



PT EQAS RESULT REVIEW FORM

Issued by QA:

Department: Haematology	Month / Year: MAY-2023
PT Provider: METROPOLIS MHL EQAS	Distribution / Lot No: 230104/03
Analyte(Test): TLL, RBC Count, Haemoglobin, MCV, MCH, MCHC, Rlt Count, HCT, RDW CR%.	
Machine used: ADVIA 560 (SIEMENS)	Kit used: ADVIA 560 (SIEMENS)
Test done by: Ritika	Done on: 12/5/2023
Report uploaded by: AMIT KUMAR	Report uploaded on: 14/5/2023
Software used: METROPOLIS MHL EQAS	
EQAS Report received on 19/5/2023	
Reviewed by: AMIT KUMAR / KULDIP Approved by: DR. SHWETA AHUJA	
Observations: ALL EQAS RESULT IS Satisfactory with 88.89% score except TLL result, due to SI unit issue After SI unit correction TLL result value is within acceptable Range.	

\*If results are ungraded, please attach self-assessment. If satisfactory no corrective and preventive action required. But if unsatisfactory, corrective and preventive action is required with optimum evidence.

Self-Assessment Result:  Satisfactory  Unsatisfactory

Attachment:  Yes  No

Please investigate failure for unsatisfactory performance and submit a report to QA and Medical Director in 3 Days.

Approved by DR. SHWETA AHUJA

Signature  
(Lab Director/Designee)



Analyte	Instrument	Result Value	Standard Unit	Z-Score
* Total Leucocytes (WBC) count	ADVIA 560	1.50	/c.mm	*
Legend @ : z score $\leq$ 2.0 - Acceptable † : 2.0 < z score < 3.0 - Warning X : z score $\geq$ 3 - Unacceptable # : Not Evaluated ⊙ : Delayed Result Entry * : Not considered for evaluation.				

Problem Classification: TLC SI Unit issue. TLC value wrong filled during EQAS result submitted i.e. 10<sup>9</sup>/cmm filled in EQAS SI unit is 1 c.m.m.

Corrective Action: Follow the same in next cycle

Reviewed by: Kubley  
7/6/2023  
 Assistant  
 Manager  
 Chandigarh Lab



Dated: 7/6/2023

Instrument : ADVIA 560

Analyte	Standard Unit	Result Value	Mean	Z-Score	RMZ
@ Erythrocyte (RBC) Count	mill/cu.mm	1.03	1.04	-0.04	-0.61
* Total Leucocytes (WBC) count	/c.mm	1.50	1280.00	-13.99 *	0.00
@ Haemoglobin	g/dL	3.10	2.84	1.73	1.16
@ MCV (Mean Corpuscular Volume)	fL	116.70	112.06	0.54	0.30
@ MCH (Mean Corpuscular Hb)	pg	29.70	27.37	1.42	1.29
@ MCHC (Mean Corpuscular Hb Concentration)	g/dL	25.40	24.39	1.16	1.12
@ Platelet Count	1000/ $\mu$ L	27.00	30.00	-0.70	-0.81
@ Hematocrit	%	12.00	11.70	0.58	-0.06
@ RDW CV%	%	25.50	24.53	1.43	0.66

Legend @ : Acceptable

|| : 2.0 < z score < 3.0 - Warning

X : z score  $\geq$ 3 - Unacceptable

# : Not Evaluated

Ⓞ : Delayed Result Entry

\* : Not considered for evaluation.

Total Parameters	9
Not Evaluated Parameters	0
Evaluated Parameters	9
Outlier Parameters (X)	1
EQAS Score Haematology - CBC	88.89 %

*Dr Puneet Kumar Nigam*

Dr Puneet Kumar Nigam  
PT coordinator & Technical Manager, MHL EQAS  
Unit No. 409-416.  
Commercial Building - 1A  
Kohinoor Mall, Kiroi Road, Kurla (W),  
Mumbai - 400070



LifeWell

PT EQAS RESULT REVIEW FORM

Issued by QA:

