


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(17€	Ref. by	
Name	عبد الله احمد عبد الله علي /	Collection Date	26-09-2024 / 01:12:00 PM	
Age	26 Years	Analysis Date	26-09-2024 / 01:42:00 PM	

Specimen Description :

Volume	4.3	[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	25 min.	[N : 10 - 30 min.]
Liquefaction state	Complete	

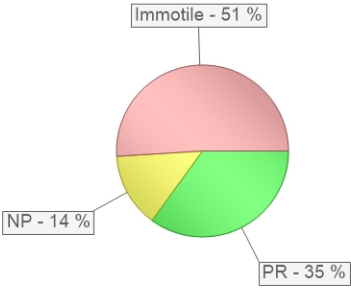
Collection Info. :

Coll. Locations	Voided at lab
Abstinence	4 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)	45.63	PASSED	>= 15 (million/ml)	
Total sperm no. (million)	196.21	PASSED	>=39 (million/Ejaculate)	
Progressive motility (PR)	35 %	PASSED	>=32 %	
Total Motility (PR+NP)	49 %	PASSED	>=40 %	
Morphology index	28.00 %	PASSED	>= 4 % normal is accepted	
Vitality	71.00 %	PASSED	>58 %	

Cells other than sperms :

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

Comment :

العينة على مسئولية العميل -

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

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المطرية: ١٧٩ شارع المطراوى

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جسر السويس: ٢٨٤ ش جمال عبد الناصر




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CONCENTRATION AND MOTILITY ANALYSIS

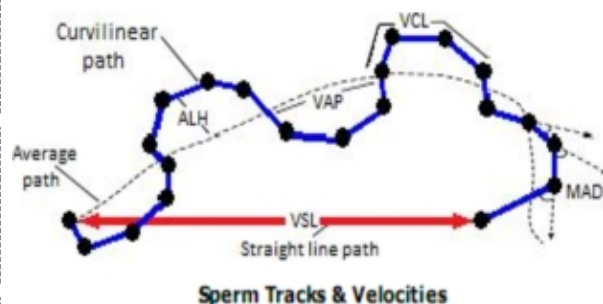
Dynamic Parameters Report (I) :

Test	Conc. (million/ml)	Total number (million)	Percentage %	Reference Value
Tested sperm	45.63	196.21	100 %	≥ 15 (million/ml)
Total motility (PR+NP)	22.36	96.14	49 %	≥ 40 %
Progressive motility (PR)	15.97	68.67	35 %	≥ 32 %
Non progressive (NP)	6.39	27.47	14 %	
Immotile (IM)	23.27	100.07	51 %	< 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)



