

LAST NAME	FIRST NAME	GENDER	DATE OF BIRTH	ACCESSION ID	DATE OF SERVICE
MICHAEL	BRANDON	MALE	1989-04-11	2007220277	08-03-2020 10:30

Anemia	Current	Reference Range	Previous
Ferritin (ng/mL)	211	30~400	132 (06/27/2020)
Iron (ug/dL)	142	59~158	90 (06/27/2020)
UIBC (µg/dL)	142	112~347	207 (06/27/2020)
TIBC (µg/dL)	284	171~505	297 (07/07/2020)
Transferrin (mg/dL)	238	203~362	241 (06/27/2020)
Transferrin Saturation (%)	50	15~50	30 (07/07/2020)

Nutrition	Current	Reference Range	Previous
Folate (ng/mL)	7.1	≥4.6	11.1 (06/27/2020)
Vitamin D, 25-OH* (ng/mL)	<b>13.1 L</b>	30.0~108.0	<b>&lt;7.6 L (06/27/2020)</b>
Vitamin B12 (pg/mL)	800	232~1245	559 (06/27/2020)

#### Comments

Likely vitamin D deficiency. Consider increasing vitamin D intake (e.g., adequate sun exposure and diet supplementation).

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Lipids	Test name	In Control	Moderate	High Risk	In Control Range	Moderate Range	High Risk Range	Previous
	Cholesterol, Total (mg/dL)	182			≤199	200~240	≥241	149 06/27/2020
	LDL Calculation (mg/dL)		116		≤99	100~129	≥130	86 07/07/2020
	HDL Direct (mg/dL)		52		≥56	35~55	≤34	49 06/27/2020
	Triglyceride (mg/dL)	70			≤149	150~200	≥201	68 06/27/2020

### Comments

Follow NCEP: ATPIII guidelines. Dietary strategies to consider include adequate intake of monounsaturated fats and omega-3 fatty acids, moderate alcohol intake, reduction of total carbohydrate to less than 50% of calories, emphasis on low glycemic-load foods and reduction of fructose, weight loss and regular exercise.

Inflammation	Test name	In Control	Moderate	High Risk	In Control Range	Moderate Range	High Risk Range	Previous
	PLAC (nmol/min/mL)	191			≤224		≥225	138 06/27/2020
	Homocysteine (μmol/L)	9			≤9	10~14	≥15	8 06/27/2020
	hs-CRP (mg/L)	0.6			≤0.9	1.0~3.0	≥3.1	0.5 06/27/2020
	ox-LDL* (U/L)			>137.0	≤60.0	60.1~70.0	≥70.1	26.8 07/02/2020
	MPO* (pmol/L)	<227.9			≤599.9	600.0~2999.9	≥3000.0	331.1 06/27/2020

### Comments

Increased oxidized LDL levels are associated with abdominal obesity and high triglyceride levels, as well as high blood glucose.

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Comprehensive Metabolic Panel	Current	Reference Range	Previous
Sodium (mmol/L)	141	136~145	141 (06/27/2020)
Potassium (mmol/L)	4.0	3.5~5.1	3.9 (06/27/2020)
Chloride (mmol/L)	99	98~107	100 (06/27/2020)
Carbon Dioxide (mmol/L)	22	18~29	25 (06/27/2020)
Glucose(Renal) (mg/dL)	79	70~100	88 (06/27/2020)
BUN (mg/dL)	<b>21 H</b>	6~20	<b>21 H (06/27/2020)</b>
Creatinine (mg/dL)	1.20	0.70~1.20	0.96 (06/27/2020)
eGFR (mL/min/1.73m <sup>2</sup> )	80	≥60	>90 (07/07/2020)
eGFR(African-American) (mL/min/1.73m <sup>2</sup> )	>90	≥60	>90 (07/07/2020)
BUN/Creatinine Ratio	18	10~20	<b>22 H (07/07/2020)</b>
Calcium (mg/dL)	9.7	8.9~10.6	9.5 (06/27/2020)
Albumin (g/dL)	<b>5.3 H</b>	3.5~5.2	5.2 (06/27/2020)
ALT (U/L)	24	≤41	<b>113 H (06/27/2020)</b>
AST (U/L)	26	≤40	<b>272 H (06/27/2020)</b>
Bili, Total (mg/dL)	0.7	≤1.2	0.2 (06/27/2020)
Protein, Total (g/dL)	7.1	6.2~8.0	6.6 (06/27/2020)
Alkaline Phosphatase (U/L)	55	40~129	51 (06/27/2020)

### Labnotes

eGFR :- The eGFR is calculated from the Creatinine result and varies by patient gender, age and race. If patient is African-American, the eGFR(African-American) value is applicable.

