Standards for Pathology Informatics in Australia (SPIA)

Harmonised Reference Intervals

Chemical Pathology

(v2.0)

Superseding and incorporating the
Australian Pathology Units and Terminology Standards
and Guidelines (APUTS)

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Standards for Pathology Informatics in Australia (SPIA)

Previously known as the Australian Pathology Units and Terminology Standards and Guidelines (APUTS)

Australasian Reference Intervals - Chemical Pathology*

*** AACB Committee for Common Reference Intervals and AACB Paediatric Biochemistry Special Interest Group**

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1.0	Initial Australasian Reference Intervals. Prepared by the AACB Committee for Common Reference Intervals and AACB Paediatric Biochemistry Special Interest Group. To be published by the RCPA Pathology Information, Terminology and Units Standardisation (PITUS-14) Project.	Donna Moore	06-Jun-14
1.1	Fixed minor formatting issues.	Donna Moore	3-Nov-14
2.0	Updated title and added copyright information. Changed preferred name from 'Total Protein' to 'Total protein'. Added harmonised reference intervals for Bilirubin, Creatine kinase, Alanine aminotransferase, Aspartate aminotransferase, Gamma glutamyltransferase and Lipase.	Donna Moore	24-Nov-16

Australasian Reference Intervals - Chemical Pathology

Analyte	Age	Reference	Interpretation of age (days)	Interpretation of reference (units)
Sodium (LN-RCPA: 2951-2)	0d to <1w	(132–147) mmol/L	0 ≤ *d* ≤ 6	132 ≤ x ≤ 147 mmol/L
	1w to <18y	(133–144) mmol/L	7 ≤ *d* ≤ 6573	133 ≤ x ≤ 144 mmol/L
	18y to <120y	(135–145) mmol/L	6574 ≤ *d* ≤ 43829	135 ≤ x ≤ 145 mmol/L
Potassium (LN-RCPA: 2823-3) See note 1	0d to <1w	(3.8–6.5) mmol/L	0 ≤ *d* ≤ 6	3.8 ≤ x ≤ 6.5 mmol/L
	1w to <26w	(4.2–6.7) mmol/L	7 ≤ *d* ≤ 181	4.2 ≤ x ≤ 6.7 mmol/L
	26w to <2y	(3.9–5.6) mmol/L	182 ≤ *d* ≤ 729	3.9 ≤ x ≤ 5.6 mmol/L
	2y to <18y	(3.6–5.3) mmol/L	730 ≤ *d* ≤ 6573	3.6 ≤ x ≤ 5.3 mmol/L
	18y to <120y	(3.5–5.2) mmol/L	6574 ≤ *d* ≤ 43829	3.5 ≤ x ≤ 5.2 mmol/L
Chloride (LN-RCPA: 2075-0)	0d to <1w	(98–115) mmol/L	0 ≤ *d* ≤ 6	98 ≤ x ≤ 115 mmol/L
	1w to <18y	(97–110) mmol/L	7 ≤ *d* ≤ 6573	97 ≤ x ≤ 110 mmol/L
	18y to <120y	(95–110) mmol/L	6574 ≤ *d* ≤ 43829	95 ≤ x ≤ 110 mmol/L
Bicarbonate (LN-RCPA: 1963-8)	0d to <1w	(15–28) mmol/L	0 ≤ *d* ≤ 6	15 ≤ x ≤ 28 mmol/L
	1w to <2y	(16–29) mmol/L	7 ≤ *d* ≤ 729	16 ≤ x ≤ 29 mmol/L
