

PATIENT NAME: BHAWANI SINGH 290018	<b>REF. DOCTOR :</b> D	R. BOB PKG
ARCOFEMI HEALTHCARE LTD (MEDIWHEEL F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI	PATIENT ID : BHAWM23129161 CLIENT PATIENT ID:	AGE/SEX :32 Years Male DRAWN : RECEIVED :23/12/2023 12:56:48 REPORTED :28/12/2023 11:14:57
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Test Report	Status	<u>Final</u>
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**Biological Reference Interval** Units

HAEMATOLOGY - CBC			
MEDI WHEEL FULL BODY HEALTH CHECK UP AB	BOVE 40 MALE		
BLOOD COUNTS, EDTA WHOLE BLOOD			
HEMOGLOBIN (HB)	13.9	13.0 - 17.0	g/dL
RED BLOOD CELL (RBC) COUNT	6.30 High	4.5 - 5.5	mil/µL
WHITE BLOOD CELL (WBC) COUNT	6.88	4.0 - 10.0	thou/µL
PLATELET COUNT	322	150 - 410	thou/µL
RBC AND PLATELET INDICES			
HEMATOCRIT (PCV)	42.3	40 - 50	%
MEAN CORPUSCULAR VOLUME (MCV)	67.1 Low	83 - 101	fL
MEAN CORPUSCULAR HEMOGLOBIN (MCH)	22.1 Low	27.0 - 32.0	pg
MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC)	32.9	31.5 - 34.5	g/dL
RED CELL DISTRIBUTION WIDTH (RDW)	18.7 High	11.6 - 14.0	%
MENTZER INDEX	10.7		
MEAN PLATELET VOLUME (MPV)	10.8	6.8 - 10.9	fL
WBC DIFFERENTIAL COUNT			
NEUTROPHILS	53	40 - 80	%
LYMPHOCYTES	41 High	20 - 40	%
MONOCYTES	05	2 - 10	%
EOSINOPHILS	01	1 - 6	%
BASOPHILS	00	< 1 - 2	%

Interpretation(s) BLOOD COUNTS,EDTA WHOLE BLOOD-The cell morphology is well preserved for 24hrs. However after 24-48 hrs a progressive increase in MCV and HCT is observed leading to a decrease in MCHC. A direct smear is recommended for an accurate differential count and for examination of RBC morphology.

RBC AND PLATELET INDICES-Mentzer index (MCV/RBC) is an automated cell-counter based calculated screen tool to differentiate cases of Iron deficiency anaemia(>13) from Beta thalassaemia trait

(<13) in patients with microcytic anaemia. This needs to be interpreted in line with clinical correlation and suspicion. Estimation of HbA2 remains the gold standard for diagnosing a case of beta thalassaemia trait.

WBC DIFFERENTIAL COUNT-The optimal threshold of 3.3 for NLR showed a prognostic possibility of clinical symptoms to change from mild to severe in COVID positive patients. When age = 49.5 years old and NLR = 3.3, 46.1% COVID-19 patients with mild disease might become severe. By contrast, when age < 49.5 years old and NLR < 3.3, COVID-19 patients tend to show mild disease.

(Reference to - The diagnostic and predictive role of NLR, d-NLR and PLR in COVID-19 patients A.-P. Yang, et al. International Immunopharmacology 84 (2020) 106504 This ratio element is a calculated parameter and out of NABL scope.

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CODE/NAME & ADDRESS : C000138375 ARCOFEMI HEALTHCARE LTD (MEDIWHEEL F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI NEW DELHI 110030 8800465156	PATIENT ID : BHAWM23129161 CLIENT PATIENT ID:	AGE/SEX :32 Years Male DRAWN : RECEIVED :23/12/2023 12:56:48 REPORTED :28/12/2023 11:14:57

**Biological Reference Interval** Units

	HAEMATOLOGY		
MEDI WHEEL FULL BODY HEALTH CHECK UP ABOVE 40 MALE			
ERYTHROCYTE SEDIMENTATION RATE (ESR), BLOOD	EDTA		
E.S.R	05	0 - 14	mm at 1 hr
METHOD : WESTERGREN METHOD			
GLYCOSYLATED HEMOGLOBIN(HBA1C), EDTA WHOLE BLOOD			
HBA1C	5.5	Non-diabetic: < 5.7 Pre-diabetics: 5.7 - 6.4 Diabetics: > or = 6.5 ADA Target: 7.0 Action suggested: > 8.0	%
ESTIMATED AVERAGE GLUCOSE(EAG)	111.2	< 116.0	mg/dL

#### Interpretation(s)

ERYTHROCYTE SEDIMENTATION RATE (ESR), EDTA BLOOD-**TEST DESCRIPTION** :-Erythrocyte sedimentation rate (ESR) is a test that indirectly measures the degree of inflammation present in the body. The test actually measures the rate of fall (sedimentation) of erythrocytes in a sample of blood that has been placed into a tall, thin, vertical tube. Results are reported as the millimetres of clear fluid (plasma) that are present at the top portion of the tube after one hour. Nowadays fully automated instruments are available to measure ESR.