Department: <u>Haematology</u>	Month / Year: <u>MAY-2023</u>
PT Provider: <u>METROPOLIS MHL EQAS</u>	Distribution / Lot No: <u>230104/04</u>
Analyte(Test): <u>TLC, Rbc count, Haemoglobin, MCV, MCH, MCHC, Pkt Count, HCT, Rbc CV%.</u>	
Machine used: <u>ADVIA 560 (SIEMENS)</u>	Kit used: <u>ADVIA 560 (SIEMENS)</u>
Test done by: <u>19/5/2023 RITIKA</u>	Done on: <u>19/5/2023</u>
Report uploaded by: <u>19/5/2023 AMIT KUMAR</u>	Report uploaded on: <u>19/5/2023</u>
Software used: <u>METROPOLIS MHL EQAS</u>	
EQAS Report received on <u>19/5/2023</u>	
Reviewed by: <u>AMIT KUMAR/KULDEEP</u>	Approved by: <u>DR. SHWETA AHUJA</u>
Observations: <u>ALT EQAS RESULT is Satisfactory with 88.89%. Score EXCEPT TLC RESULT, due to SI UNIT issue After SI UNIT Correction TLC RESULT value is within Acceptable Range.</u>	

\*If results are ungraded, please attach self-assessment.If satisfactory no corrective and preventive action required. But if unsatisfactory, corrective and preventive action is required with optimum evidence.

Self-Assessment Result:  Satisfactory  Unsatisfactory

Attachment:  Yes  No

Please investigate failure for unsatisfactory performance and submit a report to QA and Medical Director in 3 Days.

Approved by DR. SHWETA AHUJA

Signature  
(Lab Director/Designee)



Analyte	Instrument	Result Value	Standard Unit	Z-Score
* Total Leucocytes (WBC) count	ADVIA 560	8.48	/c.mm	*
Legend @ : z score $\leq$ 2.0 - Acceptable : 2.0 < z score < 3.0 - Warning X : z score $\geq$ 3 - Unacceptable # : Not Evaluated ⊙ : Delayed Result Entry * : Not considered for evaluation.				

Problem Classification: TLC SI unit issue. TLC value wrong filled as per SI during EQAS Result submitted i.e. 10<sup>13</sup>/c.mm is filled. in real SI unit is 1/c.mm

Corrective Action: Follow the same in next cycle.

Reviewed by: Kaldeep  
7/6/2023  
 Assistant manager  
 Chandigarh - Lab



Dated: 7/6/2023

Instrument : ADVIA 560

Analyte	Standard Unit	Result Value	Mean	Z-Score	RMZ
@ Erythrocyte (RBC) Count	mill/cu.mm	2.15	2.25	-1.17	-0.61
* Total Leucocytes (WBC) count	/c.mm	8.48	9720.00	-10.24 *	0.00
@ Haemoglobin	g/dL	7.70	7.78	0.59	1.16
@ MCV (Mean Corpuscular Volume)	fL	131.50	132.10	0.06	0.30
@ MCH (Mean Corpuscular Hb)	pg	35.90	34.61	1.15	1.29
@ MCHC (Mean Corpuscular Hb Concentration)	g/dL	27.30	26.20	1.07	1.12
@ Platelet Count	1000/ $\mu$ L	211.00	224.00	-0.92	-0.81
@ Hematocrit	%	28.30	29.88	-0.70	-0.06
@ RDW CV%	%	16.90	19.10	-0.11	0.66

Legend @ : Acceptable

! : 2.0 < z score < 3.0 - Warning

X : z score  $\geq$ 3 - Unacceptable

# : Not Evaluated

⊙ : Delayed Result Entry

\* : Not considered for evaluation.

Total Parameters	9
Not Evaluated Parameters	0
Evaluated Parameters	9
Outlier Parameters (X)	1
EQAS Score Haematology - CBC	88.89 %

*Dr Puneet Kumar Nigam*

Dr Puneet Kumar Nigam  
 PT coordinator & Technical Manager, MHL EQAS  
 Unit No. 409-416,  
 Commercial Building - 1A  
 Kohinoor Mall, Kirod Road, Kurla (W),  
 Mumbai - 400070



## PT EQAS RESULT REVIEW FORM

Issued by QA:

