

# Allowable Limits of Performance

## Programs, Analytes and Allowable Limits of Performance

ALCOHOL/AMMONIA	Reviewed January 2012
Alcohol	± 2.0 up to 20.0 mmol/L; 10% > 20.0 mmol/L
Ammonia	± 5 up to 50 µmol/L; 20% > 50 µmol/L

ANTIBIOTICS	Reviewed April 2013
Amikacin	± 2.0 up to 19.9 mg/L; 10% > 19.9 mg/L
Gentamicin	± 0.2 up to 2.0 mg/L; 10% > 2.0 mg/L
Tobramycin	± 0.2 up to 2.0 mg/L; 10% > 2.0 mg/L
Vancomycin	± 2.0 up to 20.3 mg/L; 10% > 20.3 mg/L

BILE ACIDS	Reviewed January 2012
Total Bile Acids	± 4 up to 40 µmol/L; 10% > 40 µmol/L

BIOGENIC AMINES	Reviewed April 2012
Adrenaline	± 30 up to 100 nmol/L; 30% > 100 nmol/L
Dopamine	± 0.20 up to 2.0 µmol/L; 10% > 2.0 µmol/L
5HIAA	± 8 up to 40 µmol/L; 20% > 40 µmol/L
HMMA	± 6 up to 40 µmol/L; 15% > 40 µmol/L
HVA	± 6 up to 40 µmol/L; 15% > 40 µmol/L
Metanephrine	± 0.2 up to 1.0 µmol/L; 20% > 1.0 µmol/L
Noradrenaline	± 75 up to 500 nmol/L; 15% > 500 nmol/L
Normetanephrine	± 0.4 up to 2.0 µmol/L; 20% > 2.0 µmol/L
3 - Methoxytyramine	± 0.3 up to 2.0 µmol/L; 15% > 2.0 µmol/L
Serotonin	± 0.2 up to 1.0 µmol/L; 20% > 1.0 µmol/L

BLOOD GASES	Reviewed January 2012
Chloride	± 3.0 mmol/L
Glucose	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
Ionised Calcium	± 0.05 mmol/L
Lactate	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
pH	± 0.04
pCO <sub>2</sub>	± 2.0 up to 25.0 mm Hg; 8% > 25.0 mm Hg
pO <sub>2</sub>	± 5 up to 100 mm Hg; 5% > 100 mm Hg
Potassium	± 0.2 mmol/L
Sodium	± 3.0 mmol/L
Urea	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
Creatinine	± 10 up to 100 mmol/L; 10% > 100 mmol/L

CO-OXIMETRY	Reviewed January 2012
Haemoglobin Concentration	± 3 up to 100 g/L; 3% > 100 g/L
Fractional Oxyhaemoglobin	± 3 up to 75.0%; 4% > 75.0%
Fractional Carboxyhaemoglobin	± 2.0%
Fractional Methaemoglobin	± 1.0 up to 10.0%; 10% > 10%

BNP	Reviewed January 2012
NT-Pro BNP	± 25 up to 125 ng/L; 20% > 125 ng/L
BNP	± 20 up to 100 ng/L; 20% > 100 ng/L

CSF	Reviewed April 2013
Albumin	± 0.02 up to 0.45 g/L; 5% > 0.45 g/L
Glucose	± 0.2 up to 2.0 mmol/L; 10% > 2.0 mmol/L
Immunoglobulin G	± 0.02 up to 0.10 g/L; 20% > 0.10 g/L
Lactate	± 0.3 up to 3.0 mmol/L; 10% > 3.0 mmol/L
Total Protein	± 0.02 up to 0.45 g/L; 5% > 0.45 g/L
Bilirubin Concentration	± 0.12 up to 0.60 µmol/L; 20% > 0.60 µmol/L
Xanthochromia-Bilirubin screen	± 0.002 up to 0.007 AU; 20% > 0.007 AU
Xanthochromia – Haemoglobin screen	± 0.02 up to 0.10 AU; 20% > 0.10 AU