ESR is not diagnostic it is a non-specific test that may be elevated in a number of different conditions. It provides general information about the presence of an inflammatory condition.CRP is superior to ESR because it is more sensitive and reflects a more rapid change TEST INTERPRETATION

Increase in: Infections, Vasculities, Inflammatory arthritis, Renal disease, Anemia, Malignancies and plasma cell dyscrasias, Acute allergy Tissue injury, Pregnancy,

Estrogen medication, Aging. Finding a very accelerated ESR(>100 mm/hour) in patients with ill-defined symptoms directs the physician to search for a systemic disease (Paraproteinemias, Disseminated malignancies, connective tissue disease, severe infections such as bacterial endocarditis). In pregnancy BRI in first trimester is 0-48 mm/hr(62 if anemic) and in second trimester (0-70 mm /hr(95 if anemic). ESR returns to normal 4th week post partum. **Decreased** in: Polycythermia vera, Sickle cell anemia

### LIMITATIONS

False elevated ESR : Increased fibrinogen, Drugs(Vitamin A, Dextran etc), Hypercholesterolemia False Decreased : Poikilocytosis, (SickleCells, spherocytes), Microcytosis, Low fibrinogen, Very high WBC counts, Drugs (Quinine,

salicylates)

**REFERENCE** :

1. Nathan and Oski's Haematology of Infancy and Childhood, 5th edition 2. Paediatric reference intervals. AACC Press, 7th edition. Edited by S. Soldin 3. The reference for the adult reference range is "Practical Haematology by Dacie and Lewis,10th edition. GLYCOSYLATED HEMOGLOBIN(HBA1C), EDTA WHOLE BLOOD-Used For:

1. Evaluating the long-term control of blood glucose concentrations in diabetic patients.

2. Diagnosing diabetes.

Identifying patients at increased risk for diabetes (prediabetes).

The ADA recommends measurement of HbA1c (typically 3-4 times per year for type 1 and poorly controlled type 2 diabetic patients, and 2 times per year for eAG (Estimated average glucose) converts percentage HbA1c to md/dl, to compare blood glucose levels.



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2. eAG gives an evaluation of blood glucose levels for the last couple of months. 3. eAG is calculated as eAG (mg/dl) = 28.7 \* HbA1c - 46.7

### HbA1c Estimation can get affected due to :

1. Shortened Erythrocyte survival : Any condition that shortens erythrocyte survival or decreases mean erythrocyte age (e.g. recovery from acute blood loss, hemolytic anemia) will falsely lower HbA1c test results. Fructosamine is recommended in these patients which indicates diabetes control over 15 days.

 Witamin C & E are reported to falsely lower test results. (possibly by inhibiting glycation of hemoglobin.
Iron deficiency anemia is reported to increase test results. Hypertriglyceridemia, uremia, hyperbilirubinemia, chronic alcoholism, chronic ingestion of salicylates & opiates addiction are reported to interfere with some assay methods, falsely increasing results.

4. Interference of hemoglobinopathies in HbA1c estimation is seen in

a) Homozygous hemoglobinopathy. Fructosamine is recommended for testing of HbA1c.
b) Heterozygous state detected (D10 is corrected for HbS & HbC trait.)

c) HbF > 25% on alternate paltform (Boronate affinity chromatography) is recommended for testing of HbA1c. Abnormal Hemoglobin electrophoresis (HPLC method) is recommended for detecting a hemoglobinopathy

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F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI	PATIENT ID : BHAWM23129161 CLIENT PATIENT ID:	DRAWN : RECEIVED : 23/12/2023 12:56:48
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## IMMUNOHAEMATOLOGY MEDI WHEEL FULL BODY HEALTH CHECK UP ABOVE 40 MALE ABO GROUP & RH TYPE, EDTA WHOLE BLOOD ABO GROUP TYPE AB METHOD : FORWARD/REVERSE POSITIVE RH TYPE METHOD : FORWARD/REVERSE

Interpretation(s) ABO GROUP & RH TYPE, EDTA WHOLE BLOOD-Blood group is identified by antigens and antibodies present in the blood. Antigens are protein molecules found on the surface of red blood cells. Antibodies are found in plasma. To determine blood group, red cells are mixed with different antibody solutions to give A,B,O or AB.

Disclaimer: "Please note, as the results of previous ABO and Rh group (Blood Group) for pregnant women are not available, please check with the patient records for availability of the same."

The test is performed by both forward as well as reverse grouping methods.

