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**Dr. Yugam Chopra**  
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<b>NAME</b>	: Mr. HARNEK SINGH	<b>PATIENT ID</b>	: 1812704
<b>AGE/ GENDER</b>	: 44 YRS/MALE	<b>REG. NO./LAB NO.</b>	: 012503310065
<b>COLLECTED BY</b>	: SURJESH	<b>REGISTRATION DATE</b>	: 31/Mar/2025 02:55 PM
<b>REFERRED BY</b>	: LOOMBA HOSPITAL (AMBALA CANTT)	<b>COLLECTION DATE</b>	: 31/Mar/2025 02:56PM
<b>BARCODE NO.</b>	: 01528098	<b>REPORTING DATE</b>	: 31/Mar/2025 03:09PM
<b>CLIENT CODE.</b>	: KOS DIAGNOSTIC LAB		
<b>CLIENT ADDRESS</b>	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval
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## HAEMATOLOGY

### HAEMOGLOBIN (HB)

HAEMOGLOBIN (HB)	14.7	gm/dL	12.0 - 17.0
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by CALORIMETRIC

#### INTERPRETATION:-

Hemoglobin is the protein molecule in red blood cells that carries oxygen from the lungs to the body's tissues and returns carbon dioxide from the tissues back to the lungs.

A low hemoglobin level is referred to as ANEMIA or low red blood count.

#### ANEMIA (DECREASED HAEMOGLOBIN):

- 1) Loss of blood (traumatic injury, surgery, bleeding, colon cancer or stomach ulcer)
- 2) Nutritional deficiency (iron, vitamin B12, folate)
- 3) Bone marrow problems (replacement of bone marrow by cancer)
- 4) Suppression by red blood cell synthesis by chemotherapy drugs
- 5) Kidney failure
- 6) Abnormal hemoglobin structure (sickle cell anemia or thalassemia).

#### POLYCYTHEMIA (INCREASED HAEMOGLOBIN):

- 1) People in higher altitudes (Physiological)
- 2) Smoking (Secondary Polycythemia)
- 3) Dehydration produces a falsely rise in hemoglobin due to increased haemoconcentration
- 4) Advanced lung disease (for example, emphysema)
- 5) Certain tumors
- 6) A disorder of the bone marrow known as polycythemia rubra vera,
- 7) Abuse of the drug erythropoietin (Epogen) by athletes for blood doping purposes (increasing the amount of oxygen available to the body by chemically raising the production of red blood cells).

**NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD**



  
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### BLOOD GROUP (ABO) AND RH FACTOR TYPING

ABO GROUP  
 by SLIDE AGGLUTINATION  
 RH FACTOR TYPE  
 by SLIDE AGGLUTINATION

O  
 POSITIVE



  
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### GLYCOSYLATED HAEMOGLOBIN (HBA1C)

GLYCOSYLATED HAEMOGLOBIN (HbA1c):	5.3	%	4.0 - 6.4
WHOLE BLOOD			
by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)			
ESTIMATED AVERAGE PLASMA GLUCOSE	105.41	mg/dL	60.00 - 140.00
by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)			

#### INTERPRETATION:

AS PER AMERICAN DIABETES ASSOCIATION (ADA):	
REFERENCE GROUP	GLYCOSYLATED HEMOGLOBIN (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
	Goals of Therapy: < 7.0
	Actions Suggested: >8.0
	Age < 19 Years
	Goal of therapy: <7.5

#### COMMENTS:

- Glycosylated hemoglobin (HbA1c) test is three monthly monitoring done to assess compliance with therapeutic regimen in diabetic patients.
- Since Hb1c reflects long term fluctuations in blood glucose concentration, a diabetic patient who has recently under good control may still have high concentration of HbA1c. Converse is true for a diabetic previously under good control but now poorly controlled.
- Target goals of < 7.0 % may be beneficial in patients with short duration of diabetes, long life expectancy and no significant cardiovascular disease. In patients with significant complications of diabetes, limited life expectancy or extensive co-morbid conditions, targeting a goal of < 7.0% may not be appropriate.
- High HbA1c (>9.0 -9.5 %) is strongly associated with risk of development and rapid progression of microvascular and nerve complications
- Any condition that shorten RBC life span like acute blood loss, hemolytic anemia falsely lower HbA1c results.
- HbA1c results from patients with HbSS, HbSC and HbD must be interpreted with caution, given the pathological processes including anemia, increased red cell turnover, and transfusion requirement that adversely impact HbA1c as a marker of long-term glycemic control.
- Specimens from patients with polycythemia or post-splenectomy may exhibit increase in HbA1c values due to a somewhat longer life span of the red cells.





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### IMMUNOPATHOLOGY/SEROLOGY

#### HEPATITIS C VIRUS (HCV) ANTIBODY: TOTAL

HEPATITIS C ANTIBODY (HCV) TOTAL: SERUM	0.08	S/CO	NEGATIVE: < 1.00
by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)			POSITIVE: > 1.00

HEPATITIS C ANTIBODY (HCV) TOTAL  
 RESULT NON - REACTIVE

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### INTERPRETATION:-

RESULT (INDEX)	REMARKS
< 1.00	NON - REACTIVE/NOT - DETECTED
> =1.00	REACTIVE/ASYMPTOMATIC/INFECTIVE STATE/CARRIER STATE.

