## haematology

### Repertoire of Haematology Tests

| **Test** | **Specimen Container** | **Minimum/ Container**  **Volume** | **Adult Reference Range**  **(Refer to Report for Paediatric Ranges)** | **TAT** | **Comment** | **Mnemonic/ display name** |
| --- | --- | --- | --- | --- | --- | --- |
| Full  Blood count | EDTA (pink capped) | 2.6ml standard | |  |  |  | | --- | --- | --- | | *Parameter*  *Tested* | *Male* | *Female* | | Hb | 13-17.5 g/dL | 11.5-16.5 g/l  11.7-16.0\* | | PCV | 0.37-0.54 L/L | 0.335-0.54 L/L  0.355-0.52\* | | RCC | 4-6.5 x1012/L | 3.8-5.8 x1012/L  3.8-5.6\* | | RDW | 11-15 % | | | MCV | 79 -96 fL | | | MCH | 27 -32 pg | | | PLTS | 140 -400 x109/L | | | WBC | 4.0 -11 x109/L | | | Neut | 2.0 -7.5 x109/L | | | Lymph | 1.0 -4.0 x109/L | | | Mono | 0.2- 1.0 x109/L | | | Eosin | 0.04- 0.4 x109/L | | | Baso | 0.01- 0.1 x109/L | | | In-house: 4 Hours  Urgent: 1 hour | 7.5ml and 10ml EDTA samples are incompatable with the analysers and will be rejected.  \*women > 50 years | **FBC** |
| Platelet Clumping Check\* | 0.82mgMg2+/mL  (Red) | 2.6mL | 140 -400 x109/L | In-house: 4 Hours  Urgent: 1.5 hour | Arrange in advance with laboratory to obtain sample tube. | Plt Exact |
| ESR | Trisodium citrate  4NC /3.5 (purple) | 3.5 ml **must** be filled to the line | |  |  | | --- | --- | | *Male* | *Female* | | 1- 12 mm/hr | 1-20 mm/hr | | 1 Working Day  Urgent for Temporal Arthritis: 90 minutes | Theclinical Haematology team have listed the following conditions as the only times an ESR is indicated  *1.Giant cell arteritis, Temporal arteritis*  *2. Polymyalgia rheumatica.*  *3.‘Suspected myeloma’*  *4. Hodgkins Lymphoma*  *5.Prosthetic joint infection*  *6. Osteomyelitis*  *7. Rheumatoid Arthritis*  Stat samples -  Must contact the Laboratory to request sample to be prioritised. | **ESR** |
| Reticulocyte  Count | EDTA (pink capped) | 2.6mL standard | Retic: 0.4-1.9 %Male  0.4-1.8% Female  Retic (Abs) 14-100 x109/L | In-house: 4 Hours  Urgent: 1 hour | 7.5ml and 10ml EDTA samples not acceptable | **Retics** |
| Infectious mononucleosis  Screen | EDTA (pink capped) | 2.6mL standard | Negative | 1 Working Day  Urgent: 1 hour |  | **IM** |
| Blood film examination | EDTA(pink capped) | 2.6mL standard | N/A | Routine: 5 working days  Urgent: 24 hours | Sample must be <8 hrs old.  Clinical details and reason for blood film must be on the form. | **Must be requested by phoning the Laboratory directly** |
| Referral Blood Film | EDTA(pink capped) | 2.6mL standard | N/A | Routine: 9 working days  Urgent: 24 hours | Blood film sent to Haematology Team for review. Report will follow within 7 days. | **HBFC**Only ordered by Haematology staff |
| Malaria: Rapid Diagnostic Tests (RDT’s) and Blood Film | EDTA(pink capped) | 2.6mL standard | Negative | 3 hrs for RDT. 4-72 hours depending on RDT results for Blood films. RDT neg – film processed next working day | Samples must be < 2 hours old. | Mal Scr  Mal film |
| Sickle solubility Screen | EDTA (pink capped) | 2.6mL standard | Negative | Urgent: 2 hours.  If non-urgent, sample is Referred to SJH for full HB-EL screen:  A verbal report is available 7 days after dispatch.  Phone No.’s:01-4162394 (SJH)  A printed report is available 5 weeks after dispatch. | This test is performed for urgent pre-op anaesthetic screening only. If urgent, please contact the laboratory. In all other instances, order Haemoglobin Electrophoresis Complete the SJH request form available as a link on Powerchart  The Sickle solubility test is a screening method and as such is subject to false positives and negatives. All sickle solubility tests must be confirmed by HPLC/Electrophoresis. This test is performed in St James Hospital. | Sickle  Hb'opathy Scr (SO) |
| Bone marrow aspirate | Bone marrow  aspirate on glass slides. Needles and slides available in CKB (2150) | A minimum of 5 slides. | N/A | Processed during Routine working hours  Stained for next Working Day. Await Consultant reporting:  Reporting TAT:  Written report is available on Powerchart within 3 weeks | Slides must be labelled in pencil with the patients’ Surname and second unique identifier either D.O.B or unique hospital number.  Order the Bone Marrow Aspirate (Haem) | **BMA** |

