



SULTAN AHMAD SHAH MEDICAL CENTRE @IIUM

COVID - 19

G U I D E L I N E S

HANDBOOK FOR COVID-19 VOL. 3 (OCT 2021)

PREPARED BY: EMERGENCY DISASTER AND CRISIS CENTRE (EDCC)



I N T R O D U C T I O N

Hospital and healthcare centres play a vital role in terms of emergencies responses especially during crisis. Since 2020, COVID-19 has been the antagonist, the prime enemy to the world and Malaysia as well. It was a struggling situation for any hospital and healthcare centres in the world in order to ensure the healthcare worker to keep up with the healthcare standard in its daily operation. Furthermore, the resurgence of COVID-19 has overwhelmed the healthcare staff, its system and overloaded the resources.

These days, all of us must have the tendency to be overprotective over oneself, the community and the nation in making the renewed norms as our culture. In the light of the current COVID-19 outbreak, there is a major need to strengthen the adherence to infection prevention & control practices within the community. Therefore, with the reference from the national guideline, we have developed guidelines to ensure the safety of our patients, staff and visitors from being infected by COVID-19. Since January 2021, due to the increase number of cases in Malaysia, our hospital has been managing COVID-19 cases attentively.

The government is preparing to transition the country into an endemic phase from the current COVID-19 pandemic stage. Crucial measures must be taken to protect ourselves from COVID-19. In the nutshell, the most proven protection to stop the spreading of COVID-19 are self-care and self-adherence to SOPs as advised by the Ministry of Health. It is hoped that with all the guidelines in place, the renewed norms shall be followed religiously in order to ensure we will be more resilience and sturdier during these trying times.



Usamah bin Zaid (May Allah be pleased with him) said:

إِذَا سَمِعْتُمْ بِالطَّاغُوتِ بِأَرْضٍ فَلَا تَدْخُلُوهَا، وَإِذَا وَقَعَ بِأَرْضٍ وَأَنْتُمْ بِهَا فَلَا تَخْرُجُوا مِنْهَا

The Prophet (pbuh) said, "If you get wind of the outbreak of plague in a land, do not enter it; and if it breaks out in a land in which you are, do not leave it."

Sahih Al-Bukhari (5728)



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FOREWORD

Coronavirus Disease 2019 (COVID-19) was declared as a global pandemic by the World Health Organisation (WHO) on 11th of March 2020.

Since the first wave effected our country on 24th January 2020, more than one million cases with more than 10 thousand deaths have been reported.

Praise to Allah, the National Immunisation COVID-19 Programme that has been started since early 2021 may show us the light at the end of the tunnel.

Nevertheless, it is imperative that all staff of Sultan Ahmad Shah Medical Centre @IIUM (SASMEC @IIUM) are equipped mentally, physically, and spiritually in facing the unknown future with the invisible enemy. New norms are adapted and adhered to prevent unforeseen circumstances from befalling our hospital.

This quick reference acts as a guide for all SASMEC @IIUM staff to refer to when dealing with patients - be it in the Emergency and Trauma Department, outpatient clinics or in the wards. I strongly urge all staff to read and use the guidelines into their daily practices. Do not forget to get vaccinated and stay safe!

COVID-19



IMPORTANT CONTACTS

(609) - 591 2500

EDCC ext 1247

TRIAGE ext 2675

OSHE ext 2650

SECURITY ext 2555

DECON TEAM ext 3028



DR AZNIRA AZHARUDDIN
MO EDCC (2020-JUNE 2021)



DR SUHANA LEZA ZULKIFLY
MO SEJAHTERA / SWABBER



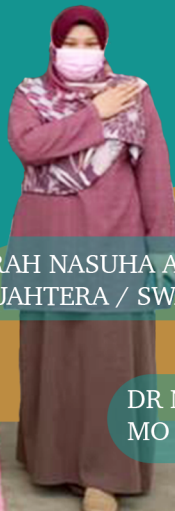
DR NUR FARHANA BACHOK
MO EDCC (MAY 2021 - NOW)



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MO EDCC (2020-JUNE 2021)



DR FARAH NASUHA ABDUL SAMAD
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DR NUR AMIRA SAIDIN
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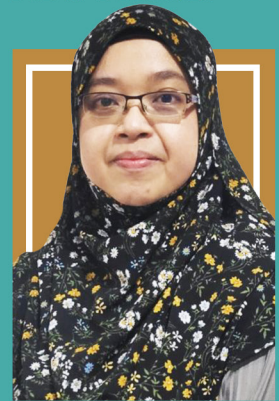
EMERGENCY DISASTER AND CRISIS CENTRE



Asst. Prof. Dr. Muhammad Abdus-Syakur Bin Abu Hasan
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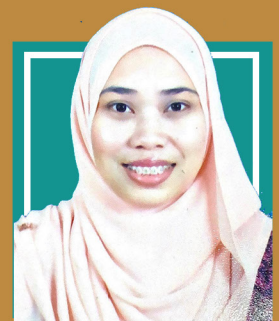
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Dr Nur Farhana binti Bachok
Ext 1247 / 2671



Dr Nur Amira binti Saidin
Ext 1247 / 2671



Nurul asmi binti Ibrahim
Ext 1247 / 2671

RAPID ASSESSMENT TEAM



The team consists of:

Specialists
Medical Officers
Sisters
Staff Nurses

The jobscope of R.A.T team as follow:

1. Identify potential cases based on information received from ward staff
2. Conduct contact tracing of healthcare workers, patients, and any others who may be exposed
3. Gather relevant information required by the Rapid Response Team (RRT)
4. Notify RRT of the situations or any hazards/weaknesses identified in the ward

LIST OF REPRESENTATIVES FOR RAT 2021

DR UMMU AFEERA	MEDICAL	013-7443550
DR ABDUL MALEK	SURGICAL	017-9624325
DR MUHAMMAD SYAFIZ	ORTHO	019-8887237
DR AHMAD FIKREY	PEADS	013-2575375
DR SYAZA NUR FARIDA	O&G	017-3058693
DR MUHAMMAD AFIQ	ETD	011-39839250
DR SHAHIR ASRAF	ANAESTH	019-3527585
DR AIDILA JESMIN	OPHTHAL	012-9600200
DR 'ISMAH SYAZANA	ENT	013-9315637
DR SALMAH ANIM	REHAB	012-5797406
DR MOHD RADHWAN	RADIO	017-2240017
DR NUR INANI	PSYCHIATRY	016-4118874
DR CHNG KAY LY	FORENSIC	012-2965176
DR NOR ADILAH HARUN	DENTAL	012-2018727
SR SITI NORFITRAH	PATHO	013-2723239
SR FATIN AZZYATI	PHARMACY	016-8011067
SR NIK AINA SYAFIQAH	DIET	019-9845877
MATRON SARINA	NURSING	014-8481136



DECLARATION FORM



BORANG DEKLARASI SARINGAN KESIHATAN COVID-19
SULTAN AHMAD SHAH MEDICAL CENTRE @ IIUM

BIL	PERKARA	YA	TIDAK
1	Adakah anda ada KONTAK RAPAT* dengan individu yang disahkan POSITIF Covid-19 dalam masa 14 hari yang lalu? Kontak rapat : a) Bekerja / bersemuka dalam ruang tertutup dengan individu yang disahkan positif Covid-19 b) Menaiki kenderaan yang sama dengan individu yang disahkan Positif Covid-19 c) Tinggal serumah dengan individu yang disahkan positif Covid-19		
2	Adakah anda pernah ke kawasan PKPD dalam tempoh 14 hari yang lepas? Jika Ya, sila jawab soalan nombor 5		
3	Adakah anda pernah dirawat untuk Covid-19?		
4	Adakah anda sedang mengalami mana-mana gejala berikut ? : Gejala-gejala : Batuk, Demam, Sesak nafas, Sakit tekak, Selsema,		
5	Adakah anda sudah lengkap vaksinasi? - 14hari selepas dos kedua bagi vaksin pfizer, astrazeneca, sinovac - 28hari selepas 1 dos bagi vaksin cansino dan johnson		

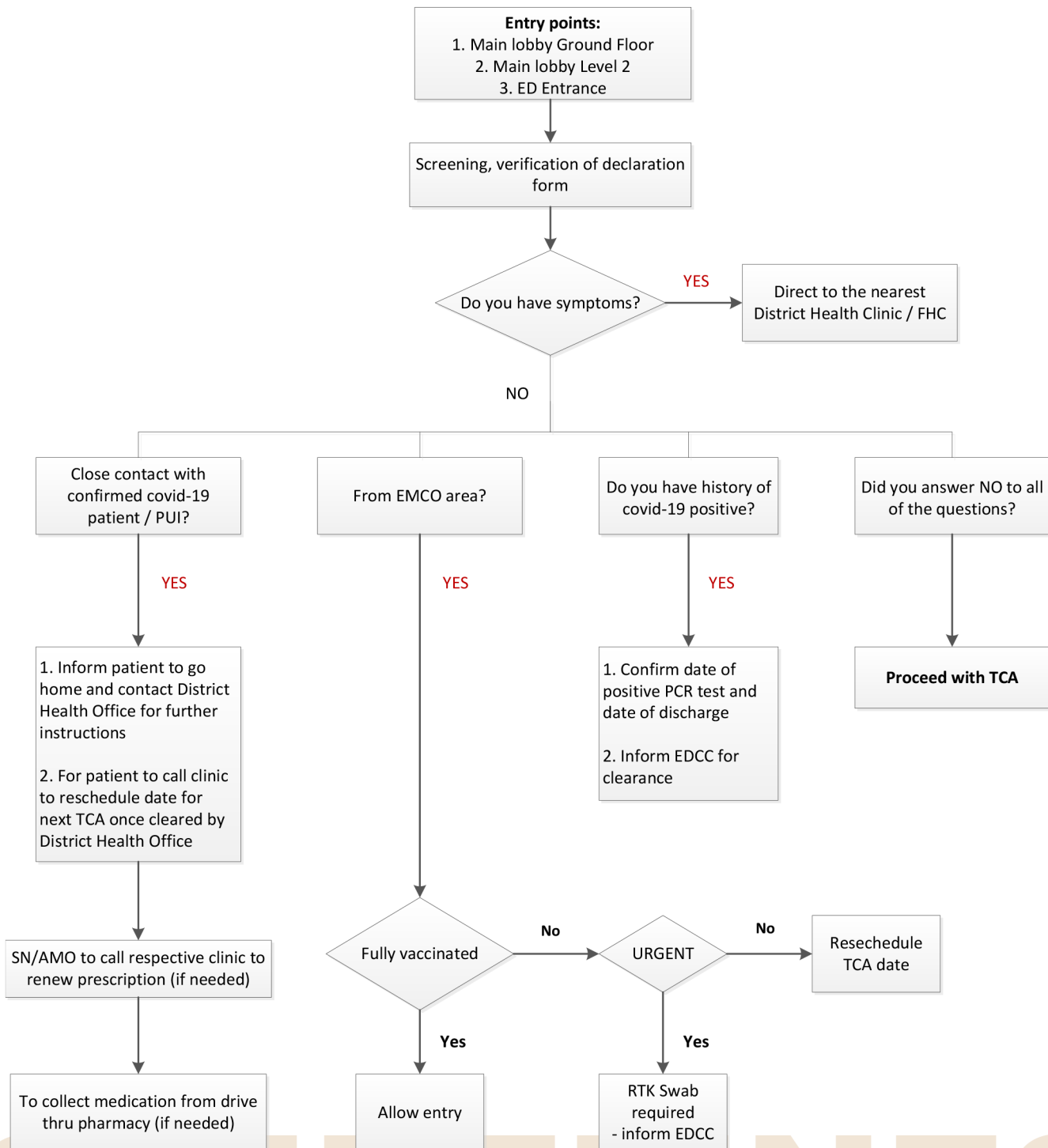
Pengakuan : Dengan mengisi Borang Deklarasi Saringan Kesihatan Covid-19 ini, saya memahami dan mengakui bahawa segala maklumat yang dinyatakan adalah tepat dan benar. *

