



ISSUES IN CLINICAL MICROBIOLOGY LABORATORY

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Contents

- clinical pathology handbook
 - how to assess
 - request
 - specimen collection & transport
 - Receipt of specimen
 - Reporting of results
 - Service after office hours/public holiday
 - TAT

- Common mistake/pre analytical issues

How to access ?

- Internet connection
- google – pathologyuitm.weebly → pathologyUITM
- <https://pathologyuitm.weebly.com>

Contacts

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Sg. Buloh, Selangor,
MALAYSIA

Central Specimen Reception (CSR)
03-61265000 ext. 5215

Anatomic Pathology
03-61265000 ext. 5053 / 5244

**Chemical Pathology/Haematology &
Blood Bank**
03-61265000 ext. 5215 / 5209

UITM Medical Centre Selayang
03-61264813

Downloads



HANDBOOK
CLINICAL LABORATORY HANDBOOK
1st Edition 2019

GUIDELINES
GUIDELINES FOR THROMBOPHILIA TESTING
GUIDELINES FOR THALASSAEMIA TESTING –
DNA ANALYSIS (2015)

REPORT
CHEMICAL PATHOLOGY SPECIMEN REJECTION
JAN_JUNE 2018

**CUSTOMER EDUCATION SERIES
HANDOUTS**
CES 2018
CES 2017

FORMS
COMPLAINT FORM
CUSTOMER SATISFACTION SURVEY
FORM
RRF Research Request Form P&M July
2018
Borang Pembayaran Perkhidmatan
Makmal BPPM
THALASSAEMIA DNA ANALYSIS
FORM (WITH MALAY LANGUAGE
CONSENT FORM)
THALASSAEMIA DNA ANALYSIS
FORM (WITH ENGLISH LANGUAGE
CONSENT FORM)

LIST OF IN-HOUSE & OUTSOURCE TESTS IN MEDICAL MICROBIOLOGY & PARASITOLOGY

BACTERIOLOGY AND SEROLOGY						
NO.	TEST	SPECIMEN TYPE	VOLUME REQUIRED	SPECIMEN CONTAINER	INSTRUCTIONS	DESTINATION
1.	AFB microscopy	Sputum & Other clinical specimen	3ml	Sterile	Collect 3 consecutive early morning (fresh) sputum (Not Saliva) . Send within 2-4 hours.	CPDRL
2.	TB Culture	All specimens	3ml	Sterile	Complete PER PAT.301 form and send it along with sample within 2-4 hours.	UMMC
3.	Bacterial Antigen (Latex Antigen detection)	CSF	3ml	Sterile	Complete PER PAT.301 form and send it along with sample within 2-4 hours.	HOSP. SG.BULOH
4.	<i>Burkholderia pseudomallei</i> antibody	Blood	5ml	Gel tube	Complete PER PAT.301 form and send it along with sample within 2-4 hours.	IMR
5.	<i>Chlamydia pneumoniae</i> / <i>C.trachomatis</i> / <i>C.psittaci</i> antibody	Blood	5ml	Gel tube	Complete PER PAT.301 form and send it along with sample within 2-4 hours.	HOSP. SG.BULOH
6.	<i>Clostridium difficile</i> Toxin and culture	Stool (fresh)	Not applicable	Stool container	Complete PER PAT.301 form and send it along with sample within 2-4 hours.	HOSP. SG.BULOH
7.	Culture and Sensitivity	Blood	5ml-10ml (adult) 2-3ml (paediatric)	Blood culture (aerobic & anaerobic) bottle Blood culture (paediatric) bottle	Inoculate blood collected with aseptic technique. If the sample is not sent immediately, please do not refrigerate it. Please leave it at room temperature.	CPDRL
8.	Culture and Sensitivity	Sputum	Not applicable	Sterile	Sample should not be saliva. Send within 2-4 hours.	CPDRL

Request

- All inhouse tests -through UNIMEDS
- Outsource tests –**MUST** through UNIMEDS & fill in **KKM standard form PER PAT-301**
- TB culture fill in PER PAT form only, x PPUM form
- If not sure of the availability of the test requested please refer handbook or call the lab for assistance.
- Please write the diagnosis & brief clinical history and type of sample/specimen on the form.
- **common mistakes**
- Each test requested through UNIMEDS must be in a separate form except for serology (HIV, HepB &C)



MEDICAL MICROBIOLOGY REQUEST FORM

UiTM/FPR/CPDRL/QP-11/IF-03
 MM119564
 FOR LAB USE ONLY

Name : [REDACTED]
 Reg No : [REDACTED]
 I/C No : [REDACTED]
 DOB : 30-05-1971
 Age : 48y 1m 15d
 Race : Others
 Gender : MALE
 App.Date (Specimen) : N/A
 Remark :
 Clinical History : coros

Clinic / Ward : [REDACTED]
 Date of Admission / Clinic Appointment : [REDACTED]
 Requested By : [REDACTED] URI
 Ordered Date/Time : [REDACTED]
 Consultant in Charge : [REDACTED]

No	Test Name	Specimen	Location	Priority
1	HEPATITIS B SURFACE ANTIGEN (HBSAG)	BLOOD	CPDRLSB	Routine
2	HEPATITIS C ANTIBODY (ANTI-HCV)	BLOOD	CPDRLSB	Routine
3	HUMAN IMMUNODEFICIENCY VIRUS 1 & 2 ANTIBODY (HIV A)	BLOOD	CPDRLSB	Routine

Specimen Collection : 15-07-2019 11:58:44
 Sample Taken by / Printed by : [REDACTED]
 Sample Taken at : [REDACTED]

TERIMA15JUL'19 2:42PM



URGENT

MEDICAL MICROBIOLOGY REQUEST FORM

UiTM/FPR/CPDRL/QP-11/IF-03
 MM119824
 FOR LAB USE ONLY

FL-19-55

Name : [REDACTED]
 Reg No : [REDACTED]
 I/C No : 750217035347
 DOB : 17-02-1975
 Age : 44y 4m 27d
 Race : Malay
 Gender : MALE
 App.Date (Specimen) : N/A
 Remark :
 Clinical History : pleural effusion post CABG
 post chest tube - haemorrhagic fluid
 completed IV tazocin 2 weeks

Clinic / Ward : [REDACTED]
 Date of Admission / Clinic Appointment : [REDACTED]
 Requested By : [REDACTED]
 Ordered Date/Time : 16-07-2019 12:13
 Consultant in Charge : [REDACTED]

No	Test Name	Specimen	Location	Priority
1	CULTURE AND SENSITIVITY (C&S)	PLEURAL	CPDRLSB	URGENT

Specimen Collection : 16-07-2019 12:15:04
 Sample Taken by / Printed by : [REDACTED]
 Sample Taken at : [REDACTED]

TERIMA16JUL'19 2:37PM

MEDICAL MICROBIOLOGY REQUEST FORM

UITM/FPR/CPDRL/QP-11/IF-03
MM117891
FOR LAB USE ONLY



FL-19-52

Name : [REDACTED] AVAY
Reg No : [REDACTED] Clinic / Ward : [REDACTED]
I/C No : 570109105063 Date of Admission / Clinic : [REDACTED]
DOB : 09-01-1957 Appointment : [REDACTED]
Age : 62y 5m 23d Requested By : DR. AHMAD FIKRUS ARIAN
Race : Malay Ordered Date/Time : 04-07-2019 15:55
Gender : MALE Consultant in Charge :
App.Date (Specimen) : N/A
Remark :

Clinical History 62 years old malay man

HOP1
abd distension and discomfort
a/w leg swelling
reduce ET
+ orthopnea

for 4/12

No	Test Name	Specimen	Location	Priority
1	CULTURE AND SENSITIVITY - FLUID WITH FEME	PERITONEAL	CPDRLSB	Routine
2	FEME (PERITONEAL)	PERITONEAL	CPDRLSB	Routine
3	ACID FAST BACILLI (AFB) / ZIEHL-NEELSON (ZN) STAIN	PERITONEAL	CPDRLSB	Routine
4	TB CULTURE & SENSITIVITY	PERITONEAL	UMMC	Routine

Specimen Collection : 04-07-2019 15:58:35

Sample Taken by / Printed by : [REDACTED]

Sample Taken at : [REDACTED]

TERIMA 4JUL'19 4:09PM

MEDICAL MICROBIOLOGY REQUEST FORM

UITM/FPR/CPDRL/ MM1163
FOR LAB USE ONLY



FC-19-48

Name : [REDACTED] M SAMSUDEEN
Reg No : [REDACTED] Clinic / Ward : [REDACTED]
I/C No : 641108025286 Date of Admission / Clinic : [REDACTED]
DOB : 08-11-1964 Appointment : [REDACTED]
Age : 54y 7m 16d Requested By : [REDACTED]
Race : Malay Ordered Date/Time : 26-06-2019 08:22
Gender : FEMALE Consultant in Charge :
App.Date (Specimen) : N/A
Remark :

Clinical History skin scraping from right sole for fungal c& s
imp: tro tinea pedis

No	Test Name	Specimen	Location	Pr
1	FUNGAL CULTURE	-NA-	CPDRLSB	Rc

Specimen Collection : 26-06-2019 08:49:45

Sample Taken by / Printed by : [REDACTED]

Sample Taken at : [REDACTED]