### Repertoire of Flow Cytometry Tests

| **Test** | **Specimen Container** | **Minimum/ Container**  **Volume** | **Reference Range** | **TAT** | **Comment** | **Mnemonic/ Display name** |
| --- | --- | --- | --- | --- | --- | --- |
| CD4 | EDTA (pink capped) | 2.6mL standard | 502-1749 Cells/ul | 3 Working days | Samples must be <48 hours old.  Only processed Monday to Friday. Must be Received in Laboratory before 3pm on a Friday | **CD4** |
| TBNK | EDTA (pink capped) | 2.6mL standard | CD3#797-2996Cells/ul  CD3/4#502-1749Cells/ul  CD3/8#263-1137Cells/ul  CD19#99-618Cells/ul  CD56#72-577Cells/ul | 3 Working days | Samples must be <48 hours old.  Only processed Monday to Friday. Must be Received in Laboratory before 3pm on a Friday | **TBNK** |
| Lymphoid Screening Tube | EDTA (pink capped  Sodium Heparin  (orange capped - BMA)(white c apped, RPMI, –cytogenetics bottle Lymph Node Aspirate) | 2.6mL standard | N/A | Written report: 10 working days  Verbal report: 24 hours | All samples must be <48 hours old.  Must be Received in Laboratory before 3pm on a Friday | **LST** |
| Lymphoproliferative Panel | EDTA (pink capped)  Sodium Heparin  (orange capped - BMA)  with 1ml RPMI | 2.6mL standard | N/A | Written report: 10 working days  Verbal report: 24 hours | All samples must be <48 hours old. | B NHL Panel |
| Acute Leukaemia Screen  Acute Leukaemia Panel  Blast count | EDTA (pink capped)  Sodium Heparin  (orange capped- BMA)  with 1ml RPMI. | 2.6mL standard | N/A | Written report: 10 working days  Verbal report: 24 hours | Must be arranged in advance with prior consultation with the lab. Containers are only obtained from the lab. | **BLAST**   |  | | --- | | Acute  Panel | | Acute  Scr | |
| EDTA Samples must be <24 hours old. |
| Sodium Heparin  (orange capped - BMA)  with 1ml RPMI must be < 48 hours old |
| Paroxysmal Nocturnal Haemoglobinuria | Fresh EDTA  (pink capped) | 2.6mL standard | N/A | Written report: 10 working days  Verbal report: 24 hours | Arrange in advance with Laboratory personnel. Sample may be stored in fridge for <72 hours if not for immediate testing | **PNH** |
| T-Cell Panel | EDTA (pink capped) Sodium Heparin  (orange capped)  with 1ml RPMI | 2.6mL standard | N/A | Written report: 10 working days  Verbal report: 24 hours | EDTA Samples must be <24 hours old. | T NHL Panel |
| Sodium Heparin  (orange capped - BMA)  with 1ml RPMI must be < 48 hours old |