Sekiranya saya didapati telah dengan sengaja, enggan, dan / atau cuai dalam memberikan sebarang maklumat yang berkaitan, saya boleh dikenakan tindakan mengikut Akta Pencegahan dan Pengawalan Penyakit Berjangkit 1988 (Akta 342)

COVID-19



ENTRANCE SCREENING FLOWCHART



*refer to declaration form for questions

**For children less than 18 years old, caretaker already post 2 weeks after second dose vaccination, may allow entry.



General Guidelines for Staff in Outpatient Clinics

-  Staff to wear Level 1 PPE (surgical mask, plastic apron and gloves) with face shield when reviewing patients in the clinic
-  Limit the number of staff on duty
-  Please adhere to physical distancing of at least 1m between staff at the counter
-  Maintain physical distance with patients during registration and billing
-  Staff at clinic counters must always wear surgical mask
-  Identify specific entrance and exit points to the clinic

General Guidelines for Staff in Clinical Areas

-  Team Leader to ensure that graphical census is updated and completed daily (in ward)
-  Practice frequent hand hygiene in daily practice
-  Strict adherence to 5 moments of hand hygiene
-  Practice good cough etiquette and avoid touching face, nose, and eyes with unsanitized hands
-  Disinfect frequently commonly touched areas (Eg. Counter, doorknobs, handles, chairs, telephone, keyboard, mouse)
-  Staggered time for meals with a maximum of three (3) staff in the pantry at one time, with adequate social distancing
-  Use of personal *telekung* and *sejadah*

General Guidelines for Staff in Isolation room (SARI)

-  Adhere to Level 2 PPE with N95 mask when attending patient in ISO room
-  Patient risk status is to be determined by primary team
-  High risk patient is defined by patient with respiratory symptoms or having epidemiological risk factors of COVID-19
-  Low risk patient is defined by patient without epidemiological risk factors but with symptoms of COVID-19
-  All high-risk patients are to be isolated in negative pressure isolation room until COVID-19 rt-PCR is confirmed to be negative
-  All patients to be admitted to the ISO room will be sent via ambulance to the basement and sent to the ward through the mortuary lift. No accompanying security officer or decontamination procedure required.
-  Staff from ISO room to accompany patient during transport to other areas of the hospital (Eg. Radiology, endoscopy suite, OT etc.)
-  NO visitors / caretakers are allowed to stay with patient in ISO room

General Guidelines for Staff in General Ward

-  Adhere to Level 1 PPE at all times, unless indicated according to the Infection Prevention & Control Universal Guidelines (Eg. MRSA, Tuberculosis)
-  If a patient in the general ward deteriorates, kindly follow Flowchart for the Management of Deteriorating Patients in the General Ward
-  ONLY ONE (1) visitor / caretaker is allowed to stay with patient in the general ward at one time following the latest guidelines for caretaker

General Guidelines for Staff in Emergency Department

-  Adhere to level 2 PPE in general zones, level 2 PPE with N95 in SARI zones and fever counter, and level 3 PPE in DECON room
-  Fever counter is the area of treatment in ETD for stable patient with risk of COVID-19 or ILI symptoms
-  General zones are the area of treatment in ETD for patient with no risk of COVID-19 and no severe acute respiratory infection signs/symptoms
-  SARI zones are the area of treatment in ETD for patient requiring urgent attention with risk of COVID-19 OR Severe Acute Respiratory Infection Symptoms/signs
-  Decon room is a dedicated area for resuscitation of SARI zones patient
-  NO visitors/caretakers are allowed to enter any ETD treatment area

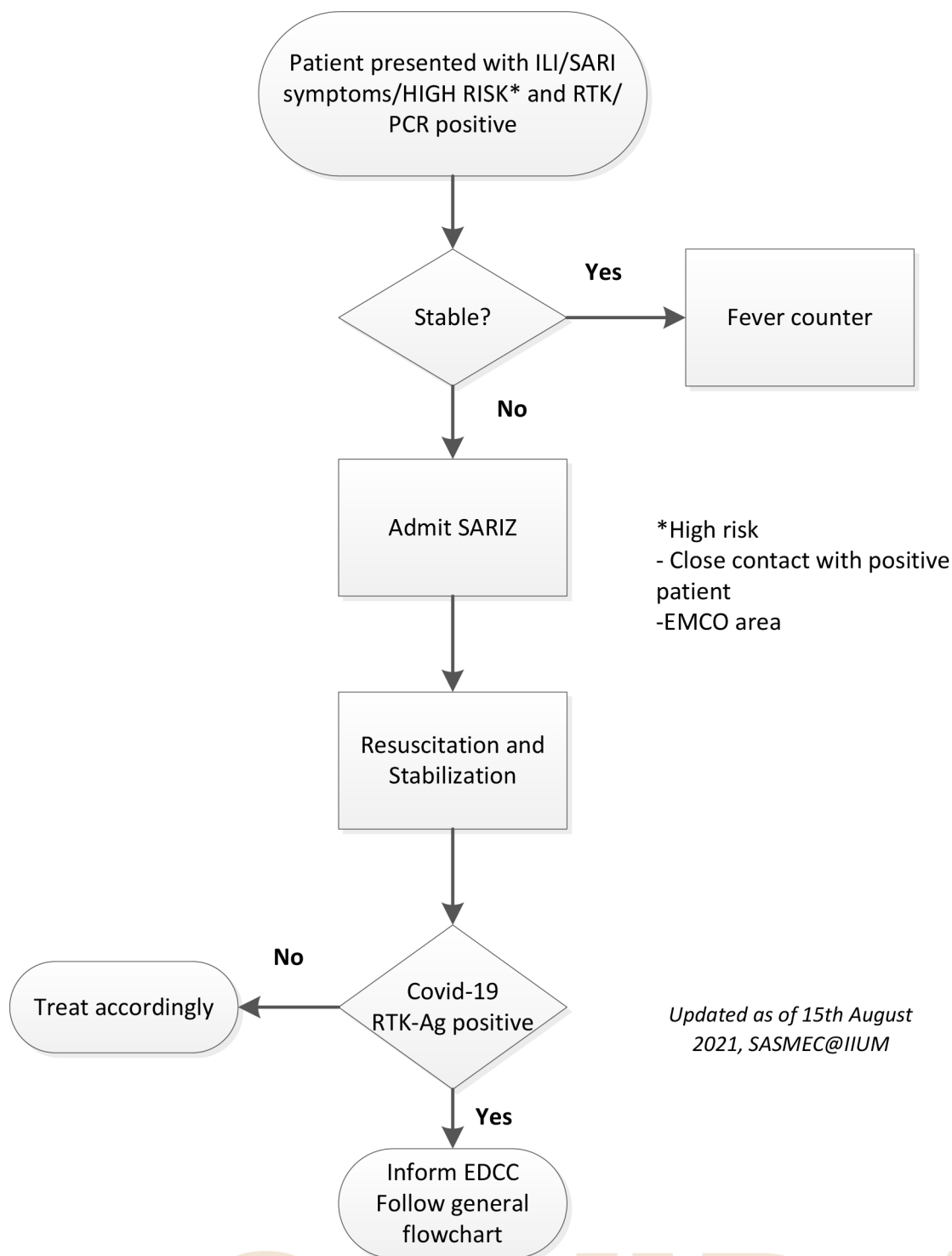
General Guidelines for Staff in Probable COVID / COVID ward / COVID ICU

-  Adhere to Level 3 PPE with N95 mask when attending patient in dirty area
-  Probable COVID ward is a transit ward for patients with RTK positive, admitted from ED while waiting PCR results
-  If PCR positive, patients in PCW will be transferred to COVID ward
-  If PCR negative, physician in charge will decide whether to repeat PCR within 48-72 hours or transfer to general ward
-  COVID ward is allocated for PCR positive patients who are warranted for admission
-  COVID ICU is allocated for RTK positive or PCR positive patients, with category 4 or 5 that needed intensive care
-  Decontamination procedure and accompanying security officer are needed along the way while transferring RTK and PCR positive patients to the designated wards
-  Staff from PCW/CW/COVID ICU to accompany patient during transport to other areas of the hospital (Eg. Radiology, endoscopy etc)
-  NO visitors / caretakers are allowed to stay with patient (except for paediatric cases)