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Test Report Status

<u>Final</u>



**Biological Reference Interval** Units

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Results

	BIOCHEMISTRY		
MEDI WHEEL FULL BODY HEALTH CHECK UP	ABOVE 40 MALE		
GLUCOSE FASTING, FLUORIDE PLASMA			
FBS (FASTING BLOOD SUGAR)	89	Normal : < 100 Pre-diabetes: 100-125 Diabetes: >/=126	mg/dL
METHOD : SPECTROPHOTOMETRY			
GLUCOSE, POST-PRANDIAL, PLASMA			
PPBS(POST PRANDIAL BLOOD SUGAR) METHOD : SPECTROPHOTOMETRY	91	70 - 140	mg/dL
LIPID PROFILE WITH CALCULATED LDL			
CHOLESTEROL, TOTAL	207 High	< 200 Desirable 200 - 239 Borderline High >/= 240 High	mg/dL
METHOD : SPECTROPHOTOMETRY			
TRIGLYCERIDES	87	< 150 Normal 150 - 199 Borderline High 200 - 499 High >/=500 Very High	mg/dL
METHOD : SPECTROPHOTOMETRY		,, 5	
HDL CHOLESTEROL	40	< 40 Low >/=60 High	mg/dL
METHOD : SPECTROPHOTOMETRY			
CHOLESTEROL LDL	150 High	< 100 Optimal 100 - 129 Near optimal/ above optima 130 - 159 Borderline High 160 - 189 High >/= 190 Very High	mg/dL il
NON HDL CHOLESTEROL	167 High	Desirable: Less than 130 Above Desirable: 130 - 159 Borderline High: 160 - 189 High: 190 - 219 Very high: > or = 220	mg/dL
VERY LOW DENSITY LIPOPROTEIN	17.4	= 30.0</td <td>mg/dL</td>	mg/dL

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CHOL/HDL RATIO	5.2 High	3.3 - 4.4
		Low Risk
		4.5 - 7.0
		Average Risk
		7.1 - 11.0
		Moderate Risk
		> 11.0
		High Risk
LDL/HDL RATIO	3.8 High	0.5 - 3.0 Desirable/Low Risk
		3.1 - 6.0 Borderline/Moderate
		Risk
		>6.0 High Risk

## Interpretation(s)

Serum lipid profile is measured for cardiovascular risk prediction. Lipid Association of India recommends LDL-C as primary target and Non HDL-C as co-primary treatment target.

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Risk Category						
Extreme risk group	A.CAD with > 1 feature of high risk group					
	B. CAD with > 1 feature of Very high risk group or recurrent ACS (within 1 year) despite LDL-C < or =					
	50 mg/dl or	50 mg/dl or polyvascular disease				
Very High Risk		ed ASCVD 2. Diabetes			rs or evidence of end	organ damage 3.
	Familial Ho	mozygous Hypercholes	terolemi	a		
High Risk	1. Three ma	ajor ASCVD risk factor	s. 2. Dia	betes with 1 m	ajor risk factor or no	evidence of end organ
		damage. 3. CKD stage 3B or 4. 4. LDL >190 mg/dl 5. Extreme of a single risk factor. 6. Coronary				
	Artery Calc	Artery Calcium - CAC >300 AU. 7. Lipoprotein a >/= 50mg/dl 8. Non stenotic carotid plaque				
Moderate Risk	2 major ASCVD risk factors					
Low Risk	0-1 major ASCVD risk factors					
Major ASCVD (Atherosclerotic cardiovascular disease) Risk Factors						
1. Age > or = 45 years in males and > or = 55 years in females 3. Current Cigarette smoking or tobacco use						
2. Family history of premature ASCVD 4. High blood pressure						
5. Low HDL						
Newer treatment goals and statin initiation thresholds based on the risk categories proposed by LAI in 2020.						
Risk Group		Treatment Goals			Consider Drug Th	erapy
		LDL-C (mg/dl)	Non-H	DL (mg/dl)	LDL-C (mg/dl)	Non-HDL (mg/dl)

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Risk Stratification for ASCVD (A	therosclerotic cardiovascular disease) by	Linid Association of India

Risk Group	Treatment Goals		Consider Drug Therapy	
	LDL-C (mg/dl)	Non-HDL (mg/dl)	LDL-C (mg/dl)	Non-HDL (mg/dl)
Extreme Risk Group Category A	<50 (Optional goal	< 80 (Optional goal	>OR = 50	>OR = 80
	< OR = 30)	<or 60)<="" =="" td=""><td></td><td></td></or>		
Extreme Risk Group Category B	<or 30<="" =="" td=""><td><or 60<="" =="" td=""><td>&gt; 30</td><td>&gt;60</td></or></td></or>	<or 60<="" =="" td=""><td>&gt; 30</td><td>&gt;60</td></or>	> 30	>60
Very High Risk	<50	<80	>OR= 50	>OR= 80
High Risk	<70	<100	>OR= 70	>OR-100
Moderate Risk	<100	<130	>OR=100	>OR=130
Low Risk	<100	<130	>OR= 130*	>OR=160

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\*After an adequate non-pharmacological intervention for at least 3 months.