Hepatitis C (HCV) is an RNA virus of Favivirus group transmitted via blood transfusions, transplantation, injection drug abusers, accidental needle punctures in healthcare workers, dialysis patients and rarely from mother to infant. 10 % of new cases show sexual transmission. As compared to HAV & HBV , chronic infection with HCV occurs in 85 % of infected individuals. In high risk population, the predictive value of Anti HCV for HCV infection is > 99% whereas in low risk populations it is only 25 %.

#### USES:

- Indicator of past or present infection, but does not differentiate between Acute/ Chronic/Resolved Infection.
- Routine screening of low and high prevalence population including blood donors.

#### NOTE:

- False positive results are seen in Auto-immune disease, Rheumatoid Factor, HYpergammaglobulinemia, Paraproteinemia, Passive antibody transfer, Anti-idiotypes and Anti-superoxide dismutase.
- False negative results are seen in early Acute infection, Immunosuppression and Immuno— incompetence.
- HCV-RNA PCR recommended in all reactive results to differentiate between past and present infection.





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**ANTI HUMAN IMMUNODEFICIENCY VIRUS (HIV) DUO ULTRA WITH (P-24 ANTIGEN DETECTION)**

HIV 1/2 AND P24 ANTIGEN: SERUM	0.18	S/CO	NEGATIVE: < 1.00
by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)			

HIV 1/2 AND P24 ANTIGEN RESULT	NON - REACTIVE
by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)	

**INTERPRETATION:-**

RESULT (INDEX)	REMARKS
< 1.00	NON - REACTIVE
> = 1.00	PROVISIONALLY REACTIVE

Non-Reactive result implies that antibodies to HIV 1/ 2 have not been detected in the sample . This means that patient has either not been exposed to HIV 1/ 2 infection or the sample has been tested during the "window phase" i.e. before the development of detectable levels of antibodies. Hence a Non Reactive result does not exclude the possibility of exposure or infection with HIV 1/ 2.

**RECOMMENDATIONS:**

1. Results to be clinically correlated
2. Rarely falsenegativity/positivity may occur.



*[Signature]*

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### HEPATITIS B SURFACE ANTIGEN (HBsAg) ULTRA

HEPATITIS B SURFACE ANTIGEN (HBsAg):	0.21	S/CO	NEGATIVE: < 1.0
SERUM			POSITIVE: > 1.0

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

HEPATITIS B SURFACE ANTIGEN (HBsAg) NON REACTIVE

RESULT  
by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### INTERPRETATION:

RESULT IN INDEX VALUE	REMARKS
< 1.30	NEGATIVE (-ve)
>=1.30	POSITIVE (+ve)

Hepatitis B Virus (HBV) is a member of the Hepadna virus family causing infection of the liver with extremely variable clinical features. Hepatitis B is transmitted primarily by body fluids especially serum and also spread effectively sexually and from mother to baby. In most individuals HBV hepatitis is self limiting, but 1-2 % normal adolescent and adults develop Chronic Hepatitis. Frequency of chronic HBV infection is 5-10% in immunocompromised patients and 80 % neonates. The initial serological marker of acute infection is HBsAg which typically appears 2-3 months after infection and disappears 12-20 weeks after onset of symptoms. Persistence of HBsAg for more than 6 months indicates carrier state or Chronic Liver disease.



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### VDRL

VDRL	NON REACTIVE	NON REACTIVE
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by IMMUNOCHROMATOGRAPHY

#### INTERPRETATION:

- Does not become positive until 7 - 10 days after appearance of chancre.
- High titer (>1:16) - active disease.**
- Low titer (<1:8) - biological falsepositive test in 90% cases or due to late or late latent syphilis.**
- Treatment of primary syphilis causes progressive decline tonegative VDRL within 2 years.
- Rising titer (4X) indicates relapse, reinfection, or treatment failure and need for retreatment.
- May benonreactive in early primary, late latent, and late syphilis (approx. 25% ofcases).
- Reactive and weakly reactive tests should always be confirmedwith FTA-ABS (fluorescent treponemal antibody absorptiontest).**

#### SHORTTERM FALSE POSITIVE TEST RESULTS (<6 MONTHS DURATION) MAY OCCURIN:

- Acute viral illnesses (e.g., hepatitis, measles, infectious mononucleosis)
- M. pneumoniae; Chlamydia; Malaria infection.
- Some immunizations
- Pregnancy (rare)

#### LONGTERM FALSE POSITIVE TEST RESULTS (>6 MONTHS DURATION) MAY OCCUR IN:

- Serious underlying disease e.g., collagen vascular diseases, leprosy ,malignancy.
- Intravenous drug users.
- Rheumatoid arthritis, thyroiditis, AIDS, Sjogren's syndrome.
- <10 % of patients older thanage 70 years.
- Patients taking some anti-hypertensive drugs.

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





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