

Visit ID : MHIS14178

UHID/MR No : AHIS.0000014155

**Patient Name** : Mrs.HIMANSHI NAGPAL

: Dr.SELF

: 48 Y 0 M 0 D /F Age/Gender

Ref Doctor

Client Name : AAYUSHMAN PATH LAB Collected Reported : 02/April/2025 05:19AM : 02/April/2025 09:05AM

Status : Final Report

Client Code : 6689

Barcode No : A6009588

### **DEPARTMENT OF BIOCHEMISTRY**

#### **SWASTH 2 PACKAGE HSF**

Test Name	Result	Unit	Bio. Ref. Range
TRANSFERRIN SATURATION %			
Sample Type : Serum			
TRANSFERRIN SATURATION	5.8	%	16-50

## **INTERPRETATION:**

- Low Values in iron deficiency- High Values in iron overload
  - Raised transferrin saturation is an early indicator of Iron accumulation in Genetre Haemochromatosis.

# RHEUMATOID FACTOR TEST (QUANTITATIVE)

Sample Type: SERUM

RHEUMATOID FACTOR TEST	7.5	IU/ml	<14
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# INTERPRETATION:

- The test for Rheumatoid factor is positive only in about 80% patients with Rheumatoid arthritis.
- It has occasionally been found false positive with sera of patients with Hepatitis, Sarcoidosis, Cirrhosis of liver, Syphilis, Systemic lupus erythologies, Cirrhosis of liver, Syphilis, Cirrhosis of Sjogrens syndrome, as well as acute bacterial and viral infections. It is almost always absent in case of Rheumatic fever.
- The test does not provide definite diagnosis of Rheumatoid arthritis and therefore it should only be used with complete clinical evaluation.

## LIVER FUNCTION TEST

Sample Type: SERUM

TOTAL BILIRUBIN	0.3	mg/dl	0.3-1.2
CONJUGATED ( D. Bilirubin)	0.11	mg/dl	0.00-0.30
UNCONJUGATED ( I.D. Bilirubin)	0.19	mg/dl	0.10-1.00
TOTAL PROTEINS	7.77	g/dl	5.7-8.2 g/dl
ALBUMIN	4.22	gm/dl	3.5-5.0





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CHERT NAME : AAYUSHMAN PATH LAB			
GLOBULIN	3.55	gm/dl	2.0-4.1
A/G RATIO	1.19		1.0-2.0
SGOT	21	U/L	<34
SGPT	29	U/L	10.0-35.0
GGT	53	U/L	<38 U/L
ALKALINE PHOSPHATASE	114	U/L	30-120

# DEPARTMENT OF BIOCHEMISTRY

# SWASTH 2 PACKAGE HSR

Test Name	Result	Unit	Bio. Ref. Range
LIPID PROFILE			
Sample Type : SERUM			
TOTAL CHOLESTEROL	213	mg/dl	Low-risk levels (desirable)~ <200~Moderate-risk levels~ (borderline) 200-239~High-risk levels ≥ 240
H D L CHOLESTEROL	31.3	mg/dl	40-60
L D L CHOLESTEROL	106.1	mg/dl	70-106~Above Optimal : 100- 129~Borderline High : 130- 159~High : 160-189~Very High : >=190
TRIGLYCERIDES	378	mg/dl	Adult Serum ~Normal:<150 ~BorderLine high:150-199 ~High : 200-499 ~Very High:>=500
VLDL	75.60	mg/dl	15-30
NON HDL CHOLESTEROL	181.7	mg/dl	Desirable: <130~BorderLine : 150-199~High : 200-499~Very High : >=500
T. CHOLESTEROL/ HDL RATIO	6.81		



LDL / HDL RATIO

3.39



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C-REACTIVE PROTEIN (CRP)

Sample Type: SERUM

C-REACTIVE PROTEIN 32.83 mg/L 0 - 5

#### **INTERPRETATION:**

CRP is one of the proteins commonly referred to as acute phase reactants. CRP is distinguished by its rapid response to trauma or infection. CRP levelies episode. Measurement of CRP aids in evaluation of the amount of injury to body tissues.

Barcode No

#### **Increased In:**

Acute inflammation, Rheumatoid arthritis, lupus, Cardiovascular disease, atherosclerosis, Oral contraceptives, Inflammatory bowel disease, Giant ce Pregnancy.