### Repertoire of Coagulation Tests

| **Test** | **Specimen Container** | **Number of**  **Samples** | **Minimum**  **Volume** | **Reference Range** | **TAT** | **Comment** | **Mnemonic/ Display name** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Coag Screen includes PT, INR, APTT and APTT  Ratio (APTTR)  Coag GP – is the same as above without the APTTR | Trisodium citrate 9 NC/2.9/1.8 mL  (green capped) | 1 | **Must** be filled to the line | PT: 10-13.2 seconds  INR- The INR should only be used for monitoring Warfarin therapy. Refer to local treatment algorithmAPTT: 24 – 36 seconds  APTTR 1.5 -2.5 ratio  APTTR: The APTT ratio should only be used for monitoring the anticoagulant effect of an Unfractionated Heparin Infusion. | In-house: 4 Hours  Urgent: 1.5 hour | Sample must be <4 hours old | Coag Scr  Coag GP |
| INR | Trisodium citrate 9 NC/2.9/1.8 mL  (green capped) | 1 | **Must** be filled to the line | The INR should only be used for monitoring Warfarin therapy. Refer to local treatment algorithm. | In-house: 4 Hours  Urgent: 1.5 hour | INRs only are stable for 24 hrs Warfarin Office contact no.  01-8092083 | **INR** |
|  |  |  |  |  |  |  |  |
| D-Dimer | Trisodium citrate 9 NC/2.9/1.8 mL  (green capped) | 1 | **Must** be filled to the line | Under 50 yrs<0.5 µg/ml  Then increases in 5 year increments by 0.5. i.e 55-60 (<0.6) and 85-90  ( <0.9) | In-house: 4 Hours  Urgent: 1.5 hour | Sample must be <8 hours old | Dimer |
| Fibrinogen | Trisodium citrate 9 NC/2.9 /1.8 mL  (green capped) | 1 | **Must** be filled to the line | 1.9 – 3.5 g/L | In-house: 4Hours  Urgent: 1.5 hour | Sample must be <4 hours old  For patients on Argatroban a Clauss Fibrinogen test is not appropriate & will be reported as follows: "Fibrinogen result is unavailable as the patient is on Argatroban which may cause a false low fibrinogen result in the Clauss fibrinogen assay. Please discuss with the Haematology team". | **Fib-c** |
| Mixing study | Trisodium citrate 9 NC/2.9 mL  (green capped) | 2 | **Must** be filled to the line | Corrected to within the PT and APTT normal ranges | 1 week | Lab criteria for mixing study are prolonged PT or APTT when patient is not on anticoagulant and the liver function is normal. Mixing study requests must be approved by the Haematology team. For urgent requests, contact the laboratory in the morning, may be able to facilitate testing that day. | Mix Stdy |
| Intrinsic Factor assay Screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | 2 | **Must** be filled to the line | See individual assays below | Case dependent, maximum  14 days | Requests must be approved by the Haematology team c/o Coagulation consultant.Tests done in batches. | **IFS** |
| Extrinsic Factor assay Screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | 2 | **Must** be filled to the line | See individual assays below | Requests must be approved by the Haematology team c/o Coagulation consultant.Tests done in batches. | **EFS** |
| Factor Assays  Individual requests | Trisodium citrate 9 NC/2.9 mL  (green capped) | 2 | **Must** be filled to the line | |  |  | | --- | --- | | FII | 0.72-1.31 IU/mL | | FV | 0.63-1.33 IU/mL | | FVII | 0.51-1.54 IU/mL | | FVIII | 0.60-1.36 IU/mL | | FIX | 0.80-1.47 IU/mL | | FX | 0.64-1.50 IU/mL | | FXI | 0.72-1.52 IU/mL | | FXII | 0.52-1.64 IU/mL | | Case dependent, maximum  14 days | Tests done in batches. For urgent requests, contact the laboratory in the morning, may be able to facilitate testing that day. Requests must be approved by the Haematology team c/o Coagulation consultant. | **FII, FV, FVII,**  **FVIII:C,FIX, FX, FXI, FXII** |
| Thrombophilia screen | Trisodium citrate 9 NC/2.9 mL  (green capped) | 4 | **Must** be filled to the line | See individual requests APCR, Prot C, Prot S Act,, AT | 4 weeks. | Batch tested. Inherited Thrombophilia screen includes the following tests: PT,APTT, Fib-c, AT,Prot C, Prot S Act, APCR  5LEIDEN\*. A Lupus screen is not on this profile.  Hence, these tests do **not** need to be ordered on an individual basis**, Order the thrombophilia careset The coagulation consultant will review and saction all Thrombohpilia orders** | Thrombophilia care set conatins the Thrombophilia questionnaire and the screen request (Thr philia) |
| Protein C | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | 0.74 - 1.32 IU/mL | 4 weeks. | Batch tested.  Patient must be off warfarin for a minimum of 2wks to perform this assay. | Prot C |
| Free Protein S | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | Males: 0.76-1.46 IU/mL  Females:0.65-1.33 IU/mL | 4 weeks. | Batch tested.  Patient must be off warfarin for a minimum of 2wks to perform this assay | Prot S Act |
| Anti Xa (LMWH and UFH) | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | For clinical interpretation please contact the haematology team. | 1 week | Clinical indication & timing of blood samples must be discussed with & sanctioned by the Haematology team. Please contact the laboratory prior to sending samples. Sample must be <2 hours old. | XA  . |
| Antithrhrombin | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | 0.82 - 1.18 IU/mL | 4 weeks. | Batch tested.  Patient must not be on Direct Thrombin inhibitor anticoagulant. | Antithrombin |
| Activated protein C resistance (APCR) | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | Negative | 4 weeks. | Batch tested  Patient must not be on A Direct oral anticoagulant. | **APCR** |
| Von Willebrand factor | Trisodium citrate 9 NC/2.9 mL  (green capped) | 2 | **Must** be filled to the line | 0.49 - 1.73 IU/mL | Case dependent, maximum 14 days | “The presence of Rheumatoid Factor may produce an overestimation of the result” | VWF Ag |
| Lupus anticoagulant | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | DRVVS ratio: <1.17  DRVVT-TR ratio: < 1.23  SCT-TR ratio <1.14 | 4 weeks | Batch tested  Patients must not be on any anticoagulation as they interfere with the interpretation of the assayThe coagulation consultant will review and sanction all Lupus orders. | **Order the** Lupus Anticoagulant care set. This contains the Lupus questionnaire and the Lupus screen request (LA Scr). |
| Rivaroxaban | Trisodium citrate 9 NC/2.9 mL  (green capped) | 1 | **Must** be filled to the line | No therapeutic reference range as monitoring not needed | 1 weeks | Clinical indication & timing of blood samples must be discussed with & sanctioned by the Haematology team. Please contact the laboratory prior to sending samples. | Rivaroxaban |