EMERGENCY AND TRAUMA
D E P A R T M E N T



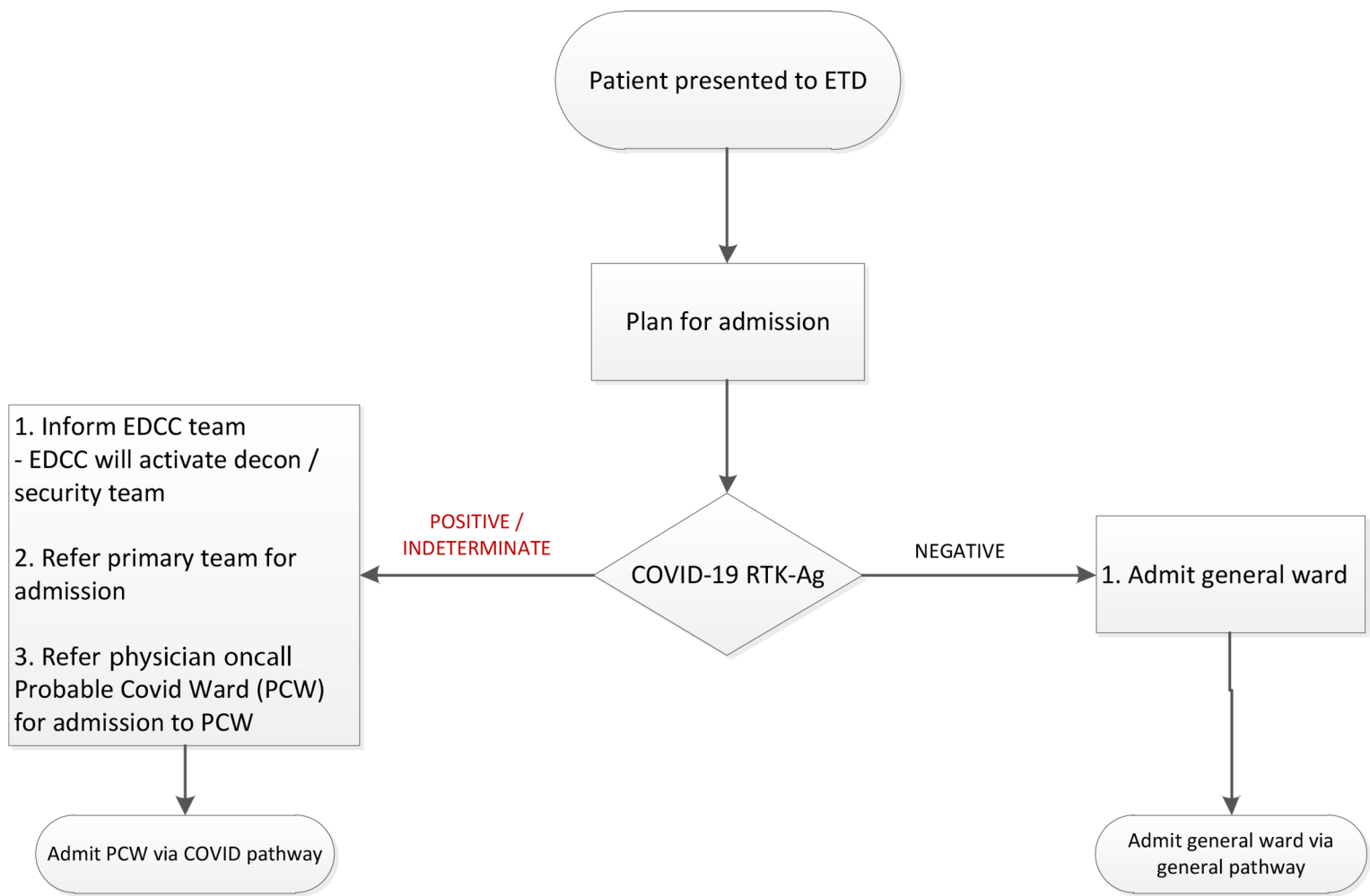
PATIENT PROCESS FLOW IN ETD



COVID-19

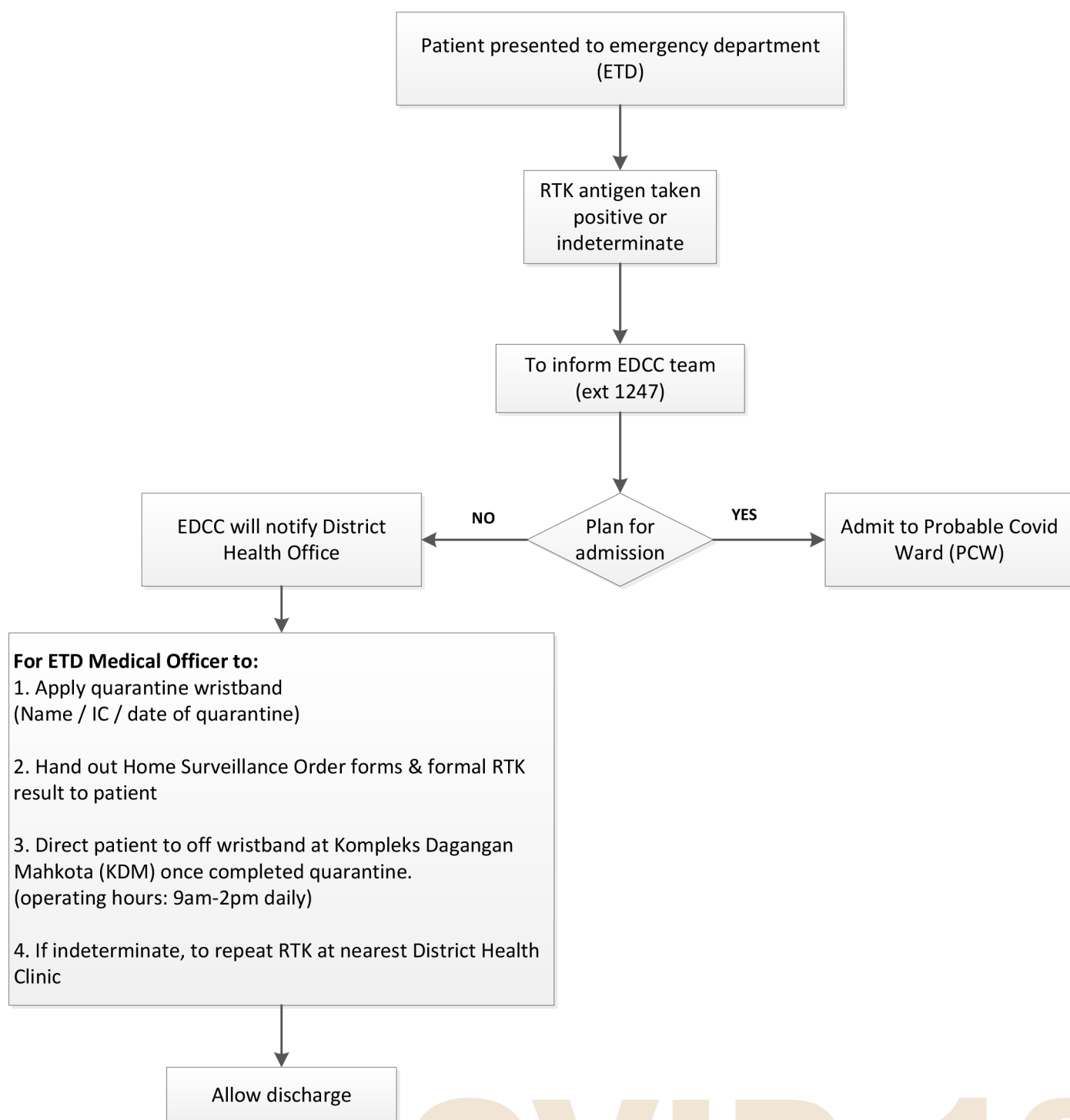


FLOWCHART FOR ADMISSION FROM ETD TO WARD



GUIDELINES

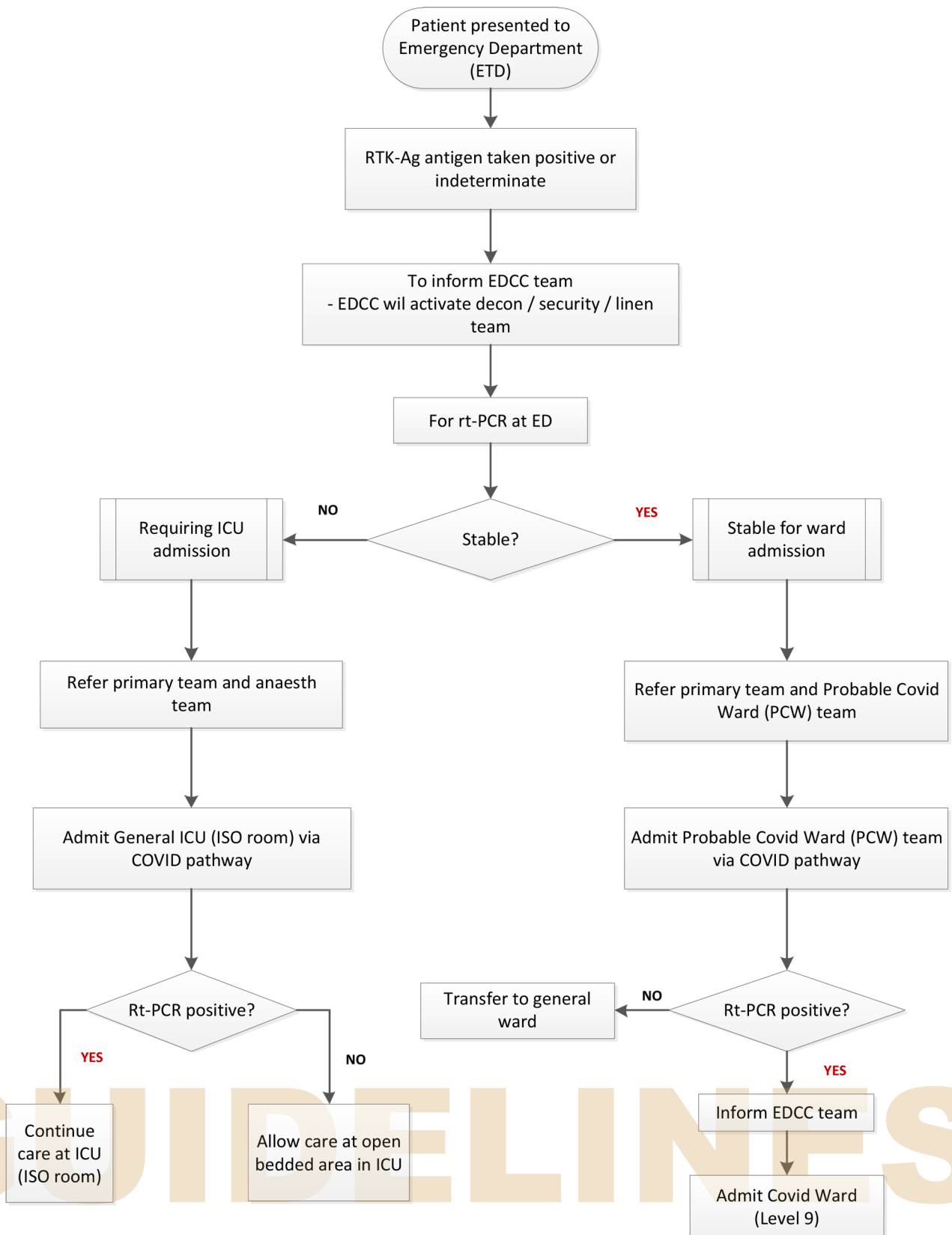
FLOWCHART FOR RTK POSITIVE OR INDETERMINATE FOR CAT 1 & 2



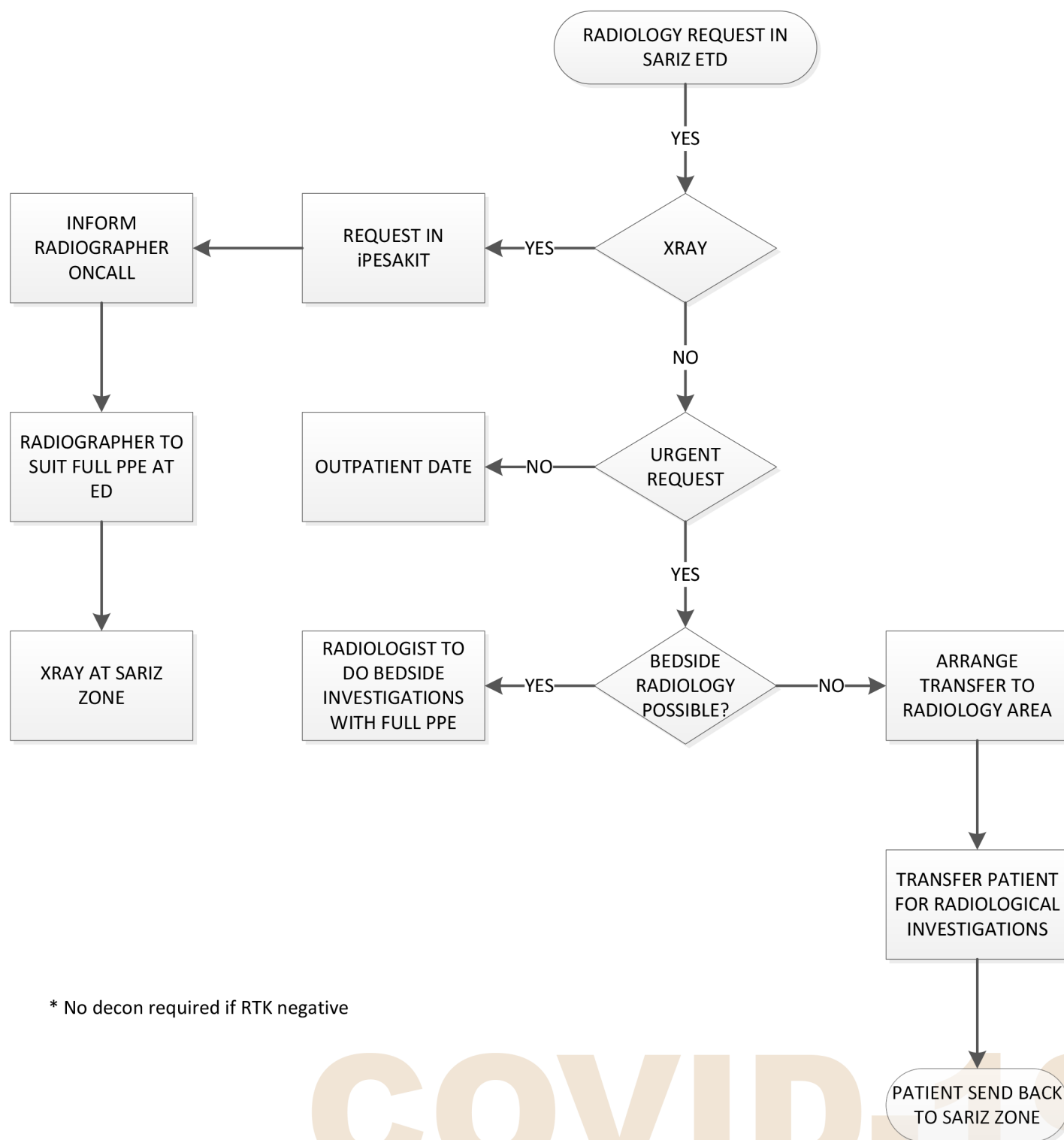
COVID-19



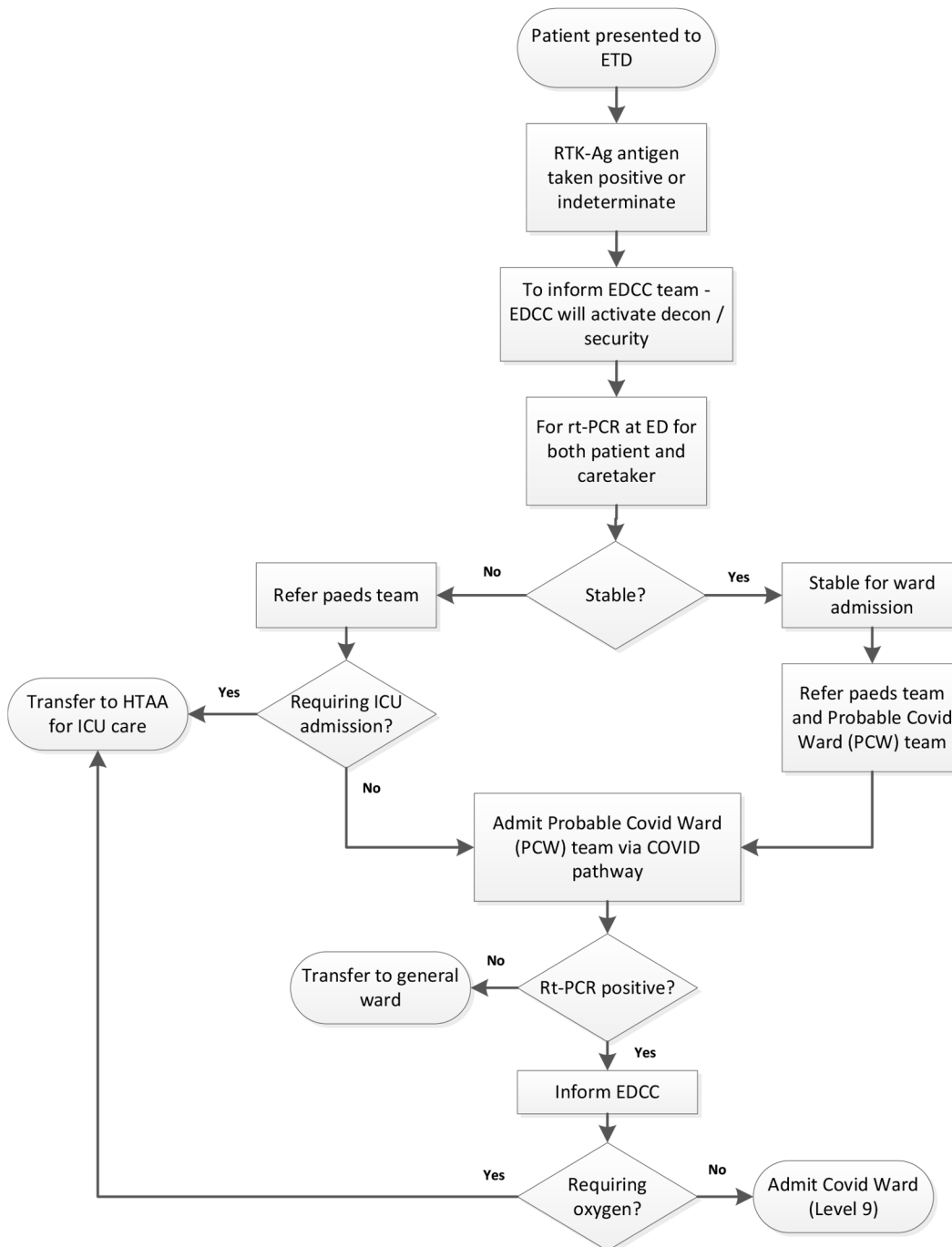
FLOWCHART FOR RTK POSITIVE OR INDETERMINATE FOR CAT 3 & ABOVE



