
Date: 5 November 2019
To: North Zone - QEII, former Aspen and Peace Physicians, Nurses and Laboratory Staff
From: Alberta Public Laboratories (APL)
Re: Revised - Changes to Reference Intervals and Critical values for Sodium, Potassium, Chloride, Albumin, Total Protein, Calcium, Total Bilirubin, Alkaline Phosphatase, Phosphorous and TCO₂(Non-Blood Gas)

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Key Message:

- Please see revised bulletin regarding critical calcium results. Changed from no critical values to <1.65 & >3.25
- Effective 30 October 2019 new critical values for sodium and potassium as well as 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:

- Different reference intervals and terminology are used within the province. Standardization of the reference interval is being required to maintain consistent reporting of patient results for patient care.

Action Required:

- Review new reference intervals and critical values. Result reporting will be automatically updated to reflect the new values.

Inquiries and feedback may be directed to:

- Dr. Mireille Kattar, MD, FCAP, D(ABMM), Regional Pathologist and Medical Microbiologist, Department of Laboratory Medicine and Pathology University of Alberta Hospital; mireille.kattar@albertapubliclabs.ca or 780.407.3373.
- Dr. Brent Mendez, Regional Lab Medicine Site Chief QEII Hospital at 780-538-7417 or by email at: Brent.Mendez@albertapubliclabs.ca

This bulletin has been reviewed and approved by:

- Dr. Michael Mengel, North Sector Medical Director, Alberta Public Laboratories (APL) Chair Department of Laboratory Medicine and Pathology, University of Alberta

Analyte	Age	Gender	Reference Interval	Critical Value	Units
Sodium	0-150 years	M, F & U	135 - 145	<120 & >155	mmol/L
Potassium	0-28 days	M, F & U	3.5 - 6.0	<3.0 & >6.4	mmol/L
	29-364 days		3.5 - 5.5	<3.0 & >6.0	
	≥1 year		3.5 - 5.0	1-17yr <3.0 & >6.0	
				≥18 yr <2.6 & >6.2	
Chloride	0-150 years	M, F & U	98 - 112	None	mmol/L
Albumin	<1 year	M, F & U	22 - 45	None	g/L
	≥ 1 year		30 - 45		
Total Protein	<1 year	M, F & U	40 - 70	None	g/L
	≥1 year		62 - 82		
Calcium - all sites excluding Peace River and QEII	0-10 days	M, F & U	1.80 - 2.90	<1.65 & >3.25	mmol/L
	11-365 days		2.20 - 2.80		
	>1 year		2.10 - 2.60		
Calcium - Peace River and QEII Only	0-10 days	M, F & U	1.80 - 2.70	<1.65 & >3.25	mmol/L
	11-365 days		2.20 - 2.70		
	>1 year		2.05 - 2.45		
Total Bilirubin	0-8 days	M, F & U		<30 days, >300	µmol/l
	9-28 days				
	≥28 days		<20		
Alkaline Phosphatase	0-14 days	M, F & U	70 - 320	None	U/L
	15--<1 year		130 - 500		
	≥1-12 years		130 - 430		
	13-14 years	M & U	130 - 500		
	15-17 years		60 - 250		
	13-14 years	F	60 - 225		
	15-17 years		50 - 140		
	≥18 years	M, F & U	40 - 120		
Phosphorous	0-14 days	M, F & U	1.40 - 2.70	<0.40	mmol/L
	15-30 days		1.60 - 2.70		
	31 days-4 years		1.20 - 2.20		
	5-12 years		1.10 - 1.90		
	13-17 years		0.90 - 1.70		
	≥18 years		0.70 - 1.50		
Total CO2 (Non-Blood Gas)	0-150 years	M, F & U	20 - 32	None	mmol/L