

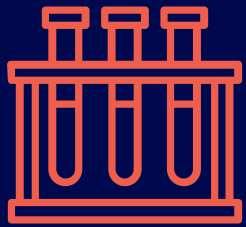


QUICK GUIDE

BLOOD LAB TESTING RANGES

Are You
Running
Optimally?

healingme



*Experiencing lots of symptoms and
your blood testing looks normal?*

Normal doesn't mean optimal.



Hello Friend,

It can be extremely frustrating to hear “your blood work is ok” after you’ve gone to the doctor’s office with a boatload of unexplained symptoms.

I’ve been told everything on my blood tests looked perfect, however, at the time my hair was falling out, my weight was steadily creeping up and I had chin full of acne for the first time in my life at 30.

Being *within the range doesn’t actually mean you’re optimal*. Ranges on lab results are used to diagnose disease and pathology — they assume patients in the normal ranges have no symptoms.

Clinically, we see patients progressing on a path towards disease all the time by using blood work (*that is in normal ranges*) to tell us what is going on.

For instance, ferritin is a common test run for iron deficiency. The range is 5-272 (*depending on the lab*). It’s a great big range! If you thought of the ranges in dollars, having \$5 is a whole lot different than having \$272 in your pocket. Optimal certainly isn’t 5, closer to 80-100 is a good range for menstruating women.

For every lab run, there is an optimal or ideal range, as people stray outside of those bands, we see them headed towards a disease, that in most cases can be prevented. Optimal ranges allow us to see where a patient is headed, so we can help them by changing the course trajectory.

This quick reference guide will give you the breakdown of average conventional lab ranges and where optimal should be.

Let’s get to it,

Dr. Christina

Dr. Christina, *Medical Director*
www.healingme.health

NOTE

Be careful to check the units on the labs you have as they vary based on the lab.
If you find something in the wrong units, visit [Units Lab](#) to convert them.

STANDARD INTERNATIONAL UNITS

STANDARD US UNITS

	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
WBC	4.0 - 11.0 x e9/L	closer to 4.0	3.4 - 10.8 x 10e3/uL	5.0 -7.5 x10e3/uL
RBC	4.00-5.10 x e12/L	4.00-5.10	3.77- 5.28 x 10 e6/uL	4.0 - 4.5 x 10 e6/uL
Hemoglobin	120-160 g/L	120-160g/L	11.1 - 15.9 g/dL	13.5- 14.5 g/dL
Hematocrit	0.350-0.450 L/L	0.350-0.450 L/L	34.0 - 46.6%	37.0 - 44%
MCV	80-100 fL	80-100 fL	79 - 97 fL	79 - 97 fL
MCH	27.5-33.0 pg	27.5-33.0 pg	26.6 - 33.0 pg	26.6 - 33.0 pg
MCHC	305-360g/L	305-360g/L	31.5 - 35.7 g/dL	31.5 - 35.7 g/dL
RDW	11.5-14.5%	11.5-14.5	11.7 - 15.4 %	11.7 - 15.4 %
Platelet Count	150-400 x e9/L	200-400	150 - 450 x10e3/uL	150 - 450 x10e3/uL
MPV (Mean Platelet Vol)	4-14 fL	4-14 fL		
Neutrophils (Absolute)	2.0-7.5 x e9/L	closer to 2.0	1.4 - 7.0 x 10e3/uL	closer to 1.4
Lymphocytes (Absolute)	1.0-3.5 x e9/L	closer to 1.0	0.7 - 3.1 x 10e3/uL	closer to 0.7
Monocytes (Absolute)	0.2-1.0 x e9/L	0.2-1.0	0.1 - 0.9 x 10e3/uL	0.1 - 0.9
Eosinophils (Absolute)	0.0-0.5 x e9/L	0.0-0.2	0.0 - 0.4 x 10e3/uL	0.0 - 0.2
Basophils (Absolute)	0.0-0.2 x e9/L	0.0-0.2	0.0 - 0.2 x 10e3/uL	0.0 - 0.2
Immature Granulocytes (Absolute)	0.0-0.1 x e9/L	0	0.0-0.1 x10 e3/uL	0
Nucleated RBC (NRBC)	0%	0%	0%	0%



Red Blood Cells & White Blood Cells



DISCLAIMER

This chart provides general information and discussion about medicine, health and related subjects. The words and other content provided and in any linked materials, are not intended and should not be construed as medical advice. If the reader or any other person has a medical concern, they should consult with an appropriately-licensed health care worker. © Dr. Christina Carew.



Nutrients - Vitamin B12, Iron

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
Ferritin	5 - 272 ug/L	80-100 ug/L	15-150 ng/mL	80-100 ng/mL
TIBC	50 - 100 umol/L	50-100 umol/L	250 -350 ug/dL	250 -350 ug/dL
Transferrin	2.00-4.00 g/L	2.00-4.00 g/L	204-360 mg/dL	204-360 mg/dL
Transferrin Saturation	0.13-0.50	0.13-0.50	16 - 60%	20-35%
Vitamin B12	138-652 pmol/L	500+ pmol/L	200-1100 pg/mL	500+ pg/mL
Vitamin D (25-Hydroxy)	75-250 nmol/L	125-150 nmol/L	30-100 ng/mL	50 - 60 ng/mL



Inflammation Markers

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
ESR	0-20mm/hr	<10 mm/hr	0-20mm/hr	<10 mm/hr
CRP	<8 mg/L	<1 mg/L	0 - 10 mg/L	<1 mg/L



