**Blood sciences Add-on test information sheet**

The laboratory will add further tests to existing samples in certain circumstances. The following information sheet highlights which tests are added on by the laboratory and the rational for why and when this is done

Clinical staff are able to contact the laboratory themselves to request additional tests on existing samples. Details of how to do this are given on the Laboratory Medicine Website.

# Biochemistry Add-On Tests

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| --- | --- | --- |
| **Add on Test Name** | **Why/When Added?** | **Dept./ Centre performing Add-on Test** |
| Magnesium | Added to unexplained low potassium (usually <2.8 mmol/L) or adjusted calcium (usually <1.9 mmol/L). | Biochemistry |
| Thyroid Peroxidase (TPO) antibodies | Added to persistently raised TSH <10) to guide frequency of repeat testing. | Biochemistry |
| Free T4 | Added to first time raised TSH >10 or <0.01 or second time TSH <0.1 | Biochemistry |
| Free T3 | Added to unexplained TSH <0.01 or second time TSH <0.1 | Biochemistry |
| Liver function tests (LFT) | Added to cholesterol >7.5 if not checked previously | Biochemistry |
| Bicarbonate | Added to patient with AKI >2 or high potassium >6 automatically | Biochemistry |
| Calcium | Added to patients with AKI >2 automatically | Biochemistry |
| Electrophoresis | Added to unexplained high globulin (>55g/L) with anaemia and other result/clinical details suggesting myeloma afterphoning GP surgery | Biochemistry |
| Iron | Significantly raised new high Ferritin with normal CRP/renal function and no indication that patient is on iron. | Biochemistry |
| Gamma-Glutamyl transferase (GGT) | Added to unexplained significantly raised (>300) ALP | Biochemistry |
| Triglyceride | Added to grossly lipaemic samples | Biochemistry |
| Cortisol/FSH/LH/Prolactin | Added to low/low normal TSH plus low FT4 to investigate possible pituitary disease | Biochemistry |
| LH, Sex hormone-Binding globulin (SHBG) and Prolactin | Added to new low testosterone results or borderline (>5) when confirmed on 9am sample | Biochemistry |
| Vitamin D | Added to normal calcium + raised PTH when eGFR >60 to detect deficiency as cause of the raised PTH (secondary hyperparathyroidism) | Biochemistry |
| Lactate dehydrogenase (LDH) and Calcium | Added to amylase results >300 automatically | Biochemistry |
| Calculated Free Testosterone | Added to testosterone/SHBG requests where it may change interpretation of the total testosterone result. | Biochemistry |

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# Haematology Add-On Tests

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| **Add on Test Name** | **Why/When Added?** | **Dept./ Centre performing Add-on Test** |
| Ferritin  (see Flow Chart below) | Added to low MCV / MCH if serum sample available and not tested recently / previously | Biochemistry |
| B12/Folate  (see Flow Chart below) | Macrocytic anaemia if serum sample available and not tested recently / previously | Biochemistry |
| Blood Film | Added to abnormal FBC results / failed autovalidation / private requests | Haematology |
| Malaria Parasites | Recent foreign travel to malaria-endemic area with relevant symptoms e.g. fever (if stated) | Haematology |
| Reticulocytes | Added if the film suggests haemolysis | Haematology |
| Direct Coombs Test | Added if the Film suggests haemolysis | Blood Transfusion |
| Hb Electrophoresis (acid and/or alkali) | Added if an abnormal band detected by HPLC | Haematology |
| IM Screen | Added if the Film suggestive of viral infection / IM or exclude IM if atypical cells present | Haematology |
| G6PD deficiency screen | Added to Positive malaria screens | Haematology |
| NRBC | Added if ?NRBC flag or NRBC’s present on blood film, previous history, paediatric requests | Haematology |

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# Protocol for Investigation of Anaemia by addition of tests within the laboratory.

\* e.g. SCF: “Suggest check ferritin”

Is there a valid serum sample

(<3 days old)

Is there a valid serum sample

(<48 hours old)

**? Recent Ferritin result**

(e.g. since the development of microcytosis)

**? Recent B12/folate result**

(e.g. since the development of macrocytosis)

**Review results on NPCL/film**

**Macrocytic anaemia**

MCV >105 fL, Hb <130 g/L (men)

<115 g/L (women)

<110 g/L (pregnant)

**Microcytic anaemia**

MCV <75 fL, Hb <130 g/L (men)

<115 g/L (women)

<110 g/L (pregnant)

**Add Ferritin**

Append comment **SFA** to FBC: “? Iron deficiency – serum ferritin added to request”

**Add B12/Folate**

Append comment **BFA** to FBC: “Macrocytosis - serum B12 and folate added to request”

# Coagulation Add-On Tests

|  |  |  |
| --- | --- | --- |
| **Add on Test Name** | **Why/When Added?** | **Dept./ Centre performing Add-on Test** |
| Mixing studies / secondary APTT testing | Prolonged PT and/or APTT | Coagulation |
| Lupus screen | Prolonged APTT (not corrected by mixing etc.) | Coagulation |
| Factor Assays | Prolonged PT and/or APTT where mixing studies etc. suggest factor deficiency | Coagulation |
| Factor VIII Inhibitor | Suspected acquired haemophilia A | Coagulation |
| vWD screen | Cases with prolonged APTT and/or bleeding or bruising symptoms | Coagulation |
| Thrombophilia screen | Where an incomplete full thrombophilia screen has been requested (such as only AT, PC and PS requested - add on other assays included in standard thrombophilia screen unless sent for confirmation of previous result) | Coagulation |

# Immunology Add-On Tests

|  |  |  |
| --- | --- | --- |
| **Add on Test Name** | **Why/When Added?** | **Dept./ Centre performing Add-on Test** |
| Anticardiolipin Ab | Added in conjunction with Lupus screen. | Immunology |
| ENAS | Added if a patient has a first time positive ANA or has not been tested for the last 6 months. Cytoplasmic speckling in ANA. Clinical details are poly/dermatomyositis/Jo-1 | Immunology |
| ENA | Added if a patient has a positive ENAS | Immunology |
| dsDNA | Added if a patient has a positive ANA | Immunology |
| LABS | Added if a patient has a suspected mitochondrial antibody or smooth muscle antibody when screening ANA/ or general cytoplasmic speckle | Immunology |
| MPO/PR3 | Added to positive ANCAs | Immunology |
| IGS | Added if a patient has suspected IgA deficiency when testing for tTG | Immunology |
| EMA | Added if a patient has a positive tTG or has been found to be IgA deficient. | Immunology |
| ANA | Added if positive pANCA staining | Immunology |