References: Management of Dyslipidaemia for the Prevention of Stroke: Clinical Practice Recommendations from the Lipid Association of India. Current Vascular Pharmacology, 2022, 20, 134-155.

LIVER FUNCTION PROFILE, SERUM			
BILIRUBIN, TOTAL METHOD : SPECTROPHOTOMETRY	0.70	0.2 - 1.0	mg/dL
BILIRUBIN, DIRECT	0.12	0.0 - 0.2	mg/dL
BILIRUBIN, INDIRECT	0.58	0.1 - 1.0	mg/dL
TOTAL PROTEIN METHOD : SPECTROPHOTOMETRY	8.3 High	6.4 - 8.2	g/dL
ALBUMIN METHOD : SPECTROPHOTOMETRY	4.2	3.4 - 5.0	g/dL
GLOBULIN METHOD : CALCULATED PARAMETER	4.1	2.0 - 4.1	g/dL
ALBUMIN/GLOBULIN RATIO	1.0	1.0 - 2.1	RATIO
ASPARTATE AMINOTRANSFERASE(AST/SGOT) METHOD : SPECTROPHOTOMETRY	22	15 - 37	U/L
ALANINE AMINOTRANSFERASE (ALT/SGPT) METHOD : SPECTROPHOTOMETRY	45	< 45.0	U/L
ALKALINE PHOSPHATASE METHOD : SPECTROPHOTOMETRY	83	30 - 120	U/L
GAMMA GLUTAMYL TRANSFERASE (GGT) METHOD : SPECTROPHOTOMETRY	33	15 - 85	U/L
LACTATE DEHYDROGENASE METHOD : SPECTROPHOTOMETRY	146	85 - 227	U/L
BLOOD UREA NITROGEN (BUN), SERUM			
BLOOD UREA NITROGEN METHOD : SPECTROPHOTOMETRY	12	6 - 20	mg/dL
CREATININE, SERUM			
CREATININE METHOD : SPECTROPHOTOMETRY	0.94	0.90 - 1.30	mg/dL
BUN/CREAT RATIO			
BUN/CREAT RATIO	12.77	5.00 - 15.00	

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METHOD : SPECTROPHOTOMETRY URIC ACID, SERUM			
URIC ACID METHOD : SPECTROPHOTOMETRY	5.2	3.5 - 7.2	mg/dL
TOTAL PROTEIN, SERUM			
TOTAL PROTEIN METHOD : SPECTROPHOTOMETRY	8.3 High	6.4 - 8.2	g/dL
ALBUMIN, SERUM			
ALBUMIN METHOD : SPECTROPHOTOMETRY	4.2	3.4 - 5.0	g/dL
GLOBULIN			
	4.1	20 41	a /dl

GLOBULIN	4.1	2.0 - 4.1	g/dL
METHOD : CALCULATED PARAMETER			
ELECTROLYTES (NA/K/CL), SERUM			
SODIUM, SERUM	138	136 - 145	mmol/L
METHOD : ION SELECTIVE ELECTRODE TECHNOLOGY			
POTASSIUM, SERUM	4.9	3.50 - 5.10	mmol/L
METHOD : ION SELECTIVE ELECTRODE TECHNOLOGY			
	104	98 - 107	mmol/L
METHOD : ION SELECTIVE ELECTRODE TECHNOLOGY			

# Interpretation(s)

Sodium	Potassium	Chloride
Decreased in:CCF, cirrhosis, vomiting, diarrhea, excessive sweating, salt-losing nephropathy, adrenal insufficiency, nephrotic syndrome, water intoxication, SIADH. Drugs: thiazides, diuretics, ACE inhibitors, chlorpropamide, carbamazepine, anti depressants (SSRI), antipsychotics.	Decreased in: Low potassium intake, prolonged vomiting or diarrhea, RTA types I and II, hyperaldosteronism, Cushing's syndrome, osmotic diuresis (e.g., hyperglycemia), alkalosis, familial periodic paralysis, trauma (transient). Drugs: Adrenergic agents, diuretics.	Decreased In: Vomiting, diarrhea, renal failure combined with salt deprivation, over-treatment with diuretics, chronic respiratory acidosis, diabetic ketoacidosis, excessive sweating, SIADH, salt-losing nephropathy, porphyria, expansion of extracellular fluid volume, adrenalinsufficiency, hyperaldosteronism, metabolic alkalosis. Drugs: chronic laxative, corticosteroids, diuretics.