	2y to <10y	(17–30) mmol/L	730 ≤ *d* ≤ 3651	17 ≤ x ≤ 30 mmol/L
	10y to <18y	(20–32) mmol/L	3652 ≤ *d* ≤ 6573	20 ≤ x ≤ 32 mmol/L
	18y to <120y	(22–32) mmol/L	6574 ≤ *d* ≤ 43829	22 ≤ x ≤ 32 mmol/L
Creatinine (LN-RCPA: 14682-9) See note 2 and 3	0d to <1w	(22–93) umol/L	0 ≤ *d* ≤ 6	22 ≤ x ≤ 93 umol/L
	1w to <4w	(17–50) umol/L	7 ≤ *d* ≤ 27	17 ≤ x ≤ 50 umol/L
	4w to <2y	(11–36) umol/L	28 ≤ *d* ≤ 729	11 ≤ x ≤ 36 umol/L
	2y to <6y	(20–44) umol/L	730 ≤ *d* ≤ 2190	20 ≤ x ≤ 44 umol/L
	6y to <12y	(27–58) umol/L	2191 ≤ *d* ≤ 4382	27 ≤ x ≤ 58 umol/L
	Male			
	12y to <15y	(35–83) umol/L	4383 ≤ *d* ≤ 5477	35 ≤ x ≤ 83 umol/L
	15y to <19y	(50–100) umol/L	5478 ≤ *d* ≤ 6938	50 ≤ x ≤ 100 umol/L
	19y to <60y	(60–110) umol/L	6939 ≤ *d* ≤ 21914	60 ≤ x ≤ 110 umol/L
	Female			
	12y to <15y	(35–74) umol/L	4383 ≤ *d* ≤ 5477	35 ≤ x ≤ 74 umol/L
	15y to <19y	(38–82) umol/L	5478 ≤ *d* ≤ 6938	38 ≤ x ≤ 82 umol/L
	19y to <60y	(45–90) umol/L	6939 ≤ *d* ≤ 21914	45 ≤ x ≤ 90 umol/L
Calcium (LN-RCPA: 2000-8)	0d to <1w	(1.85–2.80) mmol/L	0 ≤ *d* ≤ 6	1.85 ≤ x ≤ 2.80 mmol/L
	1w to <26w	(2.20–2.80) mmol/L	7 ≤ *d* ≤ 181	2.20 ≤ x ≤ 2.80 mmol/L
	26w to <2y	(2.20–2.70) mmol/L	182 ≤ *d* ≤ 729	2.20 ≤ x ≤ 2.70 mmol/L
	2y to <18y	(2.20–2.65) mmol/L	730 ≤ *d* ≤ 6573	2.20 ≤ x ≤ 2.65 mmol/L
	18y to <120y	(2.10–2.60) mmol/L	6574 ≤ *d* ≤ 43829	2.10 ≤ x ≤ 2.60 mmol/L
Calcium corrected for albumin (LN-RCPA: 29265-6)	18y to <120y	(2.10–2.60) mmol/L	6574 ≤ d ≤ 43829	2.10 ≤ x ≤ 2.60 mmol/L
Phosphate (LN-RCPA: 14879-1)	0d to <1w	(1.25–2.85) mmol/L	0 ≤ *d* ≤ 6	1.25 ≤ x ≤ 2.85 mmol/L
	1w to <4w	(1.50–2.75) mmol/L	7 ≤ *d* ≤ 27	1.50 ≤ x ≤ 2.75 mmol/L
	4w to <26w	(1.45–2.50) mmol/L	28 ≤ *d* ≤ 181	1.45 ≤ x ≤ 2.50 mmol/L
	26w to <1y	(1.30–2.30) mmol/L	182 ≤ *d* ≤ 364	1.30 ≤ x ≤ 2.30 mmol/L
	1y to <4y	(1.10–2.20) mmol/L	365 ≤ *d* ≤ 1460	1.10 ≤ x ≤ 2.20 mmol/L
	4y to <15y	(0.90–2.00) mmol/L	1461 ≤ *d* ≤ 5477	0.90 ≤ x ≤ 2.00 mmol/L
	15y to <18y	(0.80–1.85) mmol/L	5478 ≤ *d* ≤ 6573	0.80 ≤ x ≤ 1.85 mmol/L
	18y to <20y	(0.75–1.65) mmol/L	6574 ≤ *d* ≤ 7304	0.75 ≤ x ≤ 1.65 mmol/L
	20y to <120y	(0.75–1.50) mmol/L	7305 ≤ *d* ≤ 43829	0.75 ≤ x ≤ 1.50 mmol/L
Magnesium (LN-RCPA: 2601-3)	0d to <1w	(0.60–1.00) mmol/L	0 ≤ *d* ≤ 6	0.60 ≤ x ≤ 1.00 mmol/L
	1w to <18y	(0.65–1.10) mmol/L	7 ≤ *d* ≤ 6573	0.65 ≤ x ≤ 1.10 mmol/L
	18y to <120y	(0.70–1.10) mmol/L	6574 ≤ *d* ≤ 43829	0.70 ≤ x ≤ 1.10 mmol/L
Lactate dehydrogenase (LN-RCPA: 14804-9) See note 4	18y to <120y	(120–250) U/L	6574 ≤ d ≤ 43829	120 ≤ x ≤ 250 U/L
