


Computer Assisted Semen Analysis (CASA)

The system follows WHO (2010) strict criteria for motility patterns & morphometric assessment of human semen.

ICASA software package

Barcode		BarCode No(164	Ref. by	
Name	سامي محمد عبد الغني /	Collection Date	26-07-2024 / 04:50:00 PM	
Age	29 Years	Analysis Date	26-07-2024 / 05:20:00 PM	

Specimen Description :

Volume	4.8	[N > 2,0]
PH value	7.4	[N : 7.2 - 8.0]
Color	white-gray	[white-gray]
Odor	Normal	[Normal]
Viscosity	Normal	[Normal]
Liquefaction time	20 min.	[N : 10 - 30 min.]
Liquefaction state	Complete	

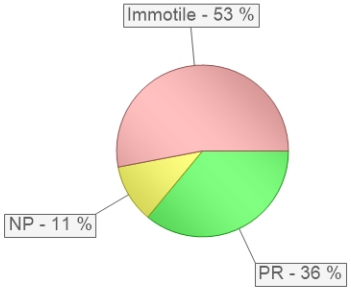
Collection Info. :

Coll. Locations	Voided at lab
Abstinence	5 Days [N: 3 - 7 days]
Coll. Method	by Masturbation

Agglutination & Aggregation :

Aggregation	Mixd
Agglutination	Grade (1) : Isolated <10

Test result :

Test	Result	Status	Reference Value	Sperm Distribution
Concentration (million/ml)	29	PASSED	>= 15 (million/ml)	
Total sperm no. (million)	139.20	PASSED	>=39 (million/Ejaculate)	
Progressive motility (PR)	36 %	PASSED	>=32 %	
Total Motility (PR+NP)	47 %	PASSED	>=40 %	
Morphology index	14.00 %	PASSED	>= 4 % normal is accepted	
Vitality	62.00 %	PASSED	>58 %	

Cells other than sperms :

White Blood Cells	1 - 3	< 5 /H.P.F	Pinheads : 0 million/ml Pinheads sperms are not counted as spermatozoa or head defects because they possess no chromatin or head structure anterior to the basal plate.
Red Blood Cells	0 - 1	< 5 /H.P.F	
Spermatogenic cells	2 - 4	/H.P.F	
Epithelial cells	1 - 2	/H.P.F	

Comment :

العينة على مسئولية العميل -

MOTILITY :- Normozoospermia (Sperms count between 15 – 250 ×10 ^6)

☎ 011 173 173 14

☎ 0109 36 159 36

☎ 02 26 55 21 42

المطرية: ١٧٩ شارع المطراوى

☎ 010 032 239 91

☎ 0155 48 266 43

☎ 02 26 98 60 16

جسر السويس: ٢٨٤ ش جمال عبد الناصر




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CONCENTRATION AND MOTILITY ANALYSIS

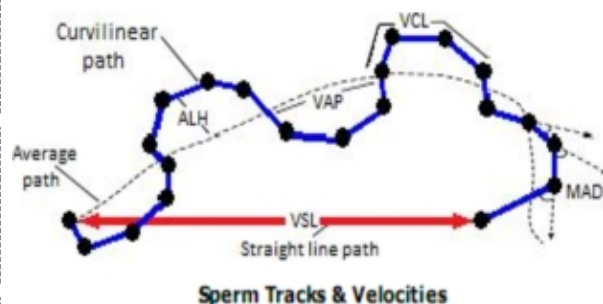
Dynamic Parameters Report (I) :

Test	Conc. (million/ml)	Total number (million)	Percentage %	Reference Value
Tested sperm	29.00	139.20	100 %	≥ 15 (million/ml)
Total motility (PR+NP)	13.63	65.42	47 %	≥ 40 %
Progressive motility (PR)	10.44	50.11	36 %	≥ 32 %
Non progressive (NP)	3.19	15.31	11 %	
Immotile (IM)	15.37	73.78	53 %	< 50 %

- * Progressive motility (PR) : spermatozoa moving actively, either linearly or in a large circle, regardless of speed.
- * Non-progressive motility (NP) : all other patterns of motility with an absence of progression, i.e. swimming in small circles, the flagellar force hardly displacing the head, or when only a flagellar beat can be observed.
- * Immotile (IM) : no movement.