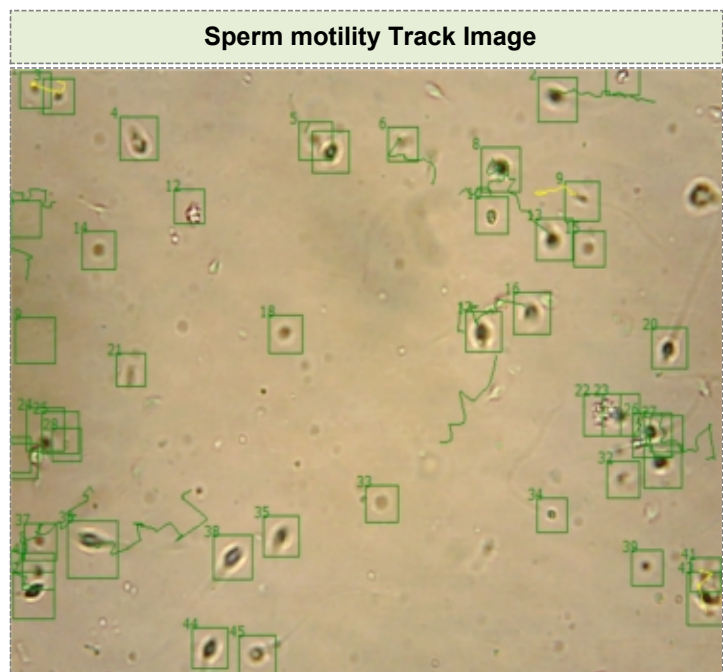
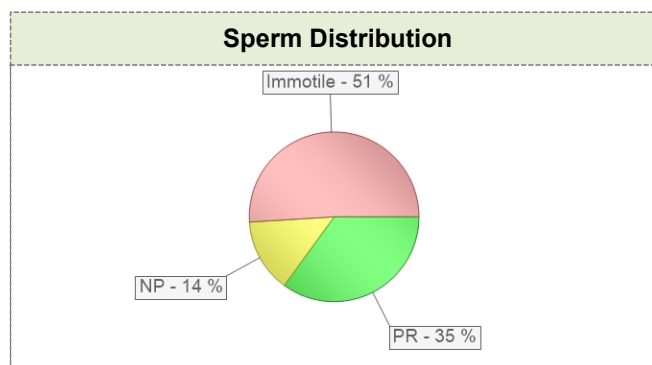
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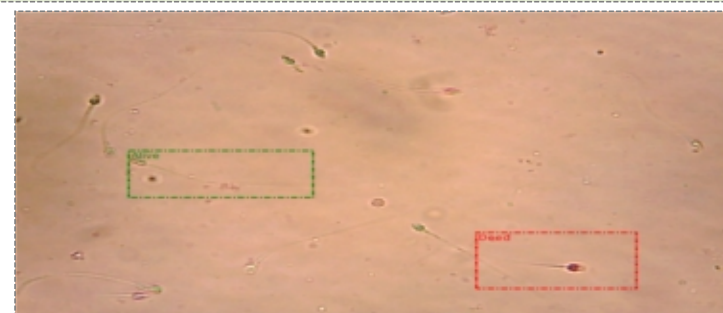
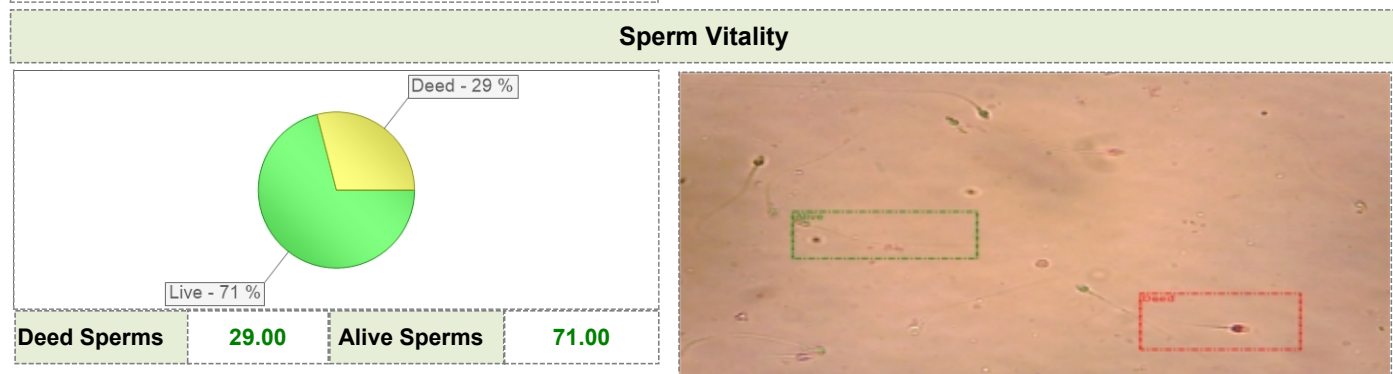
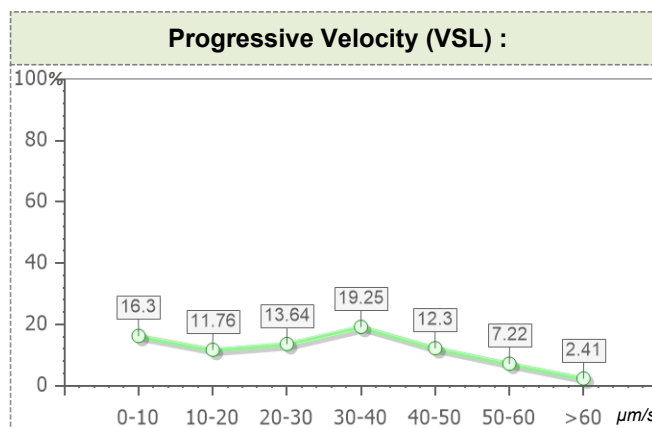
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Semen Analysis Charts (CASA - WHO 2010)




* 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.



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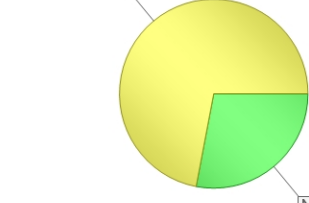
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SPERM CYTOMORPHOLOGICAL STUDY

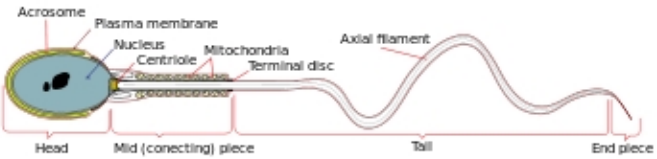
Sperm Class Analyzer -Automatic System of sperm analysis by computer (CASA)

Parameters	Result	Status	Reference Value	Morphology Chart
Normal Sperms	28.00%	PASSED	> 4% is accepted	
Terato Sperms	72.00%			
MAI	1.32			
TZI	1.32	PASSED	up to 1.6	
SDI	0.95	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	Chart Diagram of a human sperm cell
Total Defectes	95	100 %	
Head defects (HD)	72	75.79 %	
Neck & midpiece (NM)	20	21.05 %	
Tail defects (TD)	3	3.16 %	
Cytoplasm droplets (CD)	0	0.00 %	