Alkaline phosphatase (LN-RCPA: 6768-6)	0d to <1w	(80–380) U/L	0 ≤ *d* ≤ 6	80 ≤ x ≤ 380 U/L
	1w to <4w	(120–550) U/L	7 ≤ *d* ≤ 27	120 ≤ x ≤ 550 U/L
	4w to <26w	(120–650) U/L	28 ≤ *d* ≤ 181	120 ≤ x ≤ 650 U/L
	26w to <2y	(120–450) U/L	182 ≤ *d* ≤ 729	120 ≤ x ≤ 450 U/L
	2y to <6y	(120–370) U/L	730 ≤ *d* ≤ 2190	120 ≤ x ≤ 370 U/L
	6y to <10y	(120–440) U/L	2191 ≤ *d* ≤ 3651	120 ≤ x ≤ 440 U/L
	Male			
	10y to <14y	(130–530) U/L	3652 ≤ *d* ≤ 5112	130 ≤ x ≤ 530 U/L
	14y to <15y	(105–480) U/L	5113 ≤ *d* ≤ 5477	105 ≤ x ≤ 480 U/L
	15y to <17y	(80 - 380) U/L	5478 ≤ *d* ≤ 6208	80 ≤ x ≤ 380 U/L
	17y to <19y	(50–220) U/L	6209 ≤ *d* ≤ 6938	50 ≤ x ≤ 220 U/L
	19y to <22y	(45–150) U/L	6939 ≤ *d* ≤ 8034	45 ≤ x ≤ 150 U/L
	22y to <120y	(30–110) U/L	8035 ≤ *d* ≤ 43829	30 ≤ x ≤ 110 U/L
	Female			
	10y to <13y	(100–460) U/L	3652 ≤ *d* ≤ 4747	100 ≤ x ≤ 460 U/L
	13y to <14y	(70–330) U/L	4748 ≤ *d* ≤ 5112	70 ≤ x ≤ 330 U/L
	14y to <15y	(50–280) U/L	5113 ≤ *d* ≤ 5477	50 ≤ x ≤ 280 U/L
	15y to <16y	(45–170) U/L	5478 ≤ *d* ≤ 5843	45 ≤ x ≤ 170 U/L
	16y to <22y	(35–140) U/L	5844 ≤ *d* ≤ 8034	35 ≤ x ≤ 140 U/L
	22y to <120y	(30–110) U/L	8035 ≤ *d* ≤ 43829	30 ≤ x ≤ 110 U/L
Total protein (LN-RCPA: 2885-2)	18y to <120y	(60–80) g/L	6574 ≤ *d* ≤ 43829	60 ≤ x ≤ 80 g/L
Bilirubin (LN-RCPA: 14631-6)	18y to <120y	(1 – 20) µmol/L	6574 ≤ *d* ≤ 43829	1 ≤ x ≤ 20 µmol/L
Creatine kinase (LN-RCPA: 2157-6)	**Male**			
	18y to <60y	(45 – 250) U/L	6574 ≤ *d* ≤ 21914	45 ≤ x ≤ 250 U/L
	60y to <120y	(40 – 200) U/L	21915 ≤ *d* ≤ 43829	40 ≤ x ≤ 200 U/L
	Female			
	18y to <120y	(30 – 150) U/L	6574 ≤ *d* ≤ 43829	30 ≤ x ≤ 150 U/L
Alanine aminotransferase (no pyridoxal 5-phosphate) (LN-RCPA: 1744-2)	**Male**			
	18y to <120y	(5 – 40) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 40 U/L
	Female			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
Aspartate aminotransferase (no pyridoxal 5-phosphate) (LN-RCPA: 1920-8)	**Male**			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
	Female			
	18y to <120y	(5 – 30) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 30 U/L
Gamma glutamyltransferase (LN-RCPA: 2324-2)	**Male**			
	18y to <120y	(5 – 50) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 50 U/L
	Female			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
Lipase (LN-RCPA: 3040-3) See note 5	18y to <120y	(10 – 60) U/L	6574 ≤ *d* ≤ 43829	10 ≤ x ≤ 60 U/L