Dynamic Parameters Report (II) :


Parameters	values	Description
VCL [$\mu\text{m/s}$]	47.54	Curvilinear velocity
VSL [$\mu\text{m/s}$]	29.34	Straight line Velocity
VAP [$\mu\text{m/s}$]	34.78	Average Path Velocity
MAD[°]	36.12	Mean Angular Degree
ALH [μm]	3.16	Amplitude of Lateral head Disp.
BCF [Hz]	4.03	Beat-cross Frequency
LIN	61.84 %	Linearity (VSL/VCL)
WOB	42.25 %	Wobble (VAP/VCL)
STR	45.76 %	Straightness (VSL/VAP)



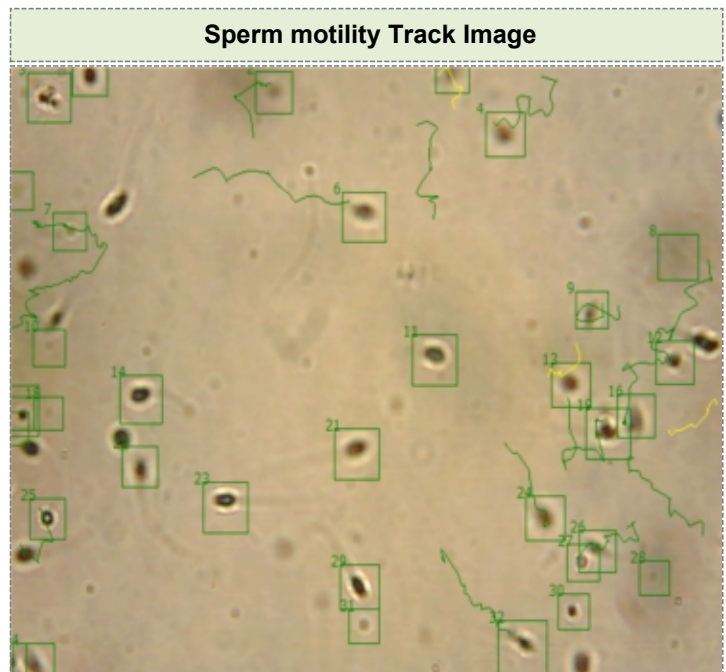
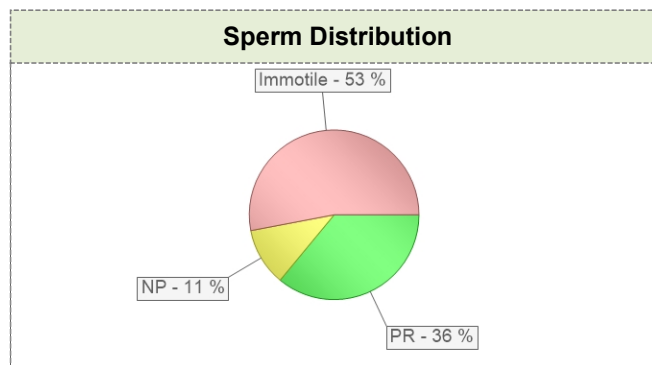
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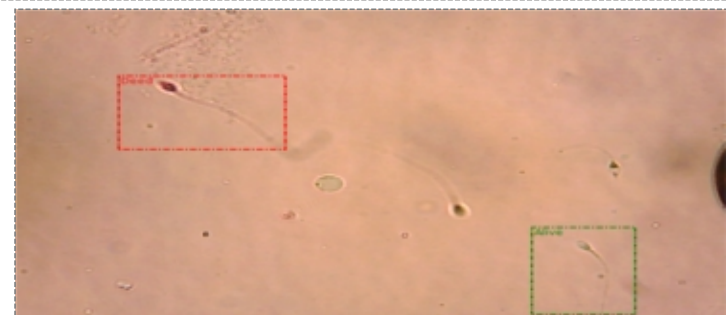
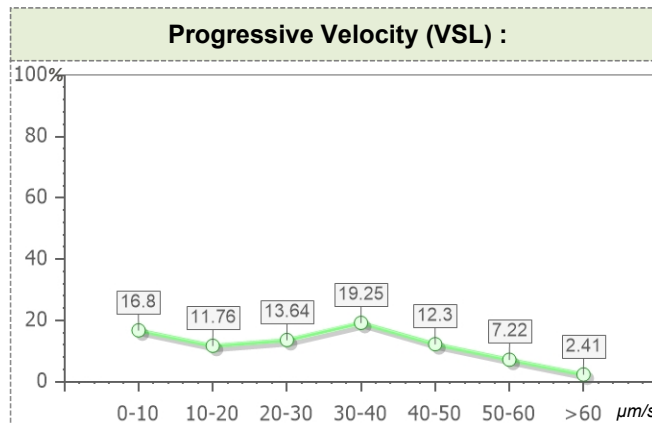
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Semen Analysis Charts (CASA - WHO 2010)




