

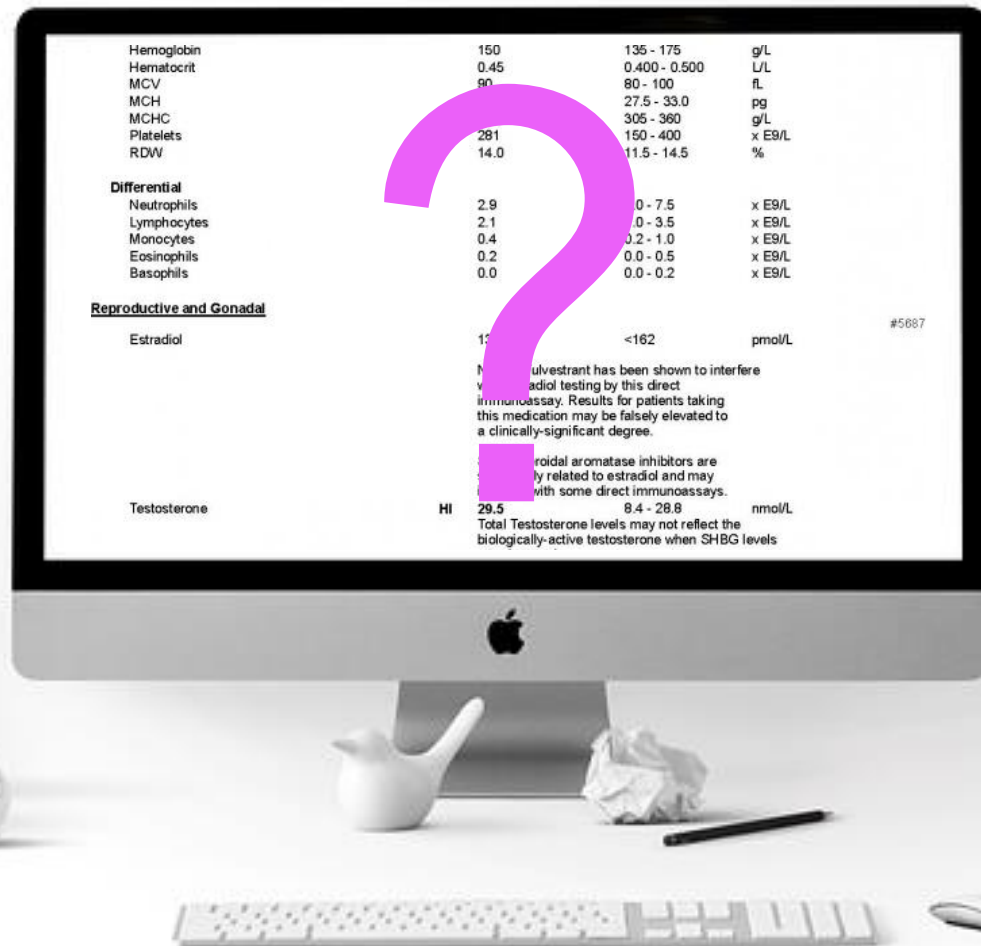
@helenmonkman

Tabular, Annotated, Visual, or Trends + Contextual Information? Preferences for Online Laboratory Results Displays

Helen Monkman

Assistant Professor

*School of Health Information Science,
University of Victoria*



Hemoglobin	150	135 - 175	g/L
Hematocrit	0.45	0.400 - 0.500	L/L
MCV	90	80 - 100	fL
MCH		27.5 - 33.0	pg
MCHC		305 - 360	g/L
Platelets	281	150 - 400	x E9/L
RDW	14.0	11.5 - 14.5	%

Differential

Neutrophils	2.9	0 - 7.5	x E9/L
Lymphocytes	2.1	0 - 3.5	x E9/L
Monocytes	0.4	0.2 - 1.0	x E9/L
Eosinophils	0.2	0.0 - 0.5	x E9/L
Basophils	0.0	0.0 - 0.2	x E9/L

Reproductive and Gonadal

Estradiol	17	<162	pmol/L
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#5687

Medroxyprogesterone acetate has been shown to interfere with estradiol testing by this direct immunoassay. Results for patients taking this medication may be falsely elevated to a clinically-significant degree.

Oral aromatase inhibitors are closely related to estradiol and may interfere with some direct immunoassays.

Testosterone	HI 29.5	8.4 - 28.8	nmol/L
--------------	---------	------------	--------

Total Testosterone levels may not reflect the biologically-active testosterone when SHBG levels



I'm going to show you an example. Pretend these are your results. Please **think aloud** and walk me through **how you would use them** (e.g., what you look for, understand, find confusing).



