THE NAIROBI HOSPITAL

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THE NAIROBI HOSPITAL

BIOCHEMISTRY

Encounter Number: 122311064043

ISO 15189:2012 Accredited

Lab Report #:	4542752	**Facility:** WARWICK	
Voucher No:	WAOPB11102361/23	**Ward:** OPD	
Patient:	NICHOLAS MUTHUI GAKUU	**UHID:** 1000752134	
Age:	50 years	**Prof/Dr:** A&E Doctor	
Gender:	Male	**Date Collected:** 06-Nov-2023 15:14	
Sample No:	WA03301427 (3301427)	**Date Received:** 06-Nov-2023 16:12	
Sample:	Plasma	**Date Reported:** 06-Nov-2023 16:16	

Test	Result	Units	Reference Range	Status
Calcium	2.36	mmol/L	2.10 - 2.55	N
Uric Acid	314.0	µmol/L	210 - 420	N

Note:

Uric acid measurements are useful in aiding the diagnosis and treatment of gout, renal failure, and a variety of other disorders including leukemia, psoriasis, starvation, and other wasting conditions. Patients receiving cytotoxic drugs may be monitored with uric acid measurements. An increased uric acid level does not necessarily translate to a diagnosis of gout. Only a minority of individuals with hyperuricemia develop gout. The therapeutic goal for uric acid-lowering therapy is to promote crystal dissolution and prevent crystal formation. This is achieved by maintaining a uric acid level <357umol/L.

Reference

2012 American College of Rheumatology guidelines for management of gout. Part 1: systematic nonpharmacologic and pharmacologic therapeutic approaches to hyperuricemia. Arthritis care & research. 2012 Oct.

Liver Profile

Total Bilirubin	9.8	µmol/L	3.4 - 20.5	N
Direct Bilirubin	3.6	µmol/L	0 - 8.6	N
Alanine Transaminase	16.4	U/L	0 - 45	N
Aspartate Transferase	19.6	U/L	5 - 34	N
Alkaline Phosphatase	76.0	U/L	53 - 128	N
Gamma-Glutamyl Transferase	34.0	U/L	12 - 64	N
Total Protein	67.7	g/L	64 - 83	N
Albumin	42.7	g/L	34 - 54	N
Globulin	25	g/L	12 - 39	N

U/E/C

Sodium	137.6	mmol/L	135 - 145	N
Potassium	3.7	mmol/L	3.5 - 5.1	N
Chloride	101.9	mmol/L	98 - 118	N
Urea	4.0	mmol/L	2.5 - 6.4	N
Creatinine	88.0	µmol/L	27 - 119	N
eGFR	≥90	mL/min/1.73 m²		

The eGFR calculation is based on CKD-EPI equation and is applicable for persons ≥ 18 years only. Take note of the change in formula.

GFR Categories in CKD

GFR Category	GFR (ml/min/1.73m²)	Terms
G1	>90	Normal or high
G2	60 - 89	Mildly decreased *
G3a	45 - 59	Mildly to moderately decreased
G3b	30 - 44	Moderately to severely decreased
G4	15 - 29	Severely decreased
G5	0 - 15	Kidney failure

Abbreviations: CKD, chronic kidney disease; GFR, glomerular filtration rate. *Relative to young adult level. In the absence of evidence of kidney damage, neither GFR category G1 nor G2 fulfill the criteria for CKD. Ref: Akbari et al .Am J Kidney Dis. 2015;65(3):177-205

Result Indicator Legend: L = Low N = Normal H = High CL = Critical Low CH = Critical High

Report Authorized by The Nairobi Hospital Laboratory

For information concerning this report call ext: 6711

Print Date & Time: 6-Nov-23; 21:13:15

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Age:	50 years	**Prof/Dr:**	A&E Doctor
Gender:	Male	**Date Collected:**	06-Nov-2023 15:14

THE NAIROBI HOSPITAL
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ARGWINGS KODHEK ROAD

Reviewed by: Francis Awino Owuor
Lab Technologist

Date: 11/6/2023 4:16:22PM

Approved by: Dr. Rahul R Zode
MBBS MD Pathology
Chief Pathologist

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THE NAIROBI HOSPITAL

SPECIAL CHEMISTRY

Encounter Number: 122311064043

ISO 15189:2012 Accredited

Lab Report #:		**Facility:** SPECIAL_CHEM	
Voucher No:	WAOPB11102361/23	**Ward:** OPD	
Patient:	NICHOLAS MUTHUI GAKUU	**UHID:** 1000752134	
Age:	50 years	**Prof/Dr:** A&E Doctor	
Gender:	Male	**Date Collected:** 06-Nov-2023 15:15	
Sample No:	WA03301430 (3301430)	**Date Received:** 06-Nov-2023 16:12	
Sample:	Serum	**Date Reported:** 06-Nov-2023 21:10	