Unless otherwise specified, the intervals are for serum or plasma for adults (18 years of age and older). The intervals are for use by laboratories using methods which are traceable to JCTLM-listed reference materials, methods and services (except bicarbonate where no references are listed).

LN-RCPA is the LOINC code from the RCPA dataset to be used for each analyte.

Note:

1. For reference intervals between 0w to <18y, the Potassium Reference Intervals listed in the table are for serum specimens only. Below are the Potassium Reference Intervals for when a plasma specimen is collected.

Potassium Plasma: See note 1	0d to <1w	(3.5–6.2) mmol/L	0 ≤ *d* ≤ 6	3.5 ≤ x ≤ 6.2 mmol/L
	1w to <26w	(3.8–6.4) mmol/L	7 ≤ *d* ≤ 181	3.8 ≤ x ≤ 6.4 mmol/L
	26w to <2y	(3.5–5.4) mmol/L	182 ≤ *d* ≤ 729	3.5 ≤ x ≤ 5.4 mmol/L
	2y to <18y	(3.3–4.9) mmol/L	730 ≤ *d* ≤ 6573	3.3 ≤ x ≤ 4.9 mmol/L

For reference intervals from 18y to <120y, the Potassium Reference Intervals listed are for use for both serum and plasma. Laboratories testing only heparin plasma may choose to use a lower interval.

2. Creatinine RIs are by Vitros enzymatic assay

3. Creatinine has harmonised reference intervals for adults up to the age of 60 years. For older ages laboratories may elect to maintain these.

4. Lactate dehydrogenase [L to P] (IFCC), lactate to pyruvate method (IFCC method).

5. The reference interval for adult serum lipase excludes Siemens Dimension and Ortho Clinical Vitros. There are linear relationships between the “harmonised” assay group and the Dimension and Vitros: “Harmonised” = Dimension x 0.21 - 0.6; “Harmonised” = Vitros x 0.27 +12.

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Australasian Adult Reference Intervals - Chemical Pathology				
Analyte	**Age**	**Reference**	**Interpretation of age (days)**	**Interpretation of reference (units)**
Sodium (LN-RCPA: 2951-2)	18y to <120y	(135–145) mmol/L	6574 ≤ *d* ≤ 43829	135 ≤ x ≤ 145 mmol/L
Potassium (LN-RCPA: 2823-3) See note 1	18y to <120y	(3.5–5.2) mmol/L	6574 ≤ *d* ≤ 43829	3.5 ≤ x ≤ 5.2 mmol/L
Chloride (LN-RCPA: 2075-0)	18y to <120y	(95–110) mmol/L	6574 ≤ *d* ≤ 43829	95 ≤ x ≤ 110 mmol/L
Bicarbonate (LN-RCPA: 1963-8)	18y to <120y	(22–32) mmol/L	6574 ≤ *d* ≤ 43829	22 ≤ x ≤ 32 mmol/L
Creatinine (LN-RCPA: 14682-9) See note 2	**Male**			
	19y to <60y	(60–110) umol/L	6574 ≤ *d* ≤ 43829	60 ≤ x ≤ 110 umol/L
	Female			
	19y to <60y	(45–90) umol/L	6574 ≤ *d* ≤ 43829	45 ≤ x ≤ 90 umol/L
Calcium (LN-RCPA: 2000-8)	18y to <120y	(2.10–2.60) mmol/L	6574 ≤ *d* ≤ 43829	2.10 ≤ x ≤ 2.60 mmol/L
Calcium corrected for albumin (LN-RCPA: 29265-6)	18y to <120y	(2.10–2.60) mmol/L	6574 ≤ *d* ≤ 43829	2.10 ≤ x ≤ 2.60 mmol/L
Phosphate (LN-RCPA: 14879-1) See note 3	20y to <120y	(0.75–1.50) mmol/L	6574 ≤ *d* ≤ 43829	0.75 ≤ x ≤ 1.50 mmol/L
Magnesium (LN-RCPA: 2601-3)	18y to <120y	(0.70–1.10) mmol/L	6574 ≤ *d* ≤ 43829	0.70 ≤ x ≤ 1.10 mmol/L
Lactate dehydrogenase (LN-RCPA: 14804-9) See note 4	18y to <120y	(120–250) U/L	6574 ≤ *d* ≤ 43829	120 ≤ x ≤ 250 U/L
Alkaline phosphatase (LN-RCPA: 6768-6) See note 5	22y to <120y	(30–110) U/L	6574 ≤ *d* ≤ 43829	30 ≤ x ≤ 110 U/L
Total protein (LN-RCPA: 2885-2)	18y to <120y	(60–80) g/L	6574 ≤ *d* ≤ 43829	60 ≤ x ≤ 80 g/L
Bilirubin (LN-RCPA: 14631-6)	18y to <120y	(1 – 20) µmol/L	6574 ≤ *d* ≤ 43829	1 ≤ x ≤ 20 µmol/L
Creatine kinase (LN-RCPA: 2157-6)	**Male**			
	18y to <60y	(45 – 250) U/L	6574 ≤ *d* ≤ 21914	45 ≤ x ≤ 250 U/L
	60y to <120y	(40 – 200) U/L	21915 ≤ *d* ≤ 43829	40 ≤ x ≤ 200 U/L
	Female			
	18y to <120y	(30 – 150) U/L	6574 ≤ *d* ≤ 43829	30 ≤ x ≤ 150 U/L
Alanine aminotransferase (no pyridoxal 5-phosphate) (LN-RCPA: 1744-2)	**Male**			
	18y to <120y	(5 – 40) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 40 U/L
	Female			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
Aspartate aminotransferase (no pyridoxal 5-phosphate) (LN-RCPA: 1920-8)	**Male**			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
	Female			
	18y to <120y	(5 – 30) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 30 U/L
Gamma glutamyltransferase (LN-RCPA: 2324-2)	**Male**			
	18y to <120y	(5 – 50) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 50 U/L
	Female			
	18y to <120y	(5 – 35) U/L	6574 ≤ *d* ≤ 43829	5 ≤ x ≤ 35 U/L
Lipase (LN-RCPA: 3040-3) See note 6	18y to <120y	(10 – 60) U/L	6574 ≤ *d* ≤ 43829	10 ≤ x ≤ 60 U/L