1. Are there any values **outside** the reference ranges?

3. What do you **like** and **dislike** about these results?

2. If these were your results, **what would you do next?**

4. How would you **improve** them?





[Back](#)

 **Meh1 Testingclinical**

[2](#)

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[Print PDF](#)

Patient: TESTINGCLINICAL, MEH1
 HC #: 0000000079TA Phone:
 Lab No: 2020-MYR840696
 Age: 62 years Gender: Male
 DOB: Sep 30 1957 Patient ID:
 Date of Service: Mar 24 2020 09:30 Referring Site ID:
 Reported On: Mar 24 2020 23:40 Reported By: LifeLabs
 Ordered By: TESTING DR. KMCWILLIAM
 CC:

	Flags	Results	Reference	Units
Hematology				
WBC		4.7	4.0 - 11.0	x E9/L
RBC		5.18	4.50 - 6.00	x E12/L
Hemoglobin		162	135 - 175	g/L
Hematocrit		0.457	0.400 - 0.500	L/L
MCV		88	80 - 100	fL
MCH		31.3	27.5 - 33.0	pg
MCHC		354	305 - 360	g/L
RDW		12.5	11.5 - 14.5	%
Platelet Count		247	150 - 400	x E9/L
Differential				

1



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 Meh1 Testingclinical

2

Share

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RDW		12.5	11.5 - 14.5	%
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Differential				

1

Differential			
Neutrophils	2.5	2.0 - 7.5	x E9/L
Lymphocytes	1.6	1.0 - 3.5	x E9/L
Monocytes	0.4	0.2 - 1.0	x E9/L
Eosinophils	0.1	0.0 - 0.5	x E9/L
Basophils	0.0	0.0 - 0.2	x E9/L
Immature Granulocytes	0.0	0.0 - 0.1	x E9/L
Nucleated RBC	0		/100 WBC

Urinalysis

Urinalysis Chemical

Collection Date	24-MAR-2020		
Collection Time	09:30		
Colour	YELLOW	NONE/YELLOW	
Appearance	CLEAR	CLEAR	
Specific Gravity	1.019	1.001 - 1.030	
pH	6.0	5.0 - 8.0	
Protein	NEGATIVE	NEGATIVE	g/L
Glucose	NEGATIVE	NEGATIVE	mmol/L
Ketones	NEGATIVE	NEGATIVE	mmol/L
Erythrocytes	NEGATIVE	NEGATIVE	mg/L
Nitrite	NEGATIVE	NEGATIVE	
Leukocyte Esterase	NEGATIVE	NEGATIVE	WBC/uL

General Chemistry

Hemoglobin A1C/Total Hemoglobin	HI	6.0	<6.0	%
---------------------------------	----	-----	------	---

CDA 2013 Guidelines:

-
- Screening and Diagnosis:

 - <5.5 % Normal
 - 5.5% - 5.9 % At risk
 - 6.0% - 6.4 % Prediabetes
 - >OR= 6.5 % Diabetes Mellitus

If HbA1c >OR= 6.5 % and asymptomatic, confirm using Fasting Glucose, HbA1c or 75g OGTT.

Sodium		141	135-145	mmol/L
Potassium	HI	5.3	3.5-5.2	mmol/L
	No hemolysis detected.			
Creatinine	HI	124	67-117	umol/L
Glomerular Filtration Rate (eGFR)		53		

An eGFR result of 45-59 ml/min/1.73 m2 is consistent with mild to moderately decreased kidney function.

For patients of African descent, the reported eGFR must be multiplied by 1.15.

Effective May 4 2015, eGFR is calculated using the CKD-EPI 2009 equation.

KDIGO 2012 guidelines highlight the importance of eGFR and urine albumin creatinine ratio (ACR) in screening, diagnosis and management of CKD. Results for eGFR should be interpreted in concert with ACR.

Albumin	46	35-52	g/L
Bilirubin Total	7	<20	umol/L
Alkaline Phosphatase	58	40-129	U/L
Alanine Aminotransferase	20	<50	U/L

Random Urine Chemistry

Protein Creatinine Ratio Urine

Protein (Urine)	<0.10	<0.15	g/L
Creatinine (Urine)	13.1	3.5-24.5	mmol/L
Protein/Creatinine	Unable to calculate Protein/Creatinine Ratio as the concentration of Protein is less than 0.10 g/L, the lower detection limit of the assay.		

Albumin Creatinine Ratio Urine

Albumin (Urine)	<5		mg/L
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Albumin Creatinine Ratio Urine

Albumin (Urine)

Creatinine (Urine)

Albumin/Creatinine

Unable to calculate Albumin/Creatinine Ratio as the concentration of Protein is less than 0.10 g/L, the lower detection limit of the assay.

<5 mg/L

13.2 3.5-24.5 mmol/L

Unable to calculate Albumin/Creatinine Ratio as the concentration of the Albumin is less than the lower limit of the analytical range of the method.

Complement Testing

Complement C3

Complement C4

1.15 0.90-1.80 g/L

0.31 0.15-0.53 g/L

Immunology

Rheumatoid Factor

<10 <14 IU/mL

Serology Non-Viral

Hepatitis Chronic

Hepatitis B Surface Ag [HBsAg]

Hepatitis C Ab

NOT DETECTED

NOT DETECTED

Anti-HCV was not detected. These results suggest that the patient is not infected with either Hepatitis B virus or Hepatitis C virus. If the liver enzymes are elevated consider other viral or non-viral etiology. Note that anti-HCV can be falsely negative in patients infected with Hepatitis C when the patient is immunocompromised, i.e. on chemotherapy, corticosteroids or in renal failure.

Do you have questions about the meaning of the results here? To view an online resource that may help explain the type of testing demonstrated on your report, please visit Lab Tests Online or click [here](#).