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Increased in: Dehydration	Increased in: Massive hemolysis,	Increased in: Renal failure, nephrotic
(excessivesweating, severe	severe tissue damage, rhabdomyolysis,	syndrome, RTA, dehydration,
vomiting or diarrhea), diabetes	acidosis, dehydration, renal failure,	overtreatment with
mellitus, diabetesinsipidus,	Addison's disease, RTA type IV,	saline, hyperparathyroidism, diabetes
hyperaldosteronism, inadequate	hyperkalemic familial periodic	insipidus, metabolic acidosis from
water intake. Drugs: steroids,	paralysis. Drugs: potassium salts,	diarrhea (Loss of HCO3-), respiratory
licorice, oral contraceptives.	potassium- sparing diuretics,NSAIDs,	alkalosis, hyperadrenocorticism.
	beta-blockers, ACE inhibitors, high-	Drugs: acetazolamide, and rogens,
	dose trimethoprim-sulfamethoxazole.	hydrochlorothiazide, salicylates.
Interferences: Severe lipemia or	Interferences: Hemolysis of sample,	Interferences:Test is helpful in
hyperproteinemi, if sodium analysis	delayed separation of serum,	assessing normal and increased anion
involves a dilution step can cause	prolonged fist clenching during blood	gap metabolic acidosis and in
spurious results. The serum sodium	drawing, and prolonged tourniquet	distinguishing hypercalcemia due to
falls about 1.6 mEq/L for each 100	placement. Very high WBC/PLT counts	hyperparathyroidism (high serum
mg/dL increase in blood glucose.	may cause spurious. Plasma potassium	chloride) from that due to malignancy
	levels are normal.	(Normal serum chloride)

## Interpretation(s)

GLUCOSE FASTING, FLUORIDE PLASMA-TEST DESCRIPTION

Normally, the glucose concentration in extracellular fluid is closely regulated so that a source of energy is readily available to tissues and sothat no glucose is excreted in the urine.

Increased in: Diabetes mellitus, Cushing's syndrome (10 - 15%), chronic pancreatitis (30%). Drugs: corticosteroids, phenytoin, estrogen, thiazides

Decreased in Pancreatic islet cell disease with increased insulin, insulinoma, adrenocortical insufficiency, hypopituitarism, diffuse liver disease malignancy(adrenocortical,stomach,fibrosarcoma),infant of a diabetic mother,enzyme deficiency diseases(e.g.galactosemia),Drugs-insulin,ethanol,propranolol sulfonylureas,tolbutamide,and other oral hypoglycemic agents.

NOTE: While random serum glucose levels correlate with home glucose monitoring results (weekly mean capillary glucose values), there is wide fluctuation within individuals. Thus, glycosylated hemoglobin (HbA1c) levels are favored to monitor glycemic control.

High fasting glucose level in comparison to post prandial glucose level may be seen due to effect of Oral Hypoglycaemics & Insulin treatment, Renal Glyosuria, Glycaemic index & response to food consumed, Alimentary Hypoglycemia, Increased insulin response & sensitivity etc.

GLUCOSE, POST-PRANDIAL, PLASMA-High fasting glucose level in comparison to post prandial glucose level may be seen due to effect of Oral Hypoglycaemics & Insulin treatment, Renal Glyosuria, Glycaemic index & response to food consumed, Alimentary Hypoglycemia, Increased insulin response & sensitivity etc.Additional test HbA1c LIVER FUNCTION PROFILE, SERUM-

Bilirubin is a yellowish pigment found in bile and is a breakdown product of normal heme catabolism. Bilirubin is excreted in bile and urine, and elevated levels may give yellow discoloration in jaundice. Elevated levels results from increased bilirubin production (eg, hemolysis and ineffective erythropoiesis), decreased bilirubin excretion (eg, (indirect) bilirubin in Viral hepatitis), and abnormal bilirubin metabolism (eg, hereditary and neonatal jaundice). Conjugated (direct) bilirubin is elevated more than unconjugated (indirect) bilirubin in Viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin is viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin is viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin is also elevated more than unconjugated (indirect) bilirubin is viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin is viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin viral hepatitis, Drug reactions, Alcoholic liver disease Conjugated (direct) bilirubin v there is some kind of blockage of the bile ducts like in Gallstones getting into the bile ducts, tumors & Scarring of the bile ducts. Increased unconjugated (indirect) bilirubin may be a result of Hemolytic or pernicious anemia, Transfusion reaction & a common metabolic condition termed Gilbert syndrome, due to low levels of the enzyme that attaches sugar molecules to bilirubin.

AST is an enzyme found in various parts of the body. AST is found in the liver, heart, skeletal muscle, kidneys, brain, and red blood cells, and it is commonly measured clinically as a marker for liver health. AST levels increase during chronic viral hepatitis, blockage of the bile duct, cirrhosis of the liver, liver cancer, kidney failure, hemolytic anemia, pancreatitis, hemochromatosis. AST levels may also increase after a heart attack or strenuous activity. ALT test measures the amount of this enzyme in the blood.ALT is found mainly in the liver, but also in smaller amounts in the kidneys, heart, muscles, and pancreas. It is commonly measured as a part of a diagnostic evaluation of hepatocellular injury, to determine liver health.AST levels increase during acute hepatitis, sometimes due to a viral infection, ischemia to the liver, chronic hepatitis, obstruction of bile ducts, cirrhosis.