#### Decreased In:

Patients treated with carboxypenicillins, Liver failure

	ι	DEPARTMENT OF BIOCHEMI	STRY	
SWASTH 2 PACKAGE HSF				
Test Name	Result	Unit	Bio. Ref. Range	
PLASMA GLUCOSE - FASTING				
Sample Type : FLOURIDE PLASMA				
Plasma Glucose Fasting	402	mg/dl	60-110	





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# **INTERPRETATION:**

# **Increased In**

- Diabetes Mellitus
- Stress (e.g., emotion, burns, shock, anesthesia)
- Acute pancreatitis
- Chronic pancreatitis
- Wernicke encephalopathy (vitamin B1 deficiency)
- Effect of drugs (e.g. corticosteroids, estrogens, alcohol, phenytoin, thiazides)

#### **Decreased In**

- Pancreatic disorders
- Extrapancreatic tumors
- Endocrine disorders
- Malnutrition
- Hypothalamic lesions
- Alcoholism
- Endocrine disorders

Note: Test result can vary as per the timing of sample collection, duration of fasting, timing between collection and testing, timing of meal and type collection of sample etc. Test results needs to be correlated clinically.

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	DEPAR	RTMENT OF BIOCHEMISTRY		
	SV	WASTH 2 PACKAGE HSF		
Test Name	Result	Unit	Bio. Ref. Range	e
SERUM IRON LEVELS				
Sample Type : Serum				
SERUM IRON LEVELS	24.00	ug/dl	60-170	-





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#### **INTERPRETATION:**

Serum iron test is used in differential diagnosis of anaemia and diagnosis of acute iron toxicity especially in children.

#### **INCREASED IN:**

- -Hemosiderosis of excessive iron intake (e.g. repeated blood transfusion, iron therapy, iron containing vitamins).
- -Decreased formation of RBCs (thalassemia, pyridoxal deficiency anaemia) -Increased destruction of RBCs (hemolytic anaemia).
- -Acute liver damage
- -Progesteronal birth control pills & pregnancy
- -Premenstrual elevation -Acute iron toxicity

#### **DECREASED IN:**

- -Iron deficiency anaemia
- -Normochromic anaemia of infections & chronic diseases
- Nephrosis
- -Menstruation
- -Diurnal variation: Normal in mid morning, low values in mid afternoon, and very low values near midnight.

#### **TIBC UIBC IRON TEST**

### Sample Type: Serum

SERUM IRON LEVELS	24.00	ug/dl	60-170
TOTAL IRON BINDING CAPACITY	407	ugm/dl	250-425
UIBC	383.00	ugm/dL	130 - 336

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## INTERPRETATION:

TIBC is used for differential diagnosis of anemi

# INCREASED IN:

- -Iron deficiency anemia
- -Acute & Chronic blood loss
- -Acute liver damage
- -Progesterone birth control pills

#### DECREASED IN:

- -Hemochromatosis
- -Cirrhosis of the liver
- -Thalassemia
- -Anemia of infective & chronic disease -Nephrosis







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**DEPARTMENT OF HAEMATO .OGY** 

SWASTH 2 PACKAGE HSF				
Test Name	Result	Unit	Bio. Ref. Range	
СВС				
Sample Type : WHOLE BLOOD EDTA				
HAEMOGLOBIN (HB)	10.1	gm/dl	12.00-15.00	
PCV/HAEMATOCRIT	32.2	%	40-50	
MCV	61.7	fL	80-100	
MCH	19.3	pg	27-32	
МСНС	31.3	g/dl	32-36	
PLATELET COUNT	2.4	lac/mm3	1.50 - 4.50	
RBC COUNT(RED BLOOD CELL COUNT)	5.22	million/cmm	3.8 - 5.8	
TOTAL LEUCOCYTE COUNT (TLC)	8,500	cell/cmm	4000-10000	
DLC (by VCS Technology/Microscopy)				
NEUTROPHIL	68.00	%	40-75	
LYMPHOCYTE	21.00	%	20-40	
EOSINOPHIL	1.00	%	01-07	
MONOCYTE	10.00	%	2-10	
BASOPHIL	0.00	%	00-02	
RDW-CV	21.7	%	11.5-14.5	
RDW-SD	47.3	fL	39-46	
MPV	8.6	fL	8.60-15.50	
PCT	0.207	%	0.15-0.62	
ABSOLUTE NEUTROPHIL COUNT	5.80	x10^3 Cells/uL	1.5-7.8	
ABSOLUTE LYMPHOCYTE COUNT	1.70	x10^3 Cells/uL	2.0-3.9	
ABSOLUTE EOSINOPHIL COUNT	0.10	x10^3 Cells/uL	0.2-0.5	
ABSOLUTE MONOCYTE COUNT	0.80	x10^3 Cells/uL	0.2-0.95	





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x10^3 Cells/uL 0.02-0.2 ABSOLUTE BASOPHIL COUNT 0.00