2

Personal Information

Name, HC# = Medical Services Plan [MSP] number, DOB = Date of Birth

Test and Lab Information

When the sample was taken, When it was analyzed, Name of Doctor(s) Who Will Get the Results

Name of the Test Group

Hematology = Blood Test
Urinalysis = Urine (or Pee) Test
General Chemistry = Could be one of many tests

Name of the Individual Tests Performed

(often abbreviated)

WBC = White Blood Cells
RBC = Red Blood Cells

MCV = mean corpuscular volume
MCH = mean corpuscular hemoglobin
MCHC = mean corpuscular hemoglobin concentration
RDW = red cell distribution width



Back

Meh1 Testing

Print PDF

Patient: TESTING, MEH1
HC #: 0000000000FT
Lab No: 2020-MYR000003
Age: 65 years
DOB: Aug 09 1954
Date of Service: Mar 12 2020 10:04
Reported On: Mar 12 2020 18:23
Ordered By: TESTING DR. KMCWILLIAM
CC:

Phone: (519) 332-4649
Gender: Female
Patient ID:
Referring Site ID:
Reported By: LifeLabs

Flags For Out of Range Test Results

Results that are higher or lower than reference range will

HI = high
LO = Low
A* = Abnormal (high or low)

Test Results

Your measured values from your test.

Reference Ranges

Most "normal" values fall between these numbers.

Example of a Flagged Result

This result is higher than the Reference Range

	Flags	Results	Reference	Units
Hematology				
WBC		11.1	4.0 - 11.0	x E9/L
RBC	LO	6.81	4.00 - 5.10	x E12/L
Hemoglobin	LO	330	120 - 160	g/L
Hematocrit	LO	0.155	0.350 - 0.450	L/L
MCV		100	80 - 100	fL
MCH		66.9	27.5 - 33.0	pg
MCHC		300	305 - 360	g/L
RDW		19.4	11.5 - 14.5	%
Platelet Count		235	150 - 400	x E9/L
Differential				
Neutrophils		2.8	2.0 - 7.5	x E9/L
Lymphocytes		2.7	1.0 - 3.5	x E9/L
Monocytes		0.1	0.2 - 1.0	x E9/L
Eosinophils		0.9	0.0 - 0.5	x E9/L
Basophils		0.0	0.0 - 0.2	x E9/L
Immature Granulocytes		0.0	0.0 - 0.1	x E9/L
Nucleated RBC		0		/100 WBC
Biochemical Investigation of Anemias				
Vitamin B12	HI	1145	138-652	pmol/L
Ferritin		62	5-272	ug/L

Biochemical Investigation of Anemias

Vitamin B12	HI	1145	138-652	pmol/L
Ferritin		62	5-272	ug/L
General Chemistry				
Glucose Random	HI	4.9	3.6 - 7.7	mmol/L
Recommend follow-up with Fasting Glucose and/or HbA1c as per 2013 CDA Guidelines (Can J Diabetes 2013;37(suppl 1):S1-S212).				
Sodium		132	135-145	mmol/L
Potassium	HI	4.3	3.5-5.2	mmol/L
No hemolysis detected.				
Creatinine	HI	300	50-100	umol/L
Glomerular Filtration Rate (eGFR)		12		
An eGFR result of 15-29 ml/min/1.73 m2 is consistent with severely decreased kidney function.				
For patients of African descent, the reported eGFR must be multiplied by 1.15.				
Effective May 4 2015, eGFR is calculated using the CKD-EPI 2009 equation.				
KDIGO 2012 guidelines highlight the importance of eGFR and urine albumin creatinine ratio (ACR) in screening, diagnosis and management of CKD. Results for eGFR should be interpreted in concert with ACR.				
Urate		320	150-390	umol/L
Female Reference Intervals (umol/L) >or= 13yrs 150-390 Postmenopausal 210-450				
Lipids				
Hours After Meal		2		Hours
Triglyceride		3.54		mmol/L
Cholesterol		8.31		mmol/L
HDL Cholesterol		1.74		mmol/L
New formulation (24/Sep/2018): In some patients with abnormal liver function, the HDL-c result may be different due to the presence of lipoproteins with abnormal lipid distribution.				
Non HDL Cholesterol		4.57		mmol/L
Non HDL-Cholesterol is not affected by the fasting status of the patient.				
LDL Cholesterol		1.87		mmol/L
LDL-C calculation is decreased if fasting < or = 10 hours. Consider the Non HDL-C value as an alternate lipid target if monitoring treatment in intermediate or high risk patients.				

Triglyceride	3.54	mmol/L
Cholesterol	8.31	mmol/L
HDL Cholesterol	1.74	mmol/L
New formulation (24/Sep/2018): In some patients with abnormal liver function, the HDL-c result may be different due to the presence of lipoproteins with abnormal lipid distribution.		
Non HDL Cholesterol	4.57	mmol/L
Non HDL-Cholesterol is not affected by the fasting status of the patient.		
LDL Cholesterol	1.87	mmol/L
LDL-C calculation is decreased if fasting < or = 10 hours. Consider the Non HDL-C value as an alternate lipid target if monitoring treatment in intermediate or high risk patients.		
Cholesterol/HDL Cholesterol Lipid Target Values	2.5	
Lipid Target Values should be based on patient 10 year CVD risk assessment.		