### Repertoire of Haematology Molecular Tests

| **Test** | **Specimen Container** | **Number of Samples** | **Minimum**  **Volume** | **Reference Range** | **TAT** | **Comment** | **Mnemonic/ Display name** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Factor V Leiden mutation | EDTA sample  (pink) | 1 | 2.6ml Standard | Negative | 6 weeks | Only tested if APCR (Activated Protein C) is positive or family history is indicated on the request form. See previous page for APCR requirements)  The laboratory will no longer take receipt or store the form containing patient genetic consent. It is the responsibility of the ordering clinician to obtain and file a copy of genetic consent in the patient’s record. | **Lab order only**  **FVL** |
| Prothrombin G20210A mutation | EDTA sample  (pink) | 1 | 2.6ml Standard | Not Detected | 6weeks | .  The laboratory will no longer take receipt or store the form containing patient genetic consent. It is the responsibility of the ordering clinician to obtain and file a copy of genetic consent in the patient’s record | PTGA |
| HFE  Haemochromatosis | EDTA sample  (pnk) | 1 | 2.6ml Standard |  | 4weeks | Must be accompanied by completed Haemochromatosis Genetic Screening Request  (HAEMC-LF-077) This form can be obtained from the Beaumont Hospital website, under Haematology Dept. If genetic consent is not obtained the molecular test will be rejected. The laboratory will no longer take receipt or store the form containing patient genetic consent. It is the responsibility of the ordering clinician to obtain and file a copy of genetic consent in the patient’s record. | **HFE** |

