TRACE ELEMENT LABORATORY TEST REPERTOIRE 2025/2026

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Laboratory Open Monday – Friday 08:45 to 17:15

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Assay	Sample Requirement (ml)	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (Working Days)	EQA	Clinical Utility	NHS Charge[1] (£)
Aluminium: (Trace Element Serum/Plasma)	Trace Element Free Vacutainer (2ml) #	Overnight (Room Temp)	ICPMS	<0.40 umol/L	7	UKNEQAS	Monitor Exposure in dialysis patients	£12.11
Aluminium (Urine)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<0.56 umol/L	7	No EQA or alternative	Assess Exposure/ Industrial monitoring	£23.18
Antimony (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<0.4 nmol/mmol creat	7	No EQA	Assess Exposure/ Industrial monitoring	£23.76
Arsenic (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<0.13 umol/L	7	UKNEQAS	Assess Exposure	£20.78
Arsenic (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)★	ICPMS	<0.13 umol/24hr	7	UKNEQAS	Assess Exposure	£21.62
Arsenic (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)★	ICPMS	<13 nmol/mmol creat	7	UKNEQAS	Assess Exposure	£23.76
Cadmium (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<27 nmol/L	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£20.78
Cadmium (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<1.3 nmol/mmol creat	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.76

Assay	Sample Requirement (ml)	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (Working Days)	EQA	Clinical Utility	NHS Charge[1] (£)
Caeruloplasmin	Serum (SST) (1ml) #	Overnight (Room Temp)	Abbott Alinity c Turbidimetry	g/L: 0- <2m: 0.07–0.24 2 - <6 m: 0.14–0.33 6 m - <1 y: 0.14–0.39 1 - < 8 y: 0.22–0.43 8 - <14 y: 0.21–0.40 14 - <19 y F: 0.21–0.43 14 - <19 y M 0.17–0.35 ≥19 y: 0.15–0.47	7	UKNEQAS	Investigation of Wilson's disease	£10.39
Chromium (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<40nmol/L- Environmental For MOM refer to MHRA	7	UKNEQAS	Assess patients with MOM hip replacements	£20.78
Chromium (Serum/Plasma)	Trace Element Free Vacutainer (2ml) #	Overnight (Room Temp) separate within 4hr	ICPMS	<10nmol/L- Environmental For MOM refer to MHRA	7	UKNEQAS	Assess Exposure	£20.78
Chromium (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<20 nmol/24hr	7	UKNEQAS	Assess Exposure	£21.62
Chromium (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<2.2 nmol/mmol creat	7	UKNEQAS	Assess Exposure/Industrial monitoring	£23.76
Chromium (Fluid)	Fluid (Universal Container) (2ml) #	Overnight (Room Temp)	ICPMS	NA	7	No EQA or alternative	Assess Exposure	£22.21
Cobalt (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<10nmol/L-Environmental For MOM refer to MHRA	7	UKNEQAS	Assess patients with MOM hip replacements	£20.78
Cobalt (Serum/Plasma)	Trace Element Free Vacutainer (2ml) #	Overnight (Room Temp) separate within 4hr	ICPMS	1.7-6.8 nmol/L For MOM refer to MHRA	7	UKNEQAS	Assess Exposure	£20.78

Cobalt (24h Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<22 nmol/24Hr		7	UKNEQAS	Assess Exposure	£22.21
Cobalt (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<1.6 nmol/mmol creat		7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.76
Cobalt (Fluid)	Fluid (Universal Container) (2ml) #	Overnight (Room Temp)	ICPMS	NA		7	No EQA or alternative	Assess Exposure	£22.21
Copper (Serum/Plasma)	SST or Trace Element Free Vacutainer (2ml) #	Overnight (Room Temp)	ICPMS	0 - 4 month	1.4 - 7 umol/L	7	UKNEQAS	Assess Nutritional status and investigation of Wilson's disease	£12.11
				4 - <6month	4 – 17umol/L				
				6m - <9 years	11 - 27 umol/L				
				9y - <13 years	11 - 24 umol/L				
				13y - <19 years	11 – 23 umol/L				
				≥19 years	11 – 25 umol/L				
Copper (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	0.2-0.7 umol/24hr		7	UKNEQAS	Investigation of Wilson's disease	£15
Copper (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	0.02-0.07 umol/mmol creat.		7	UKNEQAS	Investigation of Wilson's disease	£15
Copper (liver tissue)	Biopsy (Universal Container, **No Preservative**).	Overnight (Room Temp)	ICPMS	<50 ug/g (dry weight)		20	UKNEQAS	Investigation of Wilson's disease	£65.44
Iodine (Creat.Ratio)	Urine (Random – 20mL)	Overnight (Room Temp)	ICPMS	50-360 nmol/mmol creat		7	EQUIP	Assess Nutritional status	£23.97
Iodine (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	0.6-4.3 umol/24h		7	EQUIP	Assess Nutritional status	£21.61
Iron (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<1 umol/24Hr		7	UKNEQAS	Assessment of Fe excretion post Desferrioxamine	£21.62