100	80	60	40	20	0
HD	NM	TD	CD		

Peri acrosomal space	Cell membrane	Sub acrosomal space
Acrosome	Nuclear envelope	outer acrosome membrane
Nuclear vacuoles	Nucleus	
Postacrosomal region	Centriole	Equatorial segment
Post-acrosomal sheath	Posterior ring	Redundant nuclear envelope
Connecting Piece	Mitochondria sheath	Central Pair
outer dense fibres	Axoneme	
FRONT VIEW	SIDE VIEW	

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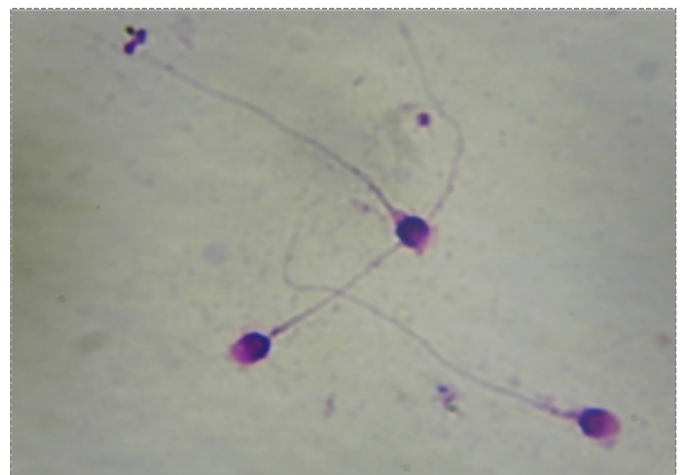
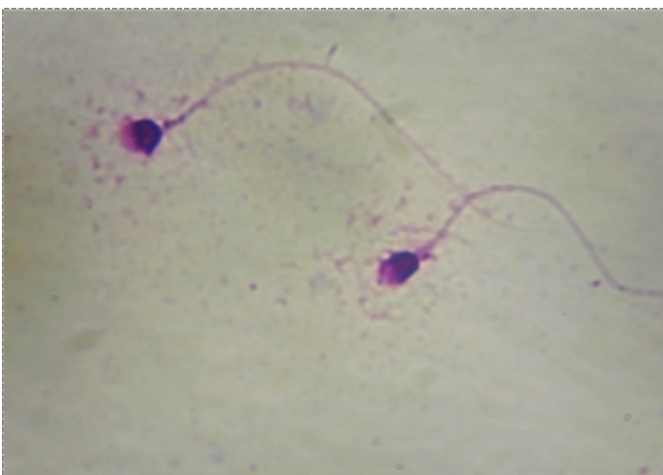
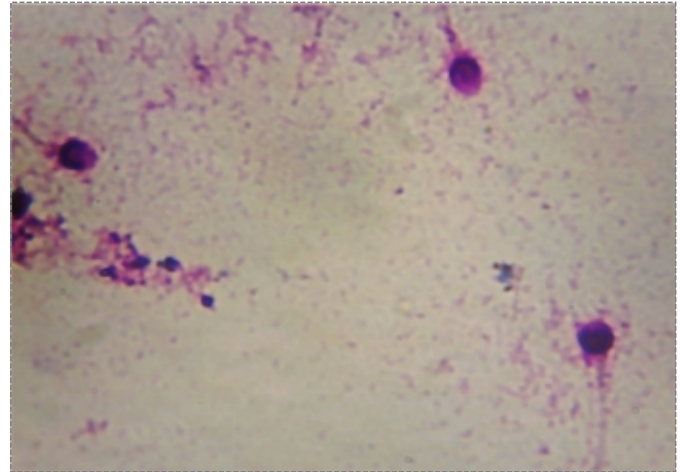
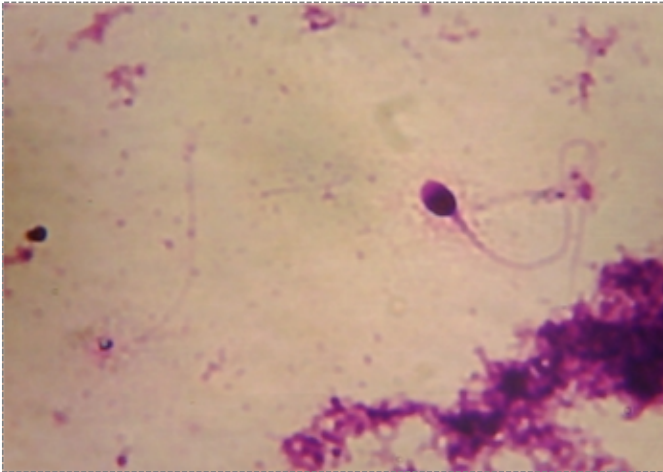
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SPERM CYTOMORPHOLOGICAL STUDY

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

Normal Sperms

Abnormal Sperms

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