ENDOCRINE	Reviewed January 2012
AFP	± 2 up to 17 kIU/L; 12% > 17 kIU/L
Aldosterone	± 24 up to 160 pmol/L; 15% > 160 pmol/L
Androstenedione	± 1.5 up to 10 nmol/L; 15% > 10 nmol/L
CA125	± 6 up to 50 kU/L; 12% > 50 kU/L
CEA	± 0.6 up to 5.0 µg/L; 12% > 5.0 µg/L
Cortisol	± 15 up to 100 nmol/L; 15% > 100 nmol/L
DHEA Sulphate	± 1.2 up to 10.0 µmol/L; 12% > 10.0 µmol/L
Ferritin	± 4.0 up to 27.0 µg/L; 15% > 27.0 µg/L
Folate	± 1.5 up to 6.0 nmol/L; 25% > 6.0 nmol/L
FSH	± 1.0 up to 10.0 IU/L; 10% > 10.0 IU/L
Growth Hormone	± 1 up to 7 mU/L; 15% > 7 mU/L
hCG	± 1 up to 10 IU/L; 10% > 10 IU/L
Homocysteine	± 1.5 up to 15.0 µmol/L; 10% > 15.0 µmol/L
17-Hydroxyprogesterone	± 2.0 up to 10.0 nmol/L; 20% > 10.0 nmol/L
Insulin	± 0.6 up to 5.0 mU/L; 12% > 5.0 mU/L
LH	± 1.5 up to 10.0 IU/L; 15% > 10.0 IU/L
Oestradiol	± 25 up to 100 pmol/L; 25% > 100 pmol/L

Oestriol(Unconjugated)	± 0.9 up to 6.0 nmol/L; 15% > 6.0 nmol/L
PTH	± 1.0 up to 8.0 pmol/L; 12% > 8.0 pmol/L
Progesterone	± 2 up to 10 nmol/L; 15% > 10 nmol/L
Prolactin	± 40 up to 400 mIU/L; 10% > 400 mIU/L
SHBG	± 6 up to 50 nmol/L; 12% > 50 nmol/L
Testosterone	± 0.4 up to 2.7 nmol/L; 15% > 2.7 nmol/L
TSH	± 0.10 up to 0.50 mU/L; 20% > 0.50 mU/L
Free T3	± 0.7 up to 3.5 pmol/L; 20% > 3.5 pmol/L
Free T4	± 1.5 up to 12 pmol/L; 12% > 12 pmol/L
Total T3	± 0.2 up to 1.3 nmol/L; 15% > 1.3 nmol/L
Total Thyroxine	± 12 up to 120 nmol/L; 10% > 120 nmol/L
Vitamin B12	± 18 up to 120 pmol/L; 15% > 120 pmol/L
Vitamin D3	± 9 up to 60 nmol/L; 15 % 60 nmol/L
Total PSA	± 0.4 up to 5.0 µg/L; 8% > 5.0 µg/L
Free PSA	± 0.2 up to 1.4 µg/L; 15% > 1.4 µg/L
ACE	± 1.0 up to 10.0 U/L; 10% > 10.0 U/L
Red Cell Folate	± 80 up to 400 nmol/L; 20% > 400 nmol/L

