

Patient Name : [REDACTED]  
Lab Ref : [REDACTED]  
Age/Sex/DOB : 27 / M / 1995-[REDACTED]  
ID Num. : [REDACTED]  
Contact Nos : [REDACTED]  
Email : [REDACTED]

**Lab Name** : ██████████  
**Dr. Ref No.** : ████████████████████  
**Spec No.** : ████████████████  
**Collection Date** : 08/03/22 0940  
**Receive Date** : 08/03/22 0946  
**Report Date** : 08/03/22 2159

## Report for Doctor Patient Referral

**Other Doctors**  
Submit Dr : Patient Referral

**Tests:** S-GGT, S-UA, LIPOGRAM, VITAMIN D 25, HBA1C (EDTA SAMPLE), THY PROF.NO Ab, FT3, THY AB, E2, TESTO, DHEA-S, FSH, LH, PSA, CORT, FBC

# Biochemistry

## LIVER FUNCTION TESTS

<b>S-g-GLUTAMYL TRANSFERASE</b>	<b>16 U/L</b>	<b>0</b>	<b>-</b>	<b>64</b>
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## LIPID PROFILE

S-CHOLESTEROL	5.4 mmol/L	H	< 5.0
S-LDL CHOLESTEROL	3.9 mmol/L	H	< 3.0
S-HDL CHOLESTEROL	1.1 mmol/L		> 1.0
S-NON HDL CHOLESTEROL	4.3 mmol/L	H	< 3.8
S-CHOL./HDL RATIO	4.9	H	< 4.1
S-TRIGLYCERIDE	0.9 mmol/L		< 1.7

**COMMENT:**

Interpretive Comments:

Current T-Chol of 5.4 mmol/L and LDL-C of 3.9 mmol/L are above treatment goals irrespective of CVD risk category.

Recommendation:

## Treatment Goals For T-Chol and LDL-C Are Based On CVD Risk Classification

Low Risk:	Targets are: Total Chol <5.0 mmol/L and LDL-C <3.0 mmol/L
Moderate Risk:	Targets are: Total Chol <4.5 mmol/L and LDL-C <2.6 mmol/L
High Risk:*	Targets are: Total Chol <4.0 mmol/L and LDL-C <1.8 mmol/L
Very High Risk:*	Targets are: LDL-C <1.4 mmol/L and 50% reduction from baseline

\* For patients at High Risk and Very High Risk for CVD a 50% reduction in LDL-C from baseline and an LDL-C goal of < 1.8 mmol/L and < 1.4 mmol/L respectively are recommended.

### References:

South African Dyslipidaemia Guidelines Consensus Statement: SAMJ (2012)  
2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification  
to reduce cardiovascular risk: European Heart Journal (2020)

S-URIC ACID	0.41 mmol/L	0.21	-	0.42
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## Biochemistry

## GLUCOSE METABOLISM

HBA1C (NGSP/DCCT), blood	4.9 %	4.0	-	5.6
HBA1C-IFCC (MMOL/MOL)	30 mmol/mol	20	-	38
Estimated Average Glucose	5.2 mmol/L			

**COMMENT:**

Normal HbA1c.

## Reference Values for HbA1c

HbA1c-DCCT:	4.0 to 5.6%
HbA1c-IFCC:	20 to 38 mmol/mol

Please Note: HbA1c may be unreliable in the presence of anaemia and/or haemoglobinopathy.



### Endocrinology

#### MINERAL AND BONE METABOLISM

VITAMIN D 25 88 ng/mL

.....		
:	25 OH Vitamin D Classification	:
:	-----	:
:	< 12 ng/mL                      Deficiency	:
:	12 to 20 ng/mL                Insufficiency	:
:	> 20 ng/mL                    Sufficiency	:
:	Reference: South African Clinical Guideline for the	:
:	diagnosis and management of Osteoporosis: 2017	:
.....		

**COMMENT:**  
 High 25-hydroxy vitamin D concentration noted. May be associated with replacement therapy.

### Haematology

#### FULL BLOOD COUNT

ERYTHROCYTE COUNT		5.68 x10^12/L	4.5	-	6.5
HAEMOGLOBIN		16.4 g/dL	13.8	-	18.8
HAEMATOCRIT		0.50 L/L	0.40	-	0.56
MCV		87.3 fL	79	-	100
MCH		28.9 pg	27	-	35
MCHC		33.1 g/dL	32	-	36
RDW		12.6 %	11.0	-	16.0
LEUCOCYTE COUNT		5.09 x 10^9/L	4.0	-	12.0
Neutrophils	49.8%	2.54 x 10^9/L	2.0	-	7.5
Lymphocytes	40.5%	2.06 x 10^9/L	1.0	-	4.0
Monocytes	7.5%	0.38 x 10^9/L	0.2	-	1.0
Eosinophils	1.6%	0.08 x 10^9/L	0.0	-	0.5
Basophils	0.6%	0.03 x 10^9/L	0.0	-	0.3
NEUTRO/LYMPH RATIO(NLR)		1.23			
PLATELETS		275 x 10^9/L	150	-	450