Unless otherwise specified, the intervals are for serum or plasma for adults (18 years of age and older). The intervals are for use by laboratories using methods which are traceable to JCTLM-listed reference materials, methods and services (except bicarbonate where no references are listed).

LN-RCPA is the LOINC code from the RCPA dataset to be used for each analyte.

Note:

1. This range is proposed for use for both serum and plasma. Laboratories testing only heparin plasma may choose to use a lower interval.
2. Creatinine has harmonised reference intervals for adults up to the age of 60 years. For older ages laboratories may elect to maintain these.
3. Starting at age 20 years to align with paediatric intervals.
4. Lactate dehydrogenase [L to P] (IFCC), lactate to pyruvate method (IFCC method).
5. Starting at age 22 years to align with paediatric intervals.
6. The reference interval for adult serum lipase excludes Siemens Dimension and Ortho Clinical Vitros. There are linear relationships between the “harmonised” assay group and the Dimension and Vitros: “Harmonised” = Dimension x 0.21 - 0.6; “Harmonised” = Vitros x 0.27 +12.

Australasian Paediatric Reference Intervals - Chemical Pathology				
Analyte	**Age**	**Reference**	**Interpretation of age (days)**	**Interpretation of reference (units)**
Sodium (LN-RCPA: 2951-2)	0d to <1w	(132–147) mmol/L	$0 \le d \le 6$	132 ≤ x ≤ 147 mmol/L
	1w to <18y	(133–144) mmol/L	$7 \le d \le 6573$	133 ≤ x ≤ 144 mmol/L
	18y to <120y	(135–145) mmol/L	$6574 \le d \le 43829$	135 ≤ x ≤ 145 mmol/L
Potassium (LN-RCPA: 2823-3) See note 1	0d to <1w	(3.8–6.5) mmol/L	$0 \le d \le 6$	3.8 ≤ x ≤ 6.5 mmol/L
	1w to <26w	(4.2–6.7) mmol/L	$7 \le d \le 181$	4.2 ≤ x ≤ 6.7 mmol/L
	26w to <2y	(3.9–5.6) mmol/L	$182 \le d \le 729$	3.9 ≤ x ≤ 5.6 mmol/L
	2y to <18y	(3.6–5.3) mmol/L	$730 \le d \le 6573$	3.6 ≤ x ≤ 5.3 mmol/L
	18y to <120y	(3.5–5.2) mmol/L	$6574 \le d \le 43829$	3.5 ≤ x ≤ 5.2 mmol/L
Chloride (LN-RCPA: 2075-0)	0d to <1w	(98–115) mmol/L	$0 \le d \le 6$	98 ≤ x ≤ 115 mmol/L
	1w to <18y	(97–110) mmol/L	$7 \le d \le 6573$	97 ≤ x ≤ 110 mmol/L
	18y to <120y	(95–110) mmol/L	$6574 \le d \le 43829$	95 ≤ x ≤ 110 mmol/L
Bicarbonate (LN-RCPA: 1963-8)	0d to <1w	(15–28) mmol/L	$0 \le d \le 6$	15 ≤ x ≤ 28 mmol/L