ALP is a protein found in almost all body tissues. Tissues with higher amounts of ALP include the liver bile ducts and bone. Elevated ALP levels are seen in Biliary obstruction. Osteoblastic bone tumors, osteomalacia, hepatitis, Hyperparathyroidism, Leukemia, Lymphoma, Pagets disease,Rickets,Sarcoidosis etc. Lower-than-normal ALP levels seen

in Hypophosphatasia, Malnutrition, Protein deficiency, Wilsons disease. GGT is an enzyme found in cell membranes of many tissues mainly in the liver, kidney and pancreas. It is also found in other tissues including intestine, spleen, heart, brain and seminal vesicles. The highest concentration is in the kidney, but the liver is considered the source of normal enzyme activity. Serum GGT has been widely used as an index of liver dysfunction. Elevated serum GGT activity can be found in diseases of the liver, biliary system and pancreas. Conditions that increase serum GGT are obstructive liver disease, high alcohol consumption and use of enzyme-inducing drugs etc.

Total Protein also known as total protein, is a biochemical test for measuring the total amount of protein in serum. Protein in the plasma is made up of albumin and globulin. Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma, Waldenstroms disease.Lower-than-normal levels may be due to: Agammaglobulinemia,Bleeding (hemorrhage),Burns,Glomerulonephritis,Liver disease, Malabsorption,Malnutrition,Nephrotic syndrome, Protein-losing enteropathy etc.

Albumin is the most abundant protein in human blood plasma. It is produced in the liver. Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by:Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy, Burns, hemodilution, increased vascular

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PATIENT NAME: BHAWANI SINGH 290018	<b>REF. DOCTOR :</b>	DR. BOB PKG
ARCOFEMI HEALTHCARE LTD (MEDIWHEEL F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI	ACCESSION NO : <b>0061WL001631</b> PATIENT ID : BHAWM23129161 CLIENT PATIENT ID: ABHA NO :	AGE/SEX :32 Years Male DRAWN : RECEIVED :23/12/2023 12:56:48 REPORTED :28/12/2023 11:14:57
Test Report Status Final	Results Biological	Reference Interval Units

permeability or decreased lymphatic clearance, malnutrition and wasting etc

BLOOD UREA NITROGEN (BUN), SERUM-Causes of Increased levels include Pre renal (High protein diet, Increased protein catabolism, GI haemorrhage, Cortisol, Dehydration, CHF Renal), Renal Failure, Post Renal (Malignancy, Nephrolithiasis, Prostatism) Causes of decreased level include Liver disease, SIADH.

CREATININE, SERUM-Higher than normal level may be due to: Blockage in the urinary tract, Kidney problems, such as kidney damage or failure, infection, or reduced blood flow, Loss of body fluid (dehydration), Muscle problems, such as breakdown of muscle fibers, Problems during pregnancy, such as seizures (eclampsia)), or high blood pressure caused by pregnancy (preeclampsia) Lower than normal level may be due to:• Myasthenia Gravis, Muscuophy

URIC ACID, SERUM-Causes of Increased levels-Dietary(High Protein Intake,Prolonged Fasting,Rapid weight loss),Gout,Lesch nyhan syndrome,Type 2 DM,Metabolic syndrome Causes of decreased levels-Low Zinc intake,OCP,Multiple Sclerosis TOTAL PROTEIN, SERUM-is a biochemical test for measuring the total amount of protein in serum.Protein in the plasma is made up of albumin and globulin.

Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma, Waldenstroms disease. Lower-than-normal levels may be due to: Agammaglobulinemia, Bleeding (hemorrhage), Burns, Glomerulonephritis, Liver disease, Malabsorption, Malnutrition, Nephrotic

syndrome, Protein-losing enteropathy etc. ALBUMIN, SERUM-Human serum albumin is the most abundant protein in human blood plasma. It is produced in the liver. Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by: Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy, Burns, hemodilution, increased vascular permeability or decreased lymphatic clearance,malnutrition and wasting etc.