#### GENERAL SERUM CHEMISTRY / CONDENSED SERUM CHEMISTRY

Reviewed January 2012

Albumin	± 2.0 up to 33.0 g/L; 6% > 33.0 g/L
Alkaline Phosphatase	± 15 up to 125 U/L; 12% > 125 U/L
ALT	± 5 up to 40 U/L; 12% > 40 U/L
Amylase	± 10 up to 100 U/L; 10% > 100 U/L
AST	± 5 up to 40 U/L; 12% > 40 U/L
Bicarbonate	± 2.0 up to 20.0 mmol/L; 10% > 20.0 mmol/L
Bilirubin-Total	± 3 up to 25 µmol/L; 12% > 25 µmol/L
Bilirubin Conjugated	± 3 up to 15 µmol/L; 20% > 15 µmol/L
Calcium	± 0.10 up to 2.50 mmol/L; 4% > 2.50 mmol/L
Chloride	± 3 up to 100 mmol/L; 3% > 100 µmol/L
Cholesterol	± 0.30 up to 5.00 mmol/L; 6% > 5.00 mmol/L
Cholinesterase	± 500 up to 5000 U/L; 10% > 5000 U/L
Creatine Kinase	± 15 up to 125 U/L; 12% > 125 U/L
CK-MB	± 3 up to 15 U/L or µg/L; 20% > 15 U/L or µg/L
Cortisol	± 15 up to 100 nmol/L; 15% > 100 nmol/L
Creatinine	± 8.0 up to 100.0 µmol/L; 8% > 100.0 µmol/L
Ferritin	± 4.0 up to 27 µg/L; 15% > 27 µg/L
Fructosamine	± 15 up to 250 µmol/L; 6% > 250 µmol/L
Glucose	± 0.4 up to 5.0 mmol/L; 8% > 5.0 mmol/L
GGT	± 5 up to 40 U/L; 12% > 40 U/L
hCG-quantitative	± 1.0 up to 10.0 IU/L; 10% > 10.0 IU/L
HDL Cholesterol	± 0.10 up to 0.80 mmol/L; 12% > 0.80 mmol/L
Iron	± 3.0 up to 25.0 µmol/L; 12% > 25.0 µmol/L
Lactate Dehydrogenase	± 20 up to 250 U/L; 8% > 250 U/L
Lactate	± 0.5 up to 4.0 mmol/L; 12% > 4.0 mmol/L
Lipase	± 12 up to 60 U/L; 20% > 60 U/L

Lithium	± 0.20 up to 2.0 mmol/L; 10% > 2.0 mmol/L
Magnesium	± 0.10 up to 1.25 mmol/L; 8% > 1.25 mmol/L
Osmolality	± 8 up to 266 mmol/kg; 3% > 266 mmol/kg
Phosphate	± 0.06 up to 0.75 mmol/L; 8% > 0.75 mmol/L
Potassium	± 0.2 up to 4.0 mmol/L; 5% > 4.0 mmol/L
Protein (Total)	± 3 up to 60 g/L; 5% > 60 g/L
Sodium	± 3 up to 150 mmol/L; 2% > 150 mmol/L
Total T3	± 0.2 up to 1.3 nmol/L; 15% > 1.3 nmol/L
Free T3	± 0.7 up to 3.5 pmol/L; 20% > 3.5 pmol/L
Free T4	± 1.5 up to 12.0 pmol/L; 12% > 12.0 pmol/L
TSH	± 0.1 up to 0.5 mU/L; 20% > 0.5 mU/L
Total T4	± 12 up to 120 nmol/L; 10% > 120 nmol/L
TIBC	± 4.0 up to 50.0 µmol/L; 8% > 50.0 µmol/L
Transferrin	± 0.20 up to 2.50 g/L; 8% > 2.50 g/L
Triglyceride	± 0.20 up to 1.60 mmol/L; 12% > 1.60 mmol/L
Troponin I	± 0.002 up to 0.010 µg/L; 20% > 0.010 µg/L
Troponin T	± 0.01 up to 0.050 µg/L; 20% > 0.050 µg/L
Urate	± 0.030 up to 0.380 mmol/L; 8% > 0.380 mmol/L
Urea	± 0.5 up to 4.0 mmol/L; 12% > 4.0 mmol/L

