MALE INFERTILITY TREATMENTS

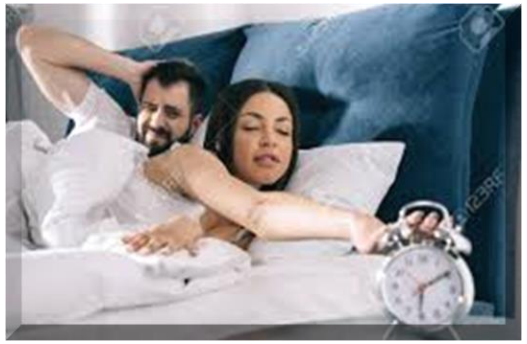
Dr. Laura Melado Vidales, MD, PhD.

Medical Director, ART Fertility Clinics, Abu Dhabi

ART FERTILITY CLINICS

Science Assisting Nature

Why is it important to define male infertility?
Because it is based on abnormal semen parameters



Inability to achieve pregnancy

+



Abnormal Semen Analysis

A **medical history and physical examination** are standard assessments in all men, including **SEMEN ANALYSIS (SA).**

A comprehensive andrological examination is indicated if semen analysis shows abnormalities compared with reference values

ASRM PAGES

The International Glossary on Infertility and Fertility Care, 2017

Fernando Zegers-Hochschild,[a] G. David Adamson,[b] Silke Dyer,[c] Catherine Racowsky,[d] Jacques de Mouzon, Rebecca Sokol,[f] Laura Rienzi,[g] Arne Sunde,[h] Lone Schmidt,[i] Ian D. Cooke,[j] Joe Leigh Simpson,[k] and Sheryl van der Poel[l]

human reproduction ESHRE PAGES

The International Glossary on Infertility and Fertility Care, 2017†‡§

Fernando Zegers-Hochschild[1,*], G. David Adamson[2], Silke Dyer[3], Catherine Racowsky[4], Jacques de Mouzon[5], Rebecca Sokol[6], Laura Rienzi[7], Arne Sunde[8], Lone Schmidt[9], Ian D. Cooke[10], Joe Leigh Simpson[11], and Sheryl van der Poel[12]

ART FERTILITY CLINICS

SEMEN ANALYSIS: Important treatment decisions are based on its results



World Health Organization

human reproduction programme hrp
research for impact
UNDP·UNFPA·UNICEF·WHO·WORLD BANK

The complete ejaculate analysis and laboratory work-up is standardized by the WHO.

The manual provides step by step methods on how to perform a routine semen analysis, guidance on establishing internal and external quality control, and recommendations on more commonly used tests to assess sperm function.

Semen analysis should be performed in **laboratories with experienced technologists, trained in these standardized methods** for routine clinical examination of semen.

ART FERTILITY CLINICS

WHO laboratory manual for the examination and processing of human semen; Sixth Edition July 2021.