! High or Intermediate CVD risk

-----!-----
 Primary ! LDL-C < or = 2.0 mmol/L OR
 Tx target ! > or = 50% decrease in LDL-C

!
 Alternate ! Non HDL-C < or = 2.6 mmol/L OR
 Tx target ! ApoB < or = 0.8 g/L

-----!-----
 ! Low CVD risk

-----!-----
 Primary ! > or = 50% decrease in LDL-C
 Tx target !

Random Urine Chemistry

Albumin Creatinine Ratio Urine

Albumin (Urine)	200		mg/L
Creatinine (Urine)	11.0	2.5-20.0	mmol/L
Albumin/Creatinine	HI 10.6	< 2.0	mg/mmol

Thyroid Function

Thyroid Stimulating Hormone [TSH]	HI 3.41	0.32-4.00	mIU/L
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Do you have questions about the meaning of the results here? To view an online resource that may help explain the type of testing demonstrated on your report, please visit Lab Tests Online or click [here](#).



General Blood Work

3



PATIENT: Cora Peterson

ORDERED BY: Dr. Duval

GENDER: Female

AGE: 41

DOB: August 12, 1969

COLLECTED: November 13, 2010, 8:40 a.m.

RECEIVED: November 13, 2010, 9:53 p.m.

RESULTS: Reference Ranges (in mg/dL)

Comprehensive Metabolic Panel

Glucose (fasting): 130 mg/dL



YOU 130

Your results at a glance



Questions?

The physician who ordered this test can be contacted for further interpretation of results at:

DR. DUVAL:
415 533 9821
909 Hyde St, Suite 607
San Francisco, CA 94114

Lipid Profile

Cholesterol: 211 mg/dL



3



Vitamin D

Vitamin D 25, Total: 22 ng/mL



Complete Blood Cell Count (CBC)

Normal (for all 20 values)

Urinalysis

Normal (for all 20 values)

Endocrinology

Normal

Chemistry (includes iron)

Normal (for all 4 values)

WHAT DO YOUR RESULTS MEAN?



HDL: 46 mg/dL



LDL: 165 mg/dL



Triglycerides: 160 mg/dL



WHAT NOW?

Endocrinology

Normal

Chemistry (includes iron)

Normal (for all 4 values)

100

150 to 199

200 to 499

>500

YOU 160

WHAT DO YOUR RESULTS MEAN?

Based on your elevated glucose and cholesterol levels, your profile is typical of a patient with **PRE-DIABETES**, a condition which affects one in four American adults (ages 20 or older). Pre-diabetes doubles your risk for heart disease or stroke. More than half of people with this status will develop diabetes within 10 years. Diabetes more than doubles your risk for cardiovascular disease.

3

Your results also suggest an **INSUFFICIENCY OF VITAMIN D**, which helps maintain levels of calcium and phosphate in the blood; therefore, promoting bone density and health.

Additional Perspective:

Average risk of dying from coronary heart disease (with diabetes): 1 in 4 or higher.

Average risk of dying from coronary heart disease: 1 in 8

About this test

This screening reports more than 30 measurements, everything from a complete blood cell count to cholesterol.

Generally part of an annual or routine checkup, These data can be an indicator of a variety of conditions from hyperthyroidism to kidney and liver disease, as well as assessing risk for conditions like coronary heart disease.

WHAT NOW?

1) CONSIDER YOUR LIFESTYLE. Your risk for pre-diabetes rises if you are inactive and/or overweight. Patients with pre-diabetes who exercise regularly (for 30-60 minutes, five days a week) and lose about 10 percent of their body weight are 70 percent more likely to prevent or delay the onset of diabetes.

2) ASK YOUR DOCTOR ABOUT ADDITIONAL TESTS FOR PRE-DIABETES. She may also prescribe medications like statins that can reduce cholesterol and delay the onset of heart disease or diabetes.

3) ADDRESS RISK FACTORS FOR VITAMIN D DEFICIENCY, including: lack of exposure to sunlight, diet, history of celiac disease, Crohn's disease, cystic fibrosis, chronic kidney or liver disease.



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Meh1 Testingclinical

Date Range:

