

NHS GG&C Pathology Department User Manual



9609



## User Manual

<https://www.nhsggc.scot/pathologyandmortuaryservices>

**THIS IS A CONTROLLED DOCUMENT**

**N.B. Compliance Manager/Quality Manager must be notified of any changes to this document so that the departmental website can be updated.**

## NHS GG&amp;C Pathology Department User Manual

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## NHS GG&amp;C Pathology Department User Manual

## General Information

The NHS GG&C Pathology Department provides a comprehensive diagnostic Histopathology, Cytopathology and Mortuary service for adults and children in GG&C, including the laboratory part of the cervical screening programme for NHS GG&C, Grampian, Tayside, Ayrshire and Arran, Orkney and Shetland. In addition the department supports a number of specialist services, wider managed clinical networks and regional and supra regional services examples of which include Gynaecological, Ophthalmic, Osteoarticular services, West of Scotland Heart and Lung Centre, Neuropathology and Paediatric Pathology. Mortuary services are additionally provided for the Crown Office Procurator Fiscal (COPFS) and Police Scotland.

The NHS Greater Glasgow and Clyde (NHSGG&C) Pathology Department is located at the Queen Elizabeth University Hospital (QEUH) on the 3<sup>rd</sup> floor of the Laboratory Medicine and Facilities Management Building.



[https://www.nhs.gov.uk/media/238440/qeuh\\_rhc\\_campus\\_map\\_travel\\_info.pdf](https://www.nhs.gov.uk/media/238440/qeuh_rhc_campus_map_travel_info.pdf)

Specialist, regional and national services include:

- Bone & Soft Tissue Pathology
- National Ophthalmic Oncology Service
- National Cardiac Transplant Pathology
- Paediatric & Perinatal Pathology
- Neuropathology
- Electron Microscopy.

The Department is a tertiary referral centre for many specialties.

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**Laboratory Opening Hours**

The pathology department is open:

Monday - Friday	9:00am – 5:00pm
Saturday and Public Holidays	8:00am – 12:00pm

**Pathology Contact Details:****Postal Address:**

NHS GG&C Pathology Department  
 Level 3, Laboratory Medicine and Facilities Management Building  
 Queen Elizabeth University Hospital  
 1345 Govan Road  
 Glasgow  
 G51 4TF

**Telephone Numbers:**

**For General Enquiries:** 0141 354 9487 (89487) Option 6

**For Results:** 0141 354 9487 (89487) Option 2

**For Technical Enquiries/Sending Specimens:** 0141 354 9513 (89513)/0141 354 9514 (89514)

**For Mortuary Enquiries:** 0141 354 9357 (59357)

**Laboratory Contacts Summary**

General	External	Internal
<a href="#">Dr Sylvia Wright</a> - Head of Service	0141 354 9512	89512
<a href="#">Dr Jana Crosby</a> – Clinical Lead	0141 354 9558	89558
<a href="#">Dr Jonathan Salmond</a> – Technology Lead	0141 354 9466	89466
<a href="#">Steven Harrower</a> – Head of Technical Services	0141 354 9468	89468
<a href="#">Suzanne Ferra</a> – Cellular Pathology Operations Manager	0141 354 9469	89469
<a href="#">Nicola Small</a> – Compliance and Transformation Manager	0141 354 9461	89461
<a href="#">Margaret Forsyth</a> – Quality Manager	0141 354 9540	89540

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<a href="#">Robert Cast</a> – Mortuary Services Manager	0141 451 5815	85815
<a href="#">Deborah Brown</a> - Mortuary Post Mortem Manager	0141 451 5795	85795
Scheduling & Performance Manager	TBC	TBC
Bio-repository Office	0141 354 9490	89490
<a href="#">Sarah Gilmour</a> - Office Manager	0141 354 9568	89568
Histology Specimen Reception	0141 354 9513	89513
	0141 354 9514	89514
Cervical Cytology Specimen Reception	0141 354 9524	89524
Diagnostic Cytology Specimen Reception	0141 354 9569	89569
<a href="#">EM Enquiries</a>	0141 354 9422	89422
SCRRS Enquiries	0141 354 9524	89524

## Accreditation & External Quality Assurance



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The NHS GG&C Pathology department has been accredited by the United Kingdom Accreditation Service (UKAS), using the ISO 15189:2022 set of international laboratory standards. This assessment provides formal recognition of our ability to provide a high quality laboratory and clinical service across all our diagnostic specialities (Histology, Neuropathology, Diagnostic Cytology, Andrology, HPV Screening, Electron Microscopy, Post Mortem and Mortuary Services).

Where possible the department participates in national external quality assurance schemes for all testing procedures/medical reporting specialties. Where established EQA schemes are not available inter laboratory comparison or alternative external quality assurance schemes have been set up.

The full list of accredited tests, staining techniques and ICC markers provided by the department can be seen in our [schedule of accreditation](#).

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## UKAS GEN 6

The Pathology department utilises the Telepath Laboratory Information Management System (LIMS). Due to the limitations of this software, we are currently unable to fully meet the requirements of the UKAS publication GEN 6 – Reference to accreditation and multilateral recognition signatory status.

This publication sets out the requirements of reports/results released by the laboratory containing the appropriate use of UKAS logos and identifying any tests that are accredited and those that are not. The LIMS currently being utilised within Pathology does not allow us to present the UKAS logo within our reports. Whilst it is possible to enter a small amount of additional text without any difference in formatting at the end of each report, the referencing to the accreditation of tests could potentially interfere or cause the misinterpretation of pathology results (particularly with molecular and companion diagnostic tests such as PD-L1 that already have statements at the end of the reports explaining treatment/scoring decisions and the specific criteria required to be met). Where possible the department is including a small statement at the end of reports if a test used is out of our scope of accreditation.

The Pathology department have risk assessed this. Although we are not able to present this information on our reports the department's user manual and website present full details of our accreditation, including a link to the UKAS page for our up to date schedule of accreditation and a list of currently out of scope techniques including details of progress made to add them to our scope or reasons for them currently being unaccredited.

## Out of Scope Techniques

A number of investigation techniques carried out by the department are currently outside the scope of accreditation (see table below). This will usually be due to the technique not being performed frequently or being controlled/run by another department. However, the department will complete internal validation and IQC procedures before the implementation of any technique and participate in national external quality assurance (EQA) schemes or alternatives where possible:

Test/Investigation	Internal Validation & IQC	EQA Scheme Participation	UKAS Extension to Scope Application
Joint Fluid/Crystal Analysis	Yes	Signed up to Pilot	Not in Scope
Mohs clinic (run by Dermatology)	Yes		Not in Scope
Appearance and Viscosity for Andrology testing.	Yes	Not for these criteria	Not UKAS accredited parameters
Digital Pathology	Yes	Signed up to Pilot	Expected 2025
NUT-1 (ICC)	Yes	Not Available	UKAS findings clear, awaiting update to schedule
Sarc A4 (ICC)	Yes	Not Available	UKAS findings clear, awaiting update to schedule

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PIN 4 (ICC)	Yes	Not Available	UKAS findings clear, awaiting update to schedule
FLI & ERG (ICC)	Yes	Not Available	UKAS findings clear, awaiting update to schedule
Roche Benchmark Southgate's Mucicarmine (SS)	Yes	Yes	UKAS findings clear, awaiting update to schedule
PRAME (ICC)	Yes	Not Available	UKAS findings clear, awaiting update to schedule
E17 (ICC)	Not acquired yet		Expected 2025
SF1 (ICC)	Not acquired yet		Expected 2025
Hologic Genius Digital Diagnostics System (Cytology)	In Progress		Expected 2026

**Research Use Only Antibodies**

A number of the antibody markers in the department's immunocytochemistry repertoire are designed for research use only. These antibody markers undergo stringent and strict verification testing before diagnostic use and performance is closely monitored via internal and external quality control measures. Here is a list of the research use only antibodies currently in use:

- AMH
- B-Amyloid (BA4)
- BOB1
- CD15
- CD45-RO
- CK10
- CXCL13
- Glucagon
- H B Core Ag
- LAM A2
- Neomysin
- LEF-1
- MUC4
- P16
- PAX8
- Pituitary-LH
- Serotonin 5HT
- SV40
- Toxoplasma
- Amyloid P
- BAP-1
- C4d
- CD35
- CD303
- CK12
- DNAJB9
- GLUT-1
- H B Surface Ag
- LAM A5
- IgG4
- MAC-387
- NEUN
- P21 (WAF)\*
- PD1
- Pituitary-Prolactin
- SMARCA4
- TAU
- Villin\*
- a-Syn
- BAPP
- C5B-9
- CD42b
- CEA (MONO)\*
- Claudin 4
- EBNA-2
- H3K27M
- HPV
- LAM B1
- INI-1
- MGMT
- NF (Neurofilament)
- P24
- PHOX2B
- PLA2R1
- STAT 6
- TCR-Delta
- VIP (Vasoactinpolypep)
- ATRX
- Beta F1
- CA19.9
- CD43 (MT1)
- CK3
- CMYC
- GLP-1
- G34 (Histone H3.3M)
- HSV-1
- LAM B2
- K36 (Histone H3M)
- MTAP
- NUT 1
- Parvovirus
- Pituitary-ACTH
- SDHB
- Surfactant Apolipoprotein (SP-A)
- Tenascin
- Ubiquitin

\* = a new CE marked (non-research use only) version of this antibody marker is in the progress of being verified for diagnostic use.

For further information on these research use only antibody markers or the departments immunocytochemical (ICC) repertoire, please contact the ICC laboratory (0141 354 9518) or The Advanced Staining Specialty Manager (0141 354 9528).



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**External Quality Assurance:**

The department participates in the following EQA schemes:

**Medical:**

- Scottish & NI General Pathology
- UK National Head & Neck EQA
- National GI EQA
- BLPG National Haematopathology EQA
- HPV Cytology PHE Technical EQA Scheme
- Euro-CNS Course
- UKEPS Thyroid Circulation
- Scottish, Irish and Newcastle Oral Pathology Slide Club
- National Specialist Dermatopathology
- Primary Cilial Dyskenesis EQA
- UK National Renal Transplant
- Bone & Soft Tissue EQA
- Cardiac Pathology EQA
- UK NEQAS PD-L1 in Triple Negative Breast Cancer ICC (Medical)
- National Gynaecological Histopathology EQA
- Pulmonary Pathology EQA
- National Paediatric & Perinatal Pathology
- UK Renal Pathology
- Liver EQA
- Diagnostic Cytology EQA
- Urology EQA
- NHS Breast Screening EQA
- British & Irish Paediatric Pathology
- BNS National Neuropathology EQA
- UK Endocrine Pathology Society Side Club
- National Ophthalmic EQA
- Interpretive Digital Diagnostic Cytopathology

**Laboratory (Technical):**

- UKNEQAS CPT Specialist Techniques
- UKNEQAS CPT Renal
- UKNEQAS CPT Neuropathology
- UK NEQAS CPT Diagnostic Cytology
- UKNEQAS CPT Muscle Histochemistry
- UKNEQAS Microbiology: Molecular Detection of HPV
- HPV Cytology PHE Technical EQA Scheme
- UKNEQAS ICC & ISH: General Pathology, Breast pathology (hormonal receptors – ER and PR), Breast Pathology HER2, Breast Pathology HER-2 protein over-expression, Lymphoid Pathology, Neuropathology, Cytopathology, Alimentary Tract Pathology (GIST), Gastric Pathology HER2 IHC, Non-Small Cell Lung Cancer ALK IHC, Non-Small Cell Lung Cancer PD-L1, Mis-Match Repair Proteins – MLH1, MSH2, MSH6, and PMS2, Non-Small Cell Lung Cancer ROS-1 IHC, Ki-67 in Breast Cancer, Head & Neck Pathology – p16 protein over-expression
- UKNEQAS CPT Tissue Diagnostics Scheme
- UKNEQAS CPT Bone Marrow Trepine
- UKNEQAS CPT Frozen Sections & Megablocks
- UKNEQAS CPT Transmission Electron Microscopy
- UK NEQAS Andrology (Reproductive Science)
- QCMD HPV Cytology EQA Scheme
- Hologic HPV Technical EQA Scheme

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## Specialist Referral Centres

In some cases we may need to refer work/carry out additional testing not available within the department (for example the double reporting of bone tumours and the referral of additional molecular genetic testing with some breast cancer cases).

All referral centres are subject to review on an ongoing basis and we make sure they are accredited to the relevant bodies and produce results of a similarly high standard to our own.

The one exception to this rule is that we are currently referring triple negative breast cancer cases to NHS Lothian (Royal Infirmary of Edinburgh) for PDL-1 (clone 22C3) immunocytochemistry staining. Edinburgh are currently in the process of validating this test and adding it to their scope of accreditation.

## Clinical Tests Available

Please click on the department/test name for further information.