Department: <i>Haematology</i>	Month / Year: <i>MAY-2023</i>
PT Provider: <i>METROPOLIS MHL EQAS -</i>	Distribution / Lot No: <i>230104/01</i>
Analyte(Test): <i>Neutrophil, Lymphocyte, Eosinophil.</i>	
Machine used: <i>Microscopic</i>	Kit used: <i>Microscopic</i>
Test done by: <i>Microscopy by DR. SHWETA</i>	Done on: <i>12/5/2023</i>
Report uploaded by: <i>AMIT KUMAR</i>	Report uploaded on: <i>14/5/2023</i>
Software used: <i>METROPOLIS MHL EQAS</i>	
EQAS Report received on <i>19/5/2023</i>	
Reviewed by: <i>DR. SHWETA AHUJA</i>	Approved by: <i>DR. SHWETA AHUJA</i>
Observations: <i>ALL EQAS Result within Acceptable Range. with 100.0% Score. EQAS Satisfactory</i>	

\*If results are ungraded, please attach self-assessment. If satisfactory no corrective and preventive action required. But if unsatisfactory, corrective and preventive action is required with optimum evidence.

Self-Assessment Result:  Satisfactory  Unsatisfactory

Attachment  Yes  No

Please investigate failure for unsatisfactory performance and submit a report to QA and Medical Director in 3 Days.

Approved by *DR. SHWETA AHUJA*

Signature  
(Lab Director/Designee)



Analyte	Instrument	Result Value	Standard Unit
No Outlier			
Legend @ : Acceptable			
X : Unacceptable			
# : Not Evaluated			
⌚ Delayed Result Entry			

Problem Classification:

NA

Corrective Action:

NA

Reviewed by:

*Kuldeep Singh*  
 Assistant Manager  
 Chandigarh - Lab



Dated:

*19/05/2023*



Instrument : -

Analyte	Standard Unit	Result Value	Accepted Value
@ Neutrophil.	-	40-70%	40-70%
@ Lymphocyte.	-	20-40%	20-40%
@ Eosinophil.	-	<6%	<6%

  

Legend @ : Acceptable	Total Parameters	3
□ : Acceptable	Not Evaluated Parameters	0
X : Unacceptable	Evaluated Parameters	3
# : Not Evaluated	Outlier Parameters (X)	0
Ⓢ : Delayed Result Entry	EQAS Score Haematology-PS Slide Count Qualitative	100.00 %

*Dr Puneet Kumar Nigam*

Dr Puneet Kumar Nigam  
 PT coordinator & Technical Manager, MHL EQAS  
 Unit No. 409-416.  
 Commercial Building - 1A  
 Kohinoor Mall, Kiroi Road, Kurla (W),  
 Mumbai - 400070



INVESTIGATION FORM FOR UNACCEPTABLE PT/EQAS RESULTS

Issued by QUA:

Department	Haematology		
PT provider	MHL EQAS		
Survey Name:	MHL EQAS 230104		
Date Survey received	07-5-2023	Date Analysis Performed:	12-5-2023
Date Survey Results Submitted	12-5-2023	Date Results received:	22-5-2023

Investigation performed by	AMIT KUMAR	
Lab director	DR. SHWETA	Date 22-5-2023

Unacceptable Result 1			
Specimen No.	03	Analyte	TLC
Reported result	1.5	Intended result/range	1500
Acceptable Lower Limit	775.62	Acceptable Higher Limit	1672.9
SD	224.32	CV%	20.50

Unacceptable Result 2			
Specimen No.	04	Analyte	TLC
Reported result	8.48	Intended result/range	8480
Acceptable Lower Limit	7824.96	Acceptable Higher Limit	11615.04
SD	947.52	CV%	9.75

Unacceptable Result 3			
Specimen No.		Analyte	
Reported result		Intended result/range	
Acceptable Lower Limit		Acceptable Higher Limit	
SD		CV%	

EVALUATION OF POSSIBLE SOURCES OF ERROR

Clerical	Yes	No	N/A
Incorrect transcription of the result from the instrument read-out or report? (Check the raw data.)			✓
Incorrect instrument/method/reagent reported on the result form (Check instrument log book)			✓
Mis-match of the units of measure between the result form and the instrument results			✓
Incorrect decimal placement			✓
Errors in calculations.			✓
Mis-match between result reported on the 'result form' and on the 'proficiency testing evaluation report'			✓
Mis-match between result reported on the 'result form' and on the 'proficiency testing evaluation report'			✓

Any other clerical problem?			✓
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A response of "Yes" to any of these questions may indicate a clerical error.