FLOWCHART FOR BIOLOGY REQUEST IN SARI ZONE



FLOWCHART FOR RTK POSITIVE / INDETERMINATE FOR CAT 3 AND ABOVE FOR PEADIATRICS CASES IN ETD

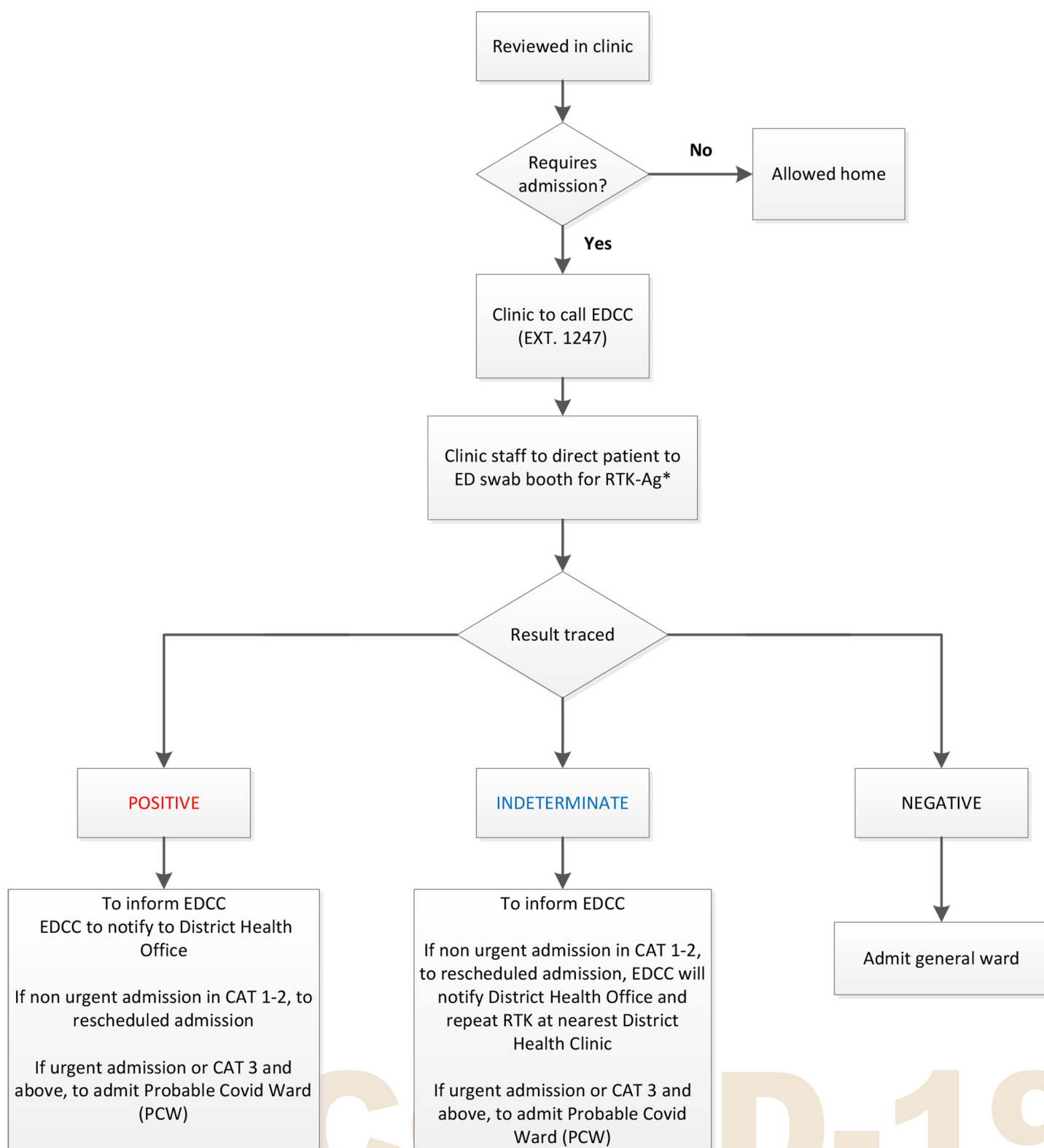


GUIDELINES

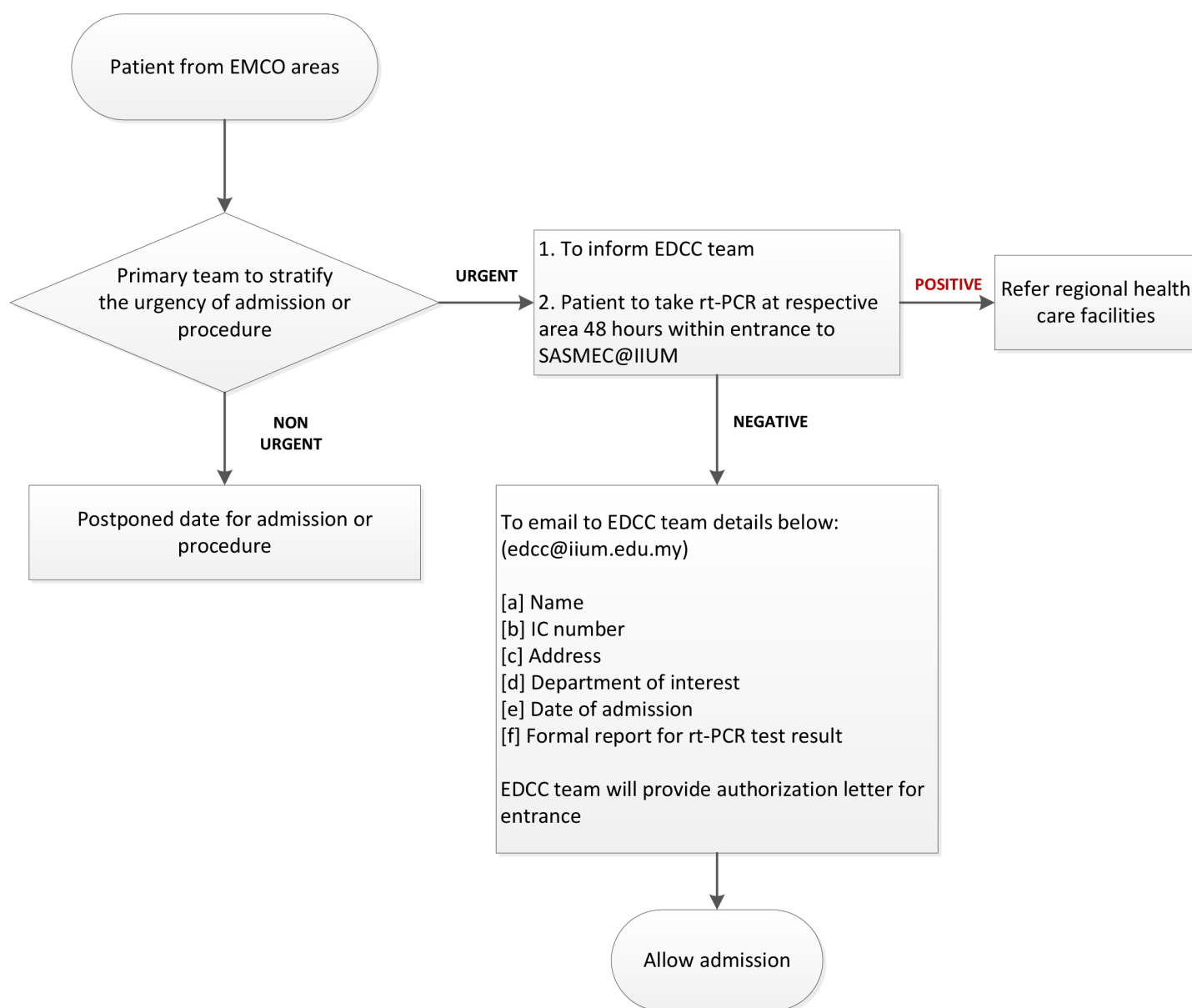


A D M I S S I O N
P R O T O C O L

FLOWCHART FOR URGENT ADMISSION FROM CLINIC



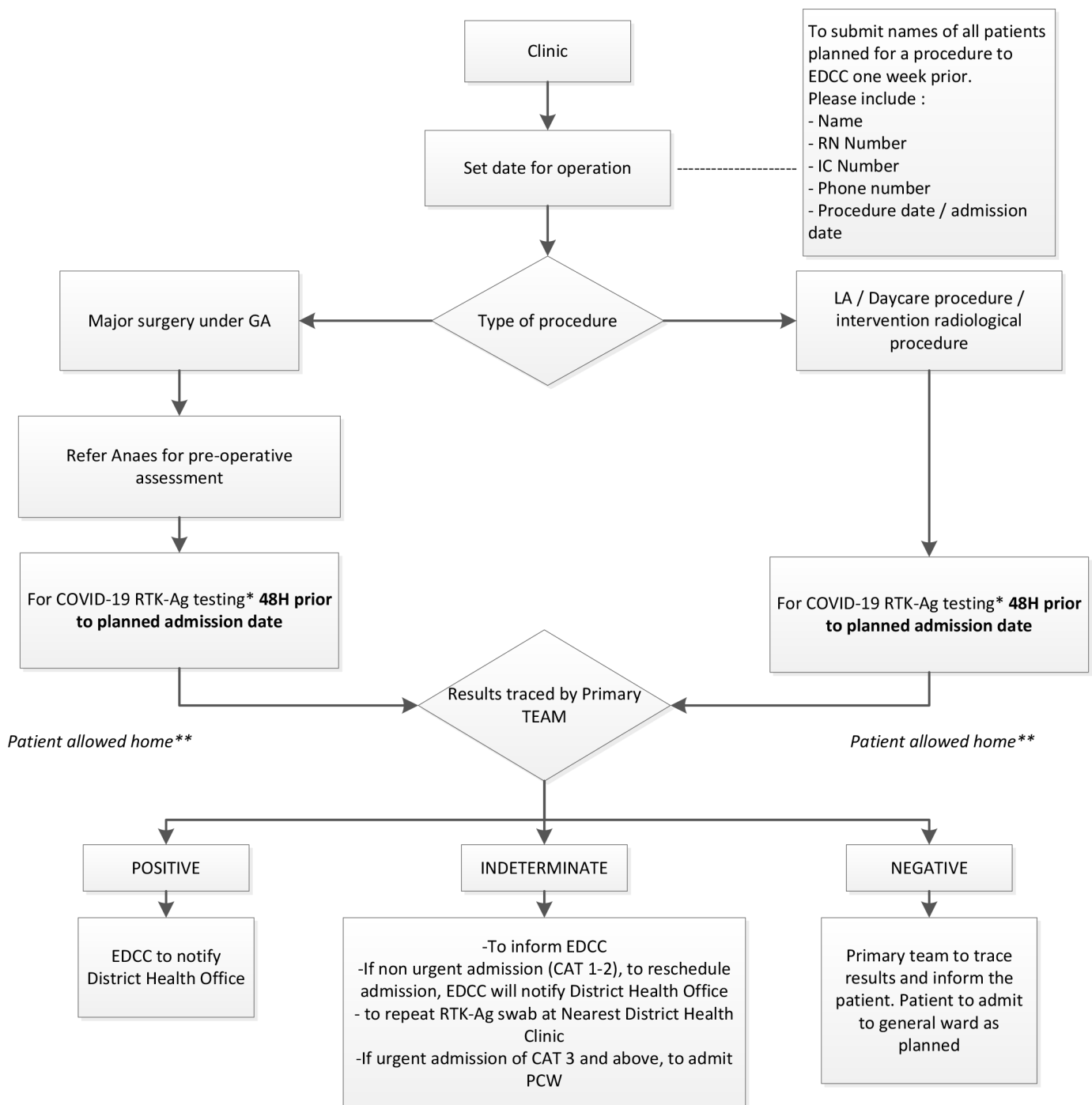
FLOWCHART FOR ELECTIVE ADMISSION OR PROCEDURES FROM EMCO