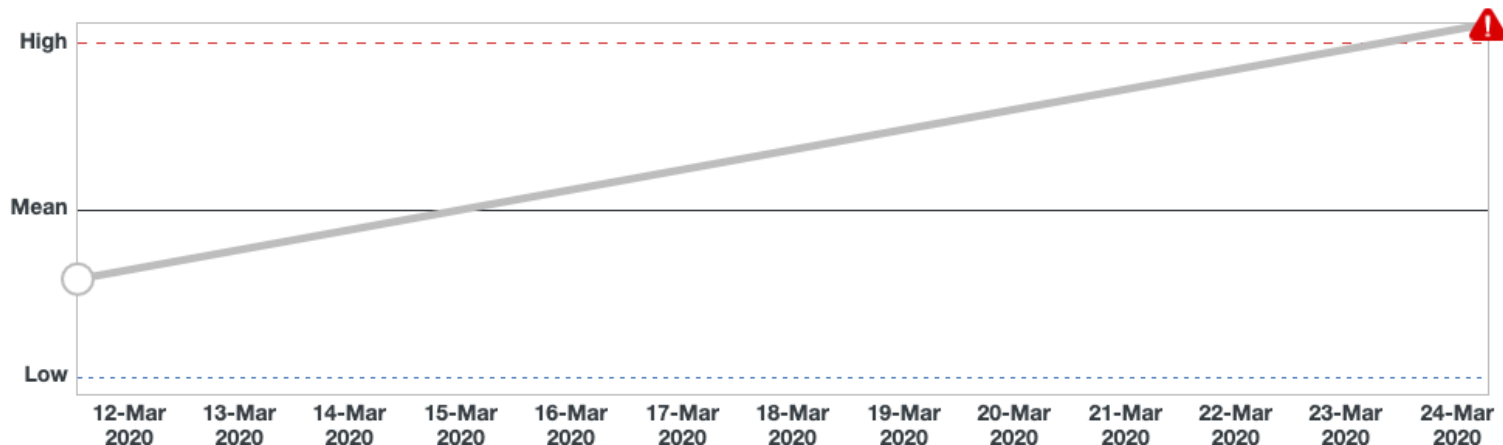
11-Mar-2020



24-Mar-2020



Potassium (mmol/L)



4

Low

12-Mar 2020 13-Mar 2020 14-Mar 2020 15-Mar 2020 16-Mar 2020 17-Mar 2020 18-Mar 2020 19-Mar 2020 20-Mar 2020 21-Mar 2020 22-Mar 2020 23-Mar 2020 24-Mar 2020

	Collection Date ⓘ	Test Result	Range	
	24-Mar-2020 9:30 AM	5.3 ⚠	3.5-5.2	📄
	11-Mar-2020 3:50 PM	4.0	3.5-5.2	📄

4

Learn more about the test



At a Glance

Why Get Tested?

To determine whether your potassium level is within normal limits; as part of an electrolyte panel or metabolic panel to help diagnose and determine the cause of an electrolyte imbalance; to monitor treatment for illnesses that can cause abnormal potassium levels in the body

When To Get Tested?

When you have a routine health exam; when you have symptoms such as muscle weakness and/or irregular heart beat (cardiac arrhythmia) or when an electrolyte imbalance is suspected; at regular intervals when you are taking a medication and/or have a disease or condition, such as high blood pressure (hypertension) or kidney disease, that can affect your potassium level

Sample Required?

A blood sample drawn from a vein; sometimes a random or 24-hour urine sample is collected.

Test Preparation Needed?

None

— What is being tested?

4

What is being tested?

Potassium is an electrolyte that is vital to cell metabolism. It helps transport nutrients into cells and removes waste products out of cells. It is also important in muscle function, helping to transmit messages between nerves and muscles. This test measures the amount of potassium in the blood and/or urine.

Electrolytes are minerals that carry a charge and exist in your body fluids. Potassium and other electrolytes such as sodium, chloride, and bicarbonate (total CO_2) help regulate the amount of fluid in the body and maintains a stable acid-base balance. Potassium is present in all body fluids, but most potassium is found within the cells. Only a small amount is present in fluids outside the cells and in the liquid part of the blood (called serum or plasma).

We get most of the potassium we need from the foods that we eat. Most people will have an adequate intake of potassium. The body uses what potassium it requires, then the kidneys eliminate the rest in the urine. The body tries to keep the blood potassium level within a very narrow range. Levels are mainly controlled by aldosterone, a hormone produced by the adrenal glands above the kidneys.

Because the blood concentration of potassium is so small, minor changes can have significant health effects. Potassium levels that are too low or too high can alter the function of the nerves and muscles and there can be serious health complications, such as shock, breathing problems (respiratory failure), irregular heart beat, or the heart muscle may even lose its ability to contract.

Measuring potassium as part of an electrolyte or metabolic panel may help diagnose an electrolyte imbalance or acidosis or alkalosis. Acidosis and alkalosis describe the abnormal conditions that result from an imbalance in the pH of the blood caused by an excess of acid or alkali (base). This imbalance is typically caused by some underlying condition or disease.

Common Questions

How is the test used?

A *potassium blood test* is used to detect abnormal potassium levels, including high potassium (hyperkalemia) and low potassium (hypokalemia). It is often used as part of an electrolyte panel or basic metabolic panel for a routine health exam.

The potassium test may also be used:

- To help detect, evaluate, and monitor electrolyte imbalances and/or acid-base (pH) imbalances (acidosis or alkalosis)
- To help evaluate and monitor a variety of chronic or acute illnesses, such as high blood pressure or kidney disease, the most common cause of high blood potassium
- To detect abnormal values when you have diarrhea and vomiting or excessive sweating
- To help determine the cause of symptoms involving the heart (e.g., irregular heart beat)
- To monitor effects of drugs that can cause the kidneys to lose potassium, particularly diuretics, or drugs that decrease potassium elimination from the body, which may result in a high potassium level

Urine potassium levels may be tested in people who have abnormal blood potassium levels to help determine the cause, such as dehydration. Urine potassium testing is also used for people with abnormal kidney tests to help the healthcare practitioner determine the cause of kidney disease and to help guide treatment.

When is it ordered?

A potassium level is a basic test and may be ordered when you have a routine medical exam or when you are being evaluated for a serious illness.

Testing may be done when you have:

- Kidney disease
- Symptoms such as muscle weakness or irregular heart beat (cardiac arrhythmia)
- A condition treated with diuretics or heart medications
- Has high blood pressure (hypertension) or are being treated for high blood pressure

When is it ordered?

A potassium level is a basic test and may be ordered when you have a routine medical exam or when you are being evaluated for a serious illness.