SEMEN ANALYSIS: Important treatment decisions are based on its results

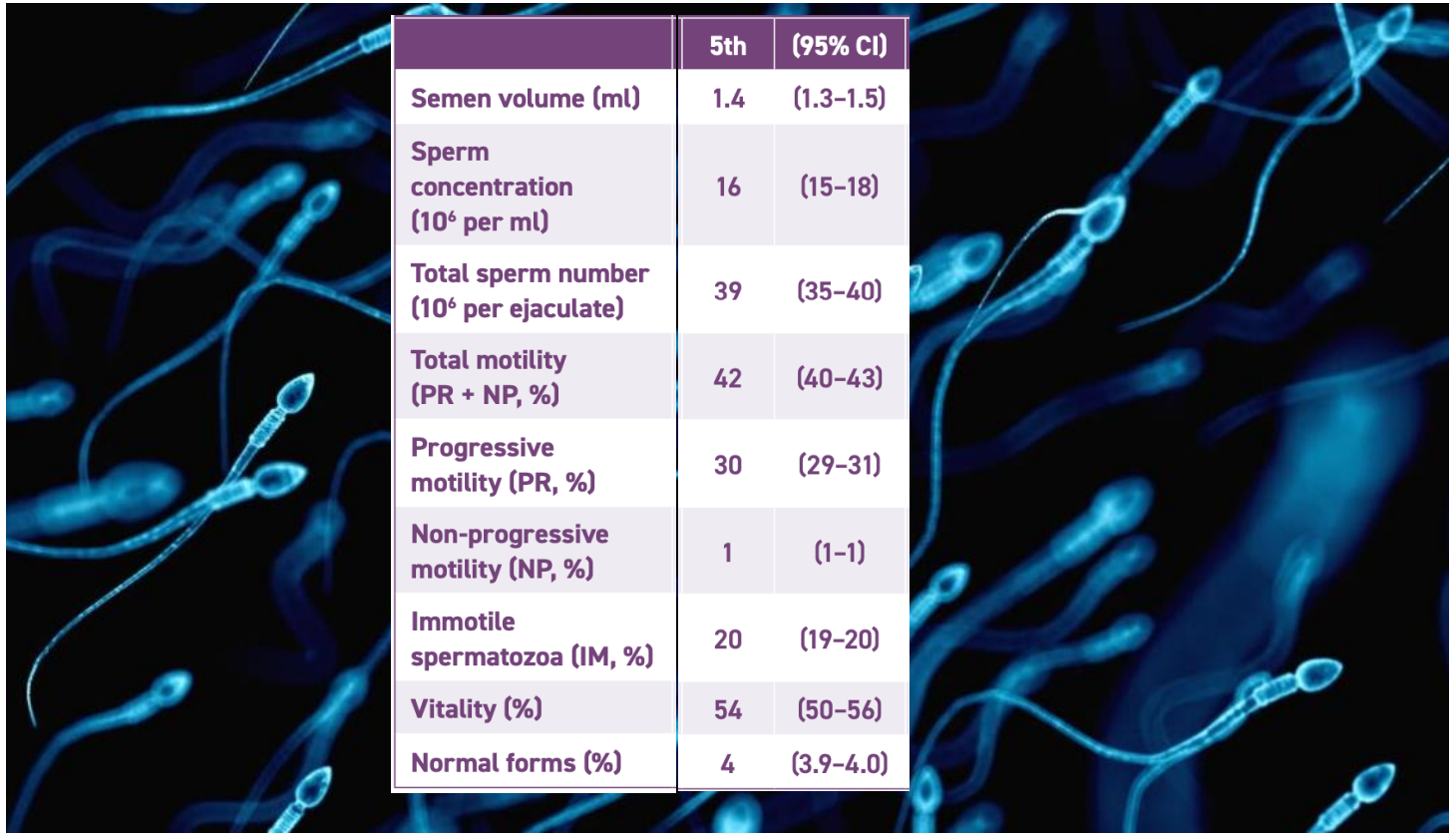
WHO criteria 2021.
Trained personnel.
Abnormal SA: to be repeated

How many SA?

- 2-3 tests (at least 2 tests if low concentration).
- Improves accuracy.
- Establish criteria for type of treatment.

If abnormal SA, remember to:

- Consider female factors
- Clinical assessment

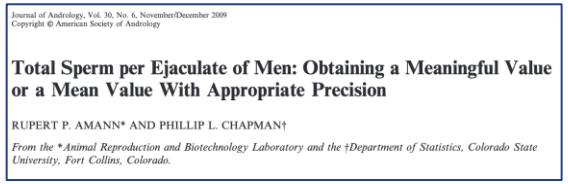


	5th	(95% CI)
Semen volume (ml)	1.4	(1.3–1.5)
Sperm concentration (10^6 per ml)	16	(15–18)
Total sperm number (10^6 per ejaculate)	39	(35–40)
Total motility (PR + NP, %)	42	(40–43)
Progressive motility (PR, %)	30	(29–31)
Non-progressive motility (NP, %)	1	(1–1)
Immotile spermatozoa (IM, %)	20	(19–20)
Vitality (%)	54	(50–56)
Normal forms (%)	4	(3.9–4.0)



Diagnostic evaluation of the infertile male: a committee opinion

Practice Committee of the American Society for Reproductive Medicine
American Society for Reproductive Medicine, Birmingham, Alabama



Journal of Andrology, Vol. 30, No. 6, November/December 2009
Copyright © American Society of Andrology

Total Sperm per Ejaculate of Men: Obtaining a Meaningful Value or a Mean Value With Appropriate Precision

RUPERT P. AMANN* AND PHILLIP L. CHAPMAN†

*From the *Animal Reproduction and Biotechnology Laboratory and the †Department of Statistics, Colorado State University, Fort Collins, Colorado.*

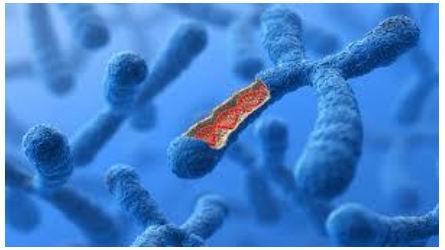
ART FERTILITY CLINICS

Barrat et al, Hum Rep Update 2017. WHO, Sixth Edition July 2021.