COVID-19



FLOWCHART FOR ELECTIVE PROCEDURE

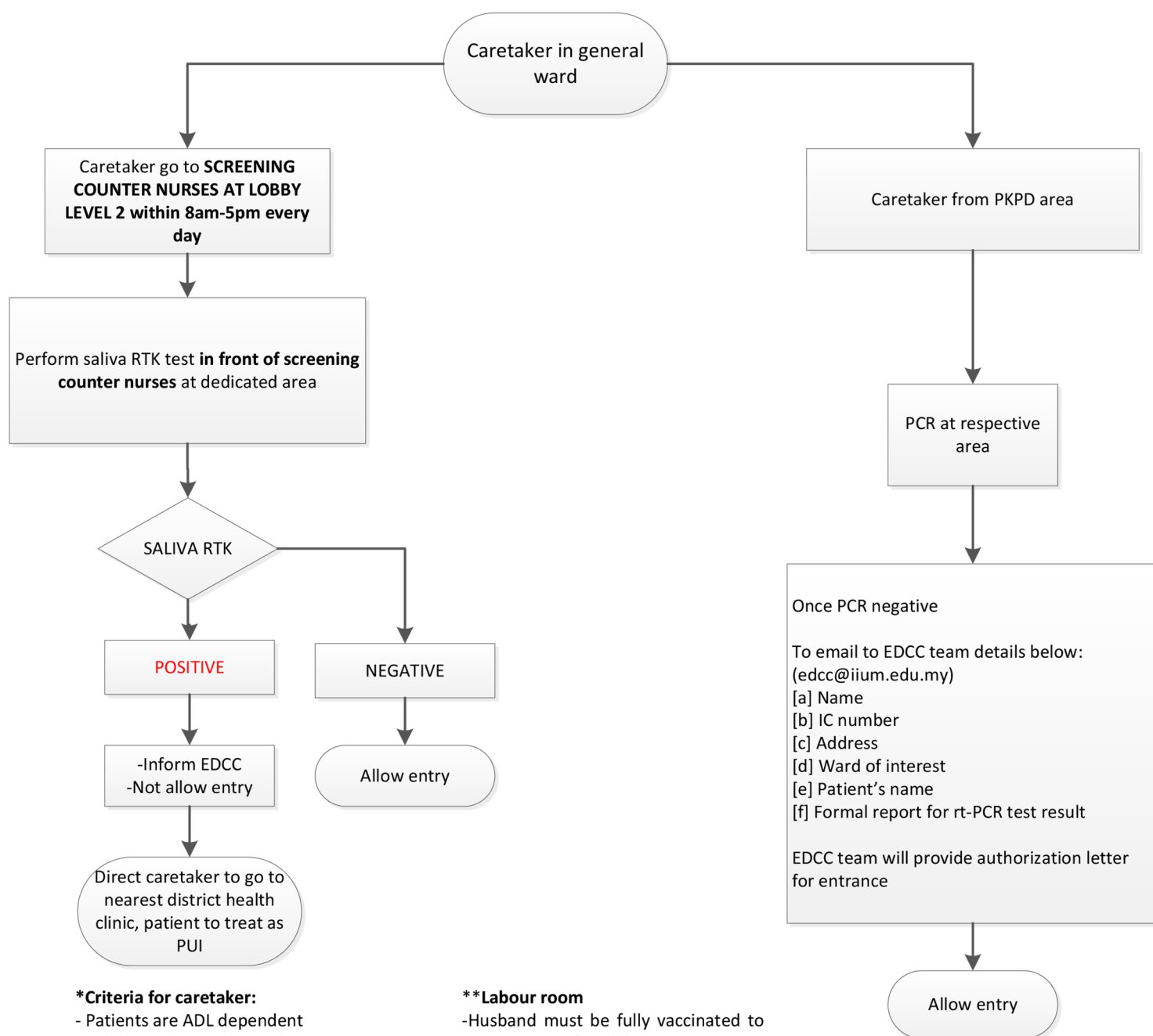


*Patients who request for admission for logistic reasons/have additional investigations prior to surgery may be admitted on the same day as swab **AFTER** results are known

GUIDELINES



FLOWCHART FOR CARETAKER IN GENERAL WARD



***Criteria for caretaker:**

- Patients are ADL dependent
- 1 dedicated caretaker only
- No close contact with positive covid patient
- Asymptomatic

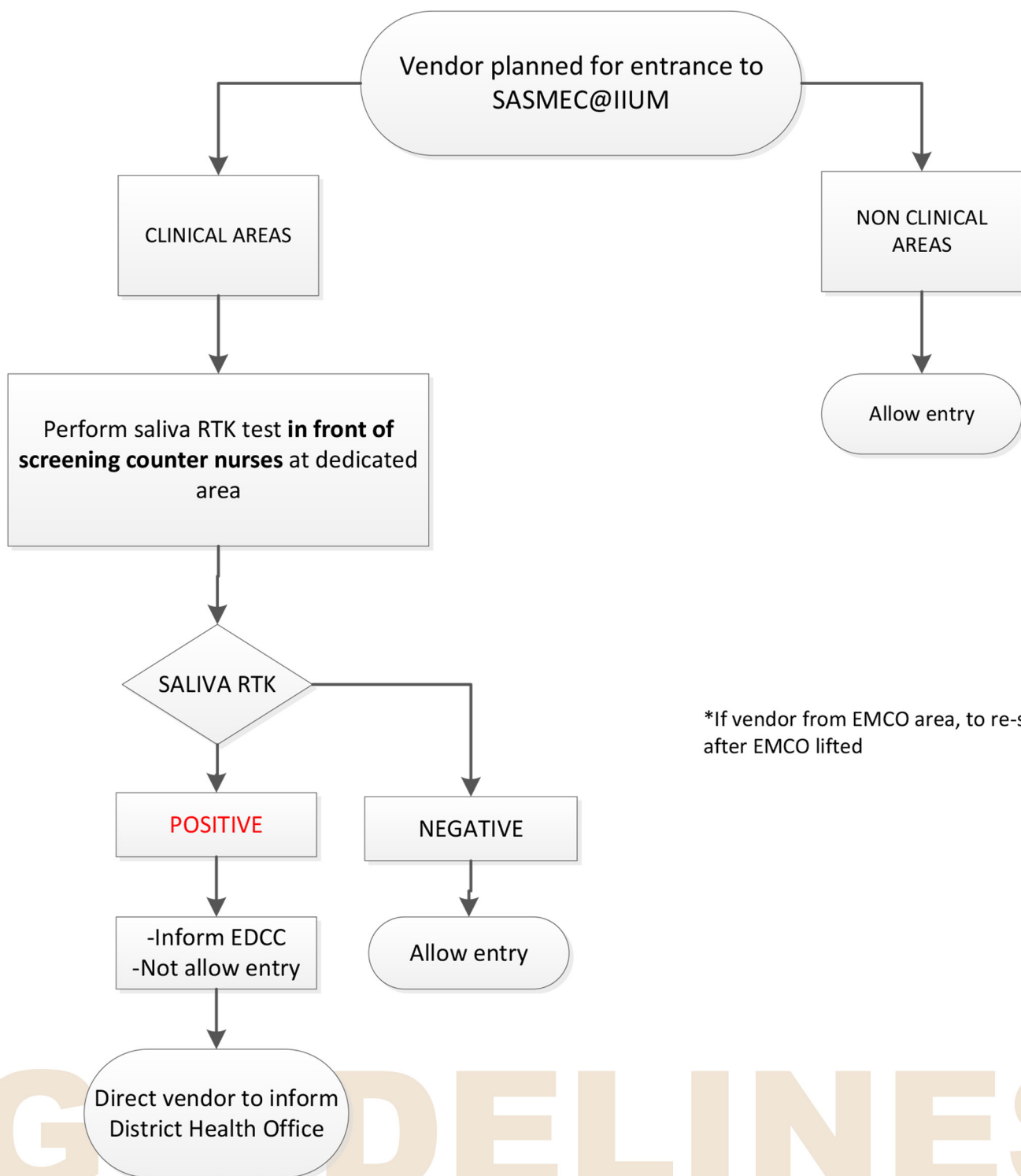
****Labour room**

- Husband must be fully vaccinated to accompany wife in labour room
- After office hour, for saliva RTK test at PAC

COVID-19



FLOWCHART FOR VENDOR ENTRANCE TO SASMEC @IIUM



*If vendor from EMCO area, to re-schedule visit after EMCO lifted

Direct vendor to inform District Health Office

P H A R M A C Y

DISPENSING DISCHARGE MEDICATIONS TO COVID-19 PATIENT

DISCHARGE FROM WARD

Managed by Inpatient Pharmacy

Process Flow	Responsibility
The patient is prescribed with discharge medications	Attending Medical Officer
Return the inward medications to the Inpatient Pharmacy	Staff Nurse in charge
Process and prepare the discharge medications	Pharmacy Staff
Call and notify the ward that the medications are ready to be collected	Pharmacy Staff
Collect the discharge medications at the Satellite Pharmacy/ Inpatient Pharmacy	Staff Nurse*
Dispense the medications to the respective patient and return the prescription to the Pharmacy	Staff Nurse
	Remark: The medications must be dispensed according to the prescription given. Please sign, stamp and write the dispense time and date at the dispense column at the prescription before returning it to the Pharmacy.

Remark:

*Collect the medication either at:

- Satellite Pharmacy (during office hour) or,
- Inpatient Pharmacy (after office hour)

GUIDELINES



DURING OFFICE HOUR

Managed by Outpatient pharmacy

Process Flow	Responsibility
The patient is prescribed with medications	Attending Medical Officer
Call and notify the Outpatient Pharmacy (ext.: 2577)	ETD Staff
Inform the patient to take the medications at the DRIVE-THRU Pharmacy	ETD Staff
Dispense the medications to the respective patient at the DRIVE-THRU Pharmacy	Pharmacy staff



DISCHARGE FROM ETD

AFTER OFFICE HOUR

(Including weekend and public holiday)

Process Flow	Responsibility
The patient is prescribed with medications	Attending Medical Officer
Call and notify the Emergency Pharmacy (ext.: 2600)	ETD Staff
Inform the patient to take the medications at the TRIAGE counter	ETD Staff
Send the prepared medications to the ED staff at the TRIAGE counter	Pharmacy staff
Dispense the medications to the respective patient at the TRIAGE counter and return the prescription to the Emergency Pharmacy	ETD Staff Remark: The medications must be dispensed according to the prescription given. Please sign, stamp and write the dispense time and date at the dispense column at the prescription before returning it to the Pharmacy.

GUIDELINES



OPERATION THEATER

GUIDELINES



PRIMARY TEAM CHECKLIST

1. Referral to Anaesthesia team
2. Pre-medication in ward/ICU/ETD
3. Confirmation of blood products (if needed) and COVID-19 kit (Ward / ETD PPK to collect COVID-19 kit from Integrated Lab and send to OT Counter)
4. Notify supporting teams to standby (Radiology, Paediatrics)
5. Notify Matron Noraida or Br. Izzul



1. Primary team to refer to Anaesthesia team AND inform Matron Noraida (011-12171065) or Br. Izzul (011-14422656) to activate COVID-19 OT team (Matron / Br. will call the Team Leader)

OT COVID-19 TEAM

1. Surgeon (1) perform surgery
2. Surgical MO (1) assist surgeon
3. Scrub nurse (1) assist surgeon
4. Anaesthetist (1) to intubate patient
5. Anaesthesia MO (1) to administer drugs
6. GA Nurse (1) SSSL (and upload to iPesakit accordingly)
assist intubation, act as circulating nurse once patient is intubated
7. Circulating nurse (1)
8. Runner (2) pass instruments into the OT
pass instruments into Clean Room
9. PPK (1) assist in positioning and transfer of patient
10. TeamLeader to coordinate the OTteam to ensure proper
donning&doffing

2. OT Team Leader to co-ordinate the preparation of the OT.
Designated OT 11 on standby – set up physical barriers and biohazard signs to inform that a case is in progress.

