

Manchester University NHS Foundation Trust

Laboratory Medicine

Department: Cellular Pathology/ Cytology

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Manchester University
NHS Foundation Trust

Directorate of Laboratory Medicine

Manchester Cytology Centre
Synovial Fluid Analysis Service

User Manual

2019/2020

Controlled Document

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1. About us

The Synovial fluid cytology service of Manchester University NHS Foundation Trust (MFT) is located at the Manchester Cytology Centre, 1st floor of Clinical Sciences building 2. It is the largest unit of its kind in the country providing cervical screening using the SurePath Liquid Based Cytology System and a wide variety of non-gynaecological cytology services.

The osteoarticular pathology service by [synovial fluid](#) analysis began in April 2011. Synovial fluid analysis is of greatest value in distinguishing inflammatory from non-inflammatory arthropathies and in defining specific disorders within these two groups. It is also important in the diagnosis of early inflammatory disease where it might be possible on the basis of cytology to identify a specific arthropathy before the clinical syndrome develops. In these cases accurate early diagnosis often allows the institution of specific therapy before irreversible joint damage has occurred. Finally, it permits the very rapid diagnosis of joint disease, particularly in disorders such as septic arthritis, where the prognosis is inversely related to delay in diagnosis.

The department has ISO 15189:2012 accreditation, and is an approved IBMS training centre. We are closely associated with the North of England Pathology and Screening Education Centre (NEPSEC) and provide training to medics and scientific staff. We are fully committed to maintaining this accreditation by an established quality management system and standards determined by the Royal College of Pathologists together with scheduled clinical and quality audits and national guidelines.

Reports generated by the Department of Cellular Pathology are, in the main, qualitative rather than quantitative'. Uncertainty of Measurement is considered and controlled throughout the sample pathway by employment of a robust quality management system and continued accreditation to national standards'. Where direct clinical impact measurements are made, assessments of uncertainty of measurement are made and are available on request.

The laboratory adheres to Manchester University Foundation Trust's policies on data protection and disclosure. In addition the Trust also produces a patient information leaflet entitled "Your Information".

1.1 Opening hours

The department is open from 08:00hrs – 17:00 hrs, Monday to Friday (except bank holidays)
Synovial fluid samples should be received in the department by 16:00 hrs.

2. Find or contact us at MFT

The Manchester Cytology Centre is located on the first floor of Clinical Sciences Building 2.
All visitors must access the department via the reception area of Clinical Sciences Building 1.

Please also contact us if you have any complaints or service improvement suggestions.

If you wish to make a formal or informal complaint please contact the Patient Advice and Liaison Service (PALS) at www.mft.nhs.uk

Many verbal complaints will be easily and quickly resolved by the clinical lead, laboratory Manager or a cyto/histopathologist and will be recorded by the department.

It is the discretion of the Laboratory Manager to forward any complaints onto the Directorate of Laboratory Medicine team for recording if appropriate.

Address:

**Manchester Cytology Centre
1st Floor Clinical Science Building 2
Manchester Royal Infirmary
Oxford Road
Manchester
M13 9WL**

Email:

cyto.pathology@mft.nhs.uk

Telephone Enquiries

| | Telephone | Fax |
|--|-------------------------|---------------|
| General | 0161 276 5116/8817 | 0161 276 5113 |
| Synovial fluid cytology results | 0161 276 5115/5116/6727 | |
| Advice on Synovial fluid sample collection. Comments, complaints or suggestions. | 0161 276 5103/5118 | |
| Urgent sample requests | 0161 276 5103/5118 | |
| Request sample containers or forms | 0161 276 8817 | |