* the microscopic image is taken in real time.
* Each track is presented in colour code according to the type of spermatozoa W.H.O classification.



Computer Assisted Semen Analysis (CASA)

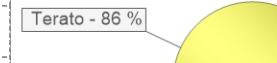
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SPERM CYTOMORPHOLOGICAL STUDY

Sperm Class Analyzer -Automatic System of sperm analysis by computer (CASA)

Parameters	Result	Status	Reference Value	Morphology Chart
Normal Sperms	14.00%	PASSED	> 4% is accepted	
Terato Sperms	86.00%			
MAI	1.26			
TZI	1.26	PASSED	up to 1.6	
SDI	1.08	PASSED	up to 1.6	

* **MAI** Multiple Anomalies Index (MAI) : The mean number of anomalies per abnormal spermatozoon.

* **TZI** TeratoZoospermic Index (TZI) : Total number of defects divided by the number of abnormal sperms.

* **SDI** Sperm Deformity Index (SDI) : Total number of defects divided by the number of sperms counted.

Defectes Classification	Total	Percentage
Total Defectes	54	100 %
Head defects (HD)	43	79.63 %
Neck & midpiece (NM)	7	12.96 %
Tail defects (TD)	4	7.41 %
Cytoplasm droplets (CD)	0	0.00 %


Chart Diagram of a human sperm cell

The diagram illustrates the structure of a human sperm cell, divided into three main regions: Head, Mid (connecting) piece, and Tail. The Head contains the Acrosome, Nucleus, Centriole, and Mitochondria. The Mid piece contains the Terminal disc. The Tail consists of the Axial filament and the End piece. A detailed view of the head region shows the Peri acrosomal space, Cell membrane, Sub acrosomal space, Nuclear envelope, outer acrosome membrane, Nuclear vacuoles, Nucleus, Postacrosomal region, Post-acrosomal sheath, Posterior ring, Connecting Piece, Mitochondria sheath, outer dense flares, Axoneme, and Central Pair. The diagram also shows the Centriole and Redundant nuclear envelope in the midpiece region.

