan, M.D.,^d and Seong Lin Tan, M.D., M.B.A.^e

^a McGill University Health Centre Reproductive Centre, Royal Victoria Hospital, 3688 University Avenue, Montreal, Quebec H3T 2M4, Canada; ^b McGill University Health Centre Reproductive Centre, Royal Victoria Hospital, 3688 University Avenue, Montreal, Quebec H3T 2M4, Canada; ^c FGV in OBGYN, 2014, 6 (1): 15-18

Obstetric outcomes and congenital abnormalities conceived with oocytes matured in vitro

R-C. CHIAN^{1,2}, C-L. XU¹, J-Y J. HUANG¹, B. ATA¹



Review

Short and long term outcomes of children conceived with assisted reproductive technology

Engin Turkgeçdi^a, Hande Yagmur^a, Ayşe Seyhan^b, Bulent Urman^c, Baris Ata^{a,b}

^a Med. Turkey
^b Med. Turkey
^c Med. Turkey
of Medicine, Turkey



ORIGINAL ARTICLE Reproductive endocrinology

Severe early ovarian hyperstimulation syndrome following GnRH agonist trigger with the addition of 1500 IU hCG

Ayşe Seyhan^{1,2}, Baris Ata^{1,2,3}, Mehtap Polat⁴, Weon-Young Son⁵, Michael H. Dahan⁶

Severe ovarian hyperstimulation syndrome after gonadotropin-releasing hormone (GnRH) agonist trigger and “freeze-all” approach in GnRH antagonist protocol

Human Mousavi Fatemi, M.D., Ph.D.,^a Biljana Popovic-Todorovic, M.D., Ph.D.,^b Peter Humaidan, M.D., D.M.Sc.,^c Shahar Kol, M.D., Ph.D.,^d Manish Banker, M.D.,^e Paul Devroey, M.D., Ph.D.,^f and Juan Antonio Garcia-Velasco, M.D., Ph.D.^g

Article

Do endometriomas grow during ovarian stimulation for assisted reproduction? A three-dimensional volume analysis before and after ovarian stimulation

Ayşe Seyhan^a, Bulent Urman^{a,b}, Engin Turkgeçdi^c, Baris Ata^{a,b}

We are striving to make IVF easier and more effective every day

Scheduling GnRH antagonist cycles by a short course of oral estradiol administration during early follicular phase: a comparative study with non-scheduled cycles

Kıper Aslan, Berrin Avci, Gurkan Uncu, Seda Saribal & Baris Ata

Original Research

Oocyte yield of GnRH antagonist cycles scheduled with a short course of estradiol in the early follicular phase

Engin Turkgeldi¹, Sule Yildiz¹, Berk Angun², Bulent Urman³, Baris Ata¹

Simplifying luteal phase support in stimulated assisted reproduction cycles



J Assist Reprod Genet (2016) 33:1385–1398
DOI 10.1007/s10885-016-0771-8

REVIEW

human reproduction update LETTER TO THE EDITOR

Should women receive luteal support following natural cycle frozen embryo transfer? A systematic review and meta-analysis. Critical assessment of a review and meta-analysis

Baris Ata¹ • Bulent Urman³

Thrombophilia and assisted reproduction technology—any detrimental impact or unnecessary overuse?

Is the ‘freeze-all’ strategy really inferior to a ‘fresh embryo transfer’ strategy? Critical assessment of a randomized controlled trial

The ART of frozen embryo transfer: back to nature!

Barbara Lawrenz, Carol Coughlan, Laura Melado & Human M. Fatemi

To pill or not to pill in GnRH antagonist cycles: that is the question!



Juan A Garcia-Velasco^{a,*}, Human M Fatemi^b

Everyone is different and we tailor to individual and local needs

Ethnic and Sociocultural Differences in Ovarian Reserve: Age-Specific Anti-Müllerian Hormone Values and Antral Follicle Count for Women of the Arabian Peninsula

Laura Melado^{1*}, Raquel Vitorino¹, Carol Coughlan², Leyla Depret Bixio³, Ana Arnanz^{1,4}, Ibrahim Elkhatab¹, Neelke De Munck¹, Human M. Fatemi¹ and Barbara Lawrenz^{1,5}

Journal of Assisted Reproduction and Genetics (2019) 36:661–665
<https://doi.org/10.1007/s10815-019-01411-2>

ASSISTED REPRODUCTION TECHNOLOGIES

Ethnic and sociocultural differences causing infertility are understood—insights from the Arabian perspective

B. Lawrenz^{1,2}  · C. Coughlan¹ · Laura Melado¹ · Human M. Fatemi¹

RESEARCH ARTICLE

Individual luteolysis pattern after GnRH-agonist trigger for final oocyte maturation

Barbara Lawrenz^{1,2*}, Nicolas Garrido³, Suzan Samir¹, Francisco Ruiz¹, Laura Melado¹, Human M. Fatemi¹

CONCEPTIONS

Sociocultural influences on fertility in the Middle East: the role of parental consanguinity, obesity and vitamin D deficiency

GEOGRAPHY AND INFERTILITY



Individualized luteal phase support

Barbara Lawrenz^{a,b}, Carol Coughlan^c, and Human M. Fatemi^a

RESEARCH

Open Access

Is the ovarian reserve influenced by vitamin D deficiency and the dress code in an infertile Iranian population?

Scheila Arefi^{1,2*}, Gholamreza Human M. Fatemi¹ and Barb

Is parental consanguinity associated with reduced ovarian reserve?

Tanja Seher^a, Elisabeth Thiering^b, Majdah al Azemi^c, Joachim Heinrich^b, Carsten B Schmidt-Weber^a, Coleen Kivlahan^{d,e}, Jan Gutermuth^e, Human M Fatemi^{f,*}

**That's how we are
cutting edge and
among the best of
the world**

Thank You



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 www.artfertilityclinics.com

 hello@artfertilityclinics.com