**ERYTHROCYTE SEDIMENTATION RATE** 

Sample Type: WHOLE BLOOD EDTA

**ERYTHROCYTE SEDIMENTATION RATE** 26 mm/1st hr 1-12

COMMENTS: ESR is an acute phase reactant that indicates the presence and intensity of an inflammatory process. It is never diagnostic of a specific disease. It is used diseases. Extremely high levels are found in cases of malignancy, hematologic diseases, collagen disorders, and renal diseases. • Increased levels may indicate: Chronic re (e.g., nephritis, nephrosis), malignant diseases (e.g., multiple myeloma, Hodgkin disease, advanced Carcinomas), bacterial infections (e.g., abdominal infections, acute pel diseases (e.g. temporal arteritis, polymyalgia rheumatic, rheumatoid arthritis, rheumatic fever, systemic lupus erythematosus [SLE]), necrotic diseases (e.g., acute myocar diseases associated with increased proteins (e.g., hyperfibrinogenemia, macroglobulinemia), and severe anemias (e.g., iron deficiency or B12 deficiency). Falsely decreased levels may indicate Sickle cell anemia, spherocytosis, hypofibrinogenemia, or polycythemia vera.

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### **DEPARTMENT OF HAEMATO .OGY**

# **SWASTH 2 PACKAGE HSF**

Test Name	Result	Unit	Bio. Ref. Range
HBA1C			
Sample Type : WHOLE BLOOD EDTA			
HBA1c	10.5	%	Normal Glucose tolerance (nondiabetic): <5.7%~Pre-diabetic: 5.7-6.4%~Diabetic Mellitus: >6.5%
ESTIMATED AVG. GLUCOSE	255.8	mg/dl	







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#### **COMMENTS**

HbA1c provides an index of average blood glucose levels over the past 8 - 12 weeks and is a much better indicator of long term glycemic control as control

As per American Diabetes Association (ADA)	
Reference Group	Hba1c in %
Non diabetic adults >=18 years	< 5.7
At risk (Prediabetes)	5.7 - 6.4
Diagnosing Diabetes	>= 6.5
Therapeutic goals for glycemic control	Age > 19 years Goal of therapy: < 7.0 Action suggested: > 8.0 Age < 19 Years - Goal of therapy: < 7.5

#### **INCREASED IN**

- 1. Chronic renal failure with or without hemodialysis.
- 2. Iron deficiecy anemia. Increased serum triglycerides.
- 3. Alcohol.
- 4. Salicylate treatment.

### **DECREASED IN**

- 1. Shortened RBC life span (hemolytic anemia, blood loss), Pregnancy.
- 2. Ingestion of large amounts (>1g/day) of vitamin C or E.
- 3. Hemoglobinopathies (e.g.: spherocytes) produce variable increase or decrease.
- 4. Results of %HbA1c are not reliable in patients with chronic blood loss and consequent variable erythrocyte life span. Note:
- 1. Since HbA1c reflects long term fluctuations in the blood glucose concentration, a diabetic patient who is recently undergood control may still for a diabetic previously under good control but now poorly controlled.
- 2. Target goals of < 7.0 % may be beneficial in patients with short duration of diabetes, long life expectancy and nosignificant cardiovascular d diabetes, limited life expectancy or extensive co-morbid conditions, targeting a goal of < 7.0 % may not be appropriat.

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# DEPARTMENT OF HORMONE \SSAYS

#### SWASTH 2 PACKAGE HSF

Test Name	Result	Unit	Bio. Ref. Range
THYROID PROFILE (T3,T4,TSH)			
Sample Type : SERUM			
ТЗ	0.66	ng/mL	0.60-1.81
Т4	6.4	ug/dl	3.2-12.6
TSH	1.347	ulU/mL	0.55-4.78





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### INTERPRETATION:

- Serum T3, T4 and TSH are the measurements form three components of thyroid screening panel and are useful indiagnosing various disorde
- Primary hyperthyroidism is accompanied by elevated serum T3 and T4 values along with depressed TSH levels. 2.
- 3. Primary hypothyroidism is accompanied by depressed serum T3 and T4 values and elevated serum TSH levels.
- Normal T4 levels accompanied by high T3 levels are seen in patients with T3 thyrotoxicosis. Slightly elevated T3 levelsmay be found in pregi 4. may be encountered in severe illness, malnutrition, renal failure and during therapy with drugs like propanolol and propylthiouracil.
  - Although elevated TSH levels are nearly always indicative of primary hypothyroidism, rarely they can result from TSH secreting pituitary tum
- 6. Low levels of Thyroid hormones (T3, T4 & FT3, FT4) are seen in cases of primary, secondary and tertiary hypothyroidismand sometimes in r
- Increased levels are found in Grave's disease, hyperthyroidism and thyroid hormone resistance. 7.
- 8. TSH levels are raised in primary hypothyroidism and are low in hyperthyroidism and secondary hypothyroidism.
- **REFERENCE RANGE:**

PREGNANCY	TSH in uIU/mL
1st Trimester	0.60 - 3.40
2nd Trimester	0.37 - 3.60
3rd Trimester	0.38 - 4.04

Age	TSH in uIU/mL
0 – 4 Days	1.00 - 39.00
2 Weeks to 5 Months	1.70 - 9.10
6 Months to 20 Yrs.	0.70 - 6.40
>55 Yrs.	0.50 - 8.90

### ( References range recommended by the American Thyroid Association) Comments:

- 1. During pregnancy, Free thyroid profile (FT3, FT4 & Ultra-TSH) is recommended.
- 2. TSH levels are subject to circadian variation, reaches peak levels between 2-4 AM and at a minimum between 6-10 PM. The variation of the day has influence on the measured serum TSH concentrations.





