



VideoTesT-Sperm 2.1

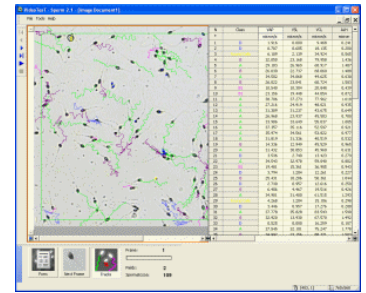
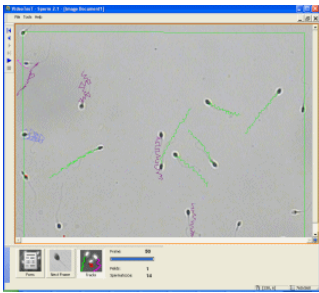
Computer Assisted Sperm Analyzer

VideoTesT-Sperm 2.1 CASA is designed to equip the workplace of specialists dealing with sperm analysis. The analyzer enables experts to count the amount of spermatozoa and to estimate their motility parameters in a native specimen, and to analyze the morphology of stained specimens.

VideoTesT-Sperm 2.1 CASA includes two standard methods, "**Motility**" and "**Morphology**", a facility for automatic report generation, and a built-in database. The analysis of the parameters is performed according to the recommendations given by the World Health Organization (WHO). The parameters that can be determined with help of the VideoTesT-Sperm 2.1 CASA are the main ones for estimation of the sperm fertility (Menkveld et al., 1991).

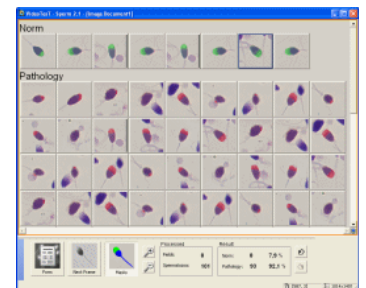
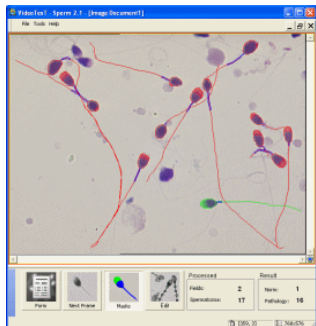
Motility Standard Method

The method is designed to estimate the spermatozoa concentration and their motility in a native specimen. To perform the analysis, a counting chamber with the specimen is placed under microscope, after which a video is recorded. The recorded objects are thresholded and their motion paths are reconstructed automatically. The color of the particular spermatozoon path corresponds to its motility class. To obtain statistically valid results, several clips can be recorded. The results of the analyses of each clip are summarized and transferred to the database.



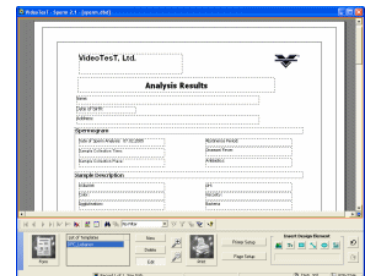
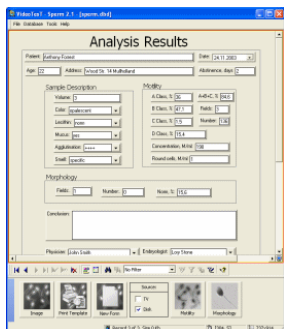
Morphology Standard Method

The method is designed to determine the morphological parameters of spermatozoa and to reveal pathology. Rigorous criteria of analysis of spermatozoa heads, which have been proposed by Krueger and Menkveld, are utilized in this standard method. The heads, middle parts, and tails of the spermatozoa are thresholded and measured automatically. The pathology is revealed based on the head parameters. The obtained data is automatically transferred to the database.



Database

The built-in database enables the experts to store any kind of obtained information, including results of visual evaluation and subsidiary investigation. The obtained results are summarized in a customizable report form and can be printed. If required, the layout of the report form can be changed by the specialists of the laboratory.



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What is new in VideoTest-Sperm 2.1?