#### GENERAL THERAPEUTIC DRUGS / CONDENSED SERUM CHEMISTRY

Reviewed April 2013

Carbamazepine	± 0.5 up to 4.7 mg/L; 10% > 4.7 mg/L
Digoxin	± 0.2 up to 1.6 µg/L; 10% > 1.6 µg/L
Gentamicin	± 0.2 up to 2.0 mg/L; 10% > 2.0 mg/L
Paracetamol	± 3.0 up to 30.0 mg/L; 10% > 30.0 mg/L
Phenobarbitone	± 0.7 up to 7.0 mg/L; 10% > 7.0 mg/L
Phenytoin	± 8.0 up to 7.6 mg/L; 10% > 7.6 mg/L
Salicylate	± 14.0 up to 143.0 mg/L; 10% > 143.0 mg/L
Theophylline	± 0.5 up to 5.4 mg/L; 10% > 5.4 mg/L
Valproate	± 4.0 up to 36.0 mg/L; 10% > 36.0 mg/L
Vancomycin	± 0.2 up to 20.3 mg/L; 10% > 20.3 mg/L

#### GLYCOHAEMOGLOBIN

Reviewed July 2013

HbA1c (NGSP) (%)	± 0.4 up to 6.7%; 6% > 6.7%
HbA1c (IFCC) (mmol/mol)	± 4 up to 45 mmol/mol; 8% > 45 mmol/mol

#### IGF-1 / C PEPTIDE

Reviewed February 2012

IGF-1	± 3 up to 25 nmol/L; 12% > 25 nmol/L
C Peptide	± 0.15 up to 1.25 nmol/L; 12% > 1.25 nmol/L
IGFBP-3	± 15.0 up to 100 nmol/L; 15% > 100 nmol/L

#### IMMUNOSUPPRESSANTS

Reviewed April 2013

Cyclosporin	± 10 up to 100 µg/L; 10% > 100 µg/L
Sirolimus	± 0.5 up to 5.0 µg/L; 10% > 5.0 µg/L
Tacrolimus	± 0.5 up to 5.0 µg/L; 10% > 5.0 µg/L

<b>POINT OF CARE CHEMISTRY</b>	<b>Reviewed April 2012</b>
Albumin	± 2.0 up to 33.0 g/L; 6% > 33.0 g/L
Alkaline Phosphatase	± 15 up to 125 U/L; 12% > 125 U/L
ALT	± 5 up to 40 U/L; 12% > 40 U/L
Amylase	± 10 up to 100 U/L; 10% > 100 U/L
AST	± 5 up to 40 U/L; 12% > 40 U/L
Bicarbonate	± 2.0 up to 20.0 mmol/L; 10% > 20.0 mmol/L
Bilirubin Conjugated	± 3 up to 15 µmol/L; 20% > 15 µmol/L
Bilirubin-Total	± 3 up to 25 µmol/L; 12% > 25 µmol/L
Calcium	± 0.10 up to 2.50 mmol/L; 4% > 2.50 mmol/L
Chloride	± 3 up to 100 mmol/L; 3% > 100 µmol/L
Cholesterol	± 0.30 up to 5.00 mmol/L; 6% > 5.00 mmol/L
Creatine Kinase	± 15 up to 125 U/L; 12% > 125 U/L
Creatinine	± 8.0 up to 100.0 µmol/L; 8% > 100.0 µmol/L
Glucose	± 0.4 up to 5.0 mmol/L; 8% > 5.0 mmol/L
GGT	± 5 up to 40 U/L; 12% > 40 U/L
HDL Cholesterol	± 0.10 up to 0.80 mmol/L; 12% > 0.80 mmol/L
Lactate Dehydrogenase	± 20 up to 250 U/L; 8% > 250 U/L
Magnesium	± 0.10 up to 1.25 mmol/L; 8% > 1.25 mmol/L
Phosphate	± 0.06 up to 0.75 mmol/L; 8% > 0.75 mmol/L
Potassium	± 0.2 up to 4.0 mmol/L; 5% > 4.0 mmol/L
Protein (Total)	± 3 up to 60 g/L; 5% > 60 g/L
Sodium	± 3 up to 150 mmol/L; 2% > 150 mmol/L
Triglyceride	± 0.20 up to 1.60 mmol/L; 12% > 1.60 mmol/L
Urate	± 0.030 up to 0.380 mmol/L; 8% > 0.380 mmol/L
Urea	± 0.5 up to 4.0 mmol/L; 12% > 4.0 mmol/L