MALE INFERTILITY: CAUSES



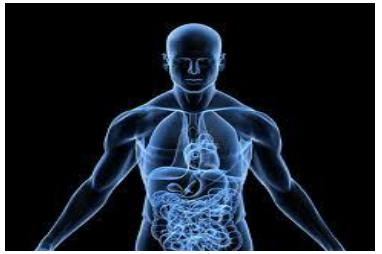
Chromosomal



Genetic



Past Infections



Systemic conditions



Previous surgeries



FACTORS ASSOCIATED WITH MALE INFERTILITY:

- Tobacco
- Obesity
- Alcohol
- Recreational drugs
- Steroids
- Heat
- Specific types of exercise.



FIRST LINE OF TREATMENT: LIFESTYLE CHANGES

ART FERTILITY CLINICS

Jafari et al, 2021. De Jonge et al, Andrology 2019. Barrat et al, RBMO 2019.

HOW COMMON IS MALE FACTOR?

Agarwal et al. Reproductive Biology and Endocrinology (2015) 13:37
DOI 10.1186/s12958-015-0032-1

REPRODUCTIVE BIOLOGY AND ENDOCRINOLOGY

RESEARCH Open Access

A unique view on male infertility around the globe

Ashok Agarwal[1*], Aditi Mulgund[1,3], Alaa Hamada[2] and Michelle Renee Chyatte[3]

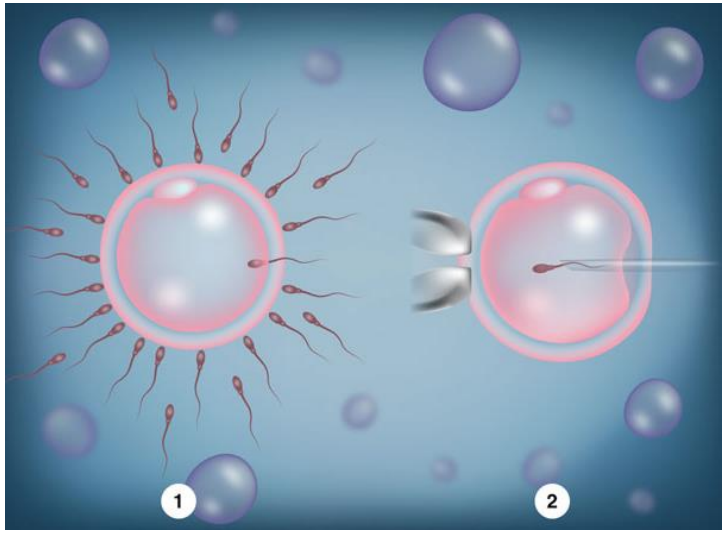


	COUPLES IN WHICH THE MALE FACTOR IS ONE OF MULTIPLE FACTORS INVOLVED
North America	50%
Middle East	60-70%
Sub-Saharan Africa	20-40%
Europe	50% of all infertile couples
Australia	40%
Central/Eastern Europe	56%
Asia	37%
Latin America	52%
Africa	43%

ART FERTILITY CLINICS

What is really helpful to improve the chances of success?

IVF[1] and ICSI[2] will provide excellent results.





FURTHER EVALUATION IN CASE OF SEVERE OLIGOZOOSPERMIA (concentration <5mill/ml): Karyotype, Yq microdeletions

VARICOCELECTOMY: Not recommended (Delays time to pregnancy, does not guarantee a pregnancy, surgery-associated risks

SPERM SAMPLE FREEZING: always offer for possible future use in case of low number of sperm