### [Andrology](#)

Name of Test	Specimen/Container Requirements:	Further Information:
<b>Semen Analysis</b>	<p><b>Semen analysis is strictly by pre-booked appointment only.</b></p> <p>Andrology semen analyses are requested by clinicians/G.P.'s</p> <p>The specimen should be brought by the patient at their appointment time:</p> <ul style="list-style-type: none"> <li>• <b>Within 40 minutes of production for sub fertility and reversal of vasectomy</b></li> <li>• <b>Within two hours of production for post vasectomy</b></li> </ul> <p>A room is available for patients to produce their samples on site. <b>This must be booked when making appointment.</b></p>	<p>Please refer to Patient leaflet for more information</p> <p><b>Only Laboratory provided containers will be accepted for analysis.</b> These are available as part of the specimen kit.</p> <p>Specimen kits are available on request from:</p> <p>Andrology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9488).</p>

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Cervical Cytology/HPV Screening

Name of Test	Specimen/Container Requirements:	Further Information:
<b>Cervical Cytology/HPV Screening</b>  LBC Smears	<p>The specimen should be taken following the normal smear taking protocol.</p> <p>The collected specimen should then be rinsed out into a <b>Hologic™ Thin Prep Pap Test (LBC) specimen vial</b></p> <p>Please ensure the vial is within the date specified. <b>If it is out of date then it must NOT be used.</b></p>	<p>Each LBC sample should be placed in a clear polythene bag and sent to the laboratory in the appropriate white cervical cytology samples only (LBC) bag and accompanied with a <a href="#">Specimen Dispatch Note</a>.</p> <p>For general/technical enquiries please contact:</p> <p><a href="#">Gillian Collins</a>: 0141 354 (8)9501</p> <p>Laboratory: 0141 354 (8)9524</p>

Diagnostic Cytology

Name of Test	Specimen/Container Requirements:	Further Information:
<b>Respiratory:</b> Sputum, Bronchial Aspirates, Washings, Lavages, Brushings	<p>Do not fix sample in formalin, <b>please use saline.</b></p> <p><b>Please use a 30 ml white topped universal container or trap without the tubing</b></p> <p><b>SEE BELOW FOR SPECIMENS REQUIRING A DIFFERENTIAL CELL COUNT</b></p> <p><b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b> If this is not possible, the <b>specimen(s) can be refrigerated overnight</b> but <b>MUST</b> be delivered at the earliest opportunity the next day.</p> <p><b>Brushings should be sent in preservcyt vial available from the laboratory:</b></p>	<p>Samples to be placed in a purple specimen bag.</p> <p>Cytology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9569).</p>
<b>Bronchial Differential Cell Counts</b>	<p>Specimens requiring a differential cell count must <b>be clearly described/marked</b> on the request</p>	<p>Samples to be placed in a purple specimen bag.</p>

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	<p>form.</p> <p><b>Please use a 30 ml white topped universal container or trap without the tubing</b></p> <p><b>Specimens for Bronchial differential cell counts must be BAL in saline</b> (the test requires mucoid material).</p> <p><b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b> If this is not possible, the <b>specimen(s) can be refrigerated overnight</b> but <b>MUST</b> be delivered at the earliest opportunity the next day.</p>	
<b>Endoscopic Brushings</b>	<p>Do not fix sample in formalin, <b>please use Preservcyt solution.</b></p> <p><b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b> If this is not possible, the <b>specimen(s) can be refrigerated overnight</b> but <b>MUST</b> be delivered at the earliest opportunity the next day.</p>	<p>Preservcyt vials are available with advance notice from:</p> <p>Cytology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9569).</p> <p>Samples to be placed in a purple specimen bag.</p> <p>The maximum volume frosted end of the vial should not be covered with labels. These pots should not be filled above the maximum level.</p>
<b>Fine Needle Aspirate (FNA):</b> Head & Neck, Breast, Lymph Node etc.	<p><b>FNA specimens should be sent on 4 glass slides: 2 slides air dried and 2 slides treated with Cytofix solution.</b></p> <p><b>Please send us 2 alcohol fixed and 2 air dried slides.</b></p> <p>More information can be found in the document: <a href="#">Fine Needle Aspirate Labelling Guide for Cytology Users</a></p> <p>FNA specimens do not need to be refrigerated</p> <p>Please contact <a href="#">Dr Van Der Horst</a> (01413549553) if FNA demonstration s required (Head &amp;</p>	<p>Cytofix solution is available with advance notice from:</p> <p>Cytology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9569).</p> <p>Samples to be placed in a purple specimen bag.</p>

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	Neck) For FNA of Breast, please send 2 air dried slides	
<b>Endobronchial Ultrasound Guided Transbronchial Needle Aspirate (EBUS-TBNA)</b>  <b>Endoscopic Ultrasound Guided Fine Needle Aspirate (EUS FNA):</b> Pancreas, Liver	Do not fix sample in formalin, <b>please use Preservcyt vials.</b>	Preservcyt vials are available with advance notice from:  Cytology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9569).  Samples to be placed in a purple specimen bag.
<b>Joint (Synovial) Fluid Analysis</b>  <b>Gout Crystal Analysis</b>	Do not fix sample in formalin, <b>please send FRESH and with no additives.</b>  <b>Please use a 30ml white topped universal container</b>  <b>Please DO NOT add EDTA</b>	This test has been fully validated within the cytology department but is not UKAS accredited.  Samples to be placed in a purple specimen bag.
<b>Serous Effusions</b>	Do not fix sample in formalin, <b>please send FRESH and with no additives.</b>  The volume of sample sent should be a minimum of 75ml if possible, but preferably no more than 150ml. Unless the sample is a peritoneal washing, for these a larger volume is required, we recommend at least 300 ml.  <b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b> If this is not possible, the <b>specimen(s) can be refrigerated overnight</b> but <b>MUST</b> be delivered at the earliest opportunity the next day.	Samples to be placed in a purple specimen bag.
<b>Urine Samples</b>	Do not fix sample in formalin, <b>please send FRESH and with no additives.</b>  <b>DO NOT send a urine sample taken early in the morning or shortly after waking (midstream,</b>	Samples to be placed in a purple specimen bag.

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	<p><b>not first in the morning).</b></p> <p>The volume of sample sent should preferably be 50ml</p> <p><b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b> If this is not possible, the <b>specimen(s) can be refrigerated overnight</b> but <b>MUST</b> be delivered at the earliest opportunity the next day.</p>	
<b>Cerebrospinal Fluid (CSF)</b>	<p>Do not fix sample in formalin, <b>please send FRESH and with no additives.</b></p> <p><b>A volume of at least 2ml is required.</b></p> <p><b>PLEASE SEND THE SPECIMEN IMMEDIATELY.</b></p>	Samples to be placed in a purple specimen bag.
<b>Flow Cytometry</b>	<p><b>DO NOT SEND TO CYTOLOGY DEPARTMENT, Send to Haemato-Oncology, Gartnavel.</b></p> <p><b>Samples NEED to be analysed by the lab within 72 hours of sample collection-</b>This is especially important for patients with a clinical history including Lymphoma</p>	<p>Samples to be placed in a purple specimen bag.</p> <p><b>Samples should be sent directly to Flow Cytometry laboratory by porter/courier:</b></p> <p>Allyson Doig, Haemato-Oncology, Gartnavel General Hospital, Paul O’Gorman Building, 21 Shelley Road, Glasgow, G12 0XB (0141 3017729)</p>

**Electron Microscopy & PCD**

<b>Name of Test</b>	<b>Specimen/Container Requirements:</b>	<b>Further Information:</b>
<b>Electron Microscopy</b>	<p>Specimens for electron microscopic analysis should ideally be <b>no larger than 1-2 mm<sup>3</sup></b> and placed into a vial of <b>fresh 2% Glutaraldehyde fixative</b> as soon as possible after specimen retrieval.</p> <p>Blood/Fluid Specimens should be discussed with the EM unit directly. (0141 3549420/ 01413549422).</p>	<p>Freshly prepared glutaraldehyde has a 7 day shelf life and must be stored to 4-8<sup>o</sup>c prior to use.</p> <p>This fixative is available with advance notice from:</p> <p>Electron Microscopy Unit, Pathology Department, Level 2, Laboratory Medicine and</p>

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	<p>If specimens are sent through the post they must comply with post office regulations.</p> <p>EM sampling from a histology wax block must be accompanied by a representative light microscopy slide.</p>	<p>Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 3549420/01413549422).</p> <p>All unused Glutaraldehyde should be returned to the EM unit for disposal.</p> <p>Samples to be placed in a purple specimen bag.</p>
<b>Primary Ciliary Diskenesia Service</b>	<p><b>Specimens are only accepted in the laboratory if taken from the clinic</b></p> <p>Specimens should be placed into M199 media with penicillin-streptomycin added – supplied by the EM laboratory.</p>	<p>Contact:  <a href="mailto:Paul.French@nhs.scot">Paul.French@nhs.scot</a>,  <a href="mailto:Jennifer.Sweeney5@nhs.scot">Jennifer.Sweeney5@nhs.scot</a>  or <a href="mailto:anne.devenny@nhs.scot">anne.devenny@nhs.scot</a>  for more info about the service and clinic.</p>

Histology

Name of Test	Specimen/Container Requirements:	Further Information:
<b>Routine Histopathology including Immunohistochemistry and Molecular Analysis</b>	<p>Fix specimens as soon as possible (except where the testing requires fresh samples).</p> <p>Fix the specimens with 10% Neutral Buffered formalin (ideally at least 10 times the volume of the specimen should be used, however this will not be practical for larger specimens, in this case aim for at least 3 times the volume of the specimen).</p>	<p>Package according to legislation with a minimum:</p> <ul style="list-style-type: none"> <li>leak proof container (specimen)</li> <li>sealable bag containing absorbent material</li> <li>secondary, opaque container (this can contain multiple specimens)</li> </ul> <p><b>Fresh Samples</b> – only send samples fresh if there is a clinical need, otherwise fix as per instructions. If in doubt, please discuss with the appropriate consultant pathologist.</p> <p>Samples to be placed in a purple specimen bag.</p>
<b><u>Frozen Section</u></b> <b>Intraoperative Samples (non-neurosurgic)</b>	<p><b>DO NOT ADD ANY FIXATIVE! Send the sample FRESH and IMMEDIATELY!</b></p> <p>Place in clearly labelled container</p> <p>Indicate "For Frozen Section" on form and include details of who to contact with report.</p>	<p>Contact lab (89513/89514) in advance with details of the:</p> <ul style="list-style-type: none"> <li>Expected arrival/delivery time</li> <li>Patients name/identifier</li> <li>Name and contact details of the caller</li> <li>Page / contact details for communicating the results</li> </ul>

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<p>al)</p> <p><b>MOHS rapid interoperative diagnosis</b></p>	<p>Contact the laboratory (89513/89514) upon specimen dispatch</p> <p><b>Do not send FRESH specimens with a known/suspected DANGER OF INFECTION (e.g. TB, HIV, COVID-19 etc.)</b></p>	<p>(confirm if the same as the caller)</p> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Immunofluorescence</a></p> <p><b>Skin, Renal and Conjunctival Biopsies</b></p>	<p><b>DO NOT FIX THE SAMPLE IN FORMALIN!</b></p> <p><b>Send skin, renal or conjunctival biopsies in Michel's Media</b></p> <p>Place in clearly labelled container</p> <p><b>Specimens that are suspected or are known DANGER OF INFECTION with category 2 organisms (e.g. HIV, Hep B, Hep C) are accepted for testing.</b></p> <p><b>Do not send FRESH specimens with a known/suspected DANGER OF INFECTION from Category 3/4 organisms (e.g. TB, CJD, etc.)</b></p>	<p><b>Michel's Media must be stored between 2-25°C prior to use.</b></p> <p><b>Michel's Media is capable for preserving the specimen for up to 5 days without any deterioration.</b></p> <p>Michel's Media is available upon request from:</p> <p>Pathology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9518/9518).</p> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Neurosurgical Intraoperative Samples</a></p> <p><b>(Brain smear or frozen section)</b></p>	<p><b>DO NOT ADD ANY FIXATIVE! Send the sample FRESH and IMMEDIATELY!</b></p> <p>Place in clearly labelled container</p> <p>Contact the laboratory (89530 or page 17627) upon specimen dispatch</p>	<p><b>Contact lab (89530 or page 17627) at least 24 hours in advance</b> with details of the:</p> <ul style="list-style-type: none"> <li>• Surgical Procedure</li> <li>• Location</li> <li>• Expected arrival/delivery time</li> <li>• Patients name/identifier</li> <li>• Name and contact details of the caller</li> <li>• Page / contact details for communicating the results (confirm if the same as the caller)</li> </ul> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Neurosurgical biopsy for Paraffin Histology</a></p>	<p><b>The sample should be fixed with 10% formal saline</b></p> <p><b>DO NOT FIX WITH 10% NEUTRAL BUFFERED FORMALIN!</b></p> <p>Contact the laboratory (89530 or page 17627) upon delivery</p>	<p>10% formal saline will be supplied by the Neuropathology section of the lab when requested by theatre.</p> <p>Samples to be placed in a purple specimen bag</p>