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PATIENT NAME : BHAWANI SINGH 290018	<b>REF. DOCTOR</b> : D	R. BOB PKG
CODE/NAME & ADDRESS : C000138375	ACCESSION NO : 0061WL001631	AGE/SEX : 32 Years Male
	PATIENT ID : BHAWM23129161	DRAWN :
F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI	CLIENT PATIENT ID:	RECEIVED : 23/12/2023 12:56:48
NEW DELHI 110030	ABHA NO :	REPORTED :28/12/2023 11:14:57
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Test	Report	Status	<u>Final</u>
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**Biological Reference Interval** Units

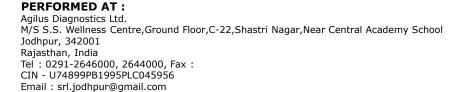
CLINICAL PATH - URINALYSIS					
MEDI WHEEL FULL BODY HEALTH CHECK UP ABOVE 40 MALE					
PHYSICAL EXAMINATION, URINE					
COLOR	PALE YELLOW				
APPEARANCE	CLEAR				
CHEMICAL EXAMINATION, URINE					
PH	5.5	4.7 - 7.5			
SPECIFIC GRAVITY	1.010	1.003 - 1.035			
PROTEIN	NOT DETECTED	NOT DETECTED			
GLUCOSE	NOT DETECTED	NOT DETECTED			
KETONES	NOT DETECTED	NOT DETECTED			
BLOOD	NOT DETECTED	NOT DETECTED			
BILIRUBIN	NOT DETECTED	NOT DETECTED			
UROBILINOGEN	NORMAL	NORMAL			
NITRITE	NOT DETECTED	NOT DETECTED			
LEUKOCYTE ESTERASE	NOT DETECTED	NOT DETECTED			
MICROSCOPIC EXAMINATION, URINE					
RED BLOOD CELLS	NOT DETECTED	NOT DETECTED	/HPF		
PUS CELL (WBC'S)	1-2	0-5	/HPF		
EPITHELIAL CELLS	1-2	0-5	/HPF		
CASTS	NOT DETECTED				
CRYSTALS	NOT DETECTED				
BACTERIA	DETECTED (OCCASIONAL)	NOT DETECTED			
METHOD : MICROSCOPIC EXAMINATION					
YEAST NOT DETECTED NOT DETECTED					
Interpretation(s)					

## Interpretation(s)

The following table describes the probable conditions, in which the analytes are present in urine

Presence of	Conditions	
Proteins	Inflammation or immune illnesses	

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PATIENT NAME: BHAWANI SINGH 290018	REF. DOCTOR : DR. BOB PKG			
	ACCESSION NO : 0061WL001631	AGE/SEX : 32 Years Male		
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DELHI		RECEIVED : 23/12/2023 12:56:48		
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**Biological Reference Interval** Units

Pus (White Blood Cells)	Urinary tract infection, urinary tract or kidney stone, tumors or any kind	
	of kidney impairment	
Glucose	Diabetes or kidney disease	
Ketones	Diabetic ketoacidosis (DKA), starvation or thirst	
Urobilinogen	Liver disease such as hepatitis or cirrhosis	
Blood	Renal or genital disorders/trauma	
Bilirubin	Liver disease	
Erythrocytes	Urological diseases (e.g. kidney and bladder cancer, urolithiasis), urinary tract infection and glomerular diseases	
Leukocytes	Urinary tract infection, glomerulonephritis, interstitial nephritis either acute or chronic, polycystic kidney disease, urolithiasis, contamination by genital secretions	
Epithelial cells	Urolithiasis, bladder carcinoma or hydronephrosis, ureteric stents or bladder catheters for prolonged periods of time	
Granular Casts	Low intratubular pH, high urine osmolality and sodium concentration, interaction with Bence-Jones protein	
Hyaline casts	Physical stress, fever, dehydration, acute congestive heart failure, renal diseases	
Calcium oxalate	Metabolic stone disease, primary or secondary hyperoxaluria, intravenous infusion of large doses of vitamin C, the use of vasodilator naftidrofuryl oxalate or the gastrointestinal lipase inhibitor orlistat, ingestion of ethylene glycol or of star fruit (Averrhoa carambola) or its juice	
Uric acid	arthritis	
Bacteria	Urinary infectionwhen present in significant numbers & with pus cells.	
Trichomonas vaginalis	Vaginitis, cervicitis or salpingitis	

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#### **Test Report Status Final**

**Biological Reference Interval** Units

SPECIALISED CHEMISTRY - HORMONE				
MEDI WHEEL FULL BODY HEALTH CHECK UP ABOVE 40 MALE				
THYROID PANEL, SERUM				
ТЗ	87.79	80.0 - 200.0	ng/dL	
T4	5.45	5.10 - 14.10	µg/dL	
TSH (ULTRASENSITIVE)	>100.000 High	0.270 - 4.200	µIU/mL	
Interpretation(s)				

Triiodothyronine T3 , Thyroxine T4, and Thyroid Stimulating Hormone TSH are thyroid hormones which affect almost every physiological process in the body, including growth, development, metabolism, body temperature, and heart rate.

Production of T3 and its prohormone thyroxine (T4) is activated by thyroid-stimulating hormone (TSH), which is released from the pituitary gland. Elevated concentrations of T3, and T4 in the blood inhibit the production of TSH.

Excessive secretion of thyroxine in the body is hyperthyroidism, and deficient secretion is called hypothyroidism.