Hepatic Function Panel	Current	Reference Range	Previous
ALT (U/L)	24	≤41	<b>113 H (06/27/2020)</b>
AST (U/L)	26	≤40	<b>272 H (06/27/2020)</b>
Alkaline Phosphatase (U/L)	55	40~129	51 (06/27/2020)
Albumin (g/dL)	<b>5.3 H</b>	3.5~5.2	5.2 (06/27/2020)
Bili, Total (mg/dL)	0.7	≤1.2	0.2 (06/27/2020)
Bili, Direct (mg/dL)	<0.2	≤0.3	<0.2 (06/27/2020)
Protein, Total (g/dL)	7.1	6.2~8.0	6.6 (06/27/2020)

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Renal Function Panel	Current	Reference Range	Previous
Sodium (mmol/L)	141	136~145	141 (06/27/2020)
Chloride (mmol/L)	99	98~107	100 (06/27/2020)
Potassium (mmol/L)	4.0	3.5~5.1	3.9 (06/27/2020)
Carbon Dioxide (mmol/L)	22	18~29	25 (06/27/2020)
Creatinine (mg/dL)	1.20	0.70~1.20	0.96 (06/27/2020)
eGFR (mL/min/1.73m <sup>2</sup> )	80	≥60	>90 (07/07/2020)
eGFR(African-American) (mL/min/1.73m <sup>2</sup> )	>90	≥60	>90 (07/07/2020)
BUN (mg/dL)	<b>21 H</b>	6~20	<b>21 H (06/27/2020)</b>
BUN/Creatinine Ratio	18	10~20	<b>22 H (07/07/2020)</b>
Calcium (mg/dL)	9.7	8.9~10.6	9.5 (06/27/2020)
Glucose(Renal) (mg/dL)	79	70~100	88 (06/27/2020)
Phosphate, Inorganic (mg/dL)	4.1	2.5~4.5	4.5 (06/27/2020)
Albumin (g/dL)	<b>5.3 H</b>	3.5~5.2	5.2 (06/27/2020)

### Labnotes

eGFR :- The eGFR is calculated from the Creatinine result and varies by patient gender, age and race. If patient is African-American, the eGFR(African-American) value is applicable.

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Thyroid	Current	Reference Range	Previous
T3 - Triiodothyronine (ng/mL)	<b>0.6 L</b>	0.8~2.0	0.8 (06/27/2020)
T4 - Thyroxine (µg/dL)	5.7	4.5~9.8	5.1 (06/27/2020)
Free T3 (pg/mL)	2.0	2.0~4.4	3.1 (06/27/2020)
Free T4 (ng/dL)	1.2	0.9~1.7	1.1 (06/27/2020)
TSH (µIU/mL)	1.710	0.111~4.910	2.400 (06/27/2020)
Anti-TPO (IU/mL)	9	≤34	7 (06/27/2020)
Reverse T3* (ng/dL)	20	7~23	11 (06/30/2020)
Anti-TG (IU/mL)	11.3	≤115.0	11.9 (06/27/2020)

#### Labnotes

Anti-TG :- Anti-Tg: The testing method used is an electrochemiluminescence immunoassay "ECLIA" performed on cobas e immunoassay analyzers. The measured anti-Tg value can vary depending on the testing procedure used. Anti-Tg values determined on patient samples by different testing procedures cannot be directly compared with one another and could be the cause of erroneous medical interpretations.

Hormones	Current	Reference Range	Previous
Estradiol (pg/mL)	<b>&lt;5.0 L</b>	25.8~60.7	<b>16.2 L (06/27/2020)</b>
FSH (mIU/mL)	5.6	1.5~12.4	5.1 (06/27/2020)
DHEA-S (µg/dL)	282.6	160.0~449.0	381.7 (06/27/2020)
LH (mIU/mL)	7.1	1.7~8.6	5.8 (06/27/2020)
SHBG (nmol/L)	<b>61.3 H</b>	16.5~55.9	45.4 (06/27/2020)
Cortisol (µg/dL)	17.3	A.M.: 6.2-19.4 P.M.: 2.3-11.9	11.4 (06/27/2020)
Testosterone, Total (ng/dL)	321.5	200.5~1437.8	389.5 (06/27/2020)
Free Testosterone (ng/dL)	<b>3.89 L</b>	4.09~37.37	5.92 (07/07/2020)
Progesterone (ng/mL)	<b>0.163 H</b>	≤0.149	<b>0.235 H (06/27/2020)</b>
Parathyroid Hormone			30 (06/27/2020)
Prolactin (ng/mL)	6.04	4.04~15.20	7.33 (06/27/2020)
Dihydrotestosterone (ng/dl)	56.7	14.8~101.8	54.5 (07/02/2020)
Pregnenolone (ng/mL)	1.89	0.38~3.50	2.02 (07/02/2020)

#### Labnotes

SHBG :- SHBG reference ranges are based on adult populations >18 years of age.