<b>POINT OF CARE TROPONIN</b>	<b>Reviewed April 2012</b>
Troponin I	± 0.00 up to 0.01 µg/L; 20% > 0.01 µg/L
Troponin T (Quantitative)	± 0 up to 10 ng/L; 20% > 10 ng/L

<b>POINT OF CARE BLOOD GASES</b>	
pH	± 0.04
pCO2	± 2.0 up to 25.0 mm Hg; 8% > 25.0 mm Hg
pO2	± 5 up to 100 mm Hg; 5% > 100 mm Hg
TCO2	± 2.0 up to 25.0 mmol/L; 8% > 25.0 mmol/L
Lactate	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
Sodium	± 3.0 mmol/L
Potassium	± 0.2 mmol/L
Chloride	± 3.0 mmol/L
Ionised Calcium	± 0.05 mmol/L
Glucose	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
Urea	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L
Creatinine	± 10 up to 100 mmol/L; 10% > 100 mmol/L
Haematocrit	± 4 up to 20%; 20% > 20
Haemoglobin	± 4 up to 100 g/L; 4% > 100 g/L

<b>NEONATAL BILIRUBIN</b>	<b>Reviewed January 2012</b>
Total Bilirubin	± 8 up to 80 µmol/L; 10% > 80 µmol/L
Conjugated Bilirubin	± 3 up to 15 µmol/L; 20% > 15 µmol/L

<b>PLASMA METANEPHRINES</b>	<b>Reviewed April 2012</b>
Metanephrine	± 75 up to 500 pmol/L; 15% > 500 pmol/L
Normetanephrine	± 200 up to 1000 pmol/L; 20% > 1000 pmol/L
Methoxytyramine	± 36 up to 120 pmol/L; 30% > 120 pmol/L

<b>PORPHYRINS</b>	<b>Reviewed May 2014</b>
Urine ALA	± 8 up to 32 µmol/L; 25% > 32 µmol/L
Urine Porphobilinogen (Quantitative)	± 5 up to 20 µmol/L; 25% > 20 µmol/L
Urine Total Porphyrin	± 60 up to 300 nmol/L; 20% > 300 nmol/L
Faecal Percent Dry Weight	± 2 up to 20%; 10% > 20%
Faecal Total Porphyrin	± 40 up to 200 µmol/kg; 20% > 200 µmol/kg
Plasma Total Porphyrin	± 4 up to 20 nmol/L; 20% > 20 nmol/L
RBC Total Porphyrin	± 0.4 up to 2.0 µmol/Lrc; 20% > 2.0 µmol/Lrc

<b>SPECIAL LIPIDS</b>	<b>Reviewed April 2012</b>
Cholesterol	± 0.30 up to 5.00 mmol/L; 6% > 5.00 mmol/L
HDL Cholesterol	± 0.1 up to 0.80 mmol/L; 12% > 0.80 mmol/L
LDL Cholesterol	± 0.20 up to 2.00 mmol/L; 10% > 2.00 mmol/L
Triglyceride	± 0.20 up to 1.60 mmol/L; 12% > 1.60 mmol/L
Apolipoprotein A1	± 0.2 up to 2.0 g/L; 10% > 2.0 g/L
Apolipoprotein B	± 0.2 up to 2.0 g/L; 10% > 2.0 g/L
Lipoprotein(a)	± 0.20 up to 2.00 g/L; 10% > 2.00 g/L