ART FERTILITY CLINICS

Diagnosis and treatment of infertility in men: AUA/ASRM guideline. 2021

AZOOSPERMIA: total absence of sperms in the ejaculate





OBSTRUCTIVE vs NON-OBSTRUCTIVE

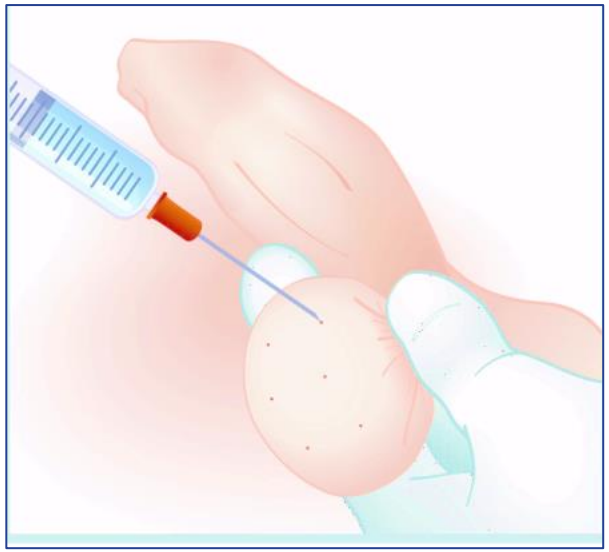
Important to differentiate between both of them as treatment may differ.
Clinical history, physical examination and blood test for adequate diagnosis, including Karyotype, Yq microdeletions, hormonal profile, CFTR gene mutations.

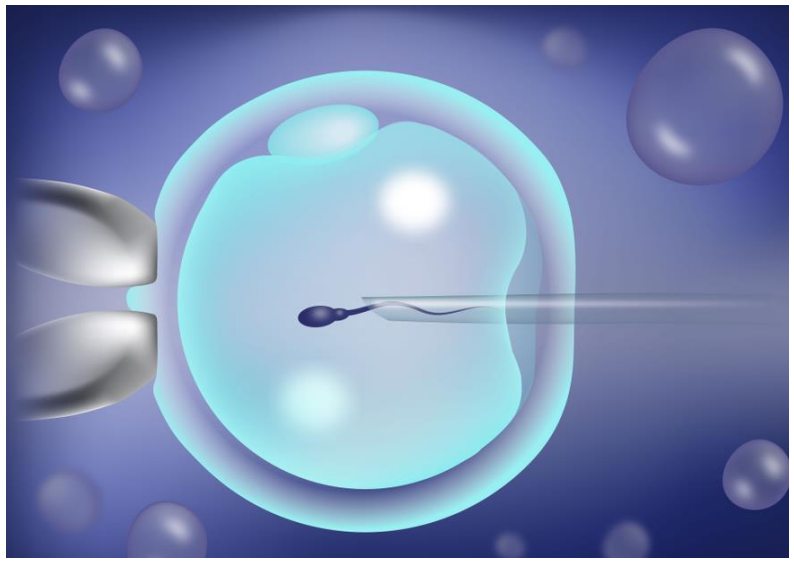
ART FERTILITY CLINICS

AZOOSPERMIA: TREATMENT APPROACH



OBSTRUCTIVE AZOOSPERMIA:
Fine Needle Aspiration (FNA) + ICSI





Testicular FNA is a minimally-invasive (out-patient), safe, effective method for obtaining sperms.
It has proved to be the simplest, the most rapid, inexpensive, and overall the least invasive technique for obtaining testicular samples.

Cito et al, World J Mens Health, 2019.

ART FERTILITY CLINICS

AZOOSPERMIA: TREATMENT APPROACH at ART



NON-OBSTRUCTIVE AZOOSPERMIA: MEDICAL PRETREATMENT + TESE/MICRO-TESE + ICSI

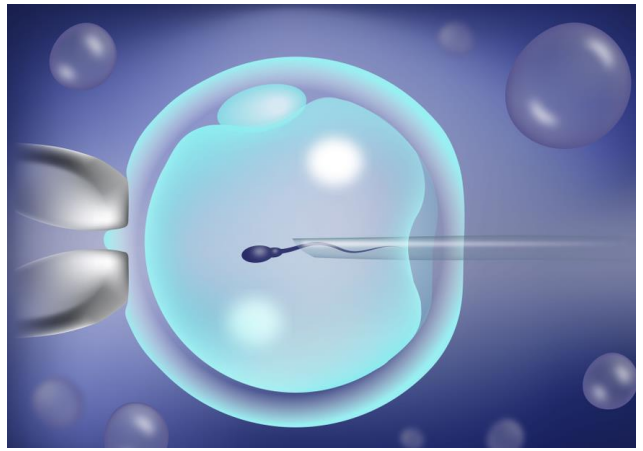
Gold-standard techniques, resulting in an **Sperm Retrieval Rate up to 50%**

MEDICAL PRETREATMENT for 3 months (Aromatase Inhibitors, Gonadotropins)

+



+







ART FERTILITY CLINICS

Bernie et al, F&S 2015, Corona et al, Hum Repr Update 2019.

Thank You



/company/artfertilityclinics
artfertilityclinics
artfertilityclinics
artfertilityclinics
www.artfertilityclinics.com
hello@artfertilityclinics.com