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<a href="#">Amputation</a>	<p>The orthopaedic theatre should contact <b>Pathology specimen reception (89513/89514) at least 24 hours before procedure is scheduled</b> so that a suitable specimen container can be supplied</p> <p>Large amputations that have a high ratio of surface area covered by skin should be sent <b>fresh and not fixed</b></p>	<p>To contain potential leakage amputations should be placed into a large plastic bag or wrapped in drapes before being put into the specimen container.</p> <p><b>NEVER</b> use yellow or orange bags/containers as this corresponds to the code for waste incineration</p>
<b>Products Of Conception</b>	<p>Please ensure the specimen arrives with a <b>FULLY COMPLETED</b> specimen request form and a <b>FULLY COMPLETED consent form (FORM 2)</b></p>	<p><b>Pregnancy Loss FORM 2:</b> Authorisation for burial or cremation following pregnancy loss up to 23 weeks and 6 days gestation.</p> <p><b>SD8 Form [PATH-MOR-LF-004]:</b> Is required in addition to a completed FORM 2, if making their own arrangements</p>
<a href="#">Placenta</a>	<p>The <a href="#">Placental Request Form</a> <b>MUST</b> be used</p> <p>Please see the full <a href="#">Placenta Histology Requests section</a> for more information on the clinical information required and how these specimens are triaged within the department.</p>	<p><b>The form MUST include the following information:</b></p> <ul style="list-style-type: none"> <li>• Mother's name</li> <li>• Mother's date of birth</li> <li>• Address</li> <li>• Hospital number and CHI number</li> <li>• Date of delivery</li> <li>• Date placenta sent for pathology examination</li> <li>• Referring Hospital</li> <li>• Referring Consultant</li> <li>• Midwife or trainee doctor's name and contact extension/bleep number</li> <li>• Gravida and parity</li> <li>• GESTATION</li> <li>• Apgars of the baby/babies delivered</li> <li>• Weight of the baby/babies delivered</li> </ul> <p>Samples to be placed in a purple specimen bag.</p>
<a href="#">Urgent Paediatric Specimens</a>  Frozen	<p>Any queries regarding <b>urgent specimens</b> should be addressed by <b>telephoning the paediatric office on 89478 and asking to speak to the duty paediatric pathologist</b>. If advice/assistance is urgently required out of hours, please contact switchboard who can</p>	<p>The paediatric laboratory team may be contacted on 89531.</p> <p>Package according to legislation with a minimum:</p> <ul style="list-style-type: none"> <li>• leak proof container</li> </ul>

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<p>Sections</p> <p>Fresh tumour Biopsies</p> <p>Fresh Tumour Resections</p>	<p>contact a paediatric pathologist. The paediatric laboratory team may be contacted on 89531.</p> <p>All cases must be booked in advance (ideally the day before) by telephoning 89478 and discussing the case with the <b>duty paediatric pathologist</b>.</p>	<p>(specimen)</p> <ul style="list-style-type: none"> <li>• sealable bag containing absorbent material</li> <li>• secondary, opaque container (this can contain multiple specimens)</li> </ul> <p>All fresh paediatric specimens must be conveyed immediately in person or by porter to pathology (3<sup>rd</sup> floor, Laboratory Medicine Building). <b>The surgical team is responsible to arrange this.</b></p> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Routine Paediatric Specimens</a></p>	<p>Fix as per routine histopathology specimens above, unless the <b>specimen is indicative of paediatric neoplasia/cancer/tumour. In this case telephone the paediatric office on 89478 and asking to speak to the duty paediatric pathologist.</b></p> <p>Paediatric rectal biopsies for diagnosis of Hirschsprung's disease may be sent in formalin</p> <p>Paediatric tonsils do not need to be sent fresh unless there is a high clinical suspicion of malignancy. These specimens may be sent in formalin.</p>	<p>The paediatric laboratory team may be contacted on 89531.</p> <p>Package according to legislation with a minimum:</p> <ul style="list-style-type: none"> <li>• leak proof container (specimen)</li> <li>• sealable bag containing absorbent material</li> <li>• secondary, opaque container (this can contain multiple specimens)</li> </ul> <p>All fresh paediatric specimens must be conveyed immediately in person or by porter to pathology (3<sup>rd</sup> floor, Laboratory Medicine Building). <b>The surgical team is responsible to arrange this.</b></p> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Paediatric Renal Biopsies</a></p>	<p><b>Contact lab (89531) with AS MUCH NOTICE AS POSSIBLE before taking a biopsy, the case may need to be discussed with the duty pathologist before proceeding.</b></p> <p><b>The deadline for same day processing is 13:00</b></p> <p><b>NATIVE &amp; TRANSPLANT BIOPSIES:</b> These specimens will normally be collected in theatre by a biomedical scientist who will separate the sample for immunofluorescence and electron</p>	

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	microscopy.	
<b>Adult Renal Biopsies (Medical/Na tive/Transplant)</b>	<p>If <b>URGENT</b> the specimen should be sent directly to the laboratory by porter/couriers.</p> <p><b>The deadline for same day processing is 13:00</b></p> <p><b>Each patient sample should be received in 3 parts:</b> Main (largest) sample in formalin, a sample in buffer for immunofluorescence and a sample in 2% Glutaraldehyde for electron microscopy.</p> <p><b>The clinical information MUST specify if the renal biopsy is Transplant, Native (Medical) or other</b></p>	<p><b>THE SPECIMEN MUST BE HANDED TO A MEMBER OF LABORATORY STAFF ON DELIVERY</b></p> <p>Freshly prepared glutaraldehyde has a 7 day shelf life and must be stored to 4-8<sup>o</sup>c prior to use.</p> <p>Buffer and Glutaraldehyde are available with advance notice from:</p> <p>Pathology Department, Level 3, Laboratory Medicine and Facilities Management Building, Queen Elizabeth University Hospital, 1345 Govan Rd, Glasgow, G51 4TF (0141 354 9513/9514).</p> <p>All unused Glutaraldehyde should be returned to the EM unit for disposal.</p> <p>Samples to be placed in a purple specimen bag.</p>
<b>Adult Renal Biopsies (Tumour/Cancer/RCC)</b>	<p>Fix specimens in formalin as soon as possible</p> <p>The clinical information must specify that the renal biopsy is querying Tumour/Cancer/RCC.</p>	<p>Samples to be placed in a purple specimen bag.</p>
<b>Cardiac Transplant Biopsies (Adult)</b>	<p>If <b>URGENT</b> the specimen should be sent directly to the laboratory by taxi/courier.</p> <p><b>The deadline for same day processing is 13:00</b></p> <p><b>Contact the laboratory reception (89513/89514) to inform them of the biopsy and indicate whether this is a routine or urgent biopsy.</b> This information will be passed to the duty cardiac pathologist.</p> <p>Alternatively, contact the duty cardiac pathologist directly to discuss the case.</p>	<p><b>THE SPECIMEN MUST BE HANDED TO A MEMBER OF LABORATORY STAFF ON DELIVERY</b></p> <p>Samples to be placed in a purple specimen bag.</p>
<b>Native Cardiac (Endomyocardial) Biopsies</b>	<p>If <b>URGENT</b> the specimen should be sent directly to the laboratory by taxi/courier.</p> <p><b>The deadline for same day processing is 13:00</b></p> <p><b>Contact the laboratory reception (89513/89514) to inform them of the biopsy and indicate whether this is a routine or</b></p>	<p><b>IF URGENT, THE SPECIMEN MUST BE HANDED TO A MEMBER OF LABORATORY STAFF ON DELIVERY</b></p> <p>Samples to be placed in a purple specimen bag.</p>

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	<p><b>urgent biopsy.</b> This information will be passed to the duty cardiac pathologist.</p> <p>Alternatively, contact the duty cardiac pathologist directly to discuss the case.</p> <p>If a storage/metabolic disorder is being considered, then contact the duty cardiac pathologist to discuss the need for sampling for electron microscopy.</p>	
<p><a href="#">Muscle Biopsy</a></p>	<p><b>Contact lab (89530 or page 17627) with AS MUCH NOTICE AS POSSIBLE before receipt of the biopsy.</b></p> <p>An additional <a href="#">muscle biopsy request</a> (linked) form <b>MUST</b> be used, please follow the instructions on this form.</p> <p><b>The laboratory can receive muscle biopsies between 09:00 and 16:00, Monday – Friday (excluding public holidays).</b></p> <p><b>Specimens must be placed in a dry, clean universal container. No saline, gauze or formalin should be used.</b></p> <p>If the sample will take longer than 20 minutes to reach the department it is recommended that the universal container (<b>NOT the muscle directly</b>) is put into a bag of ice.</p>	<p><b>Contact lab (89530 or page 17627, for external sites: 0141 354 9530) with AS MUCH NOTICE AS POSSIBLE</b> providing details of the:</p> <ul style="list-style-type: none"> <li>• Any Danger/Risk of Infection</li> <li>• Expected arrival/delivery time</li> <li>• Patients name/identifiers</li> <li>• Name and contact details of the caller</li> <li>• Page / contact details for communicating the results (confirm if the same as the caller)</li> </ul> <p><b>THE SPECIMEN MUST BE HANDED TO A MEMBER OF LABORATORY STAFF ON DELIVERY</b></p> <p>Samples to be placed in a purple specimen bag.</p>
<p><a href="#">Nerve Biopsy – for Frozen Section</a></p>	<p><b>DO NOT ADD ANY FIXATIVE! Send the sample FRESH and IMMEDIATELY!</b></p> <p>Place in clearly labelled container</p> <p>Contact the laboratory (89530 or page 17627, for external sites: 0141354 9530) upon specimen dispatch</p>	<p><b>Contact lab (89530 or page 17627) at least 24 hours in advance</b> with details of the:</p> <ul style="list-style-type: none"> <li>• Surgical Procedure</li> <li>• Location</li> <li>• Expected arrival/delivery time</li> <li>• Patients name/identifier</li> <li>• Name and contact details of the caller</li> <li>• Page / contact details for communicating the results (confirm if the same as the caller)</li> </ul> <p>Samples to be placed in a purple specimen bag.</p>

## Taking Specimens for Pathology

Each request accepted by the laboratory for examination(s) shall be considered an agreement. For further details including a summary of the departments obligations and assurances to service users see [NHSGGC Pathology Department Terms of Service](#).

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If you are sending a sample to us for testing from outside NHSGGC, please contact the department for details on the costing of tests.

All specimens **must** be accompanied by an appropriately completed Trakcare form, or if this is not possible a [NHS GGC Pathology request form](#) (see appendix 1 available through PECOS – *product code 100509*) may be used. If appropriate, an accompanying speciality request form ([placenta](#), [HPV cytology](#), [muscle](#) etc.) should also be included.

Please see the [NHSGGC specimen transport policy](#) for further information.

**MINIMUM SAMPLE ACCEPTANCE CRITERIA:**

**CHI/Unique identifier, Surname & Forename or if no CHI/unique identifier, the Surname, Forename & DOB must be provided.**

**A minimum of THREE matching patient identifiers across both the specimen pot labels and forms are required to accept a specimen and meet legislative requirements.**

**Only specimen containers and request forms that satisfy the essential criteria listed below can be accepted into the department.** These are also specified clearly on the [GG&C Pathology Request Form](#)

**Request Form:**

Essential:-

- **CHI Number or a temporary unique identifier (e.g. ZP number)**
- **Patient's Full Name or unique coded identifier**
- **DOB**
- **Nature of Specimen including qualifying details (Any risk/danger of Infection information is essential)**

Desirable:-

- Patient's Address including Postcode (**essential if no CHI number**)
- Clinical Information/history (**essential for fresh tissue and frozen section**)
- Date and time of sampling
- Practitioner's contact number (bleep or extension)
- Gender
- Location and destination of report
- Requesting Practitioner
- Investigation Required

**Sample Container:**

Essential:-

- **CHI number or a temporary unique identifier (e.g. ZP number)**
- **Patient's Full name or unique coded identifier**
- **Date of Birth**
- **Nature of Specimen or identifier including qualifying details**

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- **Labelling to indicate if there is a risk/danger of infection**

Desirable:-

- Date and Time of Sampling

**The full address to which the report should be sent must also be included.**

N.B: Pre-printed labels do not indicate the address to which the report should be sent.

**A short clinical history must also be provided.**

A brief clinical history is invaluable in the interpretation of the histological findings and should be given in every case.

As many pathology cases require considerable clinico-pathological discussion before a diagnosis can be reached, it is essential that the name of the patient's consultant, the name of the requesting doctor and the contact telephone or page numbers are put on the request form where asked.

If the report is required urgently this should be stated on the request form along with a contact telephone number or page number.

**The laboratory cannot supply a report on unlabelled specimens or specimens received without request forms.**

Failure to provide the required information may result in delays in processing specimens and/or in the provision of a Pathology report to the appropriate location.

## **Pathology Non-Conformances (Unable to Accept Specimen)**

If a specimen is received in Pathology and the specimen and/or request form has been mislabelled, is unlabelled or there are discrepancies between the request form and specimen container, the Laboratory staff will make every attempt to contact the sender to clarify the error, including telephoning the source and contacting requesting clinician etc. identified from any information that has been supplied.

If the Laboratory staff are unable to rectify the problem by telephone, a "Non-conformance letter" will be sent to the requesting clinician.

This letter is accompanied by the request form and identifies the nature of the non-conformance with a request that this is rectified and the requesting clinician takes responsibility for the changes.

Specimens are NOT returned but will be kept in Pathology Specimen Reception labelled with the appropriate non-conformance number, until the non-conformance has been resolved.

## **Cytology Non-Conformances**

The laboratory cannot supply a report on unlabelled specimens or specimens received without request forms. Failure to provide the required information may result in delays in

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processing specimens and/or in the provision of a pathology report to the appropriate location.

In the event of an urgent specimen being received in diagnostic cytology, where the specimen and/or request form has been mislabelled, the technical staff in the lab will make every attempt to contact the sender and clarify the mislabelling error, including telephoning the source and contacting the requesting clinician etc. identified from any information that has been supplied.

In the event of there being insufficient information to allow cytology to contact the sender, the specimen will be kept refrigerated for one week, in the hope that the lab will be contacted. If no contact has been made at the end of this period, the specimen will be discarded.

### **Specimens should be sent to:**

Specimen Reception (L3/B/021),  
NHSGGC Pathology Department  
Level 3, Laboratory Medicine and Facilities Management Building  
Queen Elizabeth University Hospital

Tel: 0141 354 9513 (89513)/0141 354 9514 (89514)

**Please use a purple bag for histopathology and non-gynaecological/diagnostic cytology specimens.**

**A white bag should be used for cervical smears/gynaecological cytology specimens**

More information can be found in [GG&C Transport & Disposal of Specimen Containers & Specimens Policy](#)

## Urgent Specimens for Pathology

Requests for urgent results should be clearly marked on the request form and contact telephone or page number provided.

The consultant pathologist should be notified before the specimen is sent if an urgent result is required.

It is the responsibility of the clinical team to ensure that emergency/urgent specimens are transported urgently to the Pathology Laboratory.

## Fixation (Tissue Preservation)

Normally, specimens should be transferred in a sealed container with 10% neutral buffered formalin, which prevents tissue decay, ideally the volume of formalin should be at least 10 times the volume of the specimen, but for major resections this may not be possible. Please ensure that containers are properly sealed before dispatch as leaking specimens will not be picked up by Transport/ Facilities staff. If you have a Formalin spill, follow your own spill procedures.

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No fixative should be added if:

- [a frozen section](#) is requested (including: brain biopsies taken mid surgery for smear analysis, muscle biopsies and paediatric rectal biopsies – see individual sections for more information)
- the specimen is thought to be a [lymphoma – whole lymph nodes only](#)
- there is a need to collect and process fresh surplus tissue for medical research purposes
- The sample is for [Immunofluorescence](#)

All fresh tissue must be delivered to the Pathology Department immediately and Pathology Specimen Reception should be notified that fresh tissue has been sent.

Tel: 0141 354 9513 (89513)/0141 354 9514 (89514)

If you are unsure of the correct procedure, contact Pathology Specimen Reception for advice on the telephone numbers above.

**Delay in receipt of a “fresh” specimen may make diagnosis impossible.**

Fixatives and specimen jars are available from:

Specimen Reception (L3/B/021),  
NHSGGC Pathology Department  
Level 3, Laboratory Medicine and Facilities Management Building  
Queen Elizabeth University Hospital

Tel: 0141 354 9513 (89513) /0141 354 9514 (89514)

Fixatives and Specimen jars are also available from our [Local Mortuary/ Body Stores](#).

## Precautions for “Danger of Infection” (DOI) specimens

In practice, these are specimens that carry the risk of transmitting Hepatitis B virus, Hepatitis C virus, HIV, M. tuberculosis and other category III pathogens.

The Clinical Microbiology Department should be contacted where there is any uncertainty.

Such specimens, include those from confirmed or suspected cases of the disease, known carriers (e.g. those known to be hepatitis antibody or antigen positive), as well as patients from an ‘at risk’ group (e.g. drug abusers).

**‘Danger of infection’ (DOI) stickers MUST be put on the specimen bag, the request form and the specimen container.**

If the nature of the DOI is known please include this in the clinical details.

Specimen bags should be sealed so that they can be opened without the use of sharp or pointed instruments.



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For large specimens, containers should be enclosed in individual plastic sacks tied at the neck. The request form should be placed in a plastic envelope which is then securely tied to the neck of the sack.

“Danger of Infection” specimens should always be sent in an adequate volume of buffered formalin.

## Specimen Transport

All specimens, with the exception of those dealt with immediately at the satellite Laboratories at GRI and GJNH are transported to the Pathology Department at QEUH for processing. Transportation of specimens is undertaken by Facilities staff (porters and drivers) and couriers.

**Specimens from the Golden Jubilee Hospital (GJNH) are delivered directly to the Queen Elizabeth University Hospital by GJNH facilities staff.** These specimens are booked in via GJNH labs before they are sent to the QEUH Pathology Department.

Routine specimens originating at all NHSGG&C hospital sites will be delivered to specimen despatch points on each hospital site for onward transportation to the QEUH Laboratory Building by facilities staff.

There are dispatch points in all hospital sites and transport hubs which form part of NHSGGC transport network.

### Dispatch points:

- . Gartnavel General Hospital (GGH)
- . Glasgow Royal Infirmary (GRI)
- . Inverclyde Royal Hospital (IRH)
- . Royal Alexandria Hospital (RAH)
- . Stobhill ACH (North ACH)
- . Vale of Leven Hospital (VOL)
- . Victoria ACH (VIC)

### Transport hubs:

- . Glasgow Royal Infirmary (GRI)
- . Royal Alexandria Hospital (RAH)
- . Inverclyde Royal Hospital (IRH)

### Contacts:

Mr Paul Reid – Head of Transport (Tel. 0141 451 1649)

## Histopathology Reporting

All specimens are booked into the laboratory information system (LIMS) on receipt, and their progress is tracked through the laboratory by the Cerebro electronic tracking system. The completed report is authorised electronically.

The report issued will include:

- The clinical history provided
- A gross description of the specimen
- A microscopic description
- The diagnosis or differential diagnosis

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- Where appropriate, a summary including TNM staging of tumours.

Reports are generated electronically, with rare exceptions whereby a paper copy of the report is printed following authorisation and despatched by internal hospital mail, only when requested. Currently all hospital PM reports are issued as a paper copy.

## Digital Pathology

NHS Greater Glasgow and Clyde pathology department is undergoing a digital transformation whereby glass slides are digitised and are able to be viewed on digital workstations, rather than microscopes. This change is being undertaken in partnership with Philips Healthcare.

The transformation will take several years to complete for histology (and longer for cytology where the technology is less mature). We are following national guidelines and best practice recommendations from the Royal College of Pathologists (RCPATH) and pathologists reporting digitally are following the RCPATH validation process. Digital Pathology is being incorporated into our quality management system and we are working towards UKAS extension to scope.

We fully believe that this development will deliver both quality and safety benefits to our service users.

## Computer Access to Reports

Pathology results are transmitted electronically to SCI store and can be accessed via the Clinical Portal.

## Telephone Reports

Reports will be read to doctors, specialist nurses or other duly authorised personnel only;

Results: 0141 354 9476 (89476)

General Enquiries: 0141 354 9500 (89500)

## Specialty Pathologist Teams

The pathologist at the top of each team, listed in **bold** is the designated specialty representative.

TEAM	MEMBERS	TEAM	MEMBERS
<b>Autopsy</b>	<a href="#">Dr S. Fraser</a>	<b>Bone &amp; Soft Tissue</b>	<a href="#">Dr E. Macduff</a>
	<a href="#">Dr K. Kinch</a>		<a href="#">Dr S. Dundas</a>
	<a href="#">Dr O. McCabe</a>		<a href="#">Dr F. Roberts</a>
	<a href="#">Dr J. Paxton</a>		<a href="#">Dr K. Teo</a>
	<a href="#">Dr K. Tilley</a>		<a href="#">Dr A. Young</a>

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	<a href="#">Dr S. Wright</a>		
<b>Breast</b>	<a href="#">Dr J. Loane</a> <a href="#">Dr C. Dick</a> <a href="#">Dr D. Kipgen</a> <a href="#">Dr E. Macduff</a> <a href="#">Dr A. Milne</a> <a href="#">Dr S. Syed</a>	<b>Cardiovascular</b>	<a href="#">Dr S. Wright</a> <a href="#">Dr D. Kipgen</a>
<b>Dermatopathology</b>	<a href="#">Dr L. Melly</a> <a href="#">Dr S. Digby</a> <a href="#">Dr C. Harper</a> <a href="#">Dr G. Kohnen</a> <a href="#">Dr V. Lynch</a> <a href="#">Dr A. Milne</a> <a href="#">Dr C. Moyes</a> <a href="#">Dr D. O'Dwyer</a> <a href="#">Dr M. Paul</a> <a href="#">Dr K. Tilley</a> <a href="#">Dr A. Young</a>	<b>Diagnostic (Non-Gyn) Cytology</b>	<a href="#">Dr C. Van der Horst</a> <a href="#">Dr F. Duthie</a> <a href="#">Dr C. Harper</a> <a href="#">Dr D. Kipgen</a> <a href="#">Dr A. Latimer</a> <a href="#">Dr J. Slavin</a> <a href="#">Dr S. Wright</a>
<b>Gastrointestinal (GI)</b>	<a href="#">Dr F. Duthie</a> <a href="#">Dr S. Bell</a> <a href="#">Dr C. Dick</a> <a href="#">Dr S. Fraser</a> <a href="#">Dr C. Harper</a> <a href="#">Dr G. Kohnen</a> <a href="#">Dr P. Konanahalli</a> <a href="#">Dr S. Liptrot</a> <a href="#">Dr E. MacDuff</a> <a href="#">Dr N. Maka</a> <a href="#">Dr O. McCabe</a> <a href="#">Dr K. Myint</a> <a href="#">Dr K. Oien</a>	<b>Gynaecology</b>	<a href="#">Dr S. Bell</a> <a href="#">Dr G. Bryson</a> <a href="#">Dr D. O'Dwyer</a> <a href="#">Dr G. Kohnen</a> <a href="#">Dr P. Konanahalli</a> <a href="#">Dr S. Syed</a>

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	<a href="#">Dr H. Pitchamuthu</a> <a href="#">Dr F. Roberts</a> <a href="#">Dr J. Salmond</a> <a href="#">Dr J. Slavin</a> <a href="#">Dr G. Smith</a> <a href="#">Dr K. Tilley</a>		
<b>Cervical Cytology</b>	<a href="#">Dr A. Latimer</a> <a href="#">Dr S. Liptrot</a> <a href="#">Dr S. Syed</a> <a href="#">Dr C. Van der Horst</a>	<b>Haemato-Lymphoid</b>	<a href="#">Dr J. Goodlad</a> <a href="#">Dr C. Harper</a> <a href="#">Dr S. Liptrot</a> <a href="#">Dr K. Myint</a> <a href="#">Dr J. Paxton</a>
<b>Head &amp; Neck/Endocrine</b>	<a href="#">Dr L. Cooper</a> <a href="#">Dr S. Dundas</a> <a href="#">Dr O. McCabe</a> <a href="#">Dr K. Myint</a> <a href="#">Dr J. Slavin</a> <a href="#">Dr K. Teo</a> <a href="#">Dr S. Wright</a>	<b>Liver</b>	<a href="#">Dr G. Kohnen</a> <a href="#">Dr K. Oien</a> <a href="#">Dr P. Konanahalli</a>
<b>Neuropathology</b>	<a href="#">Dr Z. Hanzely</a> <a href="#">Dr W. Stewart</a>	<b>Ophthalmic</b>	<a href="#">Dr F. Roberts</a> <a href="#">Dr C. Thum</a>
<b>Paediatric</b>	<a href="#">Dr C. Evans</a> <a href="#">Dr S. Bitetti</a> <a href="#">Dr P. French</a> <a href="#">Dr D. Penman</a>	<b>Renal</b>	<a href="#">Dr D. Kipgen</a> <a href="#">Dr J. Crosby</a>
<b>Respiratory</b>	<a href="#">Dr C. Dick</a> <a href="#">Dr E. MacDuff</a> <a href="#">Dr H. Pitchamuthu</a> <a href="#">Dr F. Roberts</a> <a href="#">Dr J. Slavin</a>	<b>Urology</b>	<a href="#">Dr V. Lynch</a> <a href="#">Dr G. Bryson</a> <a href="#">Dr J. Crosby</a> <a href="#">Dr S. Fraser</a> <a href="#">Dr H. Pitchamuthu</a> <a href="#">Dr J. Salmond</a>

## NHS GG&amp;C Pathology Department User Manual

## Departmental Turnaround Times

The NHSGGC Pathology Department issues in excess of 100,000 histology reports per annum.

The department is working towards the Royal College of Pathologists (RCPATH) KPI for turnaround times for cellular pathology.

### Expected Turn Around Times

Specimen Type	Average Turnaround Time	Exceptions
Andrology	80% reported within 5 days	
HPV/Cervical Screening	80% reported within 14 days	We aim to meet this from the time samples are received in the laboratory after they have been distributed to us from around Scotland.
Diagnostic Cytology	90% reported within 7 days	Breast and CSF
Electron Microscopy	5-12 days	This may change due to service provision. If appropriate any samples marked as urgent will have an accelerated turnaround.
Frozen Section/Brain Smear (Verbal Report)	30 Minutes from receipt by laboratory	Multiple specimens or complex cases can significantly increase this TAT
Histopathology: <ul style="list-style-type: none"> <li>• Histology</li> <li>• Muscle Biopsies:</li> <li>• Nerve Biopsies:</li> <li>• Cancer Tracked Cases:</li> <li>• Cases For MDT Discussion:</li> </ul>	<ul style="list-style-type: none"> <li>• 60% in 14 Days</li> <li>• 80% in 10 Days</li> <li>• 80% in 10 Days</li> <li>• 95% reported within 7 days</li> <li>• 95% of all cases (biopsy/resection) available on time for MDT discussion</li> </ul>	<ul style="list-style-type: none"> <li>• Large/ complex bone tissue, bone tumours or amputations</li> <li>• Renal Biopsies requiring EM</li> <li>• Cases requiring Molecular Testing</li> <li>• Clinically Urgent cases</li> </ul>

*N.B: Days includes ALL of the week, measured currently from date of receipt of the specimen by Pathology Department*

**Some biopsy or resection specimens require special stains or immunocytochemistry to aid diagnosis. In these cases, it may not possible**

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to meet the above turnaround times.

**N.B Where additional testing is required from outside the department and referrals are made to external centres (e.g. molecular testing), the turnaround times can increase by 2-3 weeks for all Specialties.**

## Mortuary

Services provided on QEUH site include:

- Body store facilities for Queen Elizabeth University Hospital Campus and wider Health Board area, Police Scotland and Crown Office and Procurator Fiscal Service (COPFS).
- Autopsy services for NHSGGC - all adult, paediatric and perinatal post mortems are undertaken within the facility.
- Paediatric and perinatal autopsies for other Scottish Health Boards.
- Paediatric Forensic autopsies undertaken on behalf of COPFS undertaken by NHSGGC Paediatric Pathologists.
- Adult Forensic autopsies undertaken on behalf of COPFS undertaken by visiting Forensic Pathologists from University of Glasgow, Department of Forensic Medicine.

The mortuary is staffed and open 24 hours/day, 365 days/year for the receipt of bodies from the QEUH Campus and on behalf of Police Scotland and COPFS  
Viewings are by appointment only.

Normal working day (Mon-Fri) 08:30am - 16:30pm  
Out of Hours (Saturday/ Public Holidays) 10:00am – 14:00pm

Service hours and contact information for on-site mortuary and satellite sites as follows:

Mortuary Site	Hospital Address	Location Within Hospital	Contact	Working Hours
Queen Elizabeth University Hospital (QEUH)	1345 Govan Road, Glasgow, G51 4TF	Separate entrance at side of Laboratory Medicine Building	0141 451 5815 (85815)	Monday – Friday: 08:30 – 16:30 <i>Out of Hours (Saturday/Public Holidays): 10:00 – 14:00</i>
Royal Alexandra Hospital (RAH)	Corsebar Road, Paisley, PA2 9PN	When coming from Paisley town centre direction enter via the second hospital entrance (not the main one at car park and follow road to the end.	0141 314 6648	Monday – Friday: 08:30-16:30
Inverclyde Royal	Larkfield Road,	Report to main	01475	Monday – Friday:

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Hospital (IRH)	Greenock, PA16 0XN	hospital information desk	504301	10:00 – 14:00
Glasgow Royal Infirmary (GRI)	84 Castle Street, Glasgow, G4 0SF	Enter hospital grounds at traffic lights via the small road between the hospital and Glasgow Cathedral. The mortuary door is located under the canopy.	0141 201 3186	Monday – Friday: 08:30 – 16:30
Gartnavel General Hospital (GGH)	1053 Great Western Road, Glasgow, G12 0YN	Report to hospital admissions desk	<b>Contact QEUH</b>  0141 354 9357	<b>Unmanned Site*</b>
Vale of Leven (VoL)	Main Street, Alexandria G83 0UA	Enter hospital from Main Road Alexandria, stay on the internal road to the top of the hill and the mortuary is the first low building on the right	<b>Contact QEUH</b>  0141 354 9357	<b>Unmanned Site*</b>

**\*Service hours for Vale of Leven Hospital and Gartnavel General Hospital Satellite sites:**

A body receipt and release service is provided in conjunction with Facilities Management colleagues. Viewing can be accommodated on request by telephoning QEUH Mortuary on 0141 354 9357

Further mortuary information is available from:

- Mortuary Office: 0141 354 9357 (59357)
- Deborah Brown, Mortuary Post Mortem Manager, [deborah.brown8@nhs.scot](mailto:deborah.brown8@nhs.scot)
- Robert Cast, the NHSGGC Mortuary Operations Manager [robert.cast@nhs.scot](mailto:robert.cast@nhs.scot)

## Autopsy/Post-Mortem Service

### Arranging For a Hospital Autopsy (Post Mortem Examination)

In September 2006 the Scottish Government introduced a national authorisation form for post mortem examinations. By law this is the only “consent form” that can be accepted. The authorisation form, together with two types of information leaflets and a summary form are contained within a distinctive dark blue sleeve for adults and a pale green one for children and infants. The forms are available online through the [Scottish Pathology Network](#). Guidance for completing these forms can be found in [this presentation](#).

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Current guidelines recommend that only senior medical staff should obtain authorisation. Junior doctors or ward staff should act as witnesses.

It is important that the authorisation form is completed correctly; otherwise the post mortem may not be carried out.

The nearest relative, or a nominated person must be given the top (white) copy and the other two copies (pink and blue) are retained.

The form is a legal document and must not be altered without the relatives consent. Any changes must be made by having all three copies together and only writing on the top white copy to ensure that all the forms are identical.

Small samples of tissue, for histological purposes only, will be retained in every post mortem to confirm macroscopic findings unless consent for this is withheld.

Detailed neuropathological examination of the brain is best done if the organ is first immersed in formalin for three weeks. If the patient has died due to a complex neurological disorder (e.g. MS, dementia, Parkinson's disease) and it is considered that examination of the brain is very important, then specific permission to retain the brain after the post mortem should be obtained and noted in section 2A and 2B of the authorisation form.

In cases where there is an infectious risk to those handling the body after death (i.e. pathologists, mortuary technicians, undertakers) e.g. deaths from tuberculosis, AIDS, hepatitis B or C etc. the body must be transported to the mortuary in a cadaver bag with "danger of infection" stickers attached and clearly visible.

In cases of "bodies donated to medical science" or any other issue, please contact the mortuary staff.

## Delivery of Request Authorisation Form to the Pathology Department

Authorisation forms are available from the mortuary offices during working hours and from the booking in areas in every mortuary.

Wards should arrange for collection/delivery of authorisation forms together with the summary and case records. Do not use internal mail.

**All post mortems will be carried out within the mortuary at the Queen Elizabeth University Hospital, with all adult NHS post mortems being carried out on Tuesdays and Thursdays only.**

## Reporting Autopsy Findings

On completion of the autopsy the pathologist will contact the requesting clinician and where practical invite them to come and discuss the findings in the mortuary at their



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earliest convenience. If the requesting clinician is unable to attend the mortuary, then a summary of the finding is provided via email.

A preliminary autopsy report is despatched to the Consultant in charge of the patient within three working days of the autopsy. Case notes are normally returned with the full PM report within 3-4 weeks.

Copies of the final report, which includes histological findings, are sent to the patient's GP and hospital consultant usually within two weeks (this can be longer if additional tests are required) of the autopsy.

### Fiscal Post Mortems

Deaths must be discussed with the procurator fiscal under the following circumstances:

1. Uncertified death
2. Any death which was caused by an accident due to the operation of a vehicle, or which was caused by an aircraft or rail accident.
3. Any death associated with employment, by accident, industrial disease or poisoning.
4. Any death due to poisoning (coal gas, barbiturate, etc.).
5. Any death where the circumstances would seem to indicate suicide.
6. Any death where there are indications that it occurred under an anaesthetic.
7. Any death resulting from an accident in the home, hospital or institution or any public place.
8. Any death following abortion.
9. Any death apparently caused by neglect (malnutrition).
10. Any death occurring in prison or a police cell where the deceased was in custody at the time of death.
11. Any death of a new-born child whose body is found.
12. Any death (occurring not in a house) where the deceased's residence is unknown.
13. Death by drowning.
14. Death of a child from suffocation (including overlaying).
15. Where a death occurred as a result of smallpox or typhoid.
16. Any death as a result of fire or explosion.
17. Any sudden and unexplained death.
18. Any other death due to violent, suspicious or unexplained cause.

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19. Deaths of foster children.
20. Any complaint concerning care or treatment of the deceased noted by nursing or medical staff.

**Do not issue a death certificate until the case has been discussed with Fiscal.**

If the Fiscal decides to instruct a post mortem, the body will be removed to QEUH Mortuary. Fiscal post mortems are carried out 5 days per week.

### Request for Pacemaker/Loop Recorder/Other Cardiac Device Removal

A pacemaker or other metal containing cardiac device must be removed from a body prior to cremation. This can be done by the technical staff in the mortuary at the QEUH provided that written consent from relatives for removal and retention has been obtained and delivered to the QEUH mortuary prior to the body being released to the funeral director. This service is not generally available at other mortuaries. If the pacemaker has not been removed the MCCD **must** indicate that a pacemaker is in situ.

### Examination of the Body by a Clinician

Clinicians wishing to view remains should phone the mortuary staff to arrange a time to visit the mortuary and conduct a viewing.

#### Contacts:

Mortuary Operations Manager: 0141 451 5815  
Mr Robert Cast

Mortuary Post Mortem Manager: 0141 451 5795  
Miss Deborah Brown

Mortuary Scheduling and Performance Manager: TBC

#### Mortuary Contact Numbers:

GRI	0141 201 3186
GGH (Enquiries should be directed to QEUH mortuary)	0141 354 9357
RAH	0141 314 6648
IRH	01475 504 301
VOL (Enquiries should be directed to QEUH mortuary)	0141 354 9357

### Feedback

If you wish to discuss a report, please telephone the consultant whose name appears at the bottom of the report, in the first instance. The consultant will be happy to review the case and seek a further opinion within or out with the department as required.

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We invite all our users to complete our user survey. The [user feedback survey form](#) is linked here. Please return via email to the quality manager. The information obtained from this survey will allow us to develop and improve the service we offer. We greatly appreciate the time and effort taken to complete this.

The department aims to provide a first class service. If we have failed to meet your expectations, please do not hesitate to contact us, so that we can attempt to rectify the situation.

For general complaints/compliments/comments on the service please contact:

### Dr Sylvia Wright (Head of Service)

Tel 0141 354 9558, e-mail: [Sylvia.Wright2@nhs.scot](mailto:Sylvia.Wright2@nhs.scot)

### Mrs Nicola Small (Compliance and Transformation Manager)

Tel 0141 354 9461, e-mail [Nicola.Small2@nhs.scot](mailto:Nicola.Small2@nhs.scot)

[NHS GGC Complaints Procedure](#) and the [NHS Patient Confidentiality Policy](#) are available via the departmental intranet site.

## Urgent Fresh Specimens

**Frozen Sections or Fresh Unfixed Tissue:** As per national guidance, the department will routinely process requests for frozen section analysis unless the clinician or request form indicate the patient potentially being COVID positive.

## Intra-Operative Frozen Section Requests

### Pre-Booking a Frozen Section

The requesting clinician **MUST** ensure that:

- Pathology Duty Consultant is notified of frozen section request **24 hours in advance** of sample collection, via Pathology Specimen Reception on 0141 354 9513 or 0141 354 9514 (89513/89514)
- **As per national guidance, the department will routinely process requests for frozen sections unless the clinician or request form indicate the patient potentially being COVID positive.**
- On the day of surgery, theatre staff **notify Pathology reception that the frozen section is on its way** to the Laboratory.

**Failure to pre-book an intra-operative frozen section may result in delays in reporting and in exceptional circumstances the request being declined.**

When pre-booking an intra-operative frozen please provide the following details:

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- Patient's name and CHI number
- Requesting clinician
- Theatre name/number including hospital
- Likely time of operation
- Contact number
- Specimen type

The Consultant Pathologist will phone the result to the requesting clinician on the contact number given.

**Queen Elizabeth University Hospital (QEUEH)**

An intra-operative frozen section service is available Monday – Friday 09:00-17:00

**Golden Jubilee National Hospital (GJNH)**

An intra-operative frozen section service is provided, on site at GJNH, Monday-Thursday 09:00-13:00. Any cases requiring a frozen section should be recorded on the GJNH theatre lists.

To arrange an intra-operative frozen section out with these times please contact the Duty Pathologist via Pathology Specimen Reception at QEUEH on the telephone number below.

These specimens will be transferred to Pathology Department at QEUEH for processing and should be sent by taxi to:

Specimen Reception (L3/B/021),  
NHSGGC Pathology Department  
Level 3, Laboratory Medicine and Facilities Management Building  
Queen Elizabeth University Hospital

Tel: 0141 354 9513 (89513)  
0141 354 9514 (89514)

**It is the responsibility of staff at GJNH to arrange rapid transfer of these specimens to QEUEH as per local protocol.**

**Glasgow Royal Infirmary (GRI)**

An intra-operative frozen section service is available Monday – Friday within normal laboratory working hours, between 9am-5pm.

**This Laboratory is only manned for pre-booked requests. It is, therefore, imperative that frozen section requests for onsite analysis at GRI are received by the Pathology Department more than 24 hours in advance, by phone call.**

From time to time an urgent frozen section is required due to an unexpected finding at surgery. The department provides this service, but for intra-operative frozen section requested on site at GRI, a short delay is inevitable to allow staff to travel.