<b>SPECIAL THERAPEUTIC DRUGS</b>	<b>Reviewed April 2013</b>
Amiodarone	± 0.1 up to 1.3 mg/L; 10% > 1.3 mg/L
Amitriptyline	± 3.0 up to 28.0 µg/L; 10% > 28.0 µg/L
Clozapine	± 10 up to 100 µg/L; 10% > 100 µg/L
Methotrexate	± 0.10 up to 1.00 µmol/L; 10% > 1.00 µmol/L
Mycophenylate	± 0.10 up to 1.00 mg/L; 10% > 1.00 mg/L
Nortriptyline	± 3.0 up to 26.0 µg/L; 10% > 26.0 µg/L

<b>SWEAT ELECTROLYTES</b>	<b>Reviewed June 2013</b>
Sodium	± 2 up to 40 mmol/L; 5% > 40 mmol/L
Chloride	± 2 up to 40 mmol/L; 5% > 40 mmol/L
Sweat Conductivity	± 2 up to 50 mmol/L; 5% > 50 mmol/L

TRACE ELEMENTS		Reviewed April 2012
<b>Serum</b>		
Aluminium	± 0.08 up to 0.40 µmol/L;	20% > 0.40 µmol/L
Chromium	± 3 up to 25 nmol/L;	12% > 25 nmol/L
Cobalt	± 1 up to 10 nmol/L;	10% > 10 nmol/L
Copper	± 1.6 up to 20.0 µmol/L;	8% > 20.0 µmol/L
Manganese	± 3 up to 25 nmol/L;	12% > 25 nmol/L
Selenium	± 0.18 up to 1.50 µmol/L;	12% > 1.50 µmol/L
Zinc	± 2.0 up to 20.0 µmol/L;	10% > 20.0 µmol/L
<b>Urine</b>		
Aluminium	± 0.1 up to 0.5 µmol/L;	20% > 0.5 µmol/L
Arsenic (Total)	± 0.05 up to 0.50 µmol/L;	10% > 0.50 µmol/L
Cadmium	± 3 up to 20 nmol/L;	15% > 20 nmol/L
Chromium	± 3 up to 25 nmol/L;	12% > 25 nmol/L
Cobalt	± 2 up to 20 nmol/L;	10% > 20nmol/L
Copper	± 0.05 up to 0.50 µmol/L;	10% > 0.50 µmol/L
Iodine	± 0.08 up to 0.80 µmol/L;	10% > 0.80 µmol/L
Lead	± 0.05 up to 0.50 µmol/L;	10% > 0.50 µmol/L
Manganese	± 3 up to 25 nmol/L;	12% > 25 nmol/L
Mercury	± 9 up to 60 nmol/L;	15% > 60 nmol/L
Nickel	± 0.04 up to 0.40 µmol/L;	10% > 0.40 µmol/L
Selenium	± 0.06 up to 0.50 µmol/L;	12% > 0.50 µmol/L
Thallium	± 1 up to 10 nmol/L;	10% > 10 nmol/L
Vanadium	± 1 up to 10 nmol/L;	10% > 10 nmol/L
Zinc	± 2.0 up to 20.0 µmol/L;	10% > 20.0 µmol/L
<b>Whole Blood</b>		
Arsenic (Total)	± 0.01 up to 0.10 µmol/L;	10% > 0.10 µmol/L
Cadmium	± 3 up to 20 nmol/L;	15% > 20nmol/L
Lead	± 0.05 up to 0.50 µmol/L;	10% > 0.50 µmol/L
Manganese	± 30 up to 250 nmol/L;	12% > 250 nmol/L
Mercury	± 9 up to 60 nmol/L;	15% > 60 nmol/L
Selenium	± 0.30 up to 2.50 µmol/L;	12% > 2.50 µmol/L
Zinc	± 6 up to 60 µmol/L;	10% > 60 µmol/L