2.1 Key Contacts at MFT

| Name | Position | Telephone | E-mail |
|-------------------------|--|---------------|--|
| Dr Mohsin Mazhari | Head of Synovial fluid analysis service | 0161 276 6444 | mohsin.mazhari@mft.nhs.uk |
| Dr Miles Holbrook | Consultant Cytopathologist | 0161 276 6475 | miles.holbrook@mft.nhs.uk |
| Paul Hermansen | Consultant Biomedical Scientist | 0161 276 5103 | paul.hermansen@mft.nhs.uk |
| Peter Heptinstall | Consultant Biomedical Scientist | 0161 276 5118 | peter.heptinstall@mft.nhs.uk |
| Stephen Burrows | Consultant Biomedical Scientist | 0161 701 0228 | stephen.burrows@mft.nhs.uk |
| Sarah Ferris | Biomedical Scientist Team leader | 0161 276 5115 | sarah.ferris@mft.nhs.uk |
| Bernadette Carden-Flynn | Office Manager | 0161 276 5115 | bernadette.carden-flynn@mft.nhs.uk |
| Helen Wilson | Medical Secretary | 0161 276 6727 | helen.wilson@mft.nhs.uk |
| Jennifer Bradburn | Medical and training school secretary | 0161 276 8804 | jennifer.bradburn@mft.nhs.uk |
| Rosebina Zafar | Non-Gynae Cytology Lead Biomedical Scientist | 0161 276 5110 | rosebina.zafar@mft.nhs.uk |
| Sally Wood | Cellular Pathology Manager | 0161 276 6138 | sally.wood@mft.nhs.uk |

3.0 Specimen acceptance policy

Each specimen must be accompanied by a completed and matching sample request form. Please ensure all fields of the request form are complete. See page 10 for instructions on completing the synovial fluid cytology request form. A blank copy of same is available for download on page 11. Alternatively we can supply forms on request.

All specimen containers must be clearly labelled with:

1. Patient's full name
2. Date of Birth
3. NHS &/or Hospital number
4. Aspiration site

Please note samples received into this department will only be used for cytology. If additional tests are requested to be done by other departments, each department must be sent a separate sample. Guidance can be obtained via the DLM sample acceptance policy <http://labmed.staffnet.xcmmc.nhs.uk/>.

4.0 Package and transport of samples

Samples taken at central site must be sent with the porter and not via the pneumatic tube.

Synovial fluid samples requiring transport on the public road must be packaged and transported in compliance with “The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (ADR Regulations) 2011”. Specimens must be packaged according to P650 instructions with a UN3373 diamond point label - Biological Substance, Category B.

Please note instructions P650 requires three layers of packaging:

- Primary container (e.g. universal tube, vial)
- Secondary container (e.g. specimen bag)
- Outer packaging (e.g. rigid transport box).

The primary sample must be individually bagged in a secondary bag and sealed. If the sample is liquid, enough absorbent material must be added to the secondary bag to absorb a potential spillage of the sample. The request form must be placed in the specimen bag's separate pouch.

Specimens must then be placed in a rigid box and closed. The box must comply with Transport Regulations. The outside must be clearly labelled Biological Substance Category B, with a UN3373 diamond label. The laboratory address should be clearly written.

If a sample is sent by post, please note that Royal Mail will only carry UN3373 Diagnostic Specimens if they are packed following Packaging Instruction P650 and:

- Are sent by first class post or Special Delivery and to inland addresses only
- The packet is marked with the sender's name, telephone number and address.

Specimens must be delivered to the laboratory within 24 hours. If there is unavoidable delay in sending the specimen, please keep it refrigerated at 4°C

If possible send specimens on the first 4 working days of the week as the laboratory is not open at weekends.

If sepsis is suspected and the laboratory receives a telephone call in advance then an urgent specimen will be processed if it arrives before 16:00hrs. Other urgent samples must arrive before 13:30hrs to be processed on the same day.

5.0 Turn around Time

The Synovial fluid cytology service is mandated by the guidelines of the Royal College of Pathologists (RCPath) on turn around times (TAT), that is, 80% of cases to be reported within seven calendar days and 90% of all cases to be reported within ten calendar days www.rcpath.org . TAT relates to the final local report and the department is required to publish monthly audit reports. This information is available on request.

However, sometimes a sample may be deemed urgent by the requesting clinician in these instances;

- Urgent specimens will be processed on the same day if received by **13:30 hrs**. Please provide a contact number or bleep and name.
- **Urgent specimens received by 16:00 hrs will be processed the same day if the clinician telephones the laboratory beforehand.**
- We will aim to give a same day report, this may only be a provisional report pending further ancillary tests.
- **It is recommended that the requesting clinician discuss such specimens with the cytopathologist between 08:00 and 16:00 hrs on 0161 276 5115/5116. in all cases, the clinician should telephone the laboratory in advance and provide a contact name and phone or bleep number.**

Routine specimens will be processed on the same day provided that the sample is received by **11:00 hrs**. This may vary depending on clinical information or if ancillary tests are required e.g special stains.

- Synovial fluid cytology reports are printed and sent out daily, addressed to the consultant or GP who requested the test.
- Reports of any Sepsis are telephoned.
- To discuss the cytology report with the Consultant Cytopathologist, contact the department between 08:00 hrs and 17:00 hrs on 0161 276 5115/5116

6.0 Current practice

We provide a comprehensive Synovial fluid analysis through which inflammatory arthropathies can be distinguished from non inflammatory arthropathies and in defining specific disorders within these two groups.

Synovial fluid analysis is also important in the diagnosis of early inflammatory disease where it might be possible to identify a specific arthropathy before the clinical syndrome develops.

Finally, it permits the very rapid diagnosis of joint disease, particularly in disorders such as septic arthritis.

Synovial fluid analysis consists of the following :

- White blood cell count
- Presence of Rhagocytes
- Crystal identification
- Particle identification
- Differential white blood cell count
- Gram staining for the presence of Gram +ve/-ve bacteria.

6.1 Limitations

At least 300µl of sample is required for full analysis. Volumes less than this will have limited analysis.

It is important to send the samples to the department as soon as possible, samples over 2 days old start to degenerate making analysis difficult and increasing the likelihood of an inadequate report being issued.

7.0 Synovial Fluid sample collection

Please see specimen acceptance policy on page 6

Paediatric Lithium Heparin bottle and Synovial request forms are provided by the laboratory for sample collection upon request. **Please contact us on telephone numbers 0161 276 5115/5116/6727 for Lithium Heparin bottles and/or request forms.**

For full analysis, at least 300 µl of Synovial fluid is required

Step 1: Once the identity of the patient has been confirmed, collect sample from site and expel into a Paediatric Lithium Heparin bottle.



Step 2: Mix thoroughly by gentle inversions

Step 3: Label container according to specimen acceptance policy (page 6) and dispose of materials used in collection according to your local policy



If sample is required for tests using other departments such as microbiology, extra samples need to be collected in the appropriate containers as the cytology sample will not be split.

8.0 Completion of the Synovial fluid cytology request

To prevent delay to processing/issuing of reports, please ensure all fields of the form are filled in.

CYT FORM 096 Version 006, Date of issue: 10.10.2017 Free to Print

Synovial Fluid Cytology Request Form- Manchester Cytology Centre

PLEASE INFORM THE LAB OF SPECIMENS REQUIRING URGENT REPORTS.
 Samples must be sent in provided Paediatric Lithium Heparin bottles on the same day aspirated.

Name and address of sending Hospital/GP:

Consultant to whom the report is to be sent (please print):
 Consultant's department where report is to be sent:
 Bleep/contact/fax number (for requesting consultant):

PATIENT'S DETAILS: (AFFIX STICKER HERE)

Site of specimen
 Side of body Left/Right

Date taken
 Time taken

SPECIMEN DETAILS:

SPECIMEN TYPE – PLEASE TICK

| | |
|--------------------------|---|
| <input type="checkbox"/> | SYNOVIAL FLUID – NATIVE JOINT |
| <input type="checkbox"/> | SYNOVIAL FLUID – PROSTHETIC JOINT (specify type if known) |
| <input type="checkbox"/> | BURSAL FLUID |
| <input type="checkbox"/> | SUSPECTED CRYSTAL DEPOSIT |
| <input type="checkbox"/> | SUSPECTED HYDROXYAPATITE NODULE |

PLEASE NOTE
 Specimen types other than those listed above should normally be sent to your hospital's cytology or histology department using their request form. If in doubt please contact our department during working hours on the number below.