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# DEPARTMENT OF HORMONE \SSAYS

### **SWASTH 2 PACKAGE HSF**

SWASTII Z FACIAGE IISI			
Test Name	Result	Unit	Bio. Ref. Range
25 HYDROXY VITAMIN D			
Sample Type : SERUM			
VITAMIN D	39.6	ng/ml	30-100





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### **INTERPRETATION:**

LEVEL	REFERENCE RANGE (Adult	REFERENCE RANGE (Pediatric
Deficiency	< 20 ng/ml	<15 ng/ml
Insufficienc	20-30 ng/ml	15-20 ng/ml
Sufficiency	30-100 ng/ml	20-100 ng/ml
Toxicity	> 100 ng/ml	> 100 ng/ml

#### **DECREASED LEVELS:**

- -Deficiency in children causes Rickets and in adults leads to Osteomalacia. It can also lead to Hypocalcemia and Tetany.
- -Inadequate exposure to sunlight.
- -Dietary deficiency.
- -Vitamin D malabsorption.
- -Severe Hepatocellular disease.
- -Drugs like Anticonvulsants.
- -Nephrotic syndrome.

### **INCREASED LEVELS:**

-Vitamin D intoxication.

# **COMMENTS:**

- -Vitamin D (Cholecalciferol) promotes absorption of calcium and phosphorus and mineralization of bones and teeth. Vitamin D status is best D, as it is the major circulating form and has longer half life (2-3 weeks) than 1, 25 Dihydroxy vitamin D (5-8 hrs).
- -The assay measures D3 (Cholecaciferol) metabolites of vitamin D.
- -25 (OH) D is influenced by sunlight, latitude, skin pigmentation, sunscreen use and hepatic function.
- -Optimal calcium absorption requires vitamin D 25 (OH) levels exceeding 75 nmol/L.
- -It shows seasonal variation, with values being 40-50% lower in winter than in summer.
- -Levels vary with age and are increased in pregnancy.
- This is the recommended test for evaluation of vitamin D intoxication

-This is the recommended test for eva	aluation of vitamin D in	itoxication.	
	DEPART	TMENT OF HORMONE (SSAYS	
	S	SWASTH 2 PACKAGE HSF	
Test Name	Result	Unit	Bio. Ref. Range
VITAMIN B12			
Sample Type : SERUM			



VITAMIN B12	> 2000	pg/mL	187-883 pg/mL
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#### **COMMENTS:**

Results may differ between laboratories due to variation in population and test method. Vitamin B12 is implicated in the formation of myelin, and most prominent source of B12 for humans is meat while untreated fresh water can also be a source.

Megaloblastic anaemia has been found to be due to B12 deficiency, a major cause being Pernicious anemia due to poor B12 uptake resulting in below B12 levels include iron deficiency anemia, pregnancy, vegetarianism, partial gastrectomy, ileal damage, oral contraceptives, parasitic infestations, parage. The correlation of serum B12 levels and Megaloblastic anemia however is not always clear - some patients with high MCV may have normal B12 not have megaloblastic anemia. Disorders renal failure, liver diseases and myeloproliferative diseases may have elevated vitamin B12 levels.

#### LIMITATIONS:

For diagnostic purposes, the B12 results should be used in conjunction with other data; e.g.; symptoms results of other testing, clinical impressions, If the B12 level is inconsistent with clinical evidence, additional testing is suggested to confirm the result.

# **HBa1c Reports**

Sample Id: A6009588 Sample Processed Date: 23/01/202025 / 07:30

\*\*\* End Of Report \*\*\*

Dr. Kanika Yadav MBBS, DCP; MD [Path] Consultant Pathologist Reg. No. - 011681

**Dr. Anjali Kwatra** MBBS; DCP; DNB Consultant Pathologist

Peak Name	Retention	Absorbance	Area	Result
	Time(s)			(Area %)
Hba1a	10.7	34	1450	1.50
Hba1b	13.6	39	2312	2.40
HbF	19.1	35	632	0.65
La1c	25.5	56	5723	5.95
HbA1c	37.7	72	10130	10.54
UnKnown	60.5	11.02	10591	11.02
HbA0	66.6	1446	68155	70.95



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