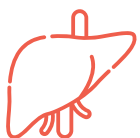
Thyroid & Antibodies

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
TSH	0.32-4.00 mIU/L	1.0 - 2.0 mIU/L	0.35 - 5.5 uIU/ml	1.0 - 2.0 uIU/ml
Free T4	9-19 pmol/L	15-16 pmol/L	0.82 - 1.77 ng/dL	1.16 - 1.24 ng/dL
Free T3	2.6-5.8 pmol/L	~5.0+ pmol/L	2.0 - 4.4 pg/mL	3.25 pg/mL
Anti TG	<40 kIU/L	0	<1.0	0
TPO (Anti TPO Ab)	<35 kIU/L	0	<9 IU/mL	0
Reverse T3	8 -25 ng/dL	10-12 ng/dL	9.2 - 24.1 ng/dL	10-12 ng/dL



Kidney Function & Electrolytes

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
Creatinine	50 - 100 umol/L	70 - 90 umol/L	0.75 - 1.27 mg/dL	0.8 - 1.1 mg/dL
Albumin	35-52 g/L	40-50 g/L	3.5 - 5.5 g/dL	4.0 - 5.0 g/dL
Bicarbonate	20-30 mmol/L	25-30 mmol/L	23-32 mEq/L	25-30 mEq/L
Calcium, Serum	2.15 - 2.60 mmol/L	2.3 - 2.5 mmol/L	8.5 - 10.8 mg/dL	9.2 - 10.0 mg/dL
Chloride	98-108 mmol/L	98-108 mmol/L	97 - 107 mEq/L	100 - 106 mEq/L
eGFR	>60 umol/L	>60 umol/L	>59 mL/min/1.73	>59 mL/min/1.73
Magnesium, Serum	0.65-1.05 mmol/L	> 0.90 mmol/L	1.5 - 2.3 mg/dL	>2.0 mg/dL
Phosphate	0.80 - 1.45 mmol/L	0.97 - 1.29 mmol/L	2.5 - 4.5 mg/dL	3.0 - 4.0 mg/dL
Potassium	3.5 - 5.2 mmol/L	4.0 - 4.5 mmol/L	3.5 - 5.3 mEq/L	4.0 - 4.5 mEq/L
Sodium	135-145 mmol/L	135-142 mmol/L	135-145 mEq/L	135-142 mEq/L
Urate/ Uric Acid (Female)	230-480 umol/L	178-327 umol/L	2.2 - 7.7 mg/dL	3.0 - 5.5 mg/dL



Liver Testing

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
Alkaline Phosphatase (ALP)	35 - 122 U/L	70 - 100 U/L	25-120 U/L	70 - 100 U/L
Alanine Aminotransferase (ALT)	<36 U/L	10-30 U/L	0 - 45 U/L	10-30 U/L
Aspartate Aminotransferase (AST)	<31 U/L	10-30 U/L	0 - 40 U/L	10-30 U/L
Bilirubin, Total	<20 umol/L	<20 umol/L	0.1 - 1.2 mg/dL	0.1 - 1.2 mg/dL
Bilirubin, Glucuronidated (Direct)	0-3.4 umol/L	0-3.4 umol/L	0 - 0.2 mg/dL	0 - 0.2 mg/dL
Bilirubin, Indirect	1.7 - 17.1 umol/L	1.7 - 17.1 umol/L	0.1 - 1.0 mg/dL	0.1 -1.0 mg/dL
Gamma Glutamyl Transferase (GGT)	14-62 U/L	10-30 U/L	1 - 70 U/L	10-30 U/L
Lactate Dehydrogenase (LDH)	110-230 U/L	140 - 200 U/L	1 - 240 U/L	140-200 U/L



Lipid Testing

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
Triglycerides	0.79-1.24 mmol/L	<1.7 mmol/L	30-150 mg/dL	70-110 mg/dL
Cholesterol, Total	3.9 - 5.69 mmol/L	<5.2 mmol/L	130-200 mg/dL	150-220 mg/dL
HDL Cholesterol (<i>Good</i>)	1.03 - 2.32 mmol/L	> 1.43	>39 mg/dL	>39 mg/dL
LDL Cholesterol (<i>Bad</i>)	1.55 - 3.36 mmol/L	<3.10 mmol/L	60-130 mg/dL	<120mg/dL
Non-HDL Cholesterol	0-4.29 mmol/L	<3.37 mmol/L	0 - 129 mg/dL	<129 mg/dL



Glucose & Insulin

	STANDARD INTERNATIONAL UNITS		STANDARD US UNITS	
	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE	CONVENTIONAL LAB REFERENCE RANGE	IDEAL REFERENCE RANGE
Glucose Random	3.6 - 6.0 mmol/L	< 5 mmol/L	65-115 mg/dL	<97 mg/dL
HbA1C/Total Hemoglobin	<6.0	~ 5.0	<7%	4.1 - 5.7%
Insulin, Baseline	15- 174 pmol/L	<50 pmol/L	2.6 - 24.9 uIU/mL	< 7.2 uIU/mL

Support Materials

Dynacare Test Information Search, <https://www.dynacare.ca/find-a-test.aspx>

Kernan KF, Carcillo JA. Hyperferritinemia and inflammation. Int Immunol. 2017 Nov 1;29(9):401-409. doi: 10.1093/intimm/dxx031. PMID: 28541437; PMCID: PMC5890889.

LabCorp, Test Information - <https://www.labcorp.com/test-menu/search>

LifeLabs, Test Information Search - https://tests.lifelabs.com/Laboratory_Test_Information/Homepage.aspx

Maunder, R. R. (2011). Understanding laboratory tests: A quick reference. Toronto: Elsevier/Saunders.

Self Decode, <https://labs.selfdecode.com/>

University of California San Francisco - Medical Tests - <https://www.ucsfhealth.org/medical-tests/>

Weatherby, D., & Ferguson, S. (2002). Blood chemistry and CBC analysis: Clinical laboratory testing from a functional perspective. Jacksonville, OR: Bear Mountain Pub.



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