Although reporting of PT results is unlike those for patient results, clerical errors may indicate a need for additional staff training, review of instructions provided with PT or investigation of the reporting format provided by the testing device. If results reported on the result form do not match the results found on the evaluation report, please contact PT provider.

Procedural	Yes	No	N/A
Written procedure not followed			✓
Improper preparation of reagents			✓
Reagents open stability not within acceptable range			✓
Faulty standards run			✓
Unacceptable IQC results (Run accepted in non-linear range/though controls were out of range)			✓
Incorrect interpretation of microscopic examinations			✓
Incorrect dilution or pipetting error			✓
Incorrect staining or interpretation			✓
Time delay between reconstitution and analysis			✓
Media preparation related			✓
Antibiotic disc potency			✓
Any other procedural problem			✓

A response of "Yes" to any of these questions may indicate a procedural error. These errors indicate inappropriate operation of equipment or performance of a method.

A review of the instructions provided with the proficiency testing material and/or review of laboratory procedures may be required.

Analytical	Yes	No	N/A
Most recent calibration unacceptable or not within established stability limits at the time of PT			✓
Instrument repaired or replaced recently at time of PT run			✓
Review of past PT results indicate unevenly distributed data or a bias			✓
Intended result not within the measuring range for the instrument			✓
Was instrument maintenance performed on schedule?	✓	✗	
Review of records indicate there was related instrument/test problems noted prior to or after the PT was performed			✓
Any other analytical problem?			✓

A response of "Yes" to any of these questions may indicate an analytical error. These types of errors could indicate a failure to follow recommended instrument maintenance and calibration.

Specimen handling	Yes	No	N/A
Survey specimens not reconstituted as indicated in the Kit Instructions			✓
Survey specimens not stored as indicated in the Kit Instructions			✓
Special instructions provided in the Kit Instructions not performed as indicated			✓
Correct tests not performed on the correct vial of proficiency testing material			✓
Survey specimen mix-up			✓
Any other problem related to specimen handling?			✓

A response of "Yes" to any of these questions may indicate a specimen handling error. These types of errors could indicate a failure to read the material provided with the Surveys materials.

PT Material	Yes	No	N/A
Late shipment			✓
Hemolysed sample			✓
Bacterial contamination			✓
Perceived survey bias			✓
Poor growth in culture			✓
Unstable PT material			✓
Matrix effect incompatible with method			✓
No comparable peer group			✓
Inappropriate peer group based on method reported on result form			✓
Acceptable range too low			✓
Any other problem?			✓

A response of "Yes" to any of these questions may indicate a problem with the PT material. If a delay in receipt of material in the laboratory is an issue, ensure timely receipt of Surveys after arrival in the institution. If you believe your result was compared to an inappropriate peer group, verify the method reported on the result form. Contact PT provider for additional information if needed.

Miscellaneous	Yes	No	N/A
Was analysis performed by technically competent personnel? (Check technical competence records)	✓		
Were all patient reports satisfactory on day of run? (i.e. there were no patient complaints)	✓		
Were the results of rerun (where possible) the same?	✓		
Any other actions (please specify)			✓

## SUMMARY REPORT

## Root-cause analysis

UNIT issue found.

## Corrective Action proposed

unit changed as required.

## Corrective Action taken (To be filled within 30 days of receipt of EQAS result)

Unit changed ~~done~~ after that EQAS TLC result found within the  $\pm 2SD$  limits.

## Evidence that problem is solved after corrective action (To be attached)

Attaching instrument printout, EQAS Report.

**Preventive Action (if any) proposed:**

Result will review after or before submitting on the portal by the Lab incharge, Lab head or Lab director.

**Conclusion and future plan if no evidence found:**

Result will review after or before submitting on the portal by the Lab incharge, manager and Lab head or Director.