**COMMENT:**  
 Normal red cell indices,  
 Absolute leucocyte values are normal,  
 Platelets are adequate.

### Endocrinology

#### TUMOUR MARKERS

S-PSA		1.57 ng/mL	0.0	-	4.0
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:	:PSA should be used in combination with digital rectal examination and				:
:	:transrectal ultra- sonography for screening/diagnosis of prostate Ca.				:
:	:.....				

**COMMENT:**  
 In asymptomatic patients PSA may be repeated after 2-5 yrs. PSA levels may be < 4 ng/mL in 20-25% of patients with localised prostatic tumour.

#### THYROID

S-TSH		1.84 uIU/mL	0.35	-	4.94
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<b>S-FT3</b>	<b>4.3 pmol/L</b>	<b>2.6</b>	<b>-</b>	<b>5.4</b>
<b>S-FT4 (Abbott)</b>	<b>12.8 pmol/L</b>	<b>9.0</b>	<b>-</b>	<b>19.0</b>
<b>Anti-TG Antibody</b>	<b>2.0 IU/mL</b>		<b>&lt; 4.11</b>	
<b>Anti-TPO Antibody</b>	<b>&lt; 0.16 IU/mL</b>		<b>&lt; 5.61</b>	

### COMMENT:

The thyroid results indicate euthyroidism. Thyroid antibodies are normal.

<b>S-17b-OESTRADIOL (E2)</b>	<b>124 pmol/L</b>	<b>40</b>	<b>-</b>	<b>161</b>
<b>TESTOSTERONE (TOTAL)</b>	<b>23.3 nmol/L</b>			

The following guidelines have been recommended by the International Society of Andrology:

### Total testosterone:

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- >12 nmol/L : probably does not require therapy
- <8 nmol/L : may benefit from testosterone therapy
- 8-12 nmol/L : If symptomatic and supported by a decreased calculated free testosterone level, may benefit from testosterone therapy.

It is recommended that testosterone measurement be repeated between 0700 and 1100hrs in assessment of clinical hypogonadism.

<b>SEX HOR. BINDING GLOBULIN</b>	<b>34.70 nmol/L</b>	<b>11.1</b>	<b>-</b>	<b>78.1</b>
<b>FREE TESTOSTERONE</b>	<b>501 pmol/L</b>	<b>180</b>	<b>-</b>	<b>739</b>

Free testosterone is calculated based on constants for the binding of testosterone to sex hormone binding globulin and albumin as described by Vermeulen et al.

The 95 % reference range in men older than 18 years is 180 to 739 pmol/L.

In men free testosterone below 180 pmol/L indicate hypogonadism and testosterone supplementation may be appropriate after exclusion of alternative causes. Free testosterone above 250 pmol/L is commonly regarded as normal. Free testosterone values between 180 and 250 pmol/L may provide supportive evidence for treatment dependent on clinical symptoms.

<b>DHEA-S</b>	<b>2.7 umol/L</b>	<b>L 4.6</b>	<b>-</b>	<b>16.1</b>
<b>S-FOLLITROPIN (FSH)</b>	<b>4.1 U/L</b>			

.....				
:	FSH REFERENCE RANGES			:
:	-----			:
:	FOLLICULAR PHASE.....			:
:	3.0	-	8.1 U/L	:
:	MIDCYCLE.....			:
:	2.6	-	16.7 U/L	:
:	LUTEAL.....			:
:	1.4	-	5.5 U/L	:
:	POST MENOPAUSAL.....			:
:	26.7	-	133.4 U/L	:
:	ADULT MALE.(13 - 70 YRS).....			:
:	1.0	-	12.0 U/L	:
:	.....			:

<b>S-LUTROPIN (LH)</b>	<b>4.3 U/L</b>	<b>0.6</b>	<b>-</b>	<b>12.7</b>
<b>S-CORTISOL</b>	<b>282 nmol/l</b>			

### CORTISOL REFERENCE RANGES (nmol/l)

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:	.....			:
:	AM	:	PM	:
:	.....			:
:	101 - 535	:	79 - 477	:
:	.....			: