BON SECOURS HOSPITAL LIMERICK at Barringtons	**TITLE: LABORATORY USER MANUAL**

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APPROVED BY: Dr Vourneen Healy	**PAGE: Page 1 of 57**
EFFECTIVE FROM: 1st Mar 2023	

BON SECOURS HOSPITAL LIMERICK AT BARRINGTONS

USER MANUAL

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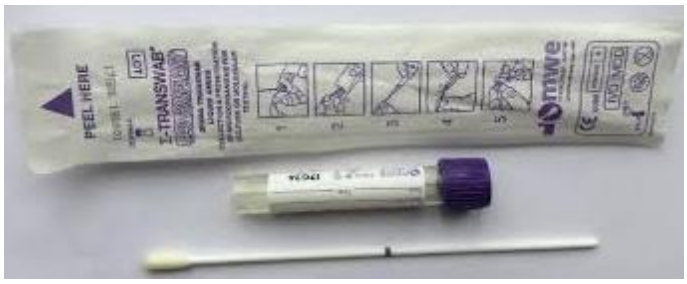


Purpose

This policy statement is a reaffirmation of our commitment to a high level of ethical conduct and standards in conjunction with the mission and values of the Bon Secours Community. Founded by the Sisters of Bon Secours, our hospitals have as their mission care for the sick, the dying and their families within a Catholic ethos. Inspired by the Gospel and sharing in the healing mission of Jesus, we recognise the dignity and uniqueness of each person, seeking to provide high-quality holistic care characterised by compassion, respect, justice and hope.

This policy statement is a reaffirmation of our commitment to a high level of professional and ethical conduct and standards in conjunction with the mission and values of the Bon Secours Health System.

The purpose of this document is to describe in clear terms, the polices, practices and procedures that control the effective delivery of the services provided as it relates to the Pathology Department, Haemovigilance and Blood Component Traceability Activities at the Bon Secours Hospital Limerick at Barringtons.

This manual is designed to give an overall view of the services available in the Pathology Department. It is intended as a quick reference guide for all pathology users both within the hospital and those from outside agencies.

A controlled hardcopy of this Manual has been issued to each ward and other relevant locations as authorised by the Laboratory Manager. An electronic copy of this manual will also be stored on the Hospital website: https://www.bonsecours.ie/limerick-departments/laboratory The document is stored in Adobe Acrobat format, which allows all computer users to read the document while preventing modification.

All Pathology services undergo continuous review through quality assurance and audit activities. The laboratory is committed to performing its activities in accordance with the requirements of the International Standard ISO 15189:2012.

References

- The current version of the International Standard ISO 15189:2012 titled ‘’Medical Laboratories - Requirements for Quality and Competence’’
- The current version of the international Standard ISO 22870 titled ‘’Point of care testing (POCT) – Requirements for Quality and Competence’’
- EU Directive 2002/98/EC titled ‘’Setting Standard of Quality and Safety for the Collection, Testing, Processing, Storage and Distribution of Human Blood and Blood Components’’ and amending directive 2001/83/EC.
- EU Directive 2004/33/EC Annex IV titled ‘’Storage, Transport and Distribution Conditions for Blood and Blood Components’’
- Statutory instruments 360 of 2005, 562 and 547 of 206 which adapt the EU Directives as defined above into Irish Law.
- AML-BB current version titled ‘’Minimum Requirements for Blood Transfusion Compliance with Article 14 (Traceability) and Article 15 (Notification of Serious Adverse Reactions and Events) of EU Directive 2002/98/EC’’
- INAB terms and conditions (current version)

  These documents as defined above are listed in “External Documents” which is located on the G-drive G:\Laboratory\Accreditiation Laboratory\Level 4 documents\PDF Level 4\Current Version\Master Lists.

Definitions and Abbreviations

GP – General Practitioner.

HBV – Hepatitis B Virus.

HCV – Hepatitis C Virus.

HealthLink – Is a web-based messaging service which allows the secure transmission of clinical patient information between Hospitals, Health Care Agencies and General Practitioners.

HIV – Human Immunodeficiency Virus.

INAB – Irish National Accreditation Board.

ISO15189 – A standard developed by the International Organisation for Standardisation's Technical Committee 212 which focuses on essential elements for medical laboratories, in particular on patient needs and on clinical personnel needs. It addresses additional issues which include the provision of advisory services to clinicians, collection of patient samples, provision of testing in a medical emergency and the contribution of medical laboratory service to patient care.

LIS – Laboratory Information System.

LDP – Laboratory Department Policy.

SCM – Specimen Collection Manual.

SOP – Standard Operating Procedure.

TAT – Turnaround Time.

UKNEQAS - United Kingdom National External Quality Assessment Service.

Safety Guidelines

General safety guidelines must be adhered to when handling biological material. All staff must read, be familiar with LDP20 The Safety Manual.

1.0 Procedure

1.1 Introduction

The Laboratory User Manual is intended as a guide to the services provided by the Laboratory Department, Bon Secours Hospital Limerick at Barringtons.

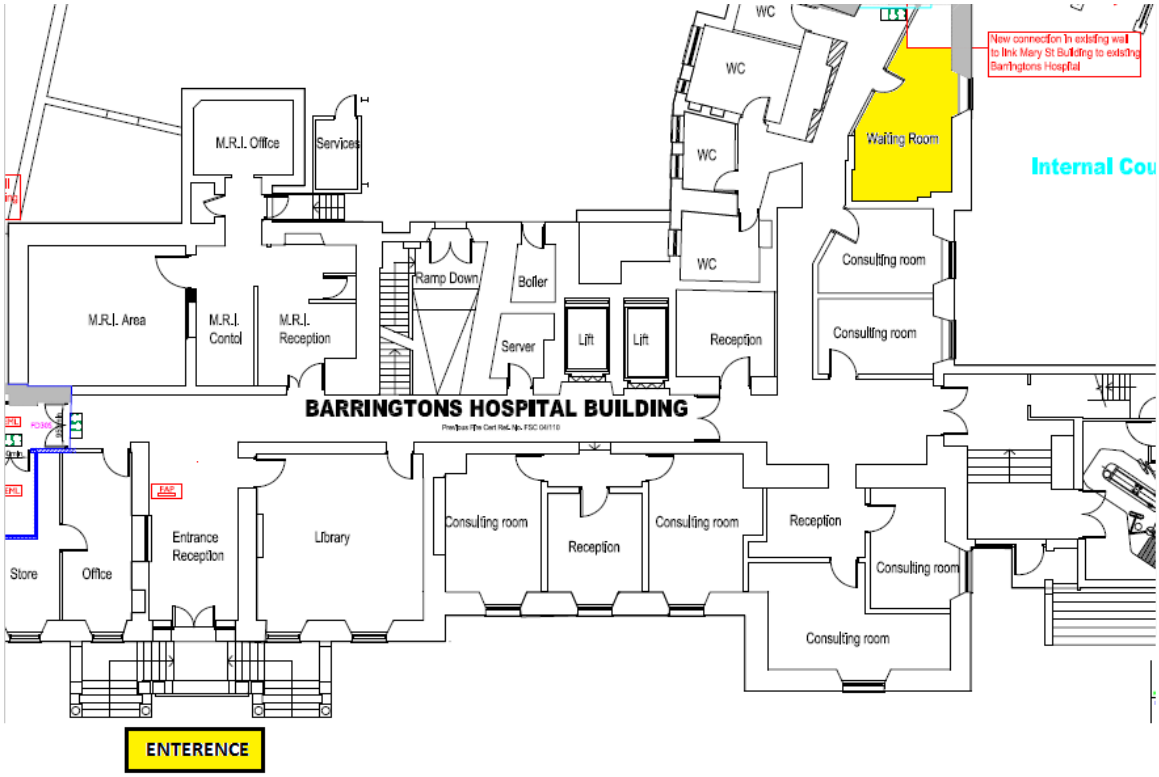
Each individual Laboratory discipline has its own section which describes the specimen type required, the projected turnaround time (TAT) where appropriate, reference intervals where appropriate, and any special comments including patient preparation.

Specific test requirements including collection procedures are detailed in the sections below but can also be ascertained by contacting the Laboratory. Tests are also listed which are performed in outside institutions and this is indicated where applicable, all test reports from referral laboratories will indicate the name of the laboratory where the test performed. Information is included on out of hours emergency services and services provided outside the core working day.

1.2 Location of the Laboratory

The Laboratory is located in Bon Secours Hospital Limerick at Barringtons, Georges Quay, Limerick.

The Pathology Department is located in building C of the Hospital. All visitors must check in at main reception before arriving into the Laboratory. Patients can locate the laboratory by entering the hospital through the main entrance and following the red arrows which will lead to the waiting room. A member of the laboratory team will meet you there. Access inside the laboratory is strictly regulated by security swipe and only laboratory staff have access to the laboratory. All visitors must make an appointment.



1.3 Laboratory Opening Hours

Histology Department is open as follows;

Monday	08:00	17:00
Tuesday	08:00	17:00
Wednesday	08:00	17:00
Thursday	08:00	17:00
Friday	08:00	17:00
Saturday	Closed	Closed
Sunday	Closed	Closed

Barringtons Laboratory **Biochemistry and Haematology** Departments are opened as follows;

Monday	09:00	17:00

Tuesday	09:00	17:00
Wednesday	09:00	17:00
Thursday	09:00	17:00
Friday	09:00	17:00
Saturday	On Call Service	On Call Service
Sunday	Closed	Closed

1.4 Contacting the Laboratory

The laboratory Phone number is 061 490 550 and select from options below			
Department	**Extension**	**Email**	**Contact**
Laboratory Manager	3	lhogan@bonsecours.ie	Lisa Hogan
Laboratory Quality co-ordinator	3	lhogan@bonsecours.ie	Lisa Hogan
Laboratory Office	2	bsllaboratory@bonsecours.ie	Medical Secretary
Histopathology	2	bsllaboratory@bonsecours.ie	Lab Office
Biochemistry	1	jgray@bonsecours.ie	John Gray – Senior Medical Scientist
Haematology	1	jgray@bonsecours.ie	John Gray – Senior Medical Scientist
Point of Care	3	jgray@bonsecours.ie	John Gray – Senior Medical Scientist
Fax	061 490553	NA	

Consultant Histopathologist	Contact Number
Dr Elizabeth Mulcahy	061 490550
Dr Olu Ipadeola	061 490550
Dr Vourneen Healy	061 490550
Dr Peter N. Faul	061 490550

1.5 Quality Management System

The Pathology Laboratory, as part of the hospital services is JCI accredited.

The Pathology Laboratory of BSHLaB is committed to providing a high quality, efficient and comprehensive services to its users.

Rigorous Instrument (& Method) Verification Procedures, Internal Quality Control Procedures, participation in External Quality accreditation schemes, and adherence to ISO 15189:2012 (Standard overseen by the Irish National Accreditation Board (INAB) assures the ongoing provision of high-quality service.

The Quality of results is of fundamental importance and the laboratory operates to strict scientific and management standards.

The Pathology Laboratory Quality Policy is included in this document and may also be viewed displayed in the Department.

It is the policy of the Pathology Laboratory to communicate with users any significant change from current practice including a change to an assay methodology which may result in an alteration in the assay reference interval.

1.6 Customer Satisfaction, Comments and Complaints

There are a number of channels by which comments, and complaints may be identified to the Pathology Department. In all cases, it is Department policy to respond in an open, positive and professional manner to issues raised. If necessary, adjustment to Pathology Department procedures will follow.

1.7 Laboratory Quality Policy

The Laboratory is committed to promoting and preserving the Bon Secours Hospital Limerick @ Barrington's Mission, which is to deliver an ambulatory patient cantered healthcare service in a safe and compassionate environment.
The service provided by the laboratory will be of a high quality and takes into consideration the needs and requirements of its users.
To ensure that this is done, the laboratory department in accordance with International Standards ISO15189:2012, INAB and Joint Commission International Standard for Hospitals will:
Ensure the minimum verification requirements for ISO 15189:2012 are met. These requirements include:

- A verification plan for changes to validated examination procedures.
- A verification report for changes implemented. The report includes objective evidence that the performance claims for the examination procedure have been met.
- Implementation/integration of the change in the laboratory quality system.
- Operate a quality management system that integrates the organization, procedures, processes and resources.
- Sets quality objectives and plans in order to implement the quality policy.
- Ensure that all laboratory personnel are familiar with the contents of the quality policy and all other policies and procedures, thereby ensuring user satisfaction.
- Be committed to the health, safety and welfare of all the staff. Visitors to the laboratory will be treated with respect and due consideration will be given to their safety whilst in the laboratory.
- Uphold professional values and be committed to good professional practice and conduct.

The laboratory department is also committed to:

- Staff recruitment, training and development at all levels to provide a full and effective service to its users.
- The proper procurement and maintenance of equipment and resources required for precision of the service.
- The collection, transport and holding of all specimens in such a way as to ensure the correct performance of laboratory examinations.
- The use of examination procedures that are fit for intended use and will ensure the highest quality of all tests performed.
- Maintaining the integrity of the quality management system, including effective communications between staff and monthly quality and departmental meetings.
- Reporting results in a manner that is timely, confidential, accurate and clinically useful.

- The assessment of user satisfaction, in addition to internal audits, internal and external quality assessment in order to procedure continual quality improvement.

1.8 Safety

The laboratory safety statement is available on QPulse.

The laboratory uses standard precautions when handling all patient samples.

General Safety Guidelines

- Always use approved sample collection containers and ensure lids are securely closed.
- Observe Standard Precautions when taking patient samples.
- Always dispose of sharps appropriately and according to the waste disposal policy.
- Samples must be placed in approved biohazard bag with request form (if available) placed separately in the sleeve provided.
- Always supply clinical information including known infection risk with each request.
- Environmental conditions are monitored

1.9 Phlebotomy

Phlebotomy is provided by trained nursing or medical staff. Please note that only in date blood collection tubes can be used. Blood taken into expired collection tubes may render the sample unsuitable or impact on the reliability of the result. All hospital staff performing phlebotomy should follow the following guidelines.

1. Preparation of Equipment.
2. Follows Guidelines/Policy for venepuncture.
3. Identify correct patient according to policy.
4. Complete sample request form.
5. Check patient history for allergies/previous venepuncture access, bleeding disorders.
6. Hand hygiene as per hospital policy.
7. Explain procedure and gain verbal consent of patients.

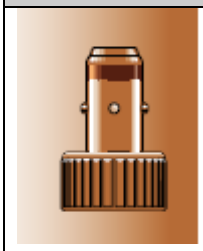
8. Ensure privacy and comfort during procedure.
9. Identify and expose appropriate venepuncture site.
10. Prepare syringe needle or vacutainer.
11. Apply tourniquet
12. Select vein, swab site and allow to dry.
13. Insert needle into vein, observe patient.
14. Attach appropriate specimen tubes and withdraw blood (Invert specimen tubes gently).
15. Remove Tourniquet.
16. Remove needle system and apply a dry swab.
17. Label specimen tube while in the presence of the patient.
18. Check that the venepuncture site is not bleeding and apply a dry dressing plus pressure if necessary.
19. When procedure is completed ensure patient is comfortable.
20. Dispose of blood collection materials as per local policy.
21. Remove gloves, wash hands.
22. Promptly forward blood specimens to the laboratory.

1.9.1 Order of Draw

In order to avoid potential contamination of subsequent tubes, it is recommended that when blood is collected for several analyses from a single venepuncture that the sequence below is followed.

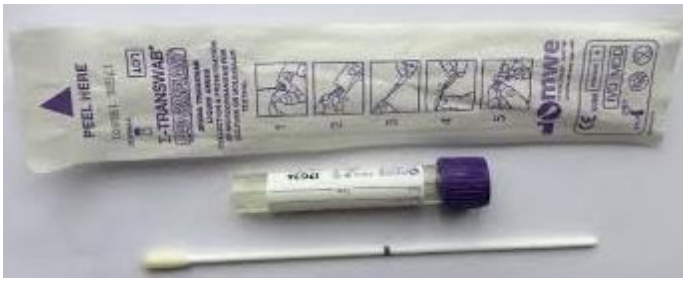
1. Blood Culture.
2. Clotted specimen tubes
3. Coagulation specimen tubes – coagulation studies, ESR
4. Heparinised specimen tubes
5. EDTA
6. Glucose

1.9.2 Collection Tubes and Sample Containers

Blood Tests – Biochemistry/Haematology	
Blood bottle	Investigation
 7.5mL Brown Serum - Gel No Anticoagulant. In addition to the beads this S-Monovette contains a polyacrylic ester gel that, due to its density, forms a stable separating layer between the blood clot and the serum during centrifuge and serves as a barrier during sample transport and storage.	**Biochemistry** All Clinical Chemistry tests performed within the Pathology Dept. excluding Glucose.
 2.9mL Blue Sodium Citrate Citrate, pre-dosed as a 0.106 molar solution, is used for all physiological coagulation studies. A mixing ratio of 1:10 must be strictly observed.	**Haematology** Coagulation, INR, APTT, D-Dimer *Sample must be filled to the line specified on coagulation specimen*
	**Haematology** FBC, ESR

2.7mL Purple Potassium EDTA EDTA K3 is a predosed liquid preparation in an average concentration of 1.5mg EDTA/ml blood. A maximum dilution caused by the liquid preparation is lower than 1%. Although the EDTA preparation may dry during storage, this does not in any way impair its anticoagulant effect.	
 7.5ml Red Potassium EDTA EDTA K3 is a predosd liquid preparation in an average concentration of 1.5mg EDTA/ml blood. A maximum dilution caused by the liquid preparation is lower than 1%. Although the EDTA preparation may dry during storage, this does not in any way impair its anticoagulant effect.	**Blood Bank** 7.5ml Adult and 2.7ml Paediatric Group & Screen, Crossmatch, Direct Coombs, Anti-D quantitation, Phenotype, Antibody Identification, Cold Agglutinins, FMH estimation, Platelet antigen testing, Platelet antibodies, Foetal genotype.
 2.6ml Grey Fluoride/EDTA The S-Monovette for glucose determination contains fluoride (1.0 mg/ml blood) as a glycolysis inhibitor and EDTA (1.2 mg/ml blood) as an anticoagulant in a liquid preparation.	**Biochemistry** Glucose
Histology	
Container	**Investigation**

 10% Buffered Formalin	*Routine histology specimens*
Microbiology	
 Charcoal Amies. Amies medium with inorganic buffer ensures maintenance of microorganisms without overgrowth. For recovery of aerobes, anaerobes and fastidious organisms.	Wounds, skin, urogenital and throat swabs for the isolation of superficial bacteria including members of Staphylococcus, Streptococcus, Enterobacteriaceae gram positive and gram negative species, MRSA isolates. Note: If both Nasal and Groin swabs are taken please ensure that each swab is appropriately labelled as 'groin' & 'nasal' respectively.
	Rectal swabs - CRE/VRE isolates

 	Viral Swabs (liquid Sigma Transwab purple top or UTM/Biocomma red top) – Flu, SARS CoV-2
	**Blood Cultures** Aerobic Bottle (Green) Anaerobic Bottle (Purple) Sample volume; 5 – 10 mL blood

 Sterile universal container No preservative	**Urine analysis** A specimen of mid-stream urine should be provided into a sterile container for culture and sensitivity.
 5 L Sterile Collection Container	**24hr Urine Collections** (with/without addition of 20 mL HCl which is assay dependent)
 Sterile container	**Fungal Specimens** ***CSF***

 Sterile container	**Faecal Analysis**

Any queries on the preservation and transport of specimens, please contact the laboratory with the above contact numbers.

1.10 Acceptance Criteria

Samples will be accepted for processing if the sample meets the laboratory acceptance criteria. Please refer to specific departments for acceptance criteria.

Samples may not be processed if they do not meet the criteria of each department. These samples will result in a laboratory non-conformance.

Minimum acceptance criteria is documented below by department.

1.11 Specimen Transport

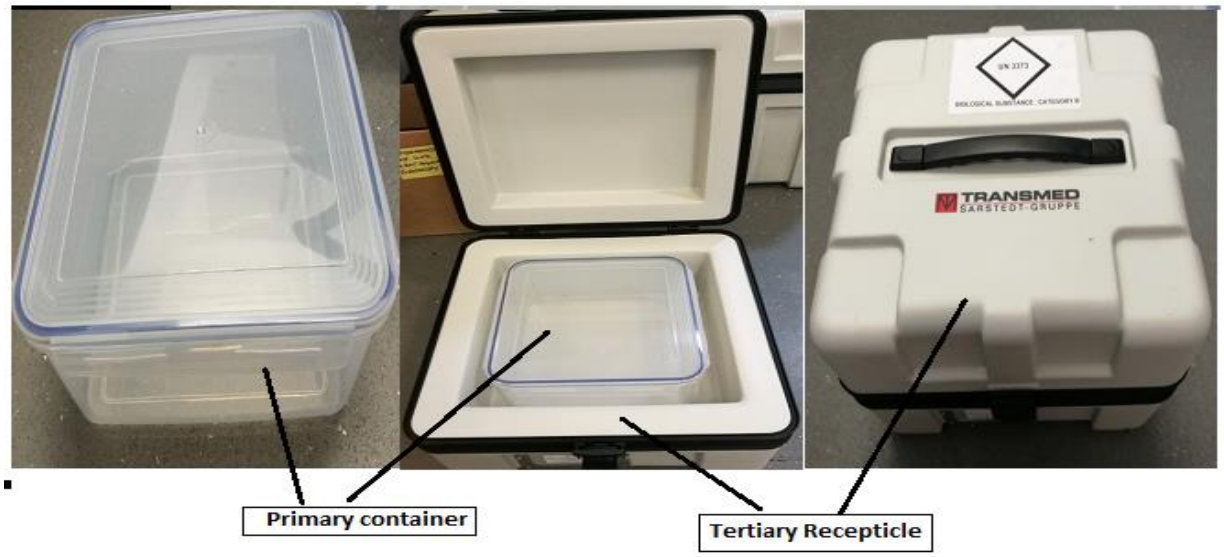
During the process of transporting patient samples to the laboratory it is essential that samples are transported safely and efficiently in order to;

- Ensure safe custody and integrity of the sample which must reach the laboratory in proper condition and in a timely manner.
- Ensure the safety of staff transporting samples.
- Ensure the safety of other staff, patients and members of the public

1.11.1 Please follow these guidelines;

- Use appropriate sample collection biohazard bags which can contain any spills or leaks within the bag.
- Samples can be manually handed into the laboratory.
- Use sample transport boxes (closed) where appropriate. All samples transported into or out of the laboratory by external courier must be packaged in a primary container within a tertiary receptacle. (see picture below).
- Do not leave samples in other locations en route to the laboratory.
- If there is doubt about the safe packing/presentation of samples for transport, ask a senior for advice.
- Do not transport broken or leaking samples from their source – report to senior.
- Report any spills or breakages to supervisory staff.
- If required, follow appropriate spill procedure for individual areas as described in relevant policies.

Please refer to specific instructions in individual department sections of this user manual for transport of samples which require special conditions or handling. If in any doubt please contact the relevant department or laboratory by telephone.



1.12 Turnaround Times

Please refer to the individual departments for specific turnaround times.

Please be aware that the turnaround times are based on a standard working day 9am to 5pm. Weekends are not included. Allowance must be made for the start-up of laboratory analysers in the morning, as no sample can be run until all systems have passed quality checks.

1.13 Report Collection

The primary reporting mechanism for all reports from the laboratory is a paper-based system.

Copies of reports are available on MAXIMS.

Reports are printed from the Laboratory Information System (LIS) are distributed via internal post or external post using An Post postal services.

Reports from the Blood bank can be viewed by laboratory staff using Healthlink. This service is also available to nursing staff for out of hour's service.

Reports for outpatients are delivered to the requesting GP/Practitioner via postal services.

Reports from the reference laboratory are available via secure web-based system and are transcribed to the BSHLaB LIS for issuing in paper format.

Please note that the requesting clinician is the sole interpreter of the report.

Note: All emails are encrypted, password protected and sent to secure emails only (No gmail, Hotmail etc). This is in line with hospital policy for the protection of data.

1.14 Reference Laboratory

The Bon Secours Hospital Limerick at Barringtons has service levels agreements with the following laboratories to perform referral testing.

Contact Information Eurofins Biomnis Unit 3 Sandyford Business Centre Sandyford Business Park Blackthorn Road Dublin 18 Tel: (Main switchboard for all services) +353 (0)1 293 3690 Customer Support Department :1800 303 349 Fax: +353 (0)1 293 3672 E-mail: blackthornsupport@eurofins-biomnis.ie Web: https://www.eurofins.ie/biomnis/ Monday – Friday: 9am – 5.30pm INAB Reg: 159MT Specimen Referred: **Serology, virology and all other tests not performed in house.**	Contact Information Histopathology Laboratory Bon Secours Hospital Tralee Strand Street Tralee Co kerry Tel: 066 714 9800 Fax: 066 716 4525 Web: https://www.bonsecours.ie/tralee-departments/laboratoryservices INAB Reg: 206MT Monday – Friday: 9am – 5.30pm Specimen Referred: **Histology**
Contact Information Microbiology Laboratory Bon Secours Hospital Tralee Strand Street Tralee Co kerry Tel: 066 714 9800 Fax: 066 716 4525 Web: https://www.bonsecours.ie/tralee-departments/laboratoryservices INAB Reg: 206MT Monday – Friday: 9am – 5.30pm Specimen Referred: **Microbiology, Coagulation**	

1.14.1 Test Information and Turn-Around Times

The websites (see above) contains comprehensive information on the range of tests and services provided. The website is updated frequently with services and test information,

including sample types, turnaround times, special instructions and other specific test information.

1.14.2 Consent Form

The tests requiring consent forms include

- HIV status – Appendix 1
- Referral test may require consent forms which are available from the website or as an attachment to the Eurofins Biomnis Laboratory Guides. E.g. certain genetic tests, leukaemic studies, Downs risk assessment.

1.15 Data Protection, Retention and distribution.

The laboratory confirms to the EU legislation for the protection and use of patient data as defined in Data Protection Acts 1988 and 2003 (pdf) and the Data Protection Bill 2018 as passed by Dáil Éireann.

The laboratory requests, collects and retains the following information when samples are submitted to the laboratory for testing:

- Patent name
- Date of birth
- Current address
- Consultant
- Clinical details and medical histology, as applicable to the sample submitted and relevant to the scope of testing.
- Sample type
- Sample site, as applicable to the sample submitted and relevant to the scope of testing.
- Test request

All patient data including: Patient demographics, Samples, request forms and reports are retained by the laboratory for a defined period of time. Retention periods follows established guidelines that are consistent with acceptable practice, i.e. The Royal College of Pathologists "The retention and storage of Pathological Records and Specimens (5th Edition), April 2015". The laboratory has a documented policy on the retention of records

All reports are distributed to the requester of the test. Patients receiving care within the Bon Secours Hospital Limerick at Barringtons, the requester of the test refers to the clinician overseeing the care of the patient.
Out-patients reports will be distributed to the named primary clinician whom requested the test.

On occasion the laboratory will distribute patient information to other health care professionals upon a formal request for the data, where appropriate. The laboratory has a documented procedure in place for the distribution of reports.

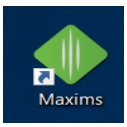
The laboratory complies with legislation regarding S.I. No. 276/2016 - Infectious Diseases (Amendment) Regulations 2016, in this regard the laboratory will distribute patient information to the relevant authorities.

The laboratory complies with legislation regarding S.I. No. 293/1996 - National Cancer Registry Board (Establishment) Order, 1991 (Amendment) Order, 1996. In this regard the laboratory will distribute patient information to the National Cancer Registry.

The laboratory participates in research activities and may, on occasion, use patient data/samples for audit purposes, validation and reagent quality control during research activities. All research activities are subject to approval from the Bon Secours Hospital Ethical board and local ethical approval boards, as required by the World Medical Health Association Declaration of Helsinki June 1964.

1.16 Laboratory Request form

Laboratory request forms be submitted in 2 ways: OrderComms MAXIMS or Handwritten hard copy.

MAXIMS 

- Log onto MAXIMS using credentials
- Search patient by MCRN
- Select Order tests
- Complete request and submitt to lab.
- Blood science labels can be pre-ordered and collected when ready.
- Print labels and attach to patient sample.
- Histology requests must be accompanies by the hard copy reqest printed from MAXIMS.

Handwritten Hard Copy

- Request forms can be requested from the lab.
- Complete the request and label patient samples.

BON SECOURS HOSPITAL LIMERICK at Barringtons

LABORTAORY REQUEST FORM

LAB NUMBER:

BON SECOURS HOSPITAL LIMERICK AT BARRINGTONS, GEORGES QUAY, IRELAND
Tel: 061 490 552 Fax: 061 490 553 Email: BSLLaboratory@bonsecours.ie

PATIENT DEMOGRAPHICS

HOSPITAL NUMBER: _____
FORENAME: _____
SURNAME: _____
DOB: _____
CURRENT ADDRESS:

GENDER: M / F
LOCATION: _____
CLINICIAN: _____
CONSULTANT: _____
EMERGENCY CONTACT: _____

CLINICAL DETAILS: Urgent ☐ Routine ☐

SPECIMEN DATE:
SPECIMEN TIME:
SPECIMEN TYPE & SITE:
SIGNATURE OF SAMPLE TAKER:

INVESTIGATIONS

BIOCHEMISTRY

RENAL PROFILE ☐	LIVER PROFILE ☐	LIPID PROFILE ☐	BONE PROFILE ☐	OTHER ☐
☐ Na^+	☐ Total Bilirubin	☐ Chol	☐ Ca^{2+}	☐ CRP
☐ Cl^-	☐ Total Protein	☐ Trig	☐ Mg	☐ Random Glucose
☐ K^+	☐ ALB	☐ HDL		☐ Fasting Glucose
☐ Urea	☐ ALT	☐ LDL		☐ Iron Studies
☐ Creatinine	☐ AST			☐ Please Specify Other:
	☐ ALP			
	☐ GGT			

HAEMATOLOGY	IMMUNOLOGY	OTHER
☐ Full Blood Count	THYROID FUNCTION ☐	Please Specify:
☐ Coagulation	☐ Free T4	
☐ Other:	☐ TSH	
	OTHER ☐	
	☐ PSA	
	☐ Ferritin	
MICROBIOLOGY	**CYTOLOGY**	
☐ Culture and Sensitivity	☐ Non-Gynae Cytology	
☐ MRSA Screen		
☐ CPE		

LABORATORY USE ONLY:

SPECIMEN RECEIVED:	DATE:_____ TIME:_____ INITIALS:_____	NOTES:	

Version :05 Effective Date: 02nd July 2021 Laboratory Request Form

Requests for Blood Transfusion which are filled in manually on request forms for University Hospital Limerick. Instructions are available on Train track for this process.

The lab must be made aware when a manual request from is filled out.

2.0 CLINICAL BIOCHEMISTRY

2.1 Biochemistry

The Biochemistry Department deals with the biochemical basis of disease and the use of biochemical tests for its diagnosis, prognosis, screening and management. Out of hours/on call testing is available through University Hospital Limerick (UHL). Specimens must be transported in a transport box by Swift taxis. Results will then be available on Healthlink.

Listed below is the repertoire of tests performed within the Clinical Biochemistry Department.

All other test requests are processed by our External Testing Laboratory, Eurofins Biomnis.

ANALYTE	REFERENCE INTERVAL		UNITS	TURNAROUND TIMES	
	Male	Female		Routine	Urgent
Biochemistry					
Renal Profile					
Sodium	136 - 146	136 - 146	mmol/L	1 Day	1Hr
Potassium	3.5 - 5.1	3.5 - 5.1	mmol/L	1 Day	1Hr
Chloride	101 - 109	101 - 109	mmol/L	1 Day	1Hr
Urea <60 years	2.8 - 7.2	2.8 - 7.2	mmol/L	1 Day	1Hr
Urea >60 years	2.9 - 8.2	2.9 - 8.2	mmol/L	1 Day	1Hr
Creatinine	59 - 104	45 - 84	µmol/L	1 Day	1Hr
Liver Profile					
Total Bilirubin	5 - 21	5 - 21	µmol/L	1 Day	1Hr
Total Protein <18 years	57 - 80	57 - 80	g/L	1 Day	1Hr
Total Protein >18 years	66 - 83	66 - 83	g/L	1 Day	1Hr
Albumin	35 - 52	35 - 52	g/L	1 Day	1Hr
Gamma glutamyl transferase (GGT)	0 - 55	0 - 38	IU/L	1 Day	1Hr

Alkaline Phosphatase (ALP)	30 - 120	30 - 120	IU/L	1 Day	1Hr
Alanine Aminotransferase (ALT)	0 - 45	0 -34	IU/L	1 Day	1Hr
Aspartate Aminotransferase (AST)	0-35	0-31	IU/L	1 Day	1Hr
Bone Profile					
Calcium	2.20 - 2.65	2.20 - 2.65	mmol/L	1 Day	1Hr
Adjusted Calcium	2.20 - 2.65	2.20 - 2.65	mmol/L	1 Day	1Hr
Lipid Profile					
Cholesterol	< 5.00	< 5.00	mmol/L	1 Day	1Hr
Triglyceride	< 1.70	< 1.70	mmol/L	1 Day	1Hr
High Density Lipoprotein (HDL)	> 1.00	> 1.20	mmol/L	1 Day	1Hr
Low Density Lipoprotein (LDL)	< 3.00	< 3.00	mmol/L	1 Day	1Hr
Others					
Magnesium <21 years	0.70 - 0.91	0.70 - 0.91	mmol/L	1 Day	1Hr
Magnesium >21 years	0.73 - 1.06	0.77 - 1.03	mmol/L	1 Day	1Hr
Uric acid	208 - 428	155 - 357	µmol/L	1 Day	1Hr
Amylase	28 - 100	28 - 100	IU/L	1 Day	1Hr
Glucose(Fasting)	4.1 - 5.6	4.1 - 5.6	mmol/L	1 Day	1Hr
Phosphate <19 years	1.29 - 2.60	1.29 - 2.60	mmol/L	1 Day	1Hr
Phosphate >19 years	0.81 - 1.45	0.81 - 1.45	mmol/L	1 Day	1Hr
C reactive Protein	< 5.00	< 5.00	mg/L	1 Day	1Hr
Endocrinology					
Thyroid Function					
Free Thyroxine (Free T4)	7 - 16	7 - 16	pmol/L	1 Day	3Hrs

Thyroid Stimulating Hormone (TSH)	0.4 - 4.2	0.4 - 4.2	mU/L	1 Day	3Hrs
Haematinics					
Ferritin	24 - 336	11 - 307	ng/mL	1 Day	3Hrs
Prostate Specific Antigen (PSA)	0 - 3.1	NA	ng/mL	1 Day	3Hrs

2.2 Assay Interference

Many tests are subject to interference. This may be due to biological/day-to-day variation, pre-analytical variation e.g. haemolysis, analytical variation e.g. specific method used and interactions with various drugs.

2.3 Acceptance Criteria

2.3.1 Labelling requirements

Blood bottles must be **minimally** labelled with the following

- **Primary Identifier – Patient full name, Date of Birth and Patient ID number.**
- **Sample collection date.**
- **Sample collection time.**

2.3.2 Request Form

All request forms should be labelled with the following;

- Date and time of collection.
- Destination of report.
- Requesting Clinician name.
- Patient address.
- Hospital ID.
- Patient gender.
- Priority status

- Sample details (i.e. Fasting)
- Identity of phlebotomist.
- Relevant clinical details.

All request forms must be signed and authorised by a medical professional.

Clinical details must be filled in with relevant patient information to support the test request. Lack of clinical information may lead to the test not being processed.

2.4 Blood Collection Bottles

Tests can only be processed if the blood has been collected into an appropriate collection bottle.

Blood bottles must be in date. Expired blood bottles will not be accepted.

Blood bottles must be filled to the appropriate minimum level.

2.4.1 Sample Collection and Packaging

Specimen collection should comply with requirements stated in the Specimen Guide. Specimens & request form should be placed inside a plastic biohazard bag and dispatched to the laboratory without delay.

2.5 Health and Safety

Standard precautions should be observed when handling all pathological material. It is the policy of the Pathology department to treat all samples as potentially infectious or high risk. Therefore, it is advisable to take universal precautions in collection, packaging and delivery of samples being sent to the Pathology department for analysis. It is the reasonability of the requesting clinician to ensure that samples which pose an infection risk to staff (e.g. hepatitis or TB) are clearly identified in the clinical details. Transmissible spongiform encephalopathy agents (CJD) – samples should be marked with a “Biohazard”

label. Sample containers, request forms or plastic transport bags which are contaminated will not be accepted for processing by the laboratory.

2.6 Retrospective Requesting (Add-On Requests)

Clinical Chemistry/Endocrinology specimens are retained for a period post analysis. Analysis of additional tests is subject to the stability of the analyte. If a further test is required on a sample that is already in the laboratory, please contact the Pathology Department on 061- 490552.

A fax request for additional tests will also be accepted.

2.7 Telephoning Results

Critical results will be telephoned to the requesting source. Abnormal results are phoned at the discretion of the medical scientist in Blood Sciences.

While staff in the Pathology Department will do their best to adhere to the above guidelines it is the duty of all clinicians to follow up in a timely fashion the results of investigations requested on patients under their care.

2.8 Special Patient Preparation/Sample Requirements

The acidified 24-hour urine collection bottles need to be requested in advance from the laboratory.
Patients requiring Fasting Glucose results must fast from midnight the previous night.
Specimens for coagulation profile must arrive in the laboratory within the hour of phlebotomy

Contact the Pathology Department (061–490552 or 061-490550) if you require information on specific test requirements or patient preparation procedures.

POINT OF CARE TESTING

3.0 Point of Care Testing

The Laboratory offers a point of care service to the hospital. The service is led by the laboratory and have established a point of care team.

The hospital management has established a Quality and Patient safety committee as the vehicle for delivery of clinical governance throughout the hospital. The hospital has also accepted LDP132 Management of Point of Care Testing policy, which was prepared for accreditation, as hospital policy.

The hospital point of care team has been established with similar terms of reference with adequate guidelines to meet Patient Safety/Risk management and Medico-legal concerns.

This means that the strict guidelines outlined in the management of Point of care testing policy are now the only accepted appropriate for conduct of POCT activities at Bon Secours Hospital Limerick at Barringtons.

3.1 Devices used

Abbott Procession Pro Ketone and Glucometer, Clinitek Status, ePOC and Hylard CLO tests are the only point of use devices authorised for use and are controlled by the Laboratory.

POCT devices situated outside the laboratory give high quality results if used and maintained correctly. Do NOT use equipment unless you have been trained. Training can be organised through the laboratory at request. Follow the instructions for the disposal of waste to minimise health, safety and cross infection risks.

Please note that POCT devices should be used for monitoring conditions and not for diagnosis.

Blood glucose meters are located throughout the hospital to monitor known diabetics. These are not to be used for the diagnosis of diabetes mellitus, for which a blood specimen must be sent to the laboratory.

Device	**Location**	**Test**	**Patient cohort**	**Critical Result/Actionable Result**	**Testing range**
Abbott Procission Pro	DCU 1st floor PACU PreAssessment	Blood glucose and Ketones	Known diabetics	<4.0 mmol/L >12.0 mmol/L	(LO) 0.6mmol/L (Hi) 33.3mmol/L
Clinitek Status	1st Floor	Urine chemistry	Adult patients	NA	
ePOC	1st Floor	Blood gas and chemistry	Suspected septic adults. Urgent Creatinine measurement for CT	See below.	See below.
Hylard Urease CLO	Endoscopy	Helicobacter Pylori organism	Adult patients	N/A	Positive Negative

Not that result below of above the limits of detection are not reliable and should not be used in a diagnostic setting.

Analyte	Unit	Reference Range (Arterial)	Low limit of detection	Critical Range Low	Critical Range High	High limit of detection
pH	N/A	7.35 – 7.45	6.5	6.5 – 7.35	7.45– 8.0	8.0
PCO_2	kPa	4.7 – 6.4	0.7	0.7 – 4.7	6.4– 33.3	33.3
pO_2	kPa	11.1 – 14.4	0.7	0.7 - 11.1	14.4- 100	100
HCO_3*	mmol/L	21 – 28	1	1 – 21	28– 85	85
BE(ecf)*	mmol/L	-2.0 – 3.0	-30.0	-30.0 – -2.0	3.0– 30.0	30.0
cSO_2*	%	94 – 98	1	0 – 94	98– 100	100
Na^+	mmol/L	138 - 146	85	85 - 138	146- 100	100
K+	mmol/L	3.5 – 4.5	1.5	1.5 – 3.5	4.5– 12.0	12.0
Ca++	mmol/L	1.15 – 2.33	0.25	0.25 – 1.15	2.33– 4.00	4.00

Cl-	mmol/L	98 - 107	65	65 - 98	107- 140	140
TCO2	mmol/L	22 - 29	5	5 - 22	29- 50	50
HCT	%	38 – 51	10	10 - 38	51- 75	75
cHgb	g/dl	12 – 17	3.3	3.3 - 12	17- 25	25
BE (b)	mmol/L	-2.0 – 3.0	-30	-30.0 – -2.0	3.0– 30.0	30.0
Glu	mmol/L	4.1 - 5.5	1.1	1.1 – 4.1	5.5– 38.5	38.5
Lac	mmol/L	0.36 – 0.75	0.3	0.30 – 0.36	0.75 – 20.0	20

HAEMATOLOGY

4.0 Haematology

The Haematology laboratory provides a basic panel of tests for the investigation and management of Haematological Disorders including Haematological Malignancies.

Normal hours and deadlines for routine analysis;

Monday – Friday; 9am -5pm.

Out of these hours there is an on-call service for urgent specimens. On call service is provided by UHL and specimens are to be transported by Swift taxis to UHL. Results are available on Healthlink.

4.1 Minimal Labelling Requirements

There is a requirement for a minimum of **three acceptable identifiers** on **both sample and request form**.

Acceptable identifiers are;

- **Primary identifier – Full patient name, date of birth, hospital ID.**
- **Collection time and date must be written on the sample.**

4.1.1 Other information which should be included with the request;

- Date and time of sample collection.
- Destination for report.
- Requesting clinician name and contact details.
- Patient address.
- Hospital ID.
- Patient gender
- Priority status
- Sample type

- Tests requested
- Identity of person taking the sample.
- Relevant clinical details

4.2 Sample Acceptance

Tests requested may be rejected if the following situations apply;

- Sample type not compatible with tests requested.
- Significant differences between patient identifiers on sample and corresponding request form.
- Samples that do not have at least three acceptable identifiers.
- Sample volume inappropriate where applicable. Samples which are past the recommended time from phlebotomy to analysis.
- Expired sample collection tubes.
- Samples received after cut-off time which requires separation. (e.g. special coagulation investigation).
- Test requests which are not considered relevant based on clinical information provided.
- Haematinic requests over the weekend or public holiday.

4.3 Sample Collection and Packaging

Specimen collection should comply with requirements stated in the specimen guide. Specimens together with request form should be placed inside a plastic biohazard bag and dispatched to the laboratory.

4.4 Health and Safety

Standard precautions should be observed when handling all pathological material.

4.5 Retrospective Requesting (Add-On Requests)

In some cases, further tests on a specimen that is already in the laboratory may be added to the request. Please contact the relevant laboratory section to add on test requests.

Analyses for additional tests are subject to stability of analyte.

A fax request will also be accepted.

EDTA samples: 24hr post phlebotomy.

Infectious mononucleosis screens: 3 days

Sickle cell screening : 3 days post phlebotomy

D-dimer: 24hrs post phlebotomy.

Fibrinogen: 24hrs post phlebotomy

Haematinics: 24hrs post phlebotomy

Reticulocytes: 24hrs post phlebotomy.

Blood film: 24hrs post phlebotomy (unless morphological examination required)

4.6 Results

The laboratory distributes results as a paper-based method. All results are signed for by appropriate clinical staff upon receipt. Results are also available on Maxims and this does not apply to blood transfusion which is available through Healthlink.

Advice on interpretation of results and sampling procedures will be directed to the appropriate person.

Clinical advice and information for users of the laboratory services on medical indicators and appropriate selection of available procedures should be sought from Laboratory Manager.

4.7 Turnaround Times

We will endeavour to meet the following standards subject to availability of sufficient staff and workload and other resources including the LIS. Reporting of results may take longer pending further investigation of initial results.

Test	Routine	Urgent
FBC	1 Day	1 Hr
ESR	1 Day	1 Hr
Send away	See 8.15	See 8.15

NOTE: Send away work varies from 1-3 weeks depending on the test requested. Please call the laboratory to confirm the exact TAT.

HISTOLOGY

5.0 Histology

Histology is the study of the microscopic structure of cells and tissues. Most cells are colourless and transparent, and therefore histological sections have to be stained in some way to make the cells visible. The ability to visualise or differentially identify microscopic structures is enhanced by the use of histological stains, with the Haematoxylin and Eosin stain being routinely used on all specimens for light microscopy. These tests are performed to enable medical staff to learn more about a patient's condition and make recommendations for treatment or management of the condition. Further special stains and immunohistochemistry staining may also be performed.

Note: All Histology samples are referred out to Bon Secours Hospital Tralee for technical processing and returned to Limerick for reporting. To note Immunohistochemistry staining is referred from Bon Secours Hospital Tralee to Cork University Hospital for processing.

5.1 Medical Indications and Appropriate Test Selection

Certain clinical indicators will indicate the most appropriate sampling method used when submitting tissue/fluid for histological/cytological examination. Where any doubt exists, it is advisable to contact one of the Consultant Histopathologists prior to preforming the biopsy, who will be pleased to offer help and advice.

Consultant Histopathologists are also readily available to discuss histology reports and interpretations with clinicians and other laboratory users.

Sample	Clinical Indicator	Appropriate/recommended action	Investigation

GI biopsy	Digestive discomfort	Biopsy sample taken at colonoscopy/endoscopy	Gastrointestinal Diseases
Gynaecological biopsy	Pelvic pain	Biopsy sample taken at Hysteroscopy.	Gynaecological Diseases
Skin Lesions	Pigmented lesions	Full excision skin sample	Diagnosis of skin conditions/Diseases
Lymph nodes	?Lymphoma	Excision biopsy of entire lymph node.	Lymphoproliferative Disorders
?Malignant biopsy	?Malignancy	Biopsy of excision of the suspicious area.	Suspicious lesions and areas.
Gallbladders	Choleoleithesis	Cholecystectomy	Gallbladder Disease
Tonsil	Recurrent Tonsillitis	Tonsillectomy	Out rule Disease.
Hysterectomy	Menorrhagia/ Malignant previous biopsy	Hysterectomy including Uterus, cervix, fallopian tube (right and left) and ovaries (right and left). Omentum.	Gynaecological Disease. Metastases

5.2 Requirements for Histology

Test	**Specimen type**	**Storage Conditions**	**Specimen Requirements:**	**Special requirements**
Routine Histology • Small biopsies i.e excision lesions	Fixed tissue	Ambient temperature. Sealed containers	Tissue placed to 10% formalin. Ratio: Formalin:tissue 3:1	Transported in closed lid container.
Routine Histology (larger/calcified tissue)	Fixed tissue Decalcifier added by	Ambient temperature.	Tissue placed to 10% formalin.	Transported in closed lid container.

	laboratory staff if required	Sealed containers	Ratio: Formalin:tissue 3:1	
Immunohistochemisty	Paraffin embedded Fixed tissue	Ambient temperature.	3um thick tissue section on charged superfrost glass slide	Tissue placed at the top of slide
BRAF testing (*Testing performed in referral laboratory)	Paraffin embedded blocks	Ambient temperature.	NA	Block chosen by Consultant Pathologist
Molecular studies (*Testing performed in referral laboratory)	Paraffin embedded blocks	Ambient temperature.	NA	Block chosen by Consultant Pathologist

For advice on other specimen types and collection criteria please contact the laboratory.

5.3 Acceptance Criteria

Specimens **will only be accepted** for processing if the **following criteria are** present on **both request form and sample:**

- **Patient name (Forename and Surname)**
- **Date of Birth**
- **Address (request form only)**
- **Hospital Number/MRN**
- **Requesting Doctor**
- **Specimen type and site**
- **Specimen Date**

5.3.1 Specimens which have a tracking sheet must also adhere to the above criteria.

- Once the above criteria have been met, the sample can be accepted.
- The accepting personnel must sign, date and time the request form as it is accepted.

Failure to include any of the necessary patient information will result in delay in processing the specimen.

5.4 Factors Affecting Reporting

- Delay in adding fixative (10% formalin).
- Scanty tissue submitted
- Cauterised tissue submitted
- Poorly orientated tissue
- Inadequate previous patient history
- Inadequate storage conditions.

5.5 Safety

Formalin is a potent eye and nasal irritant and can cause respiratory distress and allergic dermatitis; gloves, safety goggles and aprons must be used when dealing with formalin Personnel involved in the use of formalin must be aware of the risk and proper procedure dealing with small or large formalin spills.

The receipt of unfixed human material should be treated as potentially infectious. Always assume that all “blood and body fluids” are infectious for blood-borne diseases such as HBV (Hepatitis B Virus), HCV (Hepatitis C virus) and HIV (Human Immuno-deficiency virus). All spillages of specimens should be dealt with in in accordance with LDP 20 The Safety Manual.

5.6 Turnaround Times

Specimen Type	Turnaround Time
Small Biopsies –excision, curettage etc.	80% in 14 days
GI Endoscopy biopsies	80% in 14 days

Non biopsy, other	80% in 14 days
Urgent	5 days
Priority	80% in 10 days
Prostate needle core biopsies***	4 weeks

Please note that clinically urgent cases will be discussed with clinicians, which will be reflected in the turnaround time.

All cases requested as Urgent will be reviewed by the Consultant Pathologist who will prioritize the case where required. The turnaround time of urgent cases varies according to the type of tissue to be processed, the optimum fixation time and the priority status, and the clinical details must reflect the reason for urgency. Eg Patient awaiting treatment, previous biopsy diagnosed as malignant. Urgent specimens are dealt with on an individual cases basis following consultation.

Note: Further interpretation may include the use of immunohistochemistry staining and other expert opinions, please be aware that this may delay the authorization of the final report.

*** The lab can offer a 4 week turnaround time on needle core biopsies. This may be exceeded if the agreed limit of 2 needle core biopsies per month is exceeded.

The laboratory Recognises the following diagnostic reports as Urgent/Priority. Cases where immunohistochemistry is required will be discussed with the requesting Clinician while the final report is pending.

1 general - M Codes		Urgent/ Priority	Comment	TAT
Adenocarcinoma	M81403	Priority		10 days
Adenocarcinoma, Metastatic	M81406	Urgent		5 days
Atypia, Suspicious for malignancy	M69760	Priority		10 days
Basal Cell Carcinoma	M80703	Priority		10 days
Carcinoma, Metastatic	M80106	Urgent		5 days

Carcinoma, Squamous Cell	M80703	**Priority**		**10 days**
Carcinoma, Undifferentiated Type	M80203	**Priority**		**10 days**
Inflammation, Acute	M41000	**Priority**		**10 days**
Inflammation, Acute & Chronic	M42100	**Priority**		**10 days**
Melanoma Metastatic	M80006	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Small Cell Carcinoma	M80413	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Transitional Cell Carcinoma	M81203	**Priority**		**10 days**
3 genitourinary		**Urgent/ Priority**	**Comment**	**TAT**
Adenocarcinoma	M81403	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Carcinoma Renal Cell	M83123	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Carcinoma Transitional Cell	M81203	**Priority**		**10 days**
Embryonal Carcinoma	M90703	**Urgent**	**Immunohistochemistry Required**	**5 days/Q023**
Endometroid Carcinoma	M83803	**Priority**		**10 days**
Hydatidiform Mole	M91000	**Priority**		**10 days**
Malignant Teratoma, Undifferentiated Type	M90823	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Papillary Serous Cystadenocarcinoma	M84603	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Papillary Transitional Cell Carcinoma	M81303	**Priority**		**10 days**
Transitional Cell Carcinoma	M81203	**Priority**		**10 days**
5 lymphoreticular – m codes		**Urgent/ Priority**	**Comment**	**TAT**
Hodgkins Disease	M96503	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Lymphoma, Malignant (NHL)	M95913	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
7 respiratory – m codes		**Urgent/ Priority**	**Comment**	**TAT**
Adenocarcinoma	M81403	**Urgent**	**Immunohistochemistry Required**	**5 days/Q023**
Carcinoma, Small Cell	M80413	**Urgent**	**Immunohistochemistry Required**	**5 daysQ023**
Carcinoma, Squamous Cell	M80703	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**

8 salivary gland – m codes		**Urgent/ Priority**	**Comment**	**TAT**
Acinic Cell Tumour	M85501	**Priority**		**10 days**
Adenoid Cystic Carcinoma	M82003	**Priority**		**10 days**
Adenoma Pleomorphic (PSA)	M89400	**Priority**		**10 days**
Mucoepidermoid Carcinoma	M84303	**Priority**		**10 days**
Sjogrens Syndrome	D3830	**Priority**		**10 days**
Warthins Tumour	M85610	**Priority**		**10 days**
11 skin – m codes		**Urgent/ Priority**	**Comment**	**TAT**
Malignant Melanoma	M87203	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Merkel Cell Tumour	M81903	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
12 thyroid endocrine - m codes		**Urgent/ Priority**	**Comment**	**TAT**
Carcinoma, Follicular	M83303	**Priority**		**10 days**
Carcinoma, Medullary	M85103	**Priority**	**Immunohistochemistry Required**	**10 days/Q023**
Carcinoma, Papillary	M82603	**Priority**		**10 days**
Follicular Adenoma	M83300	**Priority**		**10 days**

5.7 Patient preparation

All patients are prepared in a clinical setting under supervision of a Consultant.

Endoscopy – all patients must have bowel preparation before scope. This will ensure clean sampling of the bowel and reduce the risk of faecal matter contamination.

Skin biopsies – skin surface must be thoroughly cleaned before excision or sampling.

Positive patient identification must be done for all sample requests.

All samples are to be submitted in formalin with an appropriate request form

Cytopathology

6.0 Cytopathology

6.1 Gynae Cytology

Samples for cervical screening are submitted as ThinPrep liquid based sample vials to the cellular Pathology Laboratory. These samples are then processed, screen and reported by Eurofins Biomnis.

Non gynaecological cytology specimens are submitted to the Cellular Pathology Laboratory unfixed. Non gynae cytology is referred to Eurofins Biomnis. All specimens must be accompanied by a fully completed request form, including relevant clinical and contact details.

The majority of samples for cytology must be received unfixed and therefore must be submitted to the laboratory during routine hours.

6.2 Non-Gynae Cytopathology Sample

6.2.1 Sputum

Ideally an early morning, deeply coughed specimen is sent to the laboratory on three consecutive days, in a properly labelled container. Please ensure that the lid of the specimen container is screwed tightly onto the body of the container. Leaking specimens will not be accepted. Specimens and completed request form should be submitted to the laboratory in an appropriate plastic biohazard bag.

6.2.2 Urine

This should consist of voided urine taken into a properly labelled sterile 50ml universal container. The specimen should be taken from the patient about 3 hours after the first early morning specimen. Please ensure that the lid of the specimen container is screwed tightly

onto the body of the container. Leaking specimens will not be accepted. Specimen and completed request form should be submitted to the laboratory in an appropriate plastic bag.

6.2.3 Pleural/Ascitic Fluid

Material should be submitted in a properly labelled, sterile 50ml universal container. At least 20mls of samples is needed for processing but under no circumstances are drainage bags accepted. Please ensure that the lid of the specimen container is screwed tightly onto the body of the container. Leaking specimens will not be accepted. Specimen and completed request form should be submitted to the laboratory in an appropriate plastic biohazard bag.

6.2.4 Bronchial Washings/Bronchial lavages

Material should be taken into a properly labelled, sterile 50ml universal container. Please ensure that the lid of the specimen container is screwed tightly onto the body of the container. Leaking specimens will not be accepted. Specimens and completed request form should be submitted to the laboratory in an appropriate plastic biohazard bag

6.2.5 Cyst/Fluid Aspirate

Material should be taken into a properly labelled, sterile 50ml universal container. Please ensure that the lid of the specimen container is screwed tightly onto the body of the container. Leaking specimens will not be accepted. Specimens and completed request form should be submitted to the laboratory in an appropriate plastic biohazard bag

6.2.6 Bronchial/Biliary Brushings

Cut the tip of the brush and place in a sterile universal container and transport immediately to the laboratory. The laboratory will place the appropriate preservative of 50% Methanol.

7.0 Microbiology

7.1 SARS-CoV-2 PCR

Nasopharyngeal swab should be used for the collection of specimens for SARS-CoV-2 PCR (COVID19). These should be collected in specimen transport medium suitable for nasopharyngeal swabs (e.g. Biocomma or UTM transport medium).

7.1.1 Turnaround Times

Urgent Covid Test

- 2 hrs (reason for urgency required on request form)

Routine Covid Test

- Before 5pm is received before 12pm same day.
- Within 24hrs if received after 12pm

7.2 Microbiology Testing

The refers all microbiology samples to Bon Secours Tralee for testing

7.3 Turnaround Times

The lab offers the following Turnaround times for routine testing.

Process to be Monitored	Expected TAT (Time)
Sputum	4 Days
Bronchial Washings	4 Days
Blood Culture	< 6 Days
Clostridium difficile	1 Day
CLO test	2 Days
CSF	4 Days
Fluids (Synovial, Pleural)	4 Days
Faeces C&S	4 Days
HVS	4 Days
MRSA	3 Days
Urine C&S (MSU, CSU	3 Days
Faeces Occult Blood	1 Day
Swabs/other	4 Days
MDRO screening	5 days
Clostridium difficile -	2 Hours
Faeces Occult Blood -	2 Hours
Norovirus (GeneXpert)	28 Hours
SARS-COV-2 (GeneXpert)	24 Hours
Flu A+B+RSV+Sars-CoV-2 (4in1) (GeneXpert)	24 Hours
SARS-CoV-2 (RT-PCR) Primer Design Assay	24 Hours

7.4 Blood Cultures

Please contact the laboratory if a blood culture is required for a patient as these need to be urgently sent to Bon Secours Hospital Tralee. If taking Blood Cultures after 17.00 and before 08:00 please contact Bon Secours Hospital Tralee Microbiology laboratory directly on and ask to be put through to the medical scientist on call to notify them that a blood culture will be sent.

8.0 Safe Disposal of Materials used in Primary Sample Collection

8.1 Disposal of Sharps

Sharps must only be disposed of into sharps bins and must never be disposed of into containers used for storage of other waste.

When removing cannulas or taking blood from a patient, you must ensure that you use the cannula removal tray or venepuncture tray to allow the used cannula/ needle to be disposed of safely at the point of use. This should also reduce the number of incidents resulting from needles being left lying around.

8.2 Disposal of Contaminated Waste

8.2.1 Items To Be Disposed Of In Yellow Biohazard Bag Include:

- All blood stained or contaminated items including: dressings swabs bandages, blood stained or contaminated PPE (gowns aprons gloves).
- Items contaminated with bodily fluids other than faeces, urine or breast milk.
- Suction catheters and tubing.

8.2.2 Items to be disposed of in rigid bins with yellow lids include:

- Materials containing free liquids.
- Place empty blood transfusion bag with blood giving set attached into clear plastic bag for collection and disposal.
- Place partially infused blood transfusion bags with blood giving sets attached into clear plastic bags for collection and disposal.
- Redivac drains.
- Sputum containers.
- Blood sample bottles.

8.2.3 Items to be disposed of in rigid bins with purple lids

- Cytotoxic contaminated Healthcare waste including left over Cytotoxic drug preparations.
- Small quantities of residual medicines or pharmaceuticals left over after administration to patients.

8.2.4 Items to be disposed of in rigid bins with black lids

- Human Tissue
- Cultured laboratory waste

8.2.5 Items to Be Disposed Of As Sharps in Bin (With Blue or Red Lid)

- Needles
- Syringes
- Scalpels
- Sharp tips of I.V. sets
- Blood stained or contaminated broken glass
- Stitch cutters
- Guide wires/trocars

8.2.6 Items to Be Disposed of as Sharps in Bin (With Purple Lid)

- Needles, syringes, sharp instruments and broken glass that have been used for the administration of cytotoxic drugs.

For Internal Barringtons Hospital policies, refer to SOP ICP03 & ICP07.

For External clients involved in the collection of Primary Samples, refer to policies available at their place of work.

9.0 Storage Instructions for Examined Samples

Laboratory samples must be stored in an appropriate manner that allows for, maintaining sample integrity, easy access and allows for locating samples easily.

Blood, swabs and urine samples are to be stored in the Sample fridge.

These are to be stored on the days of the week received, and there is space in the fridge for a two week retention time.

Blood samples are reviewed on the 2nd week of storage and then disposed of as per SOP.

Swabs and urine samples are reviewed as analyses is complete and disposed of after correct retention time as per SOP LDP60 Retention period of patient samples and records, for retention times.

Histopathology samples are stored in white buckets that are dated for the day of gross cut up.

These are then stored in date order either under the down draught bench or in the histopathology specimen storage cabinet.

10.0 Staff Services

The laboratory is open to employees of the hospital.

Staff wishing to use the laboratory services must have a named medical professional on the request form for the tests to be processed. All results will be distributed to the named medical professional and copies of reports will be made available to the employee if requested.

Staff discounts apply to all requests and can be paid at the laboratory.

Test	Individual Cost	Group Test Cost
Full Blood Count	€ 5	€ 20
Renal Profile	€ 5	
Liver Profile	€ 5	
Lipid Profile	€ 5	
Bone Profile	€ 5	
Thyroid Function Tests	€ 10	
Ferritin	€ 10	
PSA	€ 10	€ 10

All other tests are processed in referral laboratories and will be charged at referral cost price.

Please contact the lab for referral test price.

11.0 Frequency of Review

2 Yearly

12.0 Methods Used to Review Operation of Standard Operating Procedure

Monitoring of request forms and specimen types received by laboratory.

Non- conformances.

Incident forms.

13.0 Appendices

Appendix 1 HIV Consent Form

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Appendix 1 **HIV Consent form**

CONSENT TO ALLOW BLOOD TO BE TESTED FOR HIV

This form need NOT be completed if a HIV test has already been requested by the patient's referring Medical Practitioner or Insurance Company

I _____ (full name of patient)

Consent to having a blood sample taken and tested for the purpose of HIV analyses. I hereby give permission for the result of the HIV test, whether positive or negative, to be sent to a medical practitioner of my choice for further evaluation.

I also enclose a copy of photographic identification to be held with this request.

Name and Address of Medical Practitioner to whom the HIV result must be sent:

Signed at _____ on this _____ day of _____ in the year _____

Signature of Patient _____Date: _____

Signature of witness _____Date: _____