Iron (Random Urine)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<1 umol/L	7	UKNEQAS	Assessment of Fe excretion post Desferrioxamine	£21.62
Iron (Liver Tissue)	Biopsy (Universal Container, **No Preservative**).	Overnight (Room Temp)	ICPMS	<1700ug/g (dry weight)	20	UKNEQAS	Investigation of Haemochromatosis	£65.44
Lead (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<0.1 umol/L <18 years <0.48 umol/L ≥18 years	7	UKNEQAS	Assess Exposure to inorganic lead	£12.11
Lead (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<100 nmol/24hr	7	UKNEQAS	Assess Exposure to organic Lead	£21.62
Lead (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<0.01 umol/mmol creat	7	UKNEQAS	Assess Exposure to organic lead	£23.76
Manganese (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	80-260 nmol/L (all ages)	7	UKNEQAS	Monitoring parenteral Nutrition	£12.11
Manganese (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<41 nmol/24Hr	7	UKNEQAS	Assess Exposure	£21.62
Manganese (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<4 nmol/mmol creat	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.76
Mercury (Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<25 nmol/L	7	UKNEQAS	Assess Exposure to Organic Mercury	£20.78

Mercury (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)★★	ICPMS	<50 nmol/L	7	UKNEQAS	Assess Exposure to inorganic mercury (please also send Whole Blood)	£22.21
Mercury (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)★★	ICPMS	<5 nmol/mmol creat	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.76
Nickel (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	10-100 nmol/24hr	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£21.62
Nickel (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	1.0-10 nmol/mmol creat	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.76
Selenium (Serum/Plasma)	SST or Trace Element Free Vacutainer (2ml) #	Overnight (Room Temp)	ICPMS	0 - <1 year: 0.33-0.97 umol/L 1 - <4 year: 0.51-1.12 umol/L 4 - <19 year: 0.60-1.29 umol/L 19 year+: 0.75-1.46 umol/L	7	UKNEQAS	Assess Nutritional status	£12.11
Selenium (24hr Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	<0.4 umol/24hr	7	UKNEQAS	Assess Exposure	£21.62
Selenium (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<54 nmol/mmol creat	7	UKNEQAS	Assess Exposure/ Industrial monitoring	£23.18
Thallium (Whole Blood)	Blood (Trace Element Free Vacutainer) (2ml) #	Overnight (Room Temp)	ICPMS	<5 nmol/L	7	UKNEQAS	Assess Exposure	£20.78
Thallium (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<5 nmol/L	7	UKNEQAS	Assess Exposure	£23.76
Thallium (Liver Tissue) N.B. not included within scope of accreditation	Biopsy (Universal Container, **No Preservative**).	Overnight (Room Temp)	ICPMS	NA	20	No EQA	Assess Exposure	£62.34

Zinc: (Trace Element Serum/Plasma)	Trace Element Free Vacutainer (Serum/Plasma 2ml) #	Overnight (Room Temp) Separate ASAP within 2hr	ICPMS	10-20 umol/L	7	UKNEQAS	Assess Nutritional status	£12.11
Zinc (24h Urine)	Urine (24hr - 20ml Aliquot) *	Overnight (Room Temp)	ICPMS	3-19 umol/24hr	7	UKNEQAS	Assess Exposure	£22.21
Zinc (Creat.Ratio)	Urine (Random - 20ml) *	Overnight (Room Temp)	ICPMS	<1.1 umol/mmol creat	7	UKNEQAS	Assess Nutritional status	£23.76

*Urine stated ideal volume. Smaller volumes can be analysed – please call to discuss.

Minimum volume quoted for plasma, serum and whole Blood assays – please call to discuss if less than available.

★Total urine arsenic is stable for at least two months at 4 degrees Celsius. If samples are referred for speciation analysis, note that long-term storage of urine in fridge or freezer can result in inter-conversion of As (III) and As (V).

★★At present, there is insufficient evidence to support storage of samples for urine mercury at -20 degrees Celsius despite many sources recommending this. In the absence of robust data, samples for urine mercury should be analysed as soon as possible and add-on testing should be avoided. Polyethylene sample containers are unacceptable for analysis of urine mercury.
If you do not see the element listed that you require, please contact us to discuss your requirements.

[1]Please note that there is a surcharge for non-NHS patient as follows:
An additional charge of £5 for tests less than £20
An additional charge of 25% for those tests greater than £20

Assays listed are accredited to ISO 15189. Our lab No. is 8989

Please note that the ICPMS offers the capacity for multi-element analysis. We will be utilising this facility, the implication being that we will measure elements that may not have been requested. Our policy will be that none of these results will be routinely reported. If an abnormality is found, the requesting clinician will be contacted, the result discussed, then reported. If they wish to investigate it further, a repeat sample should be sent for analysis for that element.