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- Symptoms such as muscle weakness or irregular heart beat (cardiac arrhythmia)
- A condition treated with diuretics or heart medications
- Has high blood pressure (hypertension) or are being treated for high blood pressure

Electrolyte panels and basic metabolic panels are commonly ordered at regular intervals when a healthcare practitioner is diagnosing diabetic ketoacidosis and kidney disease or when monitoring a patient receiving dialysis, diuretic therapy, or intravenous fluids.

Urine potassium testing may be done when blood potassium levels are abnormal.

4

What does the test result mean?

Potassium levels are typically interpreted along with results from other tests done at the same time, such as the results of other electrolyte tests. Low and high potassium levels can be caused by various conditions and diseases.

Examples of conditions that can cause high potassium levels (hyperkalemia) include:

- Kidney disease
- Addison disease
- Injury to tissue
- Infection
- Diabetes
- Dehydration
- Consuming too much potassium (e.g., diets high in potassium, potassium supplements)
- Treatment with intravenous (IV) fluids, excessive IV potassium
- Using certain drugs that cause high potassium in a small percent of people, including non-steroidal anti-inflammatory drugs (NSAIDs), ACE inhibitors, beta blockers (such as propranolol and atenolol), angiotensin-converting enzyme inhibitors (such as captopril, enalapril, and lisinopril), and potassium-sparing diuretics (such as triamterene, amiloride, and spironolactone)

Examples of conditions that can cause low potassium levels (hypokalemia) include:

- Diarrhea and vomiting
- Primary hyperaldosteronism (Conn syndrome)
- A complication of acetaminophen overdose
- Diabetes - the potassium level may fall after you take insulin, particularly if you have not managed your diabetes well.
- As a side-effect of "water pills" (potassium-wasting diuretics); if you take these, your healthcare provider may check your potassium level regularly.
- Use of certain drugs such as corticosteroids, beta-adrenergic agonists such as isoproterenol, alpha-adrenergic antagonists such as clonidine, antibiotics such as gentamicin and carbenicillin, and the antifungal agent amphotericin B

Potassium urine levels are usually compared with blood levels. The body normally eliminates excess potassium, so the urine level may be elevated because it is elevated in the blood. Urine potassium may also be elevated when the body is losing too much potassium. In this case, the blood level would be normal to low. If blood potassium levels are low due to not consuming enough, then urine concentrations will also be low.

4

- Decreased urine potassium levels may be due to certain drugs such as NSAIDs, beta blockers, and lithium or due to the adrenal glands producing too little of the hormone aldosterone.
- Increased urine potassium levels may be due to kidney disease, eating disorders such as anorexia, or muscle damage.

My potassium level is only slightly out of range. What does this mean?

Your potassium result is interpreted by your healthcare practitioner within the context of other tests that you have had done as well as other factors, such as your medical history. A single high or low result may or may not have medical significance. Generally, this is the case when the test value is only slightly higher or lower than the reference range. This is why healthcare practitioners may repeat a test on you and why they may look at results from prior times when you had the same test performed.

On the other hand, a result outside the range may indicate a problem and warrant further investigation. Your healthcare practitioner will evaluate your test results and determine whether a result that falls outside of the reference range means something significant for you.

What are appropriate treatments for the common causes of low potassium (hypokalemia) and high potassium (hyperkalemia)?

Treatment for low potassium may include taking potassium chloride supplements and eating more potassium-rich foods, such as bananas, beef

What are appropriate treatments for the common causes of low potassium (hypokalemia) and high potassium (hyperkalemia)?

Treatment for low potassium may include taking potassium chloride supplements and eating more potassium-rich foods, such as bananas, beef or spinach. Treatment for high potassium may include the use of diuretics, kidney dialysis, or insulin injections.

What are some good dietary sources of potassium?

Foods high in potassium include many fruits and vegetables, such as bananas, cantaloupe, grapefruit, oranges, tomatoes, honeydew melons, squash, and potatoes. Other foods such as legumes, nuts, and seeds are good sources of potassium too.

Is there a home test I can use to check my potassium level?

No. Electrolyte tests are performed by trained personnel using sophisticated instruments.

4

Is there anything else I should know?

Potassium levels can be falsely elevated by a variety of circumstances surrounding specimen collection and specimen processing. For example, if you clench and relax your fist repeatedly while your blood sample is drawn, the potassium level in the blood may increase. If blood samples are delayed in getting to the lab or if the blood tubes are subjected to rough handling in transit, potassium may leak from red blood cells and falsely elevate the potassium in the serum. A healthcare practitioner may question elevated potassium results when the numbers do not fit the clinical condition. If there are any questions as to how the blood was collected, the healthcare practitioner may request that the test be repeated to verify results.

All guidelines referred to by LAB TESTS ONLINE are based on published American Medical Guidelines. These might differ slightly from Canadian Medical Guidelines. Please consult with your ordering Health Care Provider, if you have any questions.

Collection instructions for tests may vary between laboratories. Please consult the LifeLabs test directory at www.LifeLabs.com for collection instructions.