TUMOUR MARKERS		Reviewed January 2012
ACTH	± 2.0 up to 20 pmol/L;	10% > 20 pmol/L
Alpha-fetoprotein	± 2 up to 17 kIU/L;	12% > 17 kIU/L
Calcitonin	± 2 up to 20 ng/L;	10% > 20 ng/L
CEA	± 0.6 up to 5.0 µg/L;	12% > 5.0 µg/L
CA125	± 6 up to 50 kU/L;	12% > 50 kU/L
CA15-3	± 3 up to 30 kU/L;	10% > 30 kU/L
CA19-9	± 6 up to 40 kU/L;	15% > 40 kU/L
hCG	± 1 up to 10 IU/L;	10% > 10 IU/L
Beta-2-Microglobulin	± 0.2 up to 2.0 mg/L;	10% > 2.0 mg/L
NSE	± 2.0 up to 20 µg/L;	10% > 20 µg/L
Gastrin	± 10 up to 100 pmol/L;	10% > 100 pmol/L

Prolactin	± 40 up to 400 mIU/L;	10% > 400 mIU/L
Total PSA	± 0.4 up to 5.0 µg/L;	8% > 5.0 µg/L
Thyroglobulin	± 0.2 up to 1.7 µg/L;	12% > 1.7 µg/L
P1NP	± 5 up to 50 µg/L;	10% > 50 µg/L

URINE CHEMISTRY		
Albumin	± 4.0 up to 20.0 mg/L;	20% > 20.0 mg/L
Calcium	± 0.20 mmol/L	
Chloride	± 2 up to 20 mmol/L;	10% > 20 mmol/L
Cortisol	± 30 up to 200nmol/L;	15% > 200 nmol/L
Creatinine	± 0.5 up to 5.0 mmol/L;	10% > 5.0 mmol/L
DPD (Free)	± 15 up to 80 nmol/L;	15% > 80 nmol/L
Glucose	± 1.0 up to 10.0 mmol/L;	10% > 10.0 mmol/L
hCG-quantitative	± 5 up to 50 IU/L;	10% > 50 IU/L
hCG-qualitative	Negative ≤ 5 IU/L Equivocal 5-25 IU/L Positive > 25 IU/L	
Magnesium	± 0.2 mmol/L	
N-Telopeptides	± 80 up to 700 nmolBCE/L;	10% > 700 nmolBCE/L
Osmolality	± 6 up to 300 mmol/kg;	2% > 300 mmol/kg
Potassium	± 2 up to 20 mmol/L;	10% > 20 mmol/L
Phosphate	± 2.5 mmol/L	
Sodium	± 2 up to 20 mmol/L;	10% > 20 mmol/L
Total Protein	± 0.10 up to 1.00 g/L;	10% > 1.00 g/L
Urate	± 0.3 mmol/L	
Urea	± 20 up to 200 mmol/L;	10% > 200 mmol/L
ACR	± 0.5 up to 3.5 mg/mmol;	15% > 3.5 mg/mmol

VITAMINS		Reviewed April 2013
Vitamin A	± 0.2 up to 1.7 µmol/L;	12% > 1.7 µmol/L
Vitamin E	± 3 up to 25 µmol/L;	12% > 25 µmol/L
β Carotene	± 0.4 up to 2.0 µmol/L;	25% > 2.0 µmol/L
Total Carotenoids	± 0.8 up to 4.0 µmol/L;	25% > 4.0 µmol/L
Vitamin B6 - Plasma (Pyridoxal Phosphate)	± 9 up to 60 nmol/L;	15% > 60 nmol/L
Vitamin B6 – Whole Blood (Pyridoxal Phosphate)	± 9 up to 60 nmol/L;	15% > 60 nmol/L
Vitamin B1 (Thiamine Pyrophosphate)	± 15 up to 150 nmol/L;	10% > 150 nmol/L
Vitamin B2	± 25 up to 250 nmol/L;	10% > 250 nmol/L
Vitamin C	± 9 up to 36 µmol/L;	25% > 36 µmol/L

Updated 08/08/2014