### Clinical Advice & Laboratory Test Interpretation

Interpretation of Laboratory Tests / procedures may be obtained by phoning any of the telephone numbers in section Error: Reference source not found and asking for the Chief Medical Scientist or by requesting a senior member of staff 09:00- 17:00 Mon-Fri excluding Bank Holidays

### Specimens Referred to External Hospitals

If there is an issue with the sample or the required/ correct referral form does not accompany the sample, the sample will be sent back to the requesting area to be ordered correctly. HAEMG-LF-124 Form with reasons for return of BMA/Fluid/CSF to ward, for correction –

|  |  |  |  |
| --- | --- | --- | --- |
| ADAMTS 13 Assay | 2 fresh coag samples <4hrs  ADAMTS13 request form must have requesting clinician’s name, mobile number and email address. For urgent requests telephone Haemostasis laboratory in Belfast City Hospital. Urgent samples must be in Belfast lab by noon for testing that day. | Belfast City Hospital  Tel: 028 950 40910 | ADAMT  Q pulse form EX-HAEM-1062-  Avavailable in lab and CKB |
| Amyloid | 1 GLASS tube (available in CKB) | National Amyloidosis Centre, London | Amyloid (SO) |
| Apixaban | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, St. James’ Hospital  Tel: 01 4162956 | Apix (SO) |
| **Breast Implant Fluid Flow Cytometry** | 5ml RPMI Heparin | Clinical Cytometry & Haemoglobinopathy, St James’s Hospital | **Breast Implant Fluid FCM (SO)**  **Form required**  Hand written request on St James Hospital Flow Cytometry request form **EX-HAEM-1074** |
| CSF for Flow Cytometry | Get a Transfix tube. CSF sample is stable in Transfix for 3 days at 2-8°C. | MLL Münchner  München | CSF FCM (SO) |
| Cancer Molecular Diagnostics (CMD) | 2 EDTA samples | Cancer Molecular Diagnosis St. James’ Hospital | CMD |
| Cytogenetics | Place sample in RPMI medium with sodium heparin. (Universal Container obtained from fridge in Haem Lab). | Department of Clinical Genetics, Our Lady’s Hospital, Crumlin | Cytogen/FISH CHI |
| Cytogenetics (FISH) | Lithium Heparin sample | MLL Münchner  München | Cytogen/FISH MLL |
| Cytogenetics, ERIC Panel, (TP53-IGHV Mutation), T-cell gene rearrangement studies (TCR) | 2 EDTA samples or BM in RPMI sample if Haematology team requests it. Transported at RT°C | Molecular Haematology ,  Belfast City Hospital | IgHV Rearrangement, P53 Deletion, TCR (SO) |
| Dabigatran Level | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, St. James’ Hospital | Dabigatran (SO) |
| EMA binding assay  Test for Hereditary Spherocytosis | 1 x 2.6mL EDTA sample & Blood film required.  EDTA sample must be < 24hrs old on testing.  Complete clinical details and any family history of HS. (also known as Eosin-5-Maleimide, replaces Osmotic Fragility) | Clinical Cytometry & Haemoglobinopathy,  St James’s Hospital | HS Scr (SO) |
| Factor VIII and FIXinhibitors | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, St. James’ Hospital | FVIII INH (SO)  FIX INH (SO) |
| FXIII antigen | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, St. James’ Hospital | FXIII Ag (SO) |
| Fanconi Anaemia Screen | 2 x 4 ml Lithium Heparin (peripheral blood) | MLL  München | FS (SO) |
| Fluid Flow Cytometry   * **Ascitic fluid** * **Pleural fluid** | 5ml RPMI Heparin | Clinical Cytometry & Haemoglobinopathy, St James’s Hospital. | Fluid FCM (SO)**Form required**  Hand written request on St James Hospital Flow Cytometry request form **EX-HAEM-1074** |
| G6PD  G6PD\_Q  (The latter Will be referred by SJH to Guys if deficient) | 1 EDTA sample and marked as urgent  Note: SJH require that all sections of the form are completed, in particular the clinical details and Haematology indices sections | Clinical Cytometry & Haemoglobinopathy,  St James’s Hospital | G6PD Scr  G6PD Assay (SO) |
