

Consider the following information when a new analyte (test) is added to the laboratory handbook and at scheduled review.

**Text provided for guidance – please delete after completion*

Field	Detail	Essential?
Test Name (Analyte)	Cobalt	Yes
Alternative Name(s) and Keywords	Co, blood cobalt, WBCo	Yes
Discipline/Specialty	Biochemistry	Yes
Description	Co is a metal element that is not found in measurable amounts in human blood in health.	Yes
Clinical Indication	<p>Cobalt toxicity can cause iron deficiency and cardiomyopathy.</p> <p>The MHRA recommends that all patients with metal-on-metal (MoM) prosthetic joints should be monitored for wear of the joint which can lead to soft tissue reactions. Soft tissue necrosis can occur in both asymptomatic and symptomatic patients. Wear of the joint can lead to increased blood chromium and cobalt levels. MHRA recommends that an annual review of patients with MoM prostheses should include blood chromium and cobalt measurement.</p>	Yes
Patient Preparation	If no plastic lined needles are available for blood taking, we advise to discard the first 10ml of blood (or use for other tests required e.g. UE or FBC) before filling the EDTA specimen container for cobalt and chromium analysis.	Yes
Specimen Container	KEDTA (purple top)	Yes
Container Image		Yes
Primary Sample Type	Whole blood (not clotted)	Yes
Minimum Volume Required <small>(µL for serum//blood/urine etc. unless otherwise stated)</small>	Minimum 500µL, but 1.0 – 2.0mL preferred.	Yes
Special Precautions / Requirements	Samples cannot be used for analysis of any analytes other than whole blood Cr, Co, Mn and Pb so separate samples must be taken for anything else required (e.g. FBC).	Yes
Transport and Storage Requirements	No particular requirements.	Yes

Telepath Test Code	BCOBLT	Yes
National Pathology Code (READ/SNOMED CT)		No
Reference Interval(s)	MHRA Advisory Alerts MDA/2017/018 target for MoM prosthesis monitoring of <120nmol/L.	Yes
Telephone Action Limit(s)	n/a	Yes
Measurement Units	nmol/L	Yes
Clinical Interpretation	The MHRA (2017) threshold for blood cobalt in monitoring of MoM prostheses is 120 nmol/L (7ppb). Non orthopaedic patients would not be expected to have any cobalt in their blood.	Yes
Useful Links / Guidelines	Medical Device Alert - MHRA Advisory Alert MDA/2017/018	Yes
Common Interferences / Causes of Spurious Results	No common interferences.	Yes
Availability of Clinical Advice	Please contact the duty biochemist for advice and interpretation.	Yes
Significant Change Values	n/a	No
Testing Frequency / Minimum Re-testing Interval	Annual monitoring recommended in patients with MoM prostheses.	Yes
Related tests	BCr (blood chromium)	Yes
Technology & Analytical Principle Used	ICP-MS with collision cell (KED mode)	Yes
EQA Scheme	TEQAS	Yes
Laboratory Performed	RLH	Yes
UKAS Accreditation Status	Pending accreditation.	Yes

Form completed by: Hannah Fearon

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