Alternatively the specimen can be sent to QEUEH urgently by courier by telephoning:

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0141 211 3734 or 0141 211 3674 and following this information: [Transporting Urgent Fresh Specimens](#)

### Labelling Frozen Section Specimens

The normal requirements for labelling specimens and request forms (see [Sending a Specimen to Pathology](#)) apply to frozen sections in addition to the following criteria on the request form:

- Hospital
- Theatre
- Date and time of request.
- Requesting clinician
- Alerts to known or suspected danger of infection
- Clinical History
- Theatre contact number

### Transporting Urgent Fresh Specimens

#### QEUH site:

Fresh (unfixed) specimens should be sent directly to:

Specimen Reception (L3/B/021),  
NHSGGC Pathology Department  
Level 3, Laboratory Medicine and Facilities Management Building  
Queen Elizabeth University Hospital

Tel: 0141 354 9513 (89513)  
0141 354 9514 (89514)

#### Other Sites

Fresh (unfixed) specimens taken at other sites out with stated service provision at GJNH and GRI should be sent directly to the Pathology laboratory at QEUH by courier.

The courier should be telephoned by theatre staff, telephone the Transport Hub on 01412113734 or 01412113674 to arrange a taxi or courier to collect and transport the fresh specimen to us.

The information required by the Transport Hub includes:

- Hospital site
- Theatre collection point
- Advise that this is an “Emergency Pathology Specimen”.
- Codes used for each location should be as per local protocols.
- **Please telephone Pathology Specimen Reception on 0141 354 9513 or 0141 354 9514 (89513/89514) when the courier is on the way.**

### Fresh Lymph Nodes for Suspected Lymphoma

Excised lymph nodes, for suspected lymphoma should be bisected along their long axis at the time of removal.

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Half of the specimen should be placed into a sealed container with buffered formalin. The second half of the specimen should be placed in dry container, without formalin and sent “fresh” to the Pathology Department to allow ancillary testing to be undertaken.

**It is particularly important that any Danger of Infection is recorded on the request form.**

Instructions to transport the specimen can be found here: [Transporting Urgent Fresh Specimens](#)

## Head and Neck Dissections

There are some additional requirements for sending a large head and neck specimen or head and neck dissection:

- The trak care form requires a detailed clinical history so that the specimen can be triaged and handled appropriately e.g.” Biopsy proven SCC right maxillary sinus. Right hemimaxillectomy and selective neck dissection levels I-IV. Specimen 1 right hemimaxillectomy, suture anterior. Specimen 2 selective neck dissection levels I-IV” would be an adequate level of detail
- Please place all individual specimens in a separate pot, multiple specimens pinned to the same board will need to be discussed with the surgical team and will lead to a delay in processing the specimen and therefore the case reaching the MDT in a timely manner
- Samples that are not orientated will lead to a delay in processing the specimens and will therefore lead to a delay in getting the case to MDT
- Please do not glue specimens to the cork board as this disrupts the deep margin
- Please do not suture the specimens to the cork board as this can distort the margin depending on the tightness of the suture
- Please consider using blue ink in theatre to highlight a particular margin of concern
- Photographs from theatre for orientation are helpful to the pathologists
- If gluing specimens back together in theatre, please let the pathologists know as we will handle the specimen differently. The glue dissolves during specimen processing so it can lead to the pathologists commenting on a cut area as a margin.

## Orthopaedic Amputations

- The orthopaedic theatre should **contact Pathology Specimen Reception at least 24hrs before procedure is scheduled** on 0141 354 9513 or 0141 354

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9514 (89513/89514) to request that a dedicated large amputation specimen container is sent to relevant theatre.

Specimens such as amputations that have a high ratio of surface area covered by skin should be sent **unfixed**. If there is a surgical stocking, leave in place.

Reasons for this are:

- Poor penetration of skin by formalin
- Moving and handling considerations

To contain potential leakage, put the amputation into a large plastic bag or wrap in drapes as appropriate and then put into the amputation container. **Never** use yellow or orange bags or containers as this corresponds to the code for waste incineration.

Instructions to transport the specimen can be found here: [Transporting Urgent Fresh Specimens](#). It is important to advise the courier that this is a large specimen (requires van rather than motorcycle courier).

## Paediatric Specimens

**Paediatric rectal biopsies for diagnosis of Hirschsprung's disease do not need to be sent fresh. These specimens may be sent in formalin. There is no requirement to discuss these cases with the duty pathologist.**

**Paediatric tonsils do not need to be sent fresh. These specimens may be sent in formalin. Lymph node excision biopsies for ?malignancy vs infection MUST be discussed well in advance with the duty consultant paediatric pathologist.**

**Please ensure that for all specimens indicative of paediatric neoplasia/cancer/tumour that the day duty pathologist is notified in advance of submission and the specimens are submitted as specified by the day duty pathologist's instructions. ALL fresh specimens including frozen sections must be discussed directly with the day duty pathologist well in advance of submission.**

## Urgent Paediatric Specimens

**The following procedures must be followed** for all urgent paediatric fresh specimens including frozen sections, fresh tumour biopsies and fresh tumour resections.

Any queries regarding urgent specimens should be directed to the **duty Paediatric pathologist** by telephoning the paediatric office on 89478 and asking to speak to the **duty paediatric pathologist**. Please note: there is no formal OOH Paediatric Pathology on-call service. If advice/assistance is urgently required out of hours, please contact switchboard who can contact a paediatric pathologist. The paediatric laboratory team may be contacted on 89531.

## DISCUSSION WITH THE DUTY PATHOLOGIST – ALL CASES

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All cases must be booked in advance (ideally at least the day before) by telephoning 0141 354 9478 (89478) and discussing the case and your requirements with the **duty consultant paediatric pathologist**. Please provide patient details, including name and CHI number, date of surgery, approximate time of surgery and a contact number for theatre.

The surgeon or interventionalist performing the biopsy / resection must speak directly to the duty Paediatric pathologist **prior to the procedure** in every case to establish the specimen requirements. Failure to follow this procedure may render the biopsy uninterpretable.

The instructions below are *general* instructions and must not replace a case by case discussion with the duty pathologist.

- Tissue for frozen section should be kept dry and placed in a suitable container labelled with the patient's details (ideally a small plastic dish wrapped in a yellow plastic bag). **Do not** place small biopsies on paper, wrap them in gauze or paper or place in saline.
- Unless indicated otherwise by the day duty pathologist, all fresh tumour biopsies should be placed in **PINK tissue culture fluid** for transport to the laboratory.
- Unless indicated otherwise by the day duty pathologist, all fresh tumour resections should be kept dry and placed in a suitable container labelled with the patient's details.

### TRANSPORT TO THE LABORATORY – ALL CASES

All fresh paediatric specimens must be conveyed immediately in person or by porter to pathology (3<sup>rd</sup> floor, Laboratory Medicine Building). It is the responsibility of the surgical team to arrange urgent transport of the specimen to pathology. The sample must not be sent via the POD system and must be taken directly to pathology specimen reception on the 3<sup>rd</sup> floor. The specimen should be marked as “**Urgent. Frozen section.**” Staff transporting the specimen must inform specimen reception staff that it is an urgent fresh specimen for frozen section.

**When the specimen leaves theatre, theatre staff must inform the laboratory by telephoning 89531.**

## Paediatric Renal Biopsies

**The following procedures must be followed** for all paediatric renal biopsies:

### DISCUSSIONS WITH THE DUTY PATHOLOGIST AND THE LABORATORY

All Renal biopsies must be discussed with the Duty Paediatric Pathologist on 89478 as well as with laboratory staff on 89531 (see below).

These specimens will be collected in theatre by a biomedical scientist who will separate the sample for immunofluorescence and electron microscopy. Notification of such biopsies to the laboratory must be done as far in advance of the biopsy as possible by



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telephoning 89531. Failure to do so may result in delay since staff will have to be available to attend theatre to undertake this procedure.

## Placenta Histology Requests

The placental request form can be found here:

<https://www.nhsggc.scot/download/placenta-pathology-request-form/>

The local criteria for placental examination are:

### **Stillbirth**

**Miscarriage > 14/40**

**Birth weight < 3rd centile**

**Drop in fetal growth of > 2 quartiles or > 50 percentiles**

**Absent or reversed EDF on umbilical artery Dopplers**

**Spontaneous preterm delivery or prolonged preterm rupture of membranes less than 32/40**

**Iatrogenic preterm delivery less than 32 weeks**

**Severe early onset (less than 32/40) pre-eclampsia requiring iatrogenic delivery**

**Massive abruption with retroplacental clot**

### **Fetal hydrops**

**Severe fetal distress defined as: pH<7.05 or base Excess > -12 or scalp lactate >4.8mmol/l**

**Severe maternal sepsis requiring adult ICU admission**

**Severe fetal sepsis requiring ventilation / level 3 NICU admission**

**Caesarean hysterectomy for morbidly adherent placenta and**

**Monochorionic twins with twin to twin transfusion.**

Listed below are the data items that are required for pathological examination of placentas. Obligatory data items are in bold and the remainder should be added as required. Please include these data items on the pathology request form accompanying the placentas.

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Please write clearly on the forms

- **Mother's name**
- **Mother's date of birth**
- **Address**
- **Hospital Number and CHI number**
- **Date of delivery**
- **Date placenta sent for pathology examination**
- **Referring Hospital**
- **Referring consultant**
- **Midwife or trainee doctor's name and contact extension / bleep number**
- **Gravida and Parity**
- **GESTATION**
- **INDICATION FOR EXAMINATION (see below)**
- **Livebirth (Y/N):**
- **Birth Weight and Centile:**
- **Mode of delivery:**

**In cases of stillbirth / late miscarriage, page 2 of the placenta form must be completed by a doctor of ST7 or consultant level. Please provide the following information:**

Presence or absence of maceration

Interval between IUD diagnosis and delivery

Additional clinical details including any relevant antenatal history

Any placentas not indicated for placental examination by our local protocol do not need to be sent for pathology. If sent to pathology, they will be stored with no initial examination. A brief report indicating the placenta has been stored will be issued shortly after the placenta is received (generally within a fortnight). These placentas will be retained for 3 months in the pathology department prior to disposal. Full macroscopic examination with histology will only be performed on request with additional clinical details indicating why such examination is required.

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**Placentas with the following are NOT indicated for examination and do not need to be sent to pathology unless there are additional relevant indications:**

- Pre-eclampsia with onset after 32/40 and not requiring iatrogenic delivery
- Maternal sepsis not requiring adult ICU admission
- Maternal pyrexia
- Possible abruption
- Fetal distress not fulfilling the following criteria: pH<7.05 or base Excess > -12 or scalp lactate >4.8mmol/l
- Maternal Group B streptococcus
- Maternal diabetes or other maternal disease with normal pregnancy outcome
- Known trisomy 13, 18, 21 / Turners
- Congenital anomaly
- Uncomplicated twin pregnancy
- Twin placentas for assessment of chorionicity
- "Gritty" placenta
- Placenta praevia
- Post-partum haemorrhage
- Polyhydramnios
- History of previous molar pregnancy
- Cholestasis
- Hepatitis B/C, HIV
- Single umbilical artery
- Uncomplicated velamentous cord
- Placenta with accessory lobe
- Normal pregnancy

## Immunofluorescence

The pathology department offers a service for immunofluorescence testing on skin, renal, conjunctival and oral biopsies.

Skin, Renal, Oral and Conjunctival Biopsies requiring immunofluorescence should be placed in Michel's fixative immediately after collection.

Michel's fixative is capable of preserving fresh tissue for up to 5 days before there is any deterioration in the sample. The request form is checked for the date a sample is taken, to ensure that it has been received within time. Michel's fixative is available from the pathology department upon request. The fixative should be stored between 2-25<sup>0</sup>c and not be used after it has reached its expiry date.

### COVID-19

Fresh samples are being processed routinely for immunofluorescence analysis. However, if the patient is known to be COVID Positive, please can this be indicated clearly on the form so the laboratory will be able to take the appropriate precaution when processing these samples.

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### Danger of Infection

Specimens that are suspected or are known to contain blood borne viruses (e.g. HIV, Hep B, and Hep C) are classified as Category 2 and can be dealt with using the appropriate safety precautions.

Specimens suspected or known to have Category 3 organisms (e.g. TB, Leprosy, and Anthrax) or Category 4 organisms (e.g. Ebola, Lassa Fever and Haemorrhagic Fever) or CJD are not suitable for analysis via immunofluorescence.

For further information regarding immunofluorescence or danger of infection samples, please contact the Immunocytochemistry Department of the pathology laboratory (0141 354 9518/89518).

## Neuropathology

### Neurosurgical Biopsies for Intra-operative Diagnosis (Smear or Frozen)

The laboratory must be notified of all potential intra-operative investigations, a minimum of 24 hours in advance of surgery via 0141 353 9530 (89530) or by paging 17627. When initially contacting the lab, the patient name, CHI Number, surgical procedure, location and estimated time of biopsy should be provided so that appropriate medical and laboratory staff cover can be arranged.

**Failure to notify the lab of a case in advance of the surgery taking place may lead to delays in obtaining an intra-operative report if pathologist/laboratory staff are unavailable or allocated elsewhere.**

Ideally all intra-operative cases should be discussed with a neuropathologist at the appropriate MDT meeting.