Same day processing will be done for the following:
 1. Routine specimens if received by 11:00 Hrs
 2. Urgent specimens if received before 13:30 Hrs
 3. Urgent specimens received by 16:00 Hrs provided the clinician has informed the department by telephone in advance.
 Note: The laboratory is closed at weekends and bank holidays and does not operate an out of hours service

Specimens must be sent to:
 Manchester Cytology Centre
 Clinical Sciences Building 2
 Manchester Royal Infirmary
 Oxford Road
 Manchester. M13 9WL
 Tel: 0161 276 5116/6727 or 65103 for clinical queries
 Fax: 0161 276 5113

CLINICAL INFORMATION

Clinical History

High Risk Yes No

Aspirating Clinician (PLEASE PRINT) Contact no./bleep.....
 Signature.....

N.B. Incomplete forms will result in reporting delay

Visit us via www.mft.nhs.uk

Supply the name and address of your hospital/surgery

Indicate the specimen type. If the sample is from a prosthetic joint specify the type

Insert the name of the consultant who requested the sample and the department the report is to be sent to

Indicate the site of the specimen and the side of the body

Insert bleep/phone/fax number here for the requesting consultant

Insert the patients details here ensuring that these match the details given on the specimen tube. Label specimen with patient name, DOB, NHS number and site of aspiration

Indicate the date and time the aspirate was taken

Insert appropriate clinical history here
 Indicate if high risk

To be filled in by the aspirating clinician ensuring contact number/bleep is given

8.1 Download a Synovial fluid cytology request form

CYT FORM 096 Version 006, Date of issue: 10.10.2017

Free to Print

Synovial Fluid Cytology Request Form- Manchester Cytology Centre

PLEASE INFORM THE LAB OF SPECIMENS REQUIRING URGENT REPORTS.
 Samples must be sent in provided Paediatric Lithium Heparin bottles on the same day aspirated.

| | | | |
|--|------------|--|--|
| Name and address of sending Hospital/GP: | | | |
| Consultant to whom the report is to be sent (please print): | | SPECIMEN DETAILS: | |
| Consultant's department where report is to be sent: | | SPECIMEN TYPE – PLEASE TICK | |
| | | <input type="checkbox"/> SYNOVIAL FLUID – NATIVE JOINT | |
| | | <input type="checkbox"/> SYNOVIAL FLUID – PROSTHETIC JOINT (specify type if known) | |
| Bleep/contact/fax number (for requesting consultant): | | <input type="checkbox"/> BURSAL FLUID | |
| | | <input type="checkbox"/> SUSPECTED CRYSTAL DEPOSIT | |
| PATIENT'S DETAILS: (AFFIX STICKER HERE) | | <input type="checkbox"/> SUSPECTED HYDROXYAPATITE NODULE | |
| | | | |
| Surname | | Site of specimen | |
| Forename | | Side of body Left/Right | |
| Address | | Date taken | |
| | | Time taken | |
| Sex | DOB | Private /NHS | <p>PLEASE NOTE Specimen types other than those listed above should normally be sent to your hospital's cytology or histology department using their request form. If in doubt please contact our department during working hours on the number below.</p> <p><u>Same day processing will be done for the following:</u> 1. Routine specimens if received by 11: 00 Hrs 2. Urgent specimens if received before 13:30 Hrs 3. Urgent specimens received by 16:00 Hrs <u>provided the clinician has informed the department by telephone in advance.</u> Note: The laboratory is closed at weekends and bank holidays and does not operate an out of hours service</p> <p>Specimens must be sent to: Manchester Cytology Centre Clinical Sciences Building 2 Manchester Royal Infirmary Oxford Road Manchester. M13 9WL Tel: 0161 276 5116/6727 or 65103 for clinical queries Fax: 0161 276 5113</p> |
| Hospital/NHS number | | | |
| CLINICAL INFORMATION | | | |
| Clinical History | | | |
| | | | |
| | | | |
| | | | |
| High Risk | | Yes <input type="checkbox"/> No <input type="checkbox"/> | |
| Aspirating Clinician (PLEASE PRINT) | | Contact no./bleep | |
| Signature | | | |

N.B. Incomplete forms will result in reporting delay

Visit us via www.mft.nhs.uk