| Haemoglobin  Electrophoresis & Sickle Cell confirmation | 1 EDTA sample < 7 days old. 1 serum sample for Ferritin measurement to be done in-house if not already done. All sections of the form must be completed, in particular the clinical details and Haematology indices sections | Clinical Cytometry & Haemoglobinopathy,  St James’s Hospital | Hb'opathy Scr (SO) |
| Haptoglobin | 1 serum sample- | MMUH , Eccles St, | Hapto (SO) |
|  |  |  |  |
| High Molecular weight Kininogen/ Prekallikrein | 2 fresh Coag samples, | Eurofins | HMWK careset |
| HIT Screen | 2 serum samples. Samples received in lab after 14.00 will be sent to SJH the following day. | National Coagulation Laboratory,  St. James’ Hospital | HIT (SO) |
|  |  |  |  |
| Minimal Residual Disease (MRD) | Performed by PCR  4 EDTA samples  Complete a CMD request form | Cancer Molecular Diagnostics,  St James Hospital | B ALL MRD (SO)  CLL MRD (SO)  T ALL MRD (SO) |
| Myeloid Gene panel | 2 EDTA samples | King’s College Hospital, London | Myeloid Gene Panel |
| MPN panel | Assay includes JAK2 V617F, JAK2 exon 12, CALR & MPL mutations.  Peripheral blood or Bone marrow, 9ml in RPMI | Cancer Molecular  Diagnostics, St James Hospital, | MPN panel |
| MRD NPM1 | EDTA PB or BMA  Samples should reach the laboratory within 24 hours of collection. Storage and transport: Room temperature. | Guys | NPM1 Quant |
| Plasma cell screen (SO) |  | MLL | MM Panel (SO) |
| Plasma  Viscosity | 1 or 2 EDTA samples less than 48 hours old.  All sections of the form must be completed, in particular the clinical details and Haematology indices sections | Clinical Cytometry & Haemoglobinopathy  St James’s Hospital | PV (SO) |
| Plasminogen Activator Inhibitor | 1 Coag sample required  This test is extremely sensitive to pre analytical conditions. A freshly drawn coag sample must be mixed immediately by gentle inversion at least six times following collection. | Eurofins/Biomnis, | PAI-1 |
| Pyruvate  Kinase | EDTA sample x 2.  NB: keep sample at RT do not put in the fridge  Order a RETFBC & a PK,  Avoid sending on Thursdays and Fridays. | Chris Lambert, Red Cell Protein Laboratory, King’s College Hospital, London | PK (SO) |
| Red Cell Gene Panel/ Neutropenia panel | 5 mls EDTA blood adults (2 samples)  For red cell panel - please provide FBC, HPLC screening results, iron levels and markers of haemolysis plus a blood film, if available.Stored in the fridge where possible. | Viapath Analytics Molecular Pathology Laboratory, King’s College Hospital, | RC/Neutropenia Panel |
| Ristocetin Co-Factor (RICOF) | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, St. James’ Hospital | VWF RCo (SO) |
| Vaccine Induced Thrombotic Thrombocytopenia (VITT) | 2 x serum samples.  Confirm that the case has been discussed with Haematology. If not, contact Dr Karl Ewins Coagulation consultant or bleep registrar (#870) or the Haematology registrar / consultant on call if out of hours. Positive tests will have PF4 induced Plt activation assay (PIPA) referred to external laboratory. | National Coagulation Laboratory, CPLM building, St. James’ Hospital | VITT |
| Von Willebrand Study send out | 2 fresh Coag samples, relevant clinical details, anticoagulant therapy, must be supplied with each request. Must be cleared by requesting Dr with Coagulation in SJH | National Coagulation Laboratory, CPLM building, St. James’ Hospital | VWFS (SO) |
| Warfarin (drug) Level | Separated serum is optimal sample type.  Complete a Coagulation request form. Store and transport at room temp. | Viapath, St Thomas Hospital, Lambeth Palace Road, London | Warfarin Level |