	1w to <2y	(16–29) mmol/L	$7 \le d \le 729$	16 ≤ x ≤ 29 mmol/L
	2y to <10y	(17–30) mmol/L	$730 \le d \le 3651$	17 ≤ x ≤ 30 mmol/L
	10y to <18y	(20–32) mmol/L	$3652 \le d \le 6573$	20 ≤ x ≤ 32 mmol/L
	18y to <120y	(22–32) mmol/L	$6574 \le d \le 43829$	22 ≤ x ≤ 32 mmol/L
Creatinine (LN-RCPA: 14682-9) See note 2 and 3	0d to <1w	(22–93) umol/L	$0 \le d \le 6$	22 ≤ x ≤ 93 umol/L
	1w to <4w	(17–50) umol/L	$7 \le d \le 27$	17 ≤ x ≤ 50 umol/L
	4w to <2y	(11–36) umol/L	$28 \le d \le 729$	11 ≤ x ≤ 36 umol/L
	2y to <6y	(20–44) umol/L	$730 \le d \le 2190$	20 ≤ x ≤ 44 umol/L
	6y to <12y	(27–58) umol/L	$2191 \le d \le 4382$	27 ≤ x ≤ 58 umol/L
	Male			
	12y to <15y	(35–83) umol/L	$4383 \le d \le 5477$	35 ≤ x ≤ 83 umol/L
	15y to <19y	(50–100) umol/L	$5478 \le d \le 6938$	50 ≤ x ≤ 100 umol/L
	19y to <60y	(60–110) umol/L	$6939 \le d \le 21914$	60 ≤ x ≤ 110 umol/L
	Female			
	12y to <15y	(35–74) umol/L	$4383 \le d \le 5477$	35 ≤ x ≤ 74 umol/L
	15y to <19y	(38–82) umol/L	$5478 \le d \le 6938$	38 ≤ x ≤ 82 umol/L
	19y to <60y	(45–90) umol/L	$6939 \le d \le 21914$	45 ≤ x ≤ 90 umol/L
Calcium (LN-RCPA: 2000-8)	0d to <1w	(1.85–2.80) mmol/L	$0 \le d \le 6$	1.85 ≤ x ≤ 2.80 mmol/L
	1w to <26w	(2.20–2.80) mmol/L	$7 \le d \le 181$	2.20 ≤ x ≤ 2.80 mmol/L
	26w to <2y	(2.20–2.70) mmol/L	$182 \le d \le 729$	2.20 ≤ x ≤ 2.70 mmol/L
	2y to <18y	(2.20–2.65) mmol/L	$730 \le d \le 6573$	2.20 ≤ x ≤ 2.65 mmol/L
	18y to <120y	(2.10–2.60) mmol/L	$6574 \le d \le 43829$	2.10 ≤ x ≤ 2.60 mmol/L
Phosphate (LN-RCPA: 14879-1)	0d to <1w	(1.25–2.85) mmol/L	$0 \le d \le 6$	1.25 ≤ x ≤ 2.85 mmol/L
	1w to <4w	(1.50–2.75) mmol/L	$7 \le d \le 27$	1.50 ≤ x ≤ 2.75 mmol/L
	4w to <26w	(1.45–2.50) mmol/L	$28 \le d \le 181$	1.45 ≤ x ≤ 2.50 mmol/L
	26w to <1y	(1.30–2.30) mmol/L	$182 \le d \le 364$	1.30 ≤ x ≤ 2.30 mmol/L
	1y to <4y	(1.10–2.20) mmol/L	$365 \le d \le 1460$	1.10 ≤ x ≤ 2.20 mmol/L
	4y to <15y	(0.90–2.00) mmol/L	$1461 \le d \le 5477$	0.90 ≤ x ≤ 2.00 mmol/L
	15y to <18y	(0.80–1.85) mmol/L	$5478 \le d \le 6573$	0.80 ≤ x ≤ 1.85 mmol/L
	18y to <20y	(0.75–1.65) mmol/L	$6574 \le d \le 7304$	0.75 ≤ x ≤ 1.65 mmol/L
	20y to <120y	(0.75–1.50) mmol/L	$7305 \le d \le 43829$	0.75 ≤ x ≤ 1.50 mmol/L