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CBC w/ differential and Platelets	Current	Reference Range	Previous
WBC (x 10 <sup>3</sup> /μL)	5.36	4.23~9.07	6.42 (06/27/2020)
RBC (x 10 <sup>6</sup> /μL)	<b>4.48 L</b>	4.63~6.08	<b>4.18 L (06/27/2020)</b>
Hemoglobin (g/dL)	14.0	13.7~17.5	<b>13.0 L (06/27/2020)</b>
Hematocrit (%)	42.0	40.1~51.0	<b>39.6 L (06/27/2020)</b>
MCV (x 10 <sup>3</sup> /μL)	<b>93.8 H</b>	79.0~92.2	<b>94.7 H (06/27/2020)</b>
MCH (pg)	31.3	25.7~32.2	31.1 (06/27/2020)
MCHC (g/dL)	33.3	32.3~36.5	32.8 (06/27/2020)
RDW - SD (fL)	43.5	35.1~43.9	<b>46.6 H (06/27/2020)</b>
RDW - CV (%)	12.7	11.6~14.4	13.4 (06/27/2020)
Platelet Count (x 10 <sup>3</sup> /μL)	218.0	129.0~326.0	252.0 (06/27/2020)
Neutrophil (%)	59.9	34.0~67.9	64.3 (06/27/2020)
Lymphocytes (%)	29.7	21.8~53.1	23.7 (06/27/2020)
Monocytes (%)	6.5	5.3~12.2	8.4 (06/27/2020)
Eosinophils (%)	2.1	0.8~7.0	1.9 (06/27/2020)
Basophils (%)	1.1	0.2~1.2	0.6 (06/27/2020)
Immature Granulocyte (%)	0.7	≤2.1	1.1 (06/27/2020)
Neutrophil Count (x 10 <sup>3</sup> /μL)	3.21	1.78~5.38	4.13 (06/27/2020)
Lymphocyte Count (x 10 <sup>3</sup> /μL)	1.59	1.32~3.57	1.52 (06/27/2020)
Monocytes Count (x 10 <sup>3</sup> /μL)	0.35	0.24~0.36	<b>0.54 H (06/27/2020)</b>
Eosinophil Count (x 10 <sup>3</sup> /μL)	0.11	≤0.54	0.12 (06/27/2020)
Basophil Count (x 10 <sup>3</sup> /μL)	0.06	≤0.08	0.04 (06/27/2020)
Immature Granulocyte Count (x 10 <sup>3</sup> /μL)	0.040	≤0.100	0.070 (06/27/2020)
MPV (Mean Platelet Volume) (fL)	11.4	9.4~12.4	11.2 (06/27/2020)
Nucleated RBC count (x 10 <sup>3</sup> /μL)	<0.010	≤0.012	<0.010 (06/27/2020)
Nucleated RBC % (/100WBC)	0.0	≤0.2	0.0 (06/27/2020)

Reticulocytes	Current	Reference Range	Previous
Reticulocyte count (x 10 <sup>6</sup> /μL)	<b>0.0340 L</b>	0.0444~0.1451	0.0460 (06/27/2020)
Reticulocyte (%)	0.8	≤3.0	1.1 (06/27/2020)
IRF (Immature Reticulocyte Fraction) (%)	6.0	2.3~13.4	6.0 (06/27/2020)
Retic-Hemoglobin (pg)	<b>36.1 H</b>	28.2~35.7	<b>36.1 H (06/27/2020)</b>

Tests flagged with \* were developed by and performance characteristics were determined by Vibrant America. Indicated tests are not FDA-cleared or approved. The laboratory is regulated under CLIA and is CAP certified hence qualified to perform high-complexity testing. This test is used for clinical purposes. It should not be regarded as investigational or for research. Tests flagged with † were performed at Vibrant Genomics. Tests flagged with ‡ have analytics done at Vibrant Wellness. Laboratory Director: Mervyn Sahud, MD CLIA: 05D2078809 CLF: 00346278 Vibrant America Clinical Laboratory, 1021 Howard Avenue, Suite B, San Carlos, CA 94070. Phone: +1(866)364-0963; FAX: +1(650)508-8260; Email: support@vibrant-america.com