**Note:** if a CKB patient is being referred to SJH for a stem-cell transplant and if Bone marrow aspirate slides are referred, the following form must be completed and sent with the BMA slides. Clink on the link: [GP & External Request Forms | St James's Hospital](https://www.stjames.ie/labmedinformation/gpexternalrequestforms/) and then download the ‘Bone Marrow Aspirate Request Form’

### Requests for Additional Analysis

**Provided a suitable sample is available verbal requests will be accepted for tests. Refe**r to table below for test cut-off times when requested to add a test to a sample already received in the Laboratory. Ensure that the correct sample requirements are met when taking an add-on request i.e. the sample has been received/ correct anti-coagulant/ the sample is not too old for analysis.

#### Test Cut-Off Times

| **Test** | **Test Cut-off Times** |
| --- | --- |
| FBC | <24 hours |
| Blood Film preparation | <8 hours |
| Platelet Exact for platelet clumping | <24 hours |
| Reticulocyte | < 24 hours |
| ESR | < 6 hours |
| Haptoglobin | < 8 days once stored @ 2-8C |
| Malaria | < 2 hours |
| IM | <24 hours. |
| Sickle Screen | < 45 days if stored @ 2-8C |
| PNH | < 72 hours if stored at @ 2-8C |
| LST, TBNK & CD4 | <48 hours |
| Flow Cytometry: Lymphoproliferative Panel | <48 hours (All samples) |
| Flow Cytometry: Acute Leukaemia Panel | <48 hours (Bone marrow) |
| < 24 hours (EDTA samples) |
| Flow Cytometry: T Cell Panel | <24 hours (All samples) |
| Coagulation Samples(PT, APTT, Fibn) | < 4 hours |
| D-dimer | < 8 hours |
| INR | <24 hours |
| Factor V Leiden, , Prothrombin G20210A mutation and HFE | <28 days once stored at 2-8C |
|  |  |

#### Process for additional analysis is by placing the order through powerchart and selecting the priority as add on. Then the requestor must call the lab to inform them of this add on request and to see whether there is a suitable sample or not.

As a blood film request is not available on powerchart ( only for the Haematology consultants ) this must be ordered directly by calling the lab , given the clinicians name , bleep number , whether it is a bld film or for consultant review and the reason for the request.

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### Critical Values

* Results falling outside defined alert limits are telephoned to the appropriate ward/ personnel as document in Section 3.1.11.

\*H/M = Hypochromic/ microcytic and N/N = Normochromic/ normocyticThe Following Table is a list of these results that will be phoned:

|  |  |  |  |
| --- | --- | --- | --- |
| **Test** | **Result to be Telephoned** | | |
| **Hb** | Leave N/N\* as <7 category A , but 5-7 H/M\* category B | | >20 new limit ( now 19) and category A |
| **PLT** | <20 x 109/L & >1000 x 109/L (1st time) | | |
| WCC | >30 as category B with a morphology follow up | | |
| **Neutrophils** | <0.5 x 109/l & >50 x 109/L (1st time) | | |
| **FBC** | Results indicating possible leukaemia i.e. numerous flags (especially blast), increase WCC, DIFF vote-out or very abnormal, plt<100 and low Hb. Phone ward/clinical team responsible for the patient and to bring these results to their attention. | | |
| **INR** | >5.0 communicated to relevant clinical staff as per Hospital Policy: PPCC-HAEM-11 | | |
| **Fibrinogen** | <1.5 g/l |  | |
| **Flow Cytometry** | New Acute Leukaemia/PNH patients | | |
| **Morphology** | New Acute Leukaemia  TTP/MAHA | | |
| **Malaria Screen & Film** | Positive | | |
| **Sickle Screen** | Positive | | |