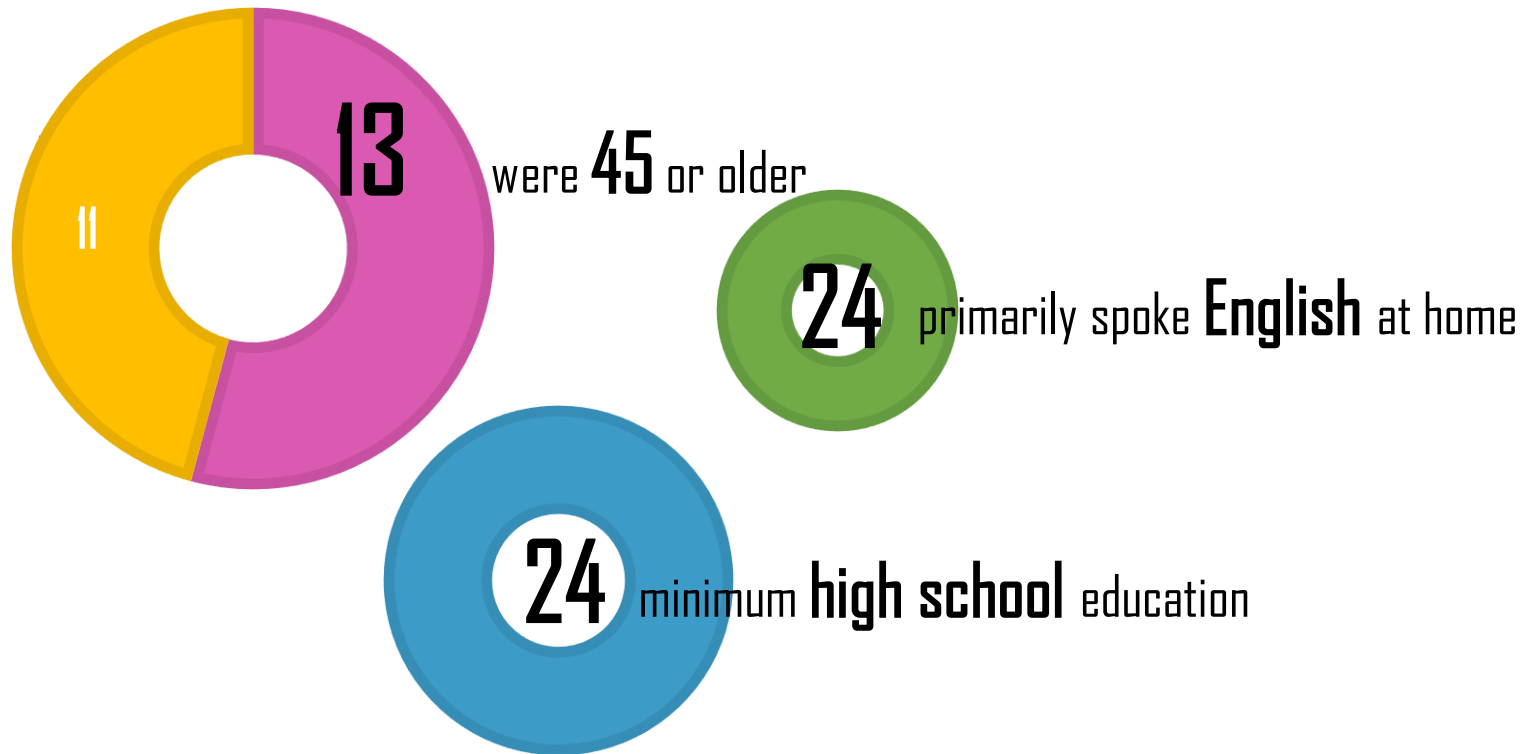
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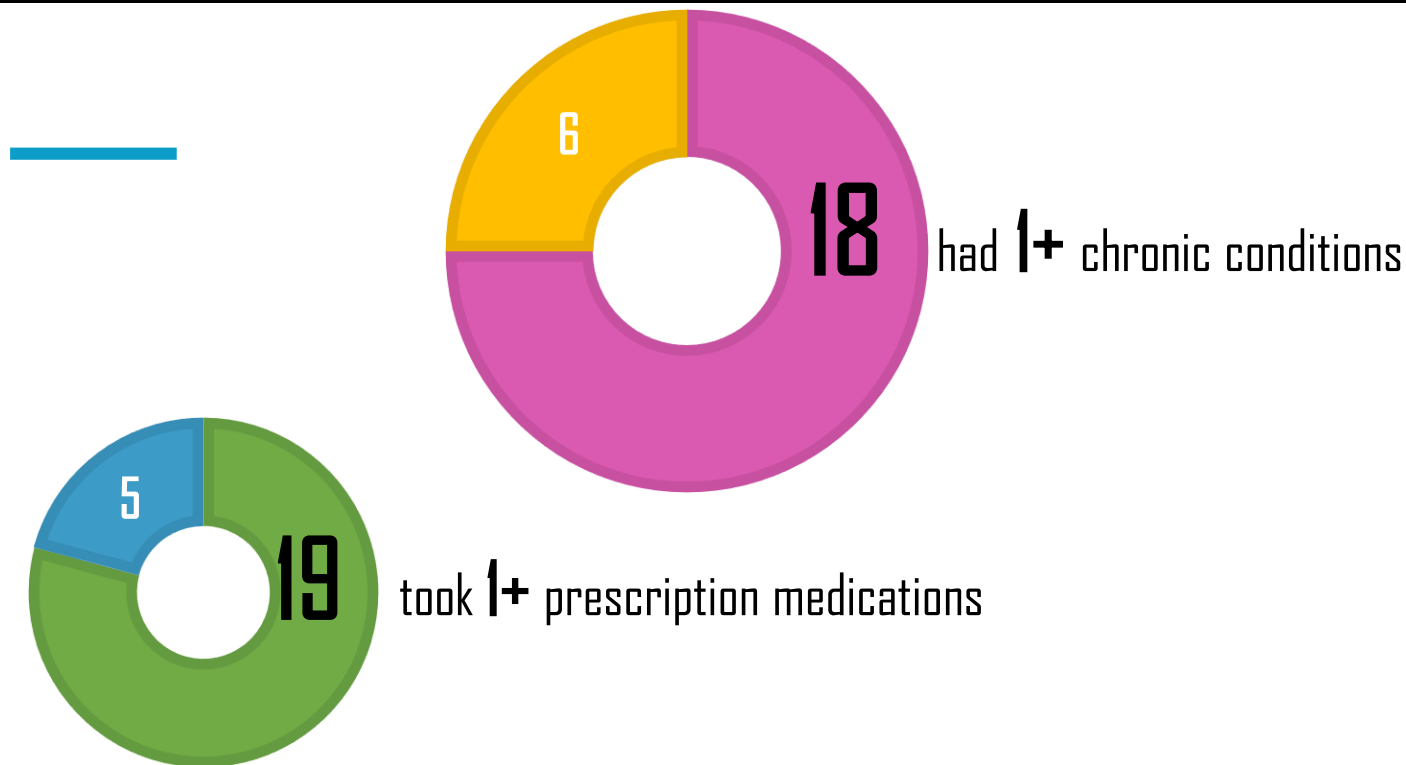