3. Donning of PPE by OT COVID-19 Team

4. OT Team Leader to communicate with ward staff for transfer
(Security (Ext: 2555) and Decontamination team (Ext:3028) activated
by ward staff only in high-risk patients with unknown swab status)

5. Receiving of patient in OT:

- [a] Ward / ED staff to push patient directly into OT 11 via dirty corridor
- [b] Ward staff / ED staff to doff off at designated area in OT 11
- [c] If patient is from ICU, for Anaest MO on-call and GA Nurse to fetch patient from ICU
- [d] Isolation Room and transfer to OT 11 via designated dirty pathway (inside OT) SSSL and Pre-op assessment in OT 11
- [e] Positioning of patient on OT table
- [f] Anaesthesia team to take swab of patient (if not taken yet) and to send the sample according to the correct protocol
- [g] Surgical team and Scrub Nurse to get ready and standby in Scrub Room during patient's transfer to OT

6. Performing of surgery

- [a] Surgery to be done by Specialist, assisted by Medical Officer
- [b] Only one (1) scrub nurse
- [c] GA nurse to function as circulating nurse
- [d] Runner nurse in full PPE to standby at Clean Area
- [e] PPK in full PPE to standby at Clean Area
- [f] Surgical team and scrub nurse to doff off at designated area in OT 11 and head straight to Medical Daycare to shower.

7. Extubation and recovery of patient in OT

- [a] Only Anaesthesia Team to remain in OT during extubation Recovery in OT post-extubation
- [b] Ensure patient is stable/comfortable prior to transfer back to ICU or isolation room of respective ward

8. Transfer of patient back to Ward / ICU
 - [a] Passover prior transfer via phone
 - [b] Anaesthesia Team will transfer patient on bed which patient arrived through the designated pathway
 - [c] Receiving Team to wait at entrance of “dirty” corridor (Security (Ext: 2555) and
 - [d] Decontamination team (Ext: 3028) activated by OT staff only in high-risk patients with unknown swab status)
9. Disposal of all contaminated materials and disinfection as per protocol
10. Specimens to be sent to the lab must be double bagged and put in a labelled box and sent to the lab as per protocol. MUST inform the lab prior to transport of specimens.
11. Anaesthesia Team to doff off at designated area in OT 11 and head straight to designated shower room in OT.
12. Terminal cleaning:
 - [a] Team Leader to coordinate with cleaners to be on standby
 - [b] Surfaces of all medical devices to be cleaned with quaternary ammonium chloride disinfectant wipes
 - [c] OT cleaned thoroughly 3x with hospital-grade disinfectant Shine with UV x 1
 - [d] Leave OT empty for 3 hours prior to next use

Narrated from Ummu al-Mu'minin A'isyah R.Anha, she said:

أَنَّهُ عَذَابٌ يَبْعَثُهُ اللَّهُ عَلَى مَنْ يَشَاءُ، وَأَنَّ اللَّهَ جَعَلَهُ رَحْمَةً لِلْمُؤْمِنِينَ، لَيْسَ مِنْ أَحَدٍ يَقَعُ الطَّاعُونَ
فَيَمُوتُ فِي بَلَدِهِ صَابِرًا مُحْتَسِبًا، يَعْلَمُ أَنَّهُ لَا يُصِيبُهُ إِلَّا مَا كَتَبَ اللَّهُ لَهُ، إِلَّا كَانَ لَهُ مِثْلُ أَجْرِ شَهِيدٍ

“I asked Allah's Messenger about the plague. He told me that:

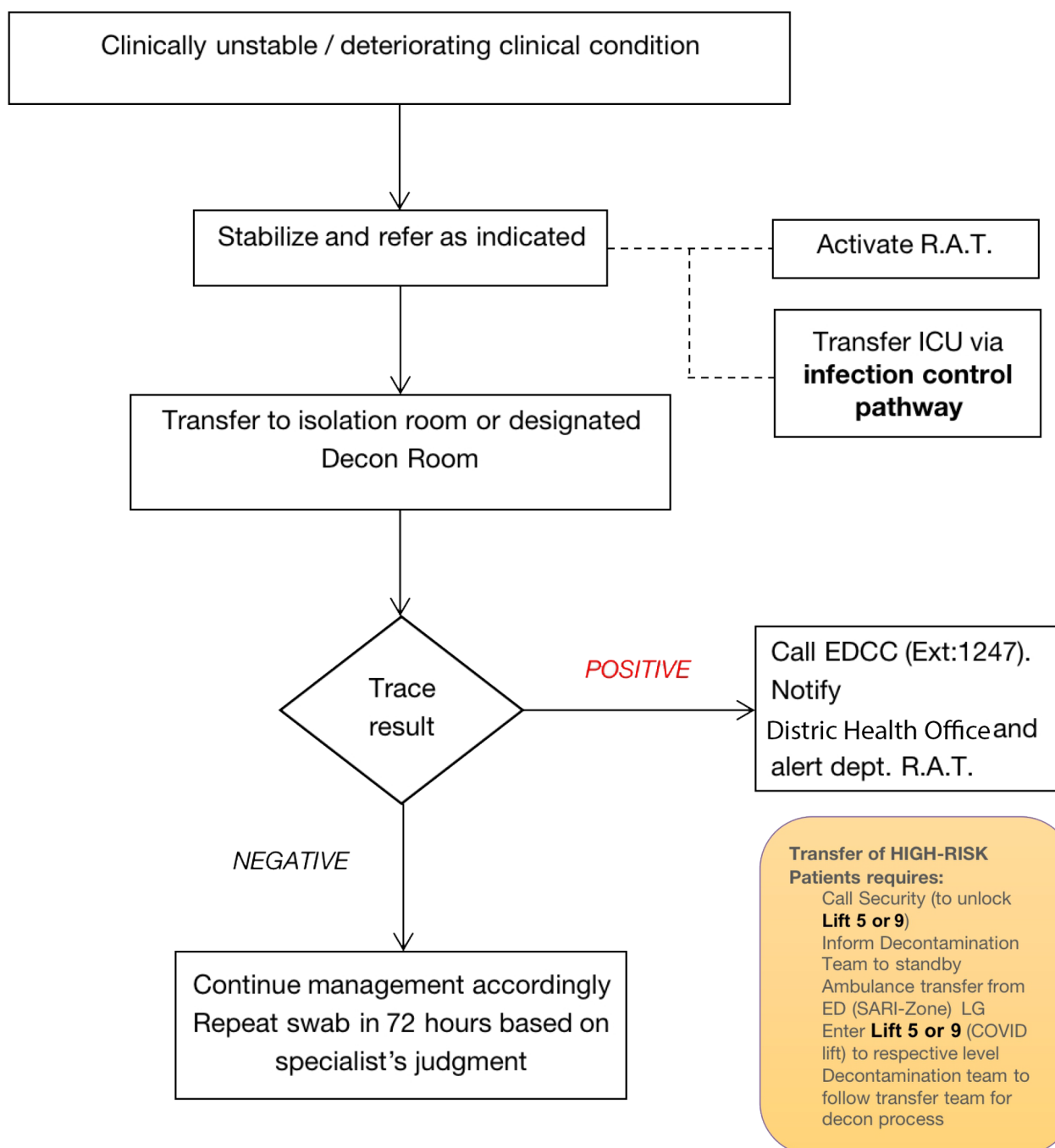
It was a Punishment sent by Allah on whom he wished, and Allah made it a source of mercy for the believers, for if one in the time of an epidemic plague stays in his country patiently hoping for Allah's Reward and believing that nothing will befall him except what Allah has written for him, he will get the reward of a martyr."

Sahih Al-Bukhari (3473)



GENERAL WARD GUIDELINES

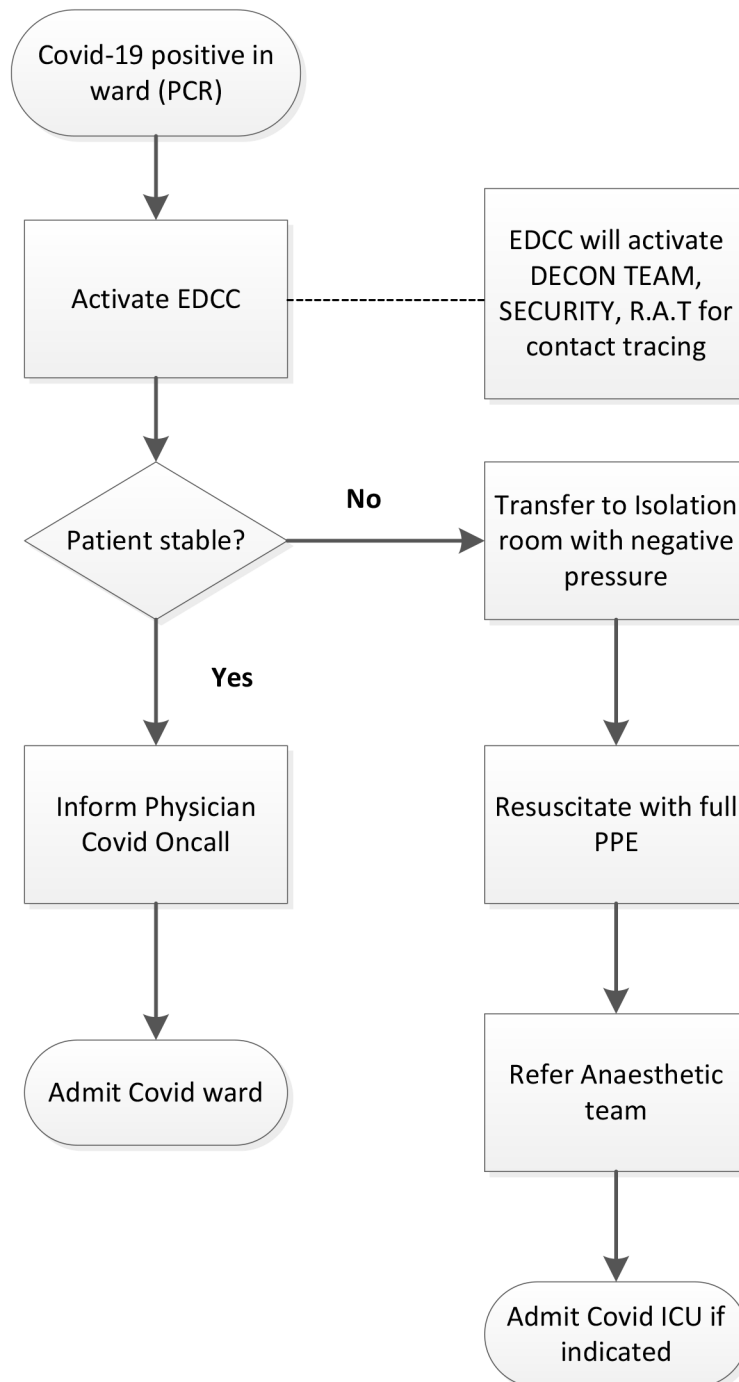
FLOWCHART FOR MANAGEMENT OF DETERIORATING PATIENT IN WARD WITH SUSPECTED COVID-19



