

Date: October 7, 2019
To: North East Central Zone Physicians, Laboratory Directors, Managers and Supervisors
From: Clinical Biochemistry, APL North Sector
Re: Changes to Reference Intervals of Sodium, Potassium, Chloride, Albumin, Total Protein, Calcium, Total Bilirubin, Alkaline Phosphatase, Phosphate, Total CO2 and Critical Values of Potassium

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Key Message:

- Effective **October 15, 2019**, critical values for potassium and reference intervals for the following analytes will be updated to reflect the new provincial reference intervals (table attached):
 - Sodium
 - Potassium
 - Chloride
 - Albumin
 - Total Protein
 - Calcium
 - Total Bilirubin
 - Alkaline Phosphatase
 - Phosphate
 - Total CO2
- There will be no critical value for Total CO2.

Why this is important:

- New provincial reference intervals are evidence-based and have been developed based on the statistics obtained on the local population

Action Required:

- Please be aware of the changes in reference intervals and critical values

Background:

- The change in reference intervals and critical values is a part of standardization of the processes within APL South and North Sector.

Inquiries and feedback may be directed to:

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This bulletin has been reviewed and approved by:

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Analyte	Age	Reference Interval	Units	Gender	Critical Value
Sodium	0 - 150 yrs	135 - 145	mmol/L	M, F & U	<120 & >155
Potassium	0 - 28 days	3.5 - 6.0	mmol/L	M, F & U	<3.0 & >6.4
	29 days - 364 days	3.5 - 5.5	mmol/L	M, F & U	<3.0 & >6.0
	1 yr - 150 yrs	3.5 - 5.0	mmol/L	M, F & U	1yr- 17 yrs: <3.0 & >6.0 ≥18 yrs: <2.6 & >6.2
Chloride	0 - 150 yrs	98 - 112	mmol/L	M, F & U	None
Albumin	0 - 364 days	22 - 45	g/L	M, F & U	None
	365 days - 150 yrs	30 - 45	g/L	M, F & U	None
Total Protein	0 - 364 days	40 - 70	g/L	M, F & U	None
	365 days - 150 yrs	62 - 82	g/L	M, F & U	None
Calcium	0 - 10 days	1.80 - 2.90	mmol/L	M, F & U	<1.65 & >3.25
	11 - 365 days	2.20 - 2.80	mmol/L	M, F & U	<1.65 & >3.25
	>1 year	2.10 - 2.60	mmol/L	M, F & U	<1.65 & >3.25
Total Bilirubin	0 - 8 days		µmol/L	M, F & U	<30 days, >300
	9 - 28 days		µmol/L	M, F & U	
	29 days - 150 yrs	<20	µmol/L	M, F & U	
Alkaline Phosphatase	0 - 14 days	70 - 320	U/L	M, F & U	None
	15 days - 364 days	130 - 500	U/L	M, F & U	None
	1 years - 12 years	130 - 430	U/L	M, F & U	None
	13 years - 14 years	130 - 500	U/L	M & U	None
	15 years - 17 years	60 - 250	U/L	M & U	None
	13 years - 14 years	60 - 225	U/L	F	None
	15 years - 17 years	50 - 140	U/L	F	None
	18 years - 150 years	40 - 120	U/L	M, F & U	None
Phosphate	0 - 14 days	1.40 - 2.70	mmol/L	M, F & U	<0.40
	15 days - 30 days	1.60 - 2.70	mmol/L	M, F & U	<0.40
	31 days - 4 years	1.20 - 2.20	mmol/L	M, F & U	<0.40
	5 years - 12 years	1.10 - 1.90	mmol/L	M, F & U	<0.40
	13 years - 17 years	0.90 - 1.70	mmol/L	M, F & U	<0.40
	18 years - 150 years	0.70 - 1.50	mmol/L	M, F & U	<0.40
Total CO ₂	0 - 150 years	20 - 32	mmol/L	M, F & U	None