Test	Result	Units	Reference Range	Status
Vitamin D	**71.1**	nmol/L	75 - 200	**L**

Vitamin D level (nmol/ L)	Remark
<50	Deficient
50 - 74	Insufficient
>75	Optimum
>200	Possibility of toxicity

25-hydroxyvitamin D [25(OH)D)] is a prohormone that represents the main reservoir and transport form of vitamin D, being stored in adipose tissue and tightly bound by a transport protein while in circulation.

1-α-hydroxylation of 25(OH)D occurs on demand, primarily in the kidneys, under the control of parathyroid hormone (PTH), resulting in the biologically active 1,25-dihydroxyvitamin D. As such, circulating 25(OH)D) represents the best indicator of optimal vitamin D body stores.

Population reference ranges for 25(OH)D vary widely depending on ethnic background, age, geographic location of the studied populations, and the sampling season.

Africans and African-Americans have been shown to have lower levels of 25(OH)D compared to Caucasians, despite corresponding higher bone mineral density and lower risk of fragility fractures. This paradox has been linked to polymorphisms of the Vitamin D Binding protein in Africans & African Americans.

References

Holick MF et al. Evaluation, treatment, and prevention of vitamin D deficiency: An Endocrine Society clinical practice guideline. The Journal of Clinical Endocrinology & Metabolism. 2011

Powe CE et al. Vitamin D-binding protein and vitamin D status of black Americans and white Americans. New England Journal of

Thyroid Function Test

FT3	3.5	pmol/L	3.1 - 6.8	N
Note: Kindly refer to the platform specific reference ranges indicated.				
FT4	16.1	pmol/L	12 - 22	N
Note: Kindly refer to the platform specific reference ranges indicated.				
TSH	1.17	mIU/L	0.27 - 4.20	N

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SPECIAL CHEMISTRY

Encounter Number: 122311064043

Lab Report #:		**Facility:**	SPECIAL_CHEM
Voucher No:	WAOPB11102361/23	**Ward:**	OPD
Patient:	NICHOLAS MUTHUI GAKUU	**UHID:**	1000752134
Age:	50 years	**Prof/Dr:**	A&E Doctor
Gender:	Male	**Date Collected:**	06-Nov-2023 15:15
Sample No:	WA03301430 (3301430)	**Date Received:**	06-Nov-2023 16:12
Sample:	Serum	**Date Reported:**	06-Nov-2023 21:10

Test	Result	Units	Reference Range	Status

TSH is the most sensitive marker of thyroid status and is recommended for screening together with Free T4. Total T4 (TT4) and Total T3 (TT3) are no longer recommended because they are affected by alterations in thyroid hormone binding proteins. Increased TT4 with normal FT4 may be found in pregnancy and oestrogen therapy. Low TT4 with normal FT4 may be found in androgen therapy, nephrotic syndrome and liver disease. Common patterns of thyroid hormone values:

TSH	FT4	FT3	Probable diagnosis	Comment/Additional Tests
Low	High	High	Thyrotoxicosis	Anti-thyroid antibodies
High	Low	Low	Primary hypothyroidism	Anti-thyroid antibodies
Low	Low	Low	Secondary hypothyroidism	Anterior pituitary hormones to exclude pan-hypopituitarism
Low/Normal	Normal	Low	Non-thyroidal illness (Sick euthyroid)	Caused by severe illness
Low	Normal	Normal	Subclinical hyperthyroidism or on treatment for thyroid disease	Follow-up of TSH and FT4
High	Normal	Normal	Subclinical hypothyroidism or on treatment for thyroid disease	Follow-up of TSH and FT4

Note:

Kindly refer to the platform specific reference ranges indicated.