Magnesium (LN-RCPA: 2601-3)	0d to <1w	(0.60–1.00) mmol/L	$0 \le d \le 6$	0.60 ≤ x ≤ 1.00 mmol/L
	1w to <18y	(0.65–1.10) mmol/L	$7 \le d \le 6573$	0.65 ≤ x ≤ 1.10 mmol/L
	18y to <120y	(0.70–1.10) mmol/L	$6574 \le d \le 43829$	0.70 ≤ x ≤ 1.10 mmol/L
Alkaline phosphatase (LN-RCPA: 6768-6)	0d to <1w	(80–380) U/L	$0 \le d \le 6$	80 ≤ x ≤ 380 U/L
	1w to <4w	(120–550) U/L	$7 \le d \le 27$	120 ≤ x ≤ 550 U/L
	4w to <26w	(120–650) U/L	$28 \le d \le 181$	120 ≤ x ≤ 650 U/L
	26w to <2y	(120–450) U/L	$182 \le d \le 729$	120 ≤ x ≤ 450 U/L
	2y to <6y	(120–370) U/L	$730 \le d \le 2190$	120 ≤ x ≤ 370 U/L
	6y to <10y	(120–440) U/L	$2191 \le d \le 3651$	120 ≤ x ≤ 440 U/L
	Male			
	10y to <14y	(130–530) U/L	$3652 \le d \le 5112$	130 ≤ x ≤ 530 U/L
	14y to <15y	(105–480) U/L	$5113 \le d \le 5477$	105 ≤ x ≤ 480 U/L
	15y to <17y	(80 - 380) U/L	$5478 \le d \le 6208$	80 ≤ x ≤ 380 U/L
	17y to <19y	(50–220) U/L	$6209 \le d \le 6938$	50 ≤ x ≤ 220 U/L
	19y to <22y	(45–150) U/L	$6939 \le d \le 8034$	45 ≤ x ≤ 150 U/L
	22y to <120y	(30–110) U/L	$8035 \le d \le 43829$	30 ≤ x ≤ 110 U/L
	Female			
	10y to <13y	(100–460) U/L	$3652 \le d \le 4747$	100 ≤ x ≤ 460 U/L
	13y to <14y	(70–330) U/L	$4748 \le d \le 5112$	70 ≤ x ≤ 330 U/L
	14y to <15y	(50–280) U/L	$5113 \le d \le 5477$	50 ≤ x ≤ 280 U/L
	15y to <16y	(45–170) U/L	$5478 \le d \le 5843$	45 ≤ x ≤ 170 U/L
	16y to <22y	(35–140) U/L	$5844 \le d \le 8034$	35 ≤ x ≤ 140 U/L
	22y to <120y	(30–110) U/L	$8035 \le d \le 43829$	30 ≤ x ≤ 110 U/L

LN-RCPA is the LOINC code from the RCPA dataset to be used for each analyte.

Note:

1. Potassium Reference Intervals are for serum specimens. Below are the Potassium Reference Intervals for when a plasma specimen is collected.

Potassium Plasma: See note 1	0d to <1w	(3.5–6.2) mmol/L	$0 \le d \le 6$	3.5 ≤ x ≤ 6.2 mmol/L
	1w to <26w	(3.8–6.4) mmol/L	$7 \le d \le 181$	3.8 ≤ x ≤ 6.4 mmol/L
	26w to <2y	(3.5–5.4) mmol/L	$182 \le d \le 730$	3.5 ≤ x ≤ 5.4 mmol/L
	2y to <18y	(3.3–4.9) mmol/L	$731 \le d \le 6574$	3.3 ≤ x ≤ 4.9 mmol/L

2. Reference intervals for patients <19y are specific for labs who use the Ortho Vitros Enzymatic creatinine assay.

3. Creatinine has harmonised reference intervals for patients up to the age 60 years. The reference intervals above this age are currently under review.