In primary hypothyroidism, TSH levels are significantly elevated, while in secondary and tertiary hyperthyroidism, TSH levels are low. Below mentioned are the guidelines for Pregnancy related reference ranges for Total T4, TSH & Total T3.Measurement of the serum TT3 level is a more sensitive test for the diagnosis of hyperthyroidism, and measurement of TT4 is more useful in the diagnosis of hypothyroidism. Most of the thyroid hormone in blood is bound to transport proteins. Only a very small fraction of the circulating hormone is free and biologically active. It is advisable to detect Free T3, FreeT4 along with TSH, instead of testing for albumin bound Total T3, Total T4.

Sr. No.	TSH	Total T4	FT4	Total T3	Possible Conditions	
1	High	Low	Low	Low	(1) Primary Hypothyroidism (2) Chronic autoimmune Thyroiditis (3)	
	-				Post Thyroidectomy (4) Post Radio-Iodine treatment	
2	High	Normal	Normal	Normal	(1)Subclinical Hypothyroidism (2) Patient with insufficient thyroid	
					hormone replacement therapy (3) In cases of Autoimmune/Hashimoto	
					thyroiditis (4). Isolated increase in TSH levels can be due to Subclinical	
					inflammation, drugs like amphetamines, Iodine containing drug and	
					dopamine antagonist e.g. domperidone and other physiological reasons.	
3	Normal/Low	Low	Low	Low	(1) Secondary and Tertiary Hypothyroidism	
4	Low	High	High	High	(1) Primary Hyperthyroidism (Graves Disease) (2) Multinodular Goitre	
					(3)Toxic Nodular Goitre (4) Thyroiditis (5) Over treatment of thyroid	
					hormone (6) Drug effect e.g. Glucocorticoids, dopamine, T4	
					replacement therapy (7) First trimester of Pregnancy	
5	Low	Normal	Normal	Normal	(1) Subclinical Hyperthyroidism	
6	High	High	High	High	(1) TSH secreting pituitary adenoma (2) TRH secreting tumor	
7	Low	Low	Low	Low	(1) Central Hypothyroidism (2) Euthyroid sick syndrome (3) Recent	
					treatment for Hyperthyroidism	
8	Normal/Low	Normal	Normal	High	(1) T3 thyrotoxicosis (2) Non-Thyroidal illness	
9	Low	High	High	Normal	(1) T4 Ingestion (2) Thyroiditis (3) Interfering Anti TPO antibodies	

REF: 1. TIETZ Fundamentals of Clinical chemistry 2.Guidlines of the American Thyroid association duriing pregnancy and Postpartum, 2011.

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CODE/NAME & ADDRESS : C000138375 ARCOFEMI HEALTHCARE LTD (MEDIWHEEL F-703, LADO SARAI, MEHRAULISOUTH WEST DELHI NEW DELHI 110030 8800465156	ACCESSION NO : <b>0061WL001631</b> PATIENT ID : BHAWM23129161 CLIENT PATIENT ID: ABHA NO :	AGE/SEX :32 Years Male DRAWN : RECEIVED :23/12/2023 12:56:48 REPORTED :28/12/2023 11:14:57		
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NOTE: It is advisable to detect Free T3, FreeT4 along with TSH, instead of testing for albumin bound Total T3, Total T4.TSH is not affected by variation in thyroid - binding protein. TSH has a diurnal rhythm, with peaks at 2:00 - 4:00 a.m. And troughs at 5:00 - 6:00 p.m. With ultradian variations.

\*\*End Of Report\*\* Please visit www.agilusdiagnostics.com for related Test Information for this accession

## **CONDITIONS OF LABORATORY TESTING & REPORTING**

- It is presumed that the test sample belongs to the patient named or identified in the test requisition form.
  All tests are performed and reported as per the turnaround time stated in the AGILUS Directory of Services.
  Result delays could occur due to unforeseen circumstances such as non-availability of kits / equipment breakdown / natural calamities / technical downtime or any other unforeseen event.
  A requested test might not be performed if:
  - i. Specimen received is insufficient or inappropriate
  - ii. Specimen quality is unsatisfactory
  - iii. Incorrect specimen type
  - iv. Discrepancy between identification on specimen container label and test requisition form

5. AGILUS Diagnostics confirms that all tests have been performed or assayed with highest quality standards, clinical safety & technical integrity.

6. Laboratory results should not be interpreted in isolation; it must be correlated with clinical information and be interpreted by registered medical practitioners only to determine final diagnosis.

7. Test results may vary based on time of collection, physiological condition of the patient, current medication or nutritional and dietary changes. Please consult your doctor or call us for any clarification.

8. Test results cannot be used for Medico legal purposes.
9. In case of queries please call customer care

(91115 91115) within 48 hours of the report.

## Agilus Diagnostics Ltd

Fortis Hospital, Sector 62, Phase VIII, Mohali 160062



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