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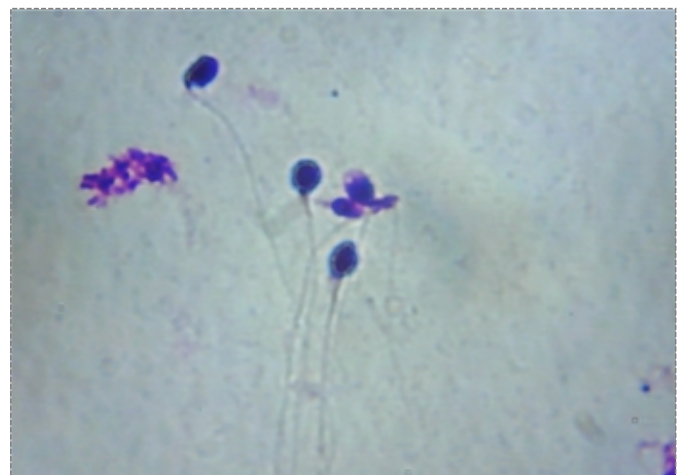
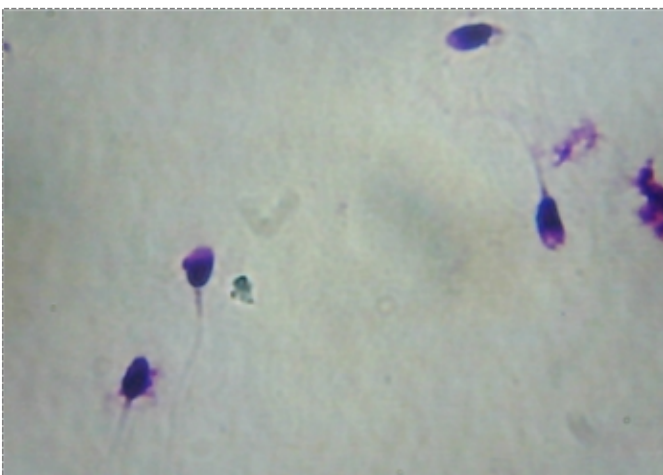
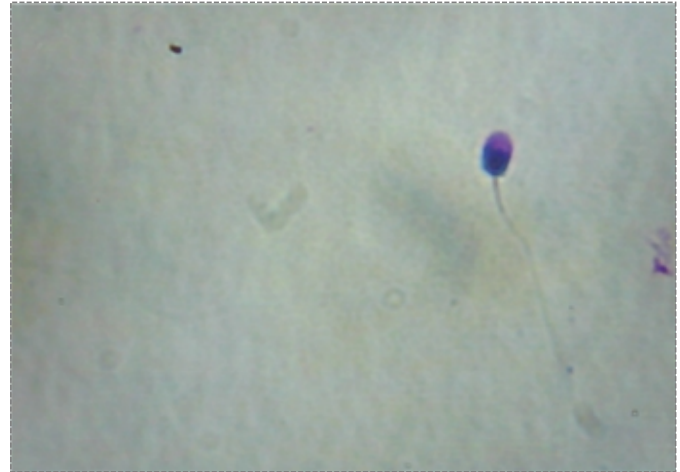
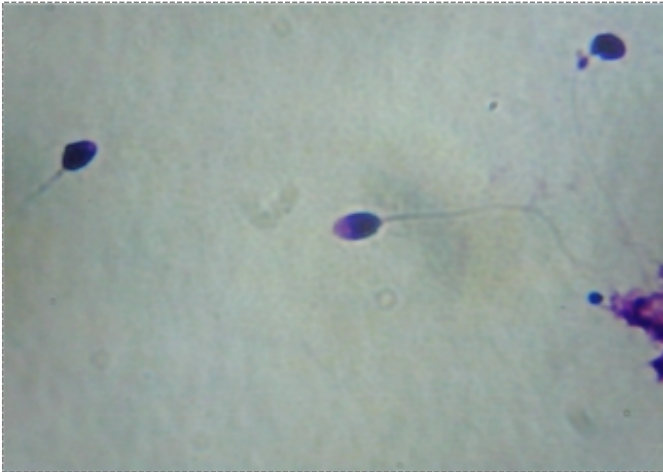
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SPERM CYTOMORPHOLOGICAL STUDY

Sperm Class Analyzer -Automatic System of sperm analysis by computer (CASA)



* the microscopic image is taken in real time.
* Images Cropping and Classification according to W.H.O .

Normal Sperms

Abnormal Sperms

011 173 173 14

0109 36 159 36

02 26 55 21 42

المطرية: ١٧٩ شارع المطراوى

010 032 239 91

0155 48 266 43

02 26 98 60 16

جسر السويس: ٢٨٤ ش جمال عبد الناصر



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