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Chief Pathologist

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THE NAIROBI HOSPITAL

HAEMATOLOGY

Encounter Number: 122311064043

ISO 15189:2012 Accredited

Lab Report #:	4542571	**Facility:** WARWICK	
Voucher No:	WAOPB11102361/23	**Ward:** OPD	
Patient:	NICHOLAS MUTHUI GAKUU	**UHID:** 1000752134	
Age:	50 years	**Prof/Dr:** A&E Doctor	
Gender:	Male	**Date Collected:** 06-Nov-2023 15:15	
Sample No:	WA03301431 (3301431)	**Date Received:** 06-Nov-2023 15:31	
Sample:	Whole blood	**Date Reported:** 06-Nov-2023 15:38	

Test	Result	Units	Reference Range	Status
Full Blood Count & ESR				
Hemoglobin	14.3	g/dL	13.0 - 18	N
HCT	44.0	%	39 - 52	N
RBC	4.58	10^12/L	4.5 - 6.5	N
MCV	96.1	fL	77 - 99	N
MCH	31.3	pg	27 - 32	N
MCHC	32.5	g/dL	32 - 36	N
RDW-CV	12.9	%	11.5 - 14.1	N
WBC	6.72	10^9/L	4 - 11	N
Neutrophil %	58.9	%	40 - 75	N
Lymphocyte %	30.9	%	20 - 45	N
Monocyte %	9.0	%	2 - 10	N
Eosinophil %	1.1	%	1 - 6	N
Basophil %	0.1	%	0 - 1	N
Neutrophil	3.94	10^3/UL	2 - 7	N
Lymphocyte	2.07	10^3/UL	1 - 3	N
Monocyte	0.61	10^3/UL	0.2 - 1	N
Absolute Eosinophil Count	0.07	10^3/UL	0.02 - 0.5	N
Basophil	**0.01**	10^3/UL	0.02 - 0.1	**L**
Platelets	**90**	mm³	150 - 450	**L**
Erythrocyte Sedimentation Rate				
ESR	1	mm/h	0 - 22	N

THE NAIROBI HOSPITAL P. O. Box 30026 – 00100 NAIROBI Tel: 2845600 ARGWINGS KODHEK ROAD

Reviewed by: Dominic Obare
Lab Technologist

Date: 11/6/2023 3:38:22PM

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THE NAIROBI HOSPITAL

BIOCHEMISTRY

Encounter Number: 122311064043

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Lab Report #:	4543255	**Facility:**	WARWICK
Voucher No:	WAOPB11102361/23	**Ward:**	OPD
Patient:	NICHOLAS MUTHUI GAKUU	**UHID:**	1000752134
Age:	50 years	**Prof/Dr:**	A&E Doctor
Gender:	Male	**Date Collected:**	06-Nov-2023 15:16
Sample No:	WA03301436 (3301436)	**Date Received:**	06-Nov-2023 17:27
Sample:	Whole blood	**Date Reported:**	06-Nov-2023 18:02

Test	Result	Units	Reference Range	Status
Glyco HB/HBA1c	5.0	%	4 - 6	N
Estimated Average Glucose	5.4	mmol/L		

Note:

Interpretive comment

Glycemic targets in adults with Diabetes mellitus

i. A HbA1c target of < 7% in most non-pregnant adults is reasonable

ii. A more stringent target of HbA1c <6.5% may be utilized for selected patients in whom this can be achieved without significant hypoglycemia or other adverse effects of treatment

iii. A less stringent target of HbA1c <8% may be appropriate for patients with a history of severe hypoglycemia, limited life expectancy, advanced microvascular/ macrovascular complications, extensive comorbid conditions, or long-standing diabetes in whom control is difficult to achieve.

iv. HbA1c testing should be done at least twice a year for those with stable glycemic control. Testing should be done quarterly for those patients whose therapy has changed or who are not meeting glycemic targets

Glycemic target in pediatric patients with Diabetes mellitus

A target of HbA1c <7.5% is recommended across all pediatric age-groups.

HbA1c for Diagnosis of Diabetes mellitus

i. HbA1c ≥ 6.5% is diagnostic for Diabetes mellitus *(In the absence of unequivocal hyperglycemia, results should be confirmed by repeat testing)*

ii. HbA1c 5.7-6.4% is associated with increased risk of Diabetes mellitus

Reference

American Diabetes Association. Standards of medical care in diabetes-2017

Estimated Average Glucose: The estimated Average Glucose is applicable to diabetic patients in stable control and without disorders which affect erythrocyte lifespan. The eAG formula is not applicable if HBA1c is above 14.0 %. The eAG calculation is referenced from Diabetes Care 31:1-6, 2008.

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Date: 11/6/2023 6:02:56PM

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