### Containers

Sterile, screw cap containers should be used and are stored and managed by theatres. Please contact: 0141 354 9530 (89530) if you urgently require additional containers, you will need to send a porter to collect them.

All containers should be clearly labelled with patient name, date of birth, CHI number, ward number and consultant.

If a specimen is small, the specimen can be put on a glass slide within the container. Please do not add any fluid to the container.

**HIGH-RISK SPECIMENS MUST CARRY APPROPRIATE DANGER OF INFECTION LABELS AND CLINICAL INFORMATION PROVIDED**

### Point of delivery

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The specimen should be brought by the porter to the Pathology Department, Level 3 Laboratory Medicine and Facilities Management Building.

It is the clinician's responsibility to arrange immediate transportation of a specimen to Neuropathology.

**Please contact Neuropathology 0141 354 9530 (89530) to alert us that a fresh specimen is on its way so that we can prepare for its arrival.**

**NB. The specimen must be handed to a member of Laboratory staff on delivery.**

## Neurosurgical biopsy for paraffin histology

No prior notification is necessary.

### Containers

Sterile, screw cap containers should be used and are stored and managed by theatres. Please contact: 0141 354 9530 (89530) if you urgently require additional containers, you will need to send a porter to collect them.

All containers should be labelled as per the instructions for [routine histopathology specimens](#).

**High-risk cases must carry appropriate hazard labels.**

### Tissue Fixation

10% formal saline will be supplied by the Pathology Specimen Reception when requested by theatres. Please contact 0141 354 9513 or 0141 354 9514 (89513/89514) when required.

**Institute of Neurosciences Theatres:** Please contact the department and organise a porter to bring suitable empty containers to the department.

**Royal Hospital for Children Theatres:** The neuropathology department will supply containers with 10% formal saline on request. Please contact the department before requesting a porter to come and collect the containers.

The container should be at least twice the volume of the specimen and filled with 10% formal saline.

### Accompanying Information

Completed request forms should carry the consultant's name, ward number, patient's name, CHI number, address with post-code, date of birth, date of operation and relevant clinical information.

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For more technical information/specimen enquiries, please contact Neuropathology on 0141 354 9530 (89530)

**Point of delivery**

Neuropathology, Pathology Department  
Level 3, Laboratories & Facilities Management Building  
Queen Elizabeth University Hospital  
Glasgow  
G51 4TF  
Contact: 0141 354 9530 (89530)

**Muscle Biopsy****COVID-19**

Fresh muscle biopsy samples are being routinely processed for analysis within the department. However, if the patient is known to be COVID Positive, please can this be indicated clearly on the form so the laboratory will be able to take the appropriate precaution when processing these samples.

**Prior notification**

Elective cases should be booked with the lab with as much notice as possible. The cases can be booked by contacting the neuropathology laboratory via 0141 354 9530 (89530) or through page 17627 or the appropriate consultant.

If there is a danger of infection, these cases must be discussed with medical staff before biopsy as the range of investigations which may be performed with these specimens is limited.

**Fresh muscle specimens will only be accepted in Neuropathology between 9.00am up to 4:00pm, Monday to Friday (excluding public holidays).**

**ANY SPECIMEN ARRIVING OUTSIDE THESE HOURS WILL NOT BE PROCESSED APPROPRIATELY**

Specimens must be placed in a dry, clean universal container. No saline, gauze or formalin should be in the container. The muscle should be dropped into the container and the lid screwed on. The specimen should be transported immediately to Neuropathology.

**If there is to be a delay of any longer than 20 minutes it is advisable that the universal container (not the muscle directly) should be transported on ice (NOT DRY ICE). If**

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transported in this manner, the specimen container should be well insulated to prevent direct contact with the ice and potential damage to the muscle biopsy.

All containers should be clearly labelled with patient name, date of birth, CHI number, ward number and consultant. Universal containers must be placed in a specimen bag accompanied by a request card and [muscle biopsy request form](#). This form also contains detailed handling instructions and our full delivery address.

**High-risk cases must carry appropriate hazard labels.**

**Accompanying Information**

A muscle biopsy request form and the completed request form must carry the consultant's name, ward number, patient name, CHI number, address with post-code, date of birth, date of operation, relevant concise clinical data and the nature of the laboratory request. [Muscle Biopsy request forms](#) are linked here and are also available from the Pathology Lab. Tel. 0141 354 9530 (89530)

**Point of delivery**

Contact Neuropathology on 0141 354 9530 (89530) or page 7627 who will advise on delivery of specimen.

Neuropathology, Pathology Department  
Level 3, Laboratories & Facilities Management Building  
Queen Elizabeth University Hospital  
Glasgow  
G51 4TF  
Contact: 0141 354 9530 (89530)

Further details for the submission of muscle biopsies can be found on the [muscle biopsy request form](#) which can be accessed via the departmental intranet site

**Nerve Biopsy****COVID-19**

Fresh nerve biopsy samples are being routinely processed for analysis within the department. However, if the patient is known to be COVID Positive, please can this be indicated clearly on the form so the laboratory will be able to take the appropriate precaution when processing these samples.

**Prior notification**

Elective cases that require a frozen section should be booked with the lab with as much notice as possible. Any nerves for neuropathology which do not require a frozen section should be sent in formalin.

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**Nerve biopsies which require frozen section must be booked in advance (more than 24 hours) by calling 0141 354 9530 (89530) or through page 17627 or the appropriate consultant. The cases can be booked by contacting the neuropathology secretaries via 0141 354 9486 (89486) or through page 17627 or the appropriate consultant.**

**If there is danger of infection, these cases must be discussed with medical staff before biopsy.**

**Nerve Biopsy for Frozen Section**

A service to receive unfixed nerve specimens can be offered until 4.00pm, Monday – Friday (excluding public holidays). Specimens must be placed in a dry, clean universal container. No saline, gauze or formalin should be in the container. (The nerve should be dropped into the container and the lid screwed on). The specimen should be transported immediately to neuropathology.

**Please contact Neuropathology 0141 354 9530 (89530) to alert the team that a fresh specimen is on its way so that they can prepare for its arrival**

**High-risk cases must carry appropriate hazard labels.**

Universal containers must be placed in a specimen bag accompanied by a request form.

All containers should be clearly labelled with patient name, date of birth, CHI number, ward number and consultant. Universal containers must be placed in a specimen bag accompanied by a request card.

**Accompanying Information**

Completed request forms must carry the consultant's name, ward number, patient name, CHI number, address with post-code, date of birth, date of operation, relevant concise clinical data and the nature of the laboratory request.

**Point of delivery**

**NB. The specimen must be handed to a member of Laboratory staff on delivery.**

Please contact Neuropathology on 0141 354 9530 (89530)

Neuropathology, Pathology Department  
Level 3, Laboratories & Facilities Management Building  
Queen Elizabeth University Hospital  
Glasgow  
G51 4TF  
Contact: 0141 354 9530 (89530)



**NHS GG&C Pathology Department User Manual****Andrology**

All semen analyses within Greater Glasgow and Clyde NHS are carried out by the Andrology Laboratory within the Pathology Department of the Queen Elizabeth University Hospital. The laboratory is UKAS accredited to perform the following analyses:

- **Sub Fertility Analysis (WHO laboratory manual for the examination and processing of human semen 6<sup>th</sup> edition)**
  - Includes; pH, volume, 4 category motilities, concentration per ml, total concentration per ejaculate and morphology.
  - Teratozoospermia Index is available upon request.
- **Reversal of Vasectomy**
  - Analysed as **Sub Fertility**
- **Antegrade Ejaculation** (spinal injuries)
  - Analysed as **Sub Fertility**
- **Post Vasectomy**
  - Includes; sperm if present (motile or non-motile) and approximate sperm concentration per ml
- **Retrograde Ejaculation**
  - Includes; sperm if present (motile or non-motile)

To ensure samples received are optimal for analysis and the laboratory is provided with all relevant clinical details the following **Laboratory Minimum Acceptance Criteria** must be met or we will not be able to analyse the sample provided.

**All specimens must be received by appointment only. We advise that specimens are kept at body temperature during transport to the laboratory.**

**Specimen Requirements**

- Specimen must be a full ejaculate, received within 40 minutes of production for sub fertility analysis or within 2 hours of production for post vasectomy analysis.
- Samples must be a complete ejaculate.
- Samples should be collected after a minimum of 2 days and a maximum of 7 days of ejaculatory abstinence.

**Specimen Container Requirements**

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- In-date laboratory toxicity tested 60ml specimen container labelled with patients' surname, forename, CHI number and/or Date of Birth.

### Request Form Requirements

- Patients surname and forename, CHI number and/or Date of Birth, Patients address, Requesting clinician details including destination for report.

### Patient Preparation

#### Specimen Kits

Each patient must be issued with a specimen kit comprising of the following;

- In-date laboratory toxicity tested specimen container (60mls) \*
- Request form [\[PATH-AND-LF-027\]](#)
- Directions to the Queen Elizabeth University Hospital GC0145
- How the NHS handles your data 2018 leaflet L00089
- Either a sub fertility leaflet PATH-AND-LI-001 or post vasectomy leaflet [\[PATH-AND-LI-002\]](#)

To obtain a supply of these kits please contact the laboratory on 0141 354 9488 from 9:00am – 5:00pm, Monday – Friday (excluding public holidays).

\* For Retrograde analysis – the lab will supply a different container please contact the lab to discuss this.

#### Booking an Appointment

**All samples for semen analysis must be submitted by appointment only.**

Appointments can be booked by either the requesting clinician/GP or directly by the patient themselves when they have been issued a specimen kit by their referring clinician/GP.

They are booked by telephoning the Pathology Department Office on 0141 354 9487, option 1 “Andrology Appointments”. This booking in service is available between 9:00am – 12:00pm and 1:00pm - 4:00pm Monday to Friday (excluding public holidays).

### Interpreter Services

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Please ensure to advise the staff when booking an appointment of any interpreter needs. The laboratory can use a telephone interpreter service for a large range of languages. British sign language interpreters are also available but must be booked in advance. We can also provide translations of the patient information leaflet when required.

### WHO laboratory manual for the examination and processing of human semen (6<sup>th</sup> edition) 2021 lower reference values.

The lower 5<sup>th</sup> percentile (with 95% confidence interval) of semen parameters from men in couples starting a pregnancy within one year of unprotected sexual intercourse leading to a natural conception.

Parameter	Lower Reference Value (5 <sup>th</sup> Centile)	95% Confidence Intervals
Volume (ml)	1.4	1.3 – 1.5
Sperm concentration (10 <sup>6</sup> per ml)	16	15 - 18
Total sperm number (10 <sup>6</sup> per ejaculate)	39	35 - 40
Total Motility (RP + NP %)	42 (within 1 hour of production)	40 – 43
Progressive Motility (PR %)	30 (within 1 hour of production)	29 - 31
Morphology (% normal forms)	4	3.9 – 4.0

PR = rapid progressive + slow progressive, NP = non progressive

### Teratozoospermia Index (TZI)

The TZI is one of the indices of multiple sperm defects (number of abnormalities per sperm). This is useful in understanding if there are issues regarding spermatogenesis (sperm production) and can be correlated to fertilisation rates. We do not routinely report the TZI. If this is required, please ensure you request this on the referral form or call the laboratory within 7 days of reporting. The categories of TZI are given below, although it is best to understand that the higher the number (maximum of 4) the higher the number of abnormalities per sperm.

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TZI Number	Category
≤1.6	Normal
1.61 – 1.80	Borderline
>1.8	Pathological

*Human Reproduction, Vol.26, No.12 pp. 3207–3212, C.L.R. Barratt, Bjorn Dahl, R. Menkveld and D. Mortimer 2011 ESHRE Special Interest Group for Andrology Basic semen analysis course: a continued focus on Accuracy, Quality, Efficiency and Clinical relevance*

For further information, please contact the Cytology Specialty Manager, [Gillian Collins](#).

## Cervical Cytology/HPV Screening

The specimen should be taken as described in the handbook for [Healthcare Professionals Taking Cervical Screening Tests](#) supplied to smear takers by NSD. Other boards should follow their normal smear taking protocol. The collected specimen should then be rinsed out into a **Hologic™ Thin Prep Pap Test (LBC) specimen vial**.

Please ensure the vial is within the date specified. **If it is out of date then it must NOT be used.**

Requests for cervical smears should be generated electronically at the smear taker location using the Scottish Cervical Call and Recall computer system (SCCRS). If your patient is awaiting IVF please note this in the Clinical Comments box and the sample will be prioritized. The vial should be appropriately labelled using the bar coded SCCRS label and sent to the laboratory.

Each LBC sample should be placed in a clear polythene bag and sent to the laboratory in the appropriate White Cervical Cytology Samples Only (LBC) bag (GGC) and accompanied with a [Specimen Dispatch Note](#) (GGC).

Sample takers from other health boards should use their respective collection bags and tracker sheets as appropriate. Samples are then transferred on to the local 'hub' for forwarding to the lab in GGC using the provided DX courier and collection/delivery bags.