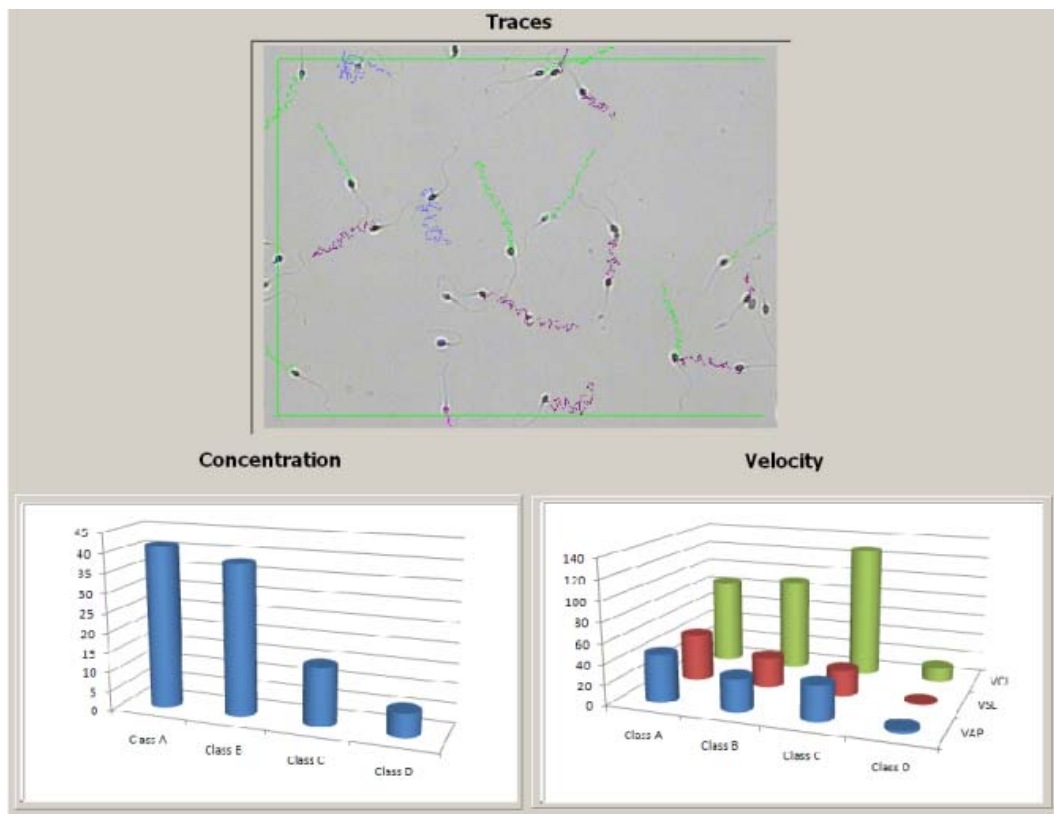
1. Microscopy block. Now, you can estimate and include in your report data about leucocytes, lipogranule, macrophage, erythrocytes, aggregation, agglutination, vitality and spermatogenesis cells.

Spermogram

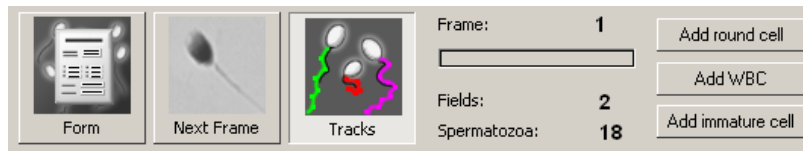
Patient: J.P.Smith Age: 33
Address: Hollywood, Lincoln street 205 Date: 11.03.2008
Abstinence, days: 33 Receiving time: 10:22 Analysis time: 11:11

Specimen data	Motility	Morphology	Microscopy
Volume, ml: <input type="text"/>	Concentration, M/ml: <input type="text" value="27"/>	Norm, %: <input type="text" value="12"/>	Leucocytes: <input type="text"/>
Color: <input type="text"/>	Class A, %: <input type="text" value="41,2"/> Fields: <input type="text" value="2"/>	Pathology, %: <input type="text" value="88"/>	Lipogranule: <input type="text"/>
Viscosity: <input type="text"/>	Class B, %: <input type="text" value="38,2"/> Count: <input type="text" value="34"/>	Head pathology, %: <input type="text" value="88"/>	Macrophage: <input type="text"/>
Rarefaction: <input type="text" value="2"/>	Class C, %: <input type="text" value="14,7"/> A+B, %: <input type="text" value="79,4"/>	Midpiece pathology, %: <input type="text" value="12"/>	Erythrocytes: <input type="text"/>
pH: <input type="text" value="7.2"/>	Class D, %: <input type="text" value="5,9"/> A+B+C, %: <input type="text" value="94,1"/>	Tail pathology, %: <input type="text" value="12"/>	Aggregation: <input type="text"/>
Mucus: <input type="text" value="2"/>	Round cells, M/ml: <input type="text" value="0"/>	TZI: <input type="text" value="1,3"/>	Agglutination: <input type="text"/>
	WBC, M/ml: <input type="text" value="0"/>	Fields: <input type="text" value="2"/>	Vitality: <input type="text"/>
	Immature Cells, M/ml: <input type="text" value="0"/>	Count: <input type="text" value="8"/>	Spermatogenesis cells: <input type="text"/>
Comment: <input type="text"/>			
Conclusion: <input type="text"/>			
		Physician: Baker	