COVID-19



FLOWCHART FOR COVID-19 POSITIVE FROM WARD / CLINIC / DAYCARE



GUIDELINES

L A B O R A T O R Y
C O V I D - 1 9



PRINCIPLE OF COVID-19 DIAGNOSTICS

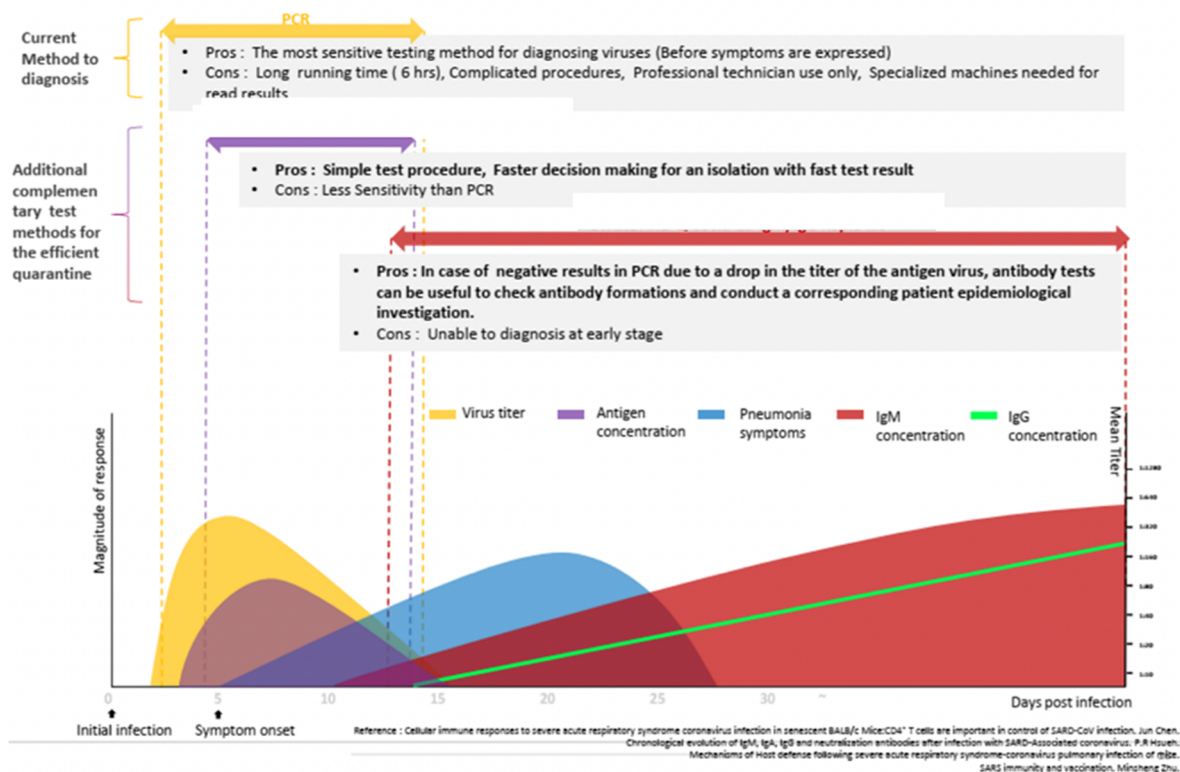
Goal of testing:

1. To mitigate the risk of COVID-19 transmission among healthcare worker.
2. To facilitate referral and transfer of COVID-19 patient to COVID-19 hospital.

COVID-19

In the setting of our hospital, diagnostic testing for the novel coronavirus SARS-CoV-2 is undertaken by using 3 approaches:

- [a] real-time reverse transcriptase PCR (rRT-PCR)
- [b] rapid detection of COVID-19 antigen
- [c] rapid detection of COVID-19 IgM/ IgG



		rRT-PCR	RTK Ag	RTK Ab	Remarks
General					
1	Admission screening for patient WITH clinical suspicion of COVID-19 or asymptomatic contact to COVID-19 confirmed cases.	✓		*✓	For rRT-PCR as recommended by MOH guideline. * RTK Ab is indicated especially in patient with prolong respiratory symptom.
2	Admission screening for patient WITHOUT clinical suspicion of COVID-19.		✓		
3	Admission screening for paediatric patient.	✓	*✓		*RTK Ag may also be used but result should be interpreted with caution.
4	Inpatient screening for patient with prolonged hospital stay.		✓		Patients should have a documented negative COVID test (either PCR or RTK Ag result) within 14 days prior to discharge.
Healthcare Worker					
1	Healthcare worker screening.	✓		✓	rRT-PCR as recommended by MOH guideline.
2	Outpatient screening for symptomatic HCW's relative by Sejahtera Clinic.		✓		Screening of community outside IUMMC.
Surgical or Invasive Procedures					
1	Pre-procedure screening of for patient WITH clinical suspicion of COVID-19.	✓		*✓	*RTK Ab is indicated especially in patient with prolong respiratory symptom.
2	Pre-procedure screening for patient WITHOUT clinical suspicion of COVID-19.	*✓	*✓		Ideal screening method is rRT-PCR. However, RTK Ag may be used in situations deemed not suitable for PCR testing.
Forensic					
1	Death in department (DID) and brought in dead (BID) without clinical suspicion of COVID-19.		✓		RTK Ag for immediate mitigation of COVID-19 transmission.
2	DID and BID of unknown status OR with clinical suspicion of COVID-19	✓			

COVID-19 real-time reverse transcriptase PCR

rRT-PCR

TEST INDICATIONS FOR PCR

-  Admission screening and pre-procedure screening for patient WITH:
 - i. symptoms of respiratory infection, or
 - ii. epidemiological link to COVID-19 cases
-  For asymptomatic contact of any degree to COVID-19 cases
-  For patient with contact to ill person with respiratory symptoms
-  For patient with negative COVID-19 testing but persistent symptoms of respiratory infection
-  Admission and pre-procedure screening for paediatric patients
-  Brought in dead (BID) of unknown status OR with clinical suspicion of COVID-19 Healthcare worker screening

rRT-PCR

TYPE OF SAMPLE



Lower respiratory tract specimen:

- [a] Sputum
- [b] Tracheal aspirate
- [c] Bronchoalveolar lavage



Upper respiratory tract specimen:

- [a] Nasopharyngeal AND oropharyngeal swabs
- [b] Nasopharyngeal wash / aspirates

TIMING OF SAMPLE COLLECTION



At presentation



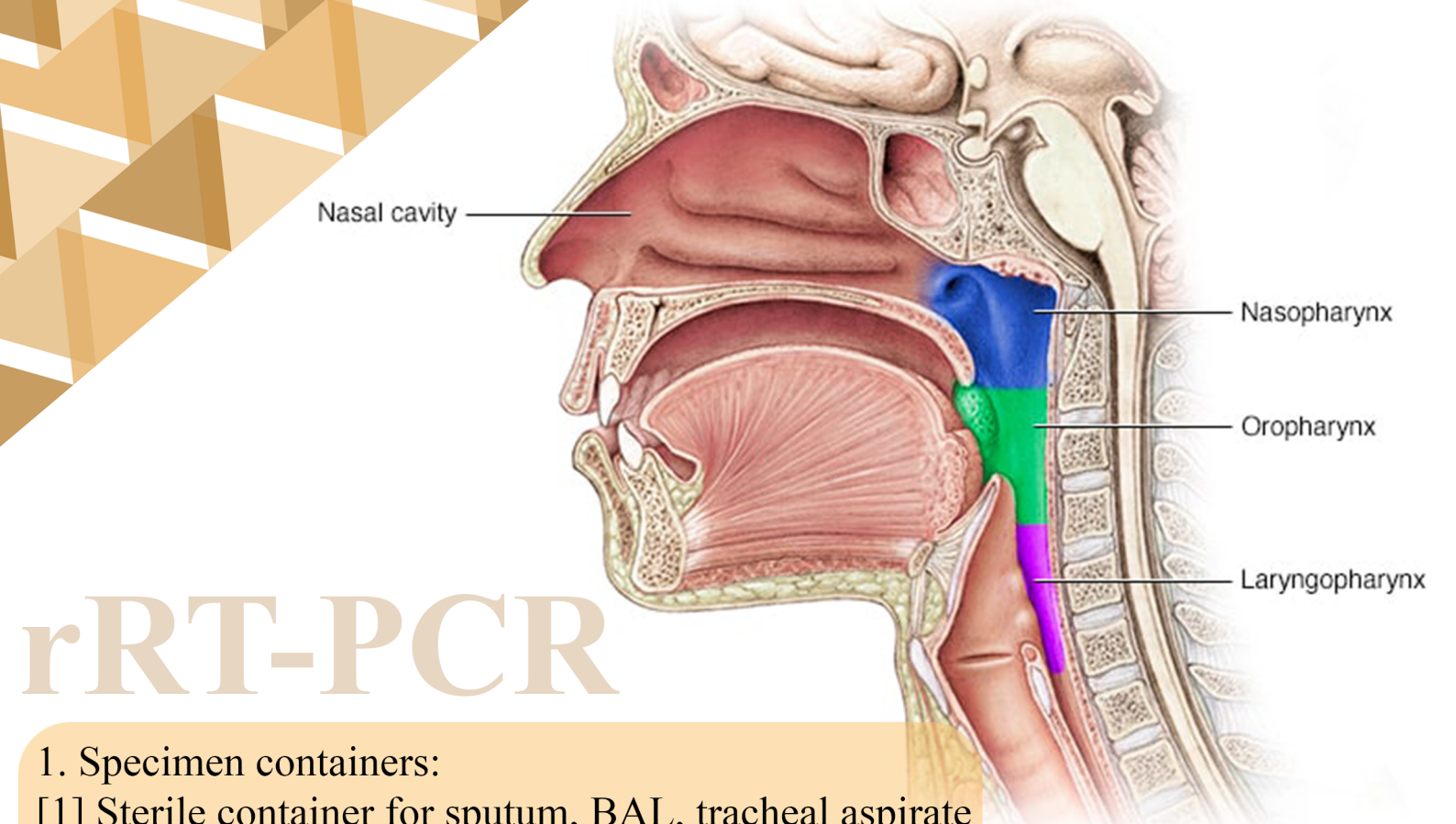
If patient presented during wee hours, it is encouraged to perform specimen collection later at 8 am onwards.

TURNAROUND TIME: 48 Hours

IMPORTANT NOTES



Specimen collection can only be performed inside the isolation room and conducted while wearing a complete PPE.



rRT-PCR

1. Specimen containers:

- [1] Sterile container for sputum, BAL, tracheal aspirate
- [2] VTM tube for combined swabs

2. A combined nasopharyngeal & oropharyngeal swab should be placed within each VTM tube to increase test yield

3. Should submit 1 VTM tube per patient

4. For sputum, a single specimen is adequate

5. Specimen containers should be properly sealed to avoid leakage. Each specimen container & request form should be LABELLED properly