TERIMA 26JUN'19 10:50

Specimen Collection & Transport

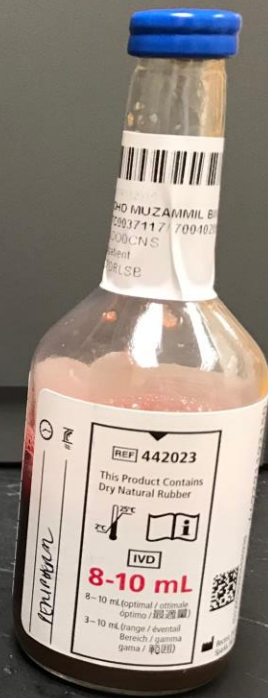
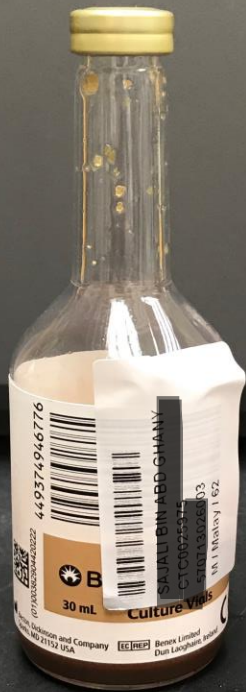
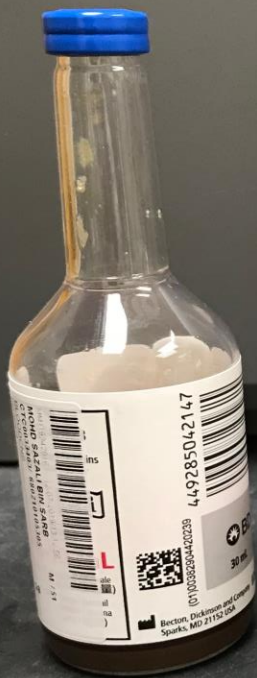
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8.	Culture and Sensitivity	Sputum	Not applicable	Sterile	Sample should not be saliva. Send within 2-4 hours.	CPDRL

Specimen Collection & Transport

Blood

- Should be collected prior to antibiotic administration.
- Sent ASAP In the event delay is inevitable, keep the bottle of C&S at the room temperature.
- **Common mistake**
- Blood culture labelling- do not stick patient's label on the barcode bottle
- CRBSI-? Peripheral / central: not sending both at the same time



Cerebrospinal Fluid (CSF)

- should be collected prior to antimicrobial therapy.
- Place CSF in to sterile leak-proof container.
- Transport CSF to the laboratory immediately.
- Do not refrigerate CSF specimens unless viral studies are requested.

Sputum for acid fast bacilli (AFB)

- **Three (3) consecutives** morning sputum should be collected

Urine

- **Midstream urine (MSU) – inform patient on how to collect specimen.** The first portion of the voiding urine is not collected. Collect midstream portion at least 5 ml directly into sterile container.
- **Catheterized urine** – obtained by aspirating urine from the proximal lumen of the catheter with a syringe (Do **NOT** collect specimen from the urine bag).
- **Suprapubic aspiration** – Direct the needle into the urinary bladder just above the symphysis pubis after the suprapubic skin decontamination done
- Immediate dispatch (1 - 2 hours) is expected. If this is not possible, specimen should be kept in the refrigerator (no longer than 18 hours).

Detection of Mycobacterium tuberculosis Complex (MTBC) /Non- tuberculos Mycobaterium (NTM)

- TB culture & TB PCR: fresh specimen in sterile container with correct labelling should be sent immediately to the laboratory. Specimen received after 48 hours of collection will be rejected.
- Other molecular test(e.g. respiratory sample PCR,HIV PCR, Hep C PCR, HBV DNA, etc.): appointment is encouraged due to requirement of special preparation. Contact lab.

Receipt of specimen

- All specimens will be received at the Specimen Reception Counter at the Medical Microbiology & Parasitology laboratory during office hrs from Monday -Friday .
- After hours/ weekend- Main reception counter

Reporting of results

- **A preliminary report** of positive results of sterile body fluids will be informed to clinic/ward via phone by Clinical Microbiologist on duty/ science officer / MLT and documented.
- **Final report** will be issued on manual basis for Sg. Buloh Campus & Selayang Campus
----neg UNIMEDS (blood culture/afb/bfmp/stool ova & cyst).
- Results are placed in the **dedicated pigeon hole**-- according to the request form. Please make sure a dedicated staff to collect the result.
- Critical results will be informed via phone (**positive Gram stain-blood, positive BFMP, infectious screening for needle stick, TB positive.**)

public holiday/weekend

- Specimens sent for bacteriology, mycology and needle stick injury will be processed as usual on weekends and public holidays from 8.00 am to 5.00 pm.
- There is one (1) MLT working on stand-by basis to process urgent (e.g: needle stick injury cases) specimen.
- BFMP: to inform mlts

TAT inhouse & Outsource

TAT

- Please be alert especially for blood cultures 5 days.
- Fungal culture- 14 days
- Outsource sample - 7-10 working days

Appendix 9: Turn around time (TAT) for in-house & outsource tests in Medical Microbiology & Parasitology.

A) TAT of in-house test

NO.	LIST OF TEST	TAT
1.	Culture and Sensitivity- All samples	2-5 days
2.	Blood Culture C&S - Preliminary results	1 hour
3.	Serology Test i) Anti HIV ii) HBsAg iii) Anti HCV iv) Anti HBs	Run twice a week 3-7 days
4.	Needle Stick Injury i) Anti HIV ii) HBsAg iii) Anti HCV iv) Anti HBs	2 hours
5.	Rapid Test i) RPR ii) ANA iii) RF	Run twice a week 3-7 days
6.	BFMP	3 hours
7.	Positive/Detected Acid Fast Bacilli (AFB) on Modified Kinyoun Stain	1 working day

Thank you