Recorded by (Sign / Date)	 22-5-2023
Reviewed by Lab/Medical Director (Sign / Date)	 22-5-2023
Reviewed by Head - QA (Sign / Date)	 22-5-2023



Measure



AS



Database



Print

Sample ID:  
Date:

HCBC SAMPLE 3 Patient ID  
10/05/2023 09:47 Mode:

WBC:	1.50	LL	10 <sup>3</sup> / $\mu$ L	[5.00	-	10.00]
NEU:	0.00	LL	10 <sup>3</sup> / $\mu$ L	[2.00	-	7.50]
LYM:	0.69	L	10 <sup>3</sup> / $\mu$ L	[1.30	-	4.00]
MON:	0.06	LL	10 <sup>3</sup> / $\mu$ L	[0.15	-	0.75]
EO:	0.07		10 <sup>3</sup> / $\mu$ L	[0.00	-	0.50]
BAS:	1.33	HH	10 <sup>3</sup> / $\mu$ L	[0.00	-	0.75]
NEU%:	0.0	LL	%	[40.0	-	75.0]
LYM%:	45.7	H	%	[21.0	-	40.0]
MON%:	3.7		%	[3.0	-	7.0]
EO%:	4.6		%	[0.0	-	5.0]
BAS%:	88.6	HH	%	[0.0	-	1.5]
RBC:	1.03	LL	10 <sup>5</sup> / $\mu$ L	[4.00	-	5.50]
HGB:	3.1	LL	g/dL	[12.0	-	17.0]
HCT:	12.0	LL	%	[36.0	-	52.0]
MCV:	116.7	H	fL	[78.0	-	95.0]
MCH:	29.7		pg	[27.0	-	32.0]
MCHC:	25.4	L	g/dL	[30.0	-	35.0]
RDWsd:	100.1	H	fL	[46.0	-	59.0]
RDWcv:	---	**	%	[0.0	-	16.0]
PLT:	27	LL	10 <sup>3</sup> / $\mu$ L	[150	-	400]
PCT:	0.02		%		-	15.0]
MPV:	6.0	L	fL	[8.0	-	15.0]
PDWsd:	15.7		fL		-	
PDWcv:	40.0		%		-	
PLCR:	19.13		%		-	
PLCC:	5		10 <sup>3</sup> / $\mu$ L		-	

DIFF

BAS

RBC

PLT

Warning flags

ADT

Interpretive flags

Leukopenia?  
Neutropenia? Bas

Morphology at 100x

Down

Up

Measure

AS

Database

Print

Sample ID:

HCBC SAMPLE 04 Patient ID:

Date:

10/05/2023 09:50 Mode:

WBC:	8.48		$10^3/\mu\text{L}$	[5.00	-	10.00]
NEU:	0.00	LL	$10^3/\mu\text{L}$	[2.00	-	7.50]
LYM:	1.72		$10^3/\mu\text{L}$	[1.30	-	4.00]
MON:	0.47		$10^3/\mu\text{L}$	[0.15	-	0.70]
EO:	0.25		$10^3/\mu\text{L}$	[0.00	-	0.50]
BAS:	---	**	$10^3/\mu\text{L}$	[0.00	-	0.15]
NEU%:	0.0	LL	%	[40.0	-	75.0]
LYM%:	20.3	L	%	[21.0	-	40.0]
MON%:	5.6		%	[3.0	-	7.0]
EO%:	3.0		%	[0.0	-	5.0]
BAS%:	---	**	%	[0.0	-	1.5]
RBC:	2.15	L	$10^3/\mu\text{L}$	[4.00	-	5.50]
HGB:	7.7	L	g/dL	[12.0	-	17.0]
HCT:	28.3	L	%	[36.0	-	52.0]
MDV:	131.5	H	fL	[76.0	-	96.0]
MCH:	35.9	H	pg	[27.0	-	32.0]
MCHC:	27.3	L	g/dL	[30.0	-	36.0]
RDWsd:	100.2	H	fL	[48.0	-	59.0]
RDWcv:	---	**	%	[0.0	-	16.0]
PLT:	211		$10^3/\mu\text{L}$	[150	-	400]
PCT:	0.16		%			
MPV:	7.5	L	fL	[8.0	-	15.0]
PDWsd:	15.2		fL			
PDWcv:	38.8		%			
PLCR:	19.38		%			
PLCC:	41		$10^3/\mu\text{L}$			

DIFF

BAS

RBC

PLT

Warning flags

Interpretive flags

Morphological flags

uADT

Neutropenia?  
Anemia? Macrocy

G

Down

Up

Abundance

100%

42%

2%

10%

2%