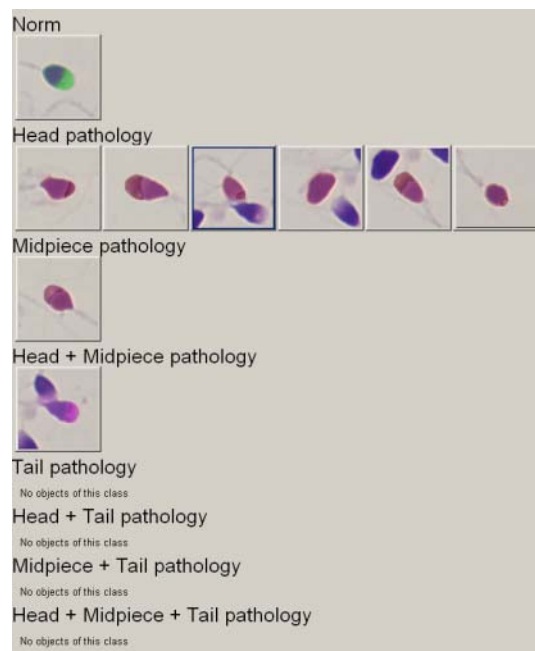
2. The possibility to put the image with traces.
3. Plotting the bar chart showing the distribution of concentration and velocity.



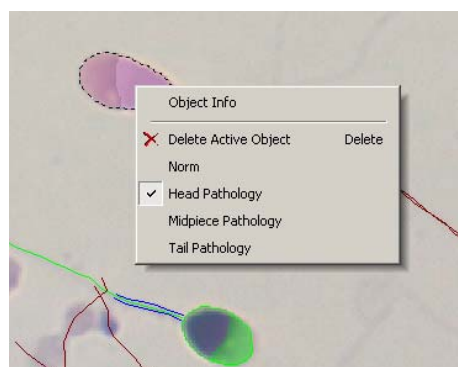
4. The possibility to show on the image in the “Motility” method round cells, white blood cells (WBC) and immature cells.



5. Additional classes in Morphology method: Head+midpiece pathology, Head+tail pathology; Head+midpiece+tail pathology.
Software automatically divides spermatozoa on two classes: Norm and Head pathology, but user can manually corrected results using drag-n-drop in gallery mode or



mouse right button on the image during analysis.



Now user can create full spermogram report, as enclosed file “report.pdf”.



Title

Subtitle

VideoTesT - Sperm 

Spermogram

Patient: J.P.Smith

Age: 33

Address: Hollywood, Lincoln street 205

Data: 11.03.2008

Abstinence, days: 33

Receiving time: 10:22

Analysis time: 11:11

Specimen data

Norm

Volume, ml:	> 2.0
Color:	white-gray
Viscosity:	< 2 sm
Rarefaction 2	10-30 min.
pH: 7.2	7.2-8.0
Mucus 2	none

Motility

Concentration, M/ml: 27	> 20	
Progressive	Class A, % 41,2	> 25%
Rapid progressive	Class B, % 38,2	
Medium progressive	A+B, % 79,4	> 50 %
Non progressive	Class C, % 14,7	
Static	Class D,% 5,9	< 50 %
Round cells, M/ml: 0		

Microscopy

Leucocytes:	< 1 mln/ml
Lipogranule:	
Macrophage:	none
Erythrocytes:	none
Aggregation:	none
Agglutination:	none
Vitality:	> 75 %
Spermatogenesis cells	< 2 %