In exceptional circumstances cervical smear samples can be sent to the laboratory accompanied by a paper request form. Smear takers who send paper requests with the sample to the laboratory must use the official SCCRS Cervical Cytopathology Request Form, which can be downloaded from the NHS Scotland website:

[stccrformRev-2.pdf \(scot.nhs.uk\)](#)

Smear takers must give a reason as to why a paper request was sent, such as SCCRS not working at smear taker location

## Contacts

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The Cervical Cytology Department aims to provide the best possible diagnostic service. Should you have a general/technical enquiry or comments about any aspect of the service please contact:

[Gillian Collins](#): 0141 354 (8)9501

Laboratory: 0141 354 (8)9524

For more information on the national screening programme please visit:

<https://www.nss.nhs.scot/specialist-healthcare/screening-programmes/cervical-screening/>

## Diagnostic Cytology

### General Info

The Diagnostic Cytology Laboratory is part of the pathology department:

#### Address:

Cytology Laboratory,  
The Laboratory Medicine Building, Level 3,  
Queen Elizabeth University Hospital  
1345 Govan Road,  
Glasgow  
G51 4TF.

The working hours for the Diagnostic Cytology Laboratory are:

Monday - Friday	09:00am-5:00pm
Saturday	8:00am-12:00pm

Specimens should be sent to the laboratory as soon as possible.

If a specimen is taken out of hours, the specimen should be placed in a fridge overnight and sent to cytology **immediately the next morning**.

### Specimen Repertoire

Specimen types routinely processed by the Diagnostic Cytology Laboratory include:

**Serous Fluids Cytology:** Ascitic fluid, pericardial fluid, peritoneal washings and pleural fluid.

**Respiratory Cytology:** Bronchial aspirates, bronchial lavages, bronchial brushings and sputa.

**Brushings Specimens:** Pancreatic biliary, ureteric and common bile duct.

**Fine Needle Aspiration (FNA) Cytology:** Superficial FNA's taken from thyroid, breast, lymph node, supraclavicular and submandibular. Endoscopic FNA's including TBNAs

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(Transbronchial needle aspirations) from lymph nodes or masses, FNA from pancreas, stomach or oesophagus and fine needle biopsy (FNB) from pancreas/nodes.

**Cerebrospinal Fluid (CSF):** CSF and other neuropathology fluids are processed by cytology and reported by the Neuropathology Consultants.

**Synovial Fluids (NB: This test is not UKAS accredited):** Synovial fluids are examined for the presence of monosodium urate and calcium pyrophosphate crystals in cytology. Synovial fluids are also examined for microscopic assessment if septic arthritis, inflammation or infection is queried. **Any Synovial fluid specimens where septic arthritis is suspected MUST have a separate additional specimen and request form sent to Microbiology.** Bursa fluid and ganglion fluid may be examined for the presence of crystals and microscopic cell evaluation.

**Other Fluids:** Cyst Fluids (e.g. ovarian cyst, parotid and Thyroid)

**Urine:** Urine, ureteric washings and renal pelvic washings. **Cytology CAN test for the presence of casts in urine.**

### Specimen Transport

Certain specimens for Diagnostic Cytology can be transported by the previously listed [normal specimen transport methods](#) as well as the internal pneumatic tube system.

Specimens from the Queen Elizabeth University Hospital may be sent via the internal pneumatic tube system. **ONLY the following specimens may be sent via the internal pneumatic tube system:** Fluids, FNAs which are fluids (NOT slides), respiratory specimens and CSFs. **Please do not send specimens with a danger of infection via the pneumatic tube system.** Please ensure all specimens are sent in **leak-proof** containers (white lidded, screw top universal tubes are ideal).

The Diagnostic Cytology laboratory should be contacted on 89569 before a specimen is sent through the pneumatic tube system. **The pneumatic tube extension for cytology is 1616**

### Laboratory Acceptance Criteria

The Diagnostic Cytology laboratory follows the same specimen [acceptance criteria](#) as the pathology department.

### Specimens that are Mislabeled/Erroneous/Have Insufficient Information

In the event that a specimen received in diagnostic cytology where the specimen and /or the request form has been mislabelled or erroneous, the team leader or appropriate biomedical scientist will make every attempt to contact the sender and clarify what has happened.

This may be by email or by telephoning the clinician given on the request form.

If the event that there is insufficient information to contact the source regarding a specimen e.g. specimen sent with no request form. The specimen will be kept for 1 week, in the hope that the laboratory will be contacted. If no contact has been made at the end of this period, the specimen will be discarded.

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A cytology trakcare request form should be sent for cytology tests NOT a histopathology trakcare request form. The cytology department does issue reports via trakcare.

### Danger of Infection (D.O.I) Specimens

Specimens taken specifically for the diagnosis of infectious diseases should NOT be sent to Cytology, but instead be sent directly to microbiology/virology as appropriate.

Specimens which are highly suspicious of, or from known Group 3 infectious diseases **MUST be labelled as D.O.I**

**Examples of Group 3 infectious diseases include:** Coronavirus (COVID-19), Human Immunodeficiency Virus (HIV), Hepatitis C&D, Mycobacterium tuberculosis, and Creutzfeldt Jakob Disease (CJD)

**CSF Cytology – Specimens which are highly suspicious of CJD or known CJD should be labelled as D.O.I. A specimen should be sent directly to the Edinburgh CJD unit if there is a clinical suspicion of CJD.**

**Group 4 Infectious Diseases: Should NOT be sent to Cytology for processing.** E.g. Viral haemorrhagic fever.

### Sending a D.O.I Specimen to Cytology

**Specimens which pose a risk from infectious diseases MUST:**

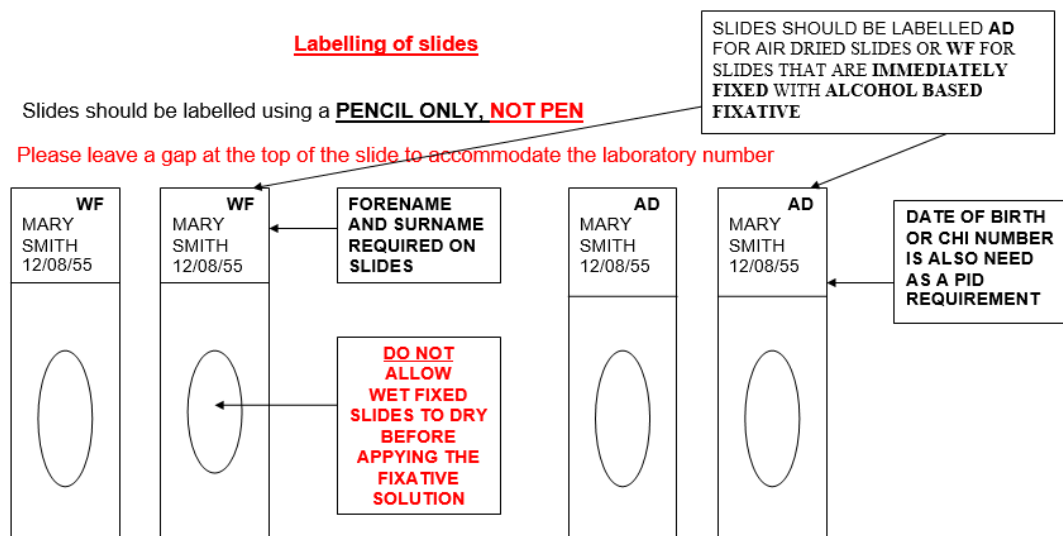
- Be placed in a D.O.I specimen bag (ONLY send D.O.I specimens in these bags)
- Have a D.O.I label on the Specimen Container
- Indicate there is a Danger of Infection by ticking the box on the request form
- Describe the nature of the risk (known or highly suspicious of) on the request form

### Urgent Specimens

Urgent specimens **MUST** be clearly labelled as urgent on the specimen request form.

The request form must also have the contact information of the clinician who requires the urgent result e.g. telephone number or page of the clinician. If a specimen is required urgently for a Multi-disciplinary Meetings (MDT), please put this on the specimen request form and the date of the MDT.

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Fine Needle Aspirate Labelling Guide For Cytology Users

**Before packaging the slides and washings for sending to the Laboratory, please ensure the following:**

- o Slides are labelled with patients Forename, Surname and Date of Birth
- o Slides that have been covered in Cytological Fixative are labelled WF
- o Slides left to dry that have not had fixative sprayed on them are labelled AD
- o WF and AD slides are placed in SEPARATE slide mailers but sent in the same specimen bag, with needle washings
- o Washings **MUST** be labelled with patients Forename, Surname and Date of Birth
- o N.B Needle washings- Rinse out needle with saline and send in a clean universal container. If additional studies such as immunocytochemistry or molecular studies are required, eg for suspected metastatic tumour, an additional pass submitted in the same container as the needle wash is advised and please note this on the request form.

[FNA Labelling Guide for Cytology Users](#)

## Electron Microscopy Service

The EM service is a highly specialised sub-division of Pathology and provides a diagnostic ultrastructural pathology service for both adult and paediatric cases including a regional and supra-regional service for renal, muscle, nerve and a paediatric ciliary dyskinesia service.

Within the EM unit the main function is to undertake specialist specimen processing and analysis using a transmission electron microscope (TEM) to evaluate diagnostically significant pathological changes observed in disease tissue at the ultrastructural level, the most significant of which are digitally captured to provide interpretative reports for the consultant pathologists as an aid to effective diagnosis and treatment.

### Location

The Electron Microscopy (EM) service is situated on the second floor (L2/B 086-090) of the Laboratory Medicine and Facilities Management Building located at the Queen Elizabeth University Hospital.

### Laboratory Hours

9:00am – 5:00pm Monday – Friday (excluding public holidays). There is no out of hours service.

### Specimen Requirements



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Specimens for EM analysis should ideally be no larger than 1-2mm<sup>3</sup> and placed into a vial of fresh 2% Glutaraldehyde fixative as soon as possible after specimen retrieval apart from blood/fluid specimens which must be discussed with EM unit directly.

Freshly prepared glutaraldehyde has a seven day shelf life and must be stored between 4-8°C prior to use. This fixative is available with advanced notice from the Electron Microscopy Unit, Pathology Department, Level 2, Facilities Management and Laboratory Medicine Building, Queen Elizabeth University Hospital, 1345 Govan Road, Glasgow, G51 4TF (0141 3549422).

Each specimen must be accompanied by a [request form with the minimum of 3 matching patient identifiers](#).

Due to the small size of the specimen container there is limited space for patient's details but at least the patients CHI and first and surname must be provided on the specimen container.

Requests for urgent results should be clearly marked on the request form and contact telephone or bleep numbers provided. The consultant pathologist should be notified first by telephone, if an urgent result is required.

### Transport/Handling

Specimens should be sent for EM analysis in the same manner as routine [histopathology specimens](#).

If specimens are sent through the post they must comply with post office regulations. EM sampling from a histological wax block must be accompanied by a representative light microscopy slide.

All unused Glutaraldehyde should be returned to the EM unit for disposal.

### Specialist Advice

Further advice, if urgent can be sought from the Speciality Manager [Jennifer Sweeney](#) (0141 354 9420) or the relevant pathologist. For non-urgent enquiries please contact the EM laboratory on 0141 3549422 or email: [ggc.em.histology@nhs.scot](mailto:ggc.em.histology@nhs.scot) Please contact the department before sending an unexpected/unusual sample.

### Results

EM Analysis should normally be available within 5-12 days once the sample has been received by the department for processing. This may change due to service provision. If appropriate any samples marked as urgent will have an accelerated turnaround.

Sample results are affected by a number of factors including delay in fixation, use of inappropriate fixative/old fixative and incorrect sample size (1-2mm<sup>3</sup> is recommended; if a sample is too big this can cause sub-optimal fixation, if too small will not give a good representation of morphology).


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Appendix (GG&C Pathology Specimen Request Form)

Diagnostics Directorate  
Pathology Request Form

**For laboratory use only**

TM	CLR	PTS	LAB NUMBER



Requested by: (PRINT and Include Forename)	CHI Number (essential):	Date of Birth (essential):	Sex:
Consultant / GP: (PRINT and Include Forename)	Surname (essential):	Forename (essential):	
Contact Number or Page Number:	Address:		
Hospital / Site / GP (essential):	Postcode:		
Ward / Dept (essential):	Date Report Required:	<i>Use pre-printed label if available</i>	
Destination for Report (if different from above):	Previous Pathology Reports:	C.T. Lab Use Only	
Investigation Required:	Histopathology <input type="checkbox"/>	Cytopathology <input type="checkbox"/>	
FROZEN SECTION REQUIRED: YES <input type="checkbox"/> Contact: 0141 354 9513/4. Direct: 89513/4			
<b>ALL INTRA-OPERATIVE SPECIMENS MUST BE PRE-ARRANGED BY PHONE</b>			
Specimen Collection Date:	Specimen Collection Time:		
Nature of Specimen / Site:			
Clinical Details / Provisional Diagnosis:			
Risk of Infection: No <input type="checkbox"/> Yes <input type="checkbox"/> Specify:			
<b>Laboratory use only</b>			
Date and Time Received: <input style="width: 150px;" type="text"/> / <input style="width: 50px;" type="text"/> / <input style="width: 50px;" type="text"/> : <input style="width: 50px;" type="text"/>			

NHS GG&C Pathology Department, QEUG Campus, Glasgow G51 4TF Tel: 0141 354 9487