Sample: N = 24

\$25 CAD

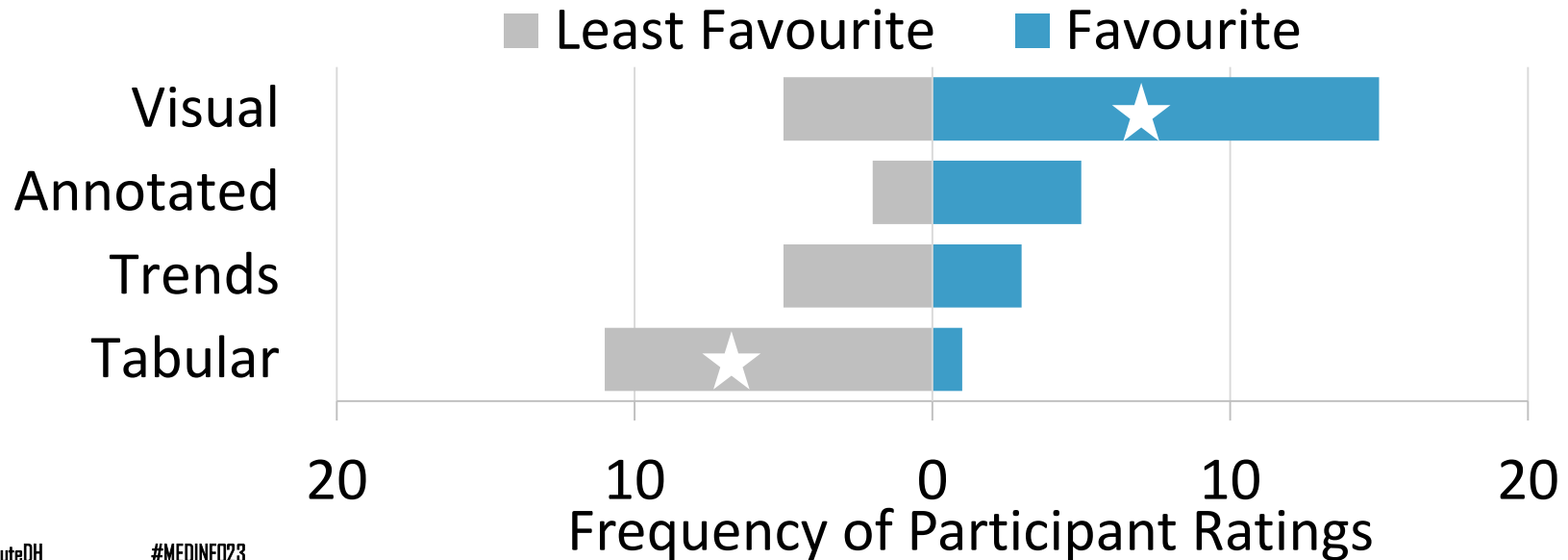








More chose the visual lab results display as their **favourite** than the traditional display ($z = -2.746$, $p = .006$)



[illegible]

It's got the most visual indicators; it's got a lot of information. But that actually is conveyed without having to do tons of tons of reading or scrolling through figures. And I do think that that, like people are used to seeing sort of traffic light indicators in lots of areas of life. I like the fact that it's got that sort of like, quick heads up at the top that says, you know, these are the three things that are out of range.





Summary

- Participants preferred visual displays of lab results over traditional tabular displays
 - Some evidence that suggests people also *perform* better with visual displays
- We should be exploring other display options for lab results
 - Enhancing visual components may increase engagement, usability, and understanding



Thank
you!!

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