Morphology

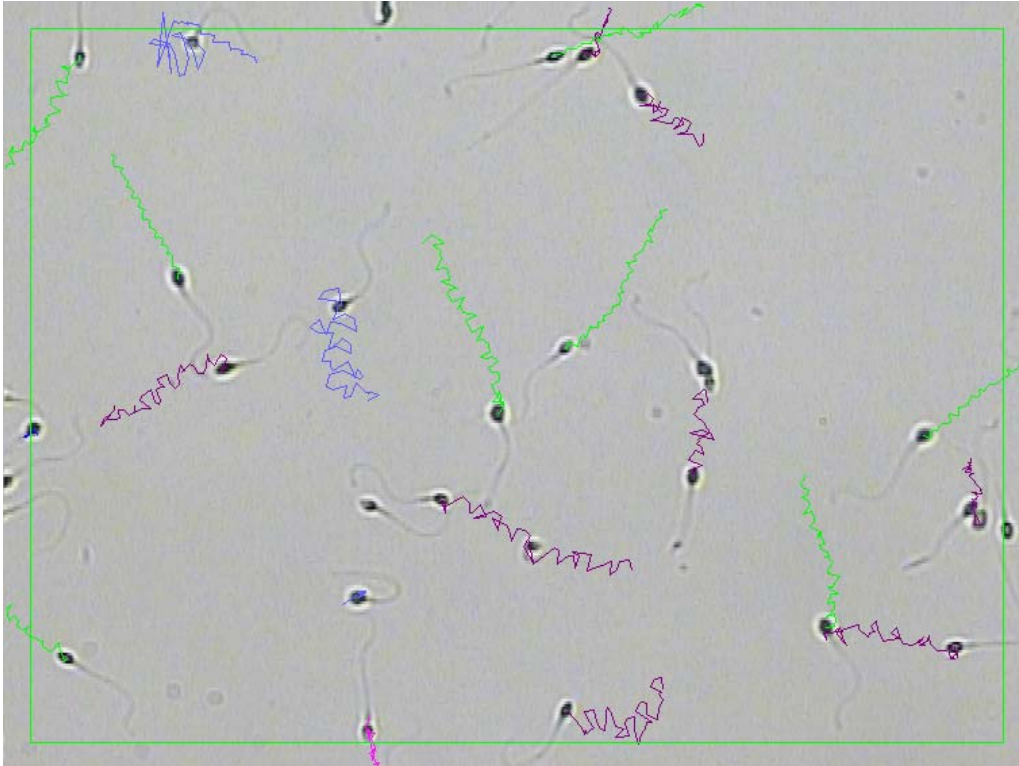
Norm, %: 12	> 14 %
Head pathology, %: 88	
Midpiece pathology, %: 12	
Tail pathology, %: 12	
TZI 1,3	

Conclusion:

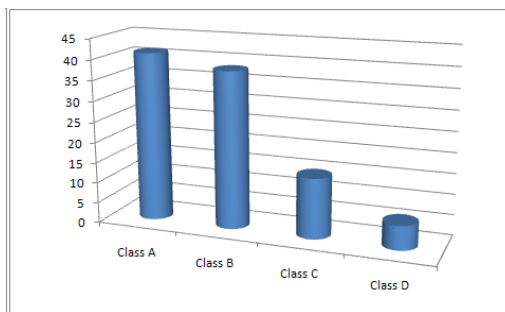
Data: 11.03.2008

Physician: Baker

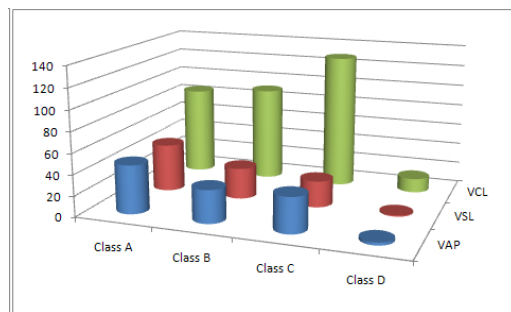
Traces



Concentration



Velocity



Statistics

Motility

Class	VAP	VSL	VCL	ALH	BCF	STR	LIN
A	46,7	45,9	85,2	1,1	8,9	98,4	56
B	31,7	29,8	90,9	1,5	8,3	94,3	35,3
C	34,1	25,3	128,1	2,4	7,7	73,9	20,7
Immotile	2,7	1,2	13,5	0,3	8	46,4	12,6

Morphology

Class	Length	Width	Elongation	Asymmetry	Acrosome part	Widpiece length	Tail length
Norm	6,36	3,92	1,59	0,03	0,34	5,26	6,05
Pathology	8,64	5,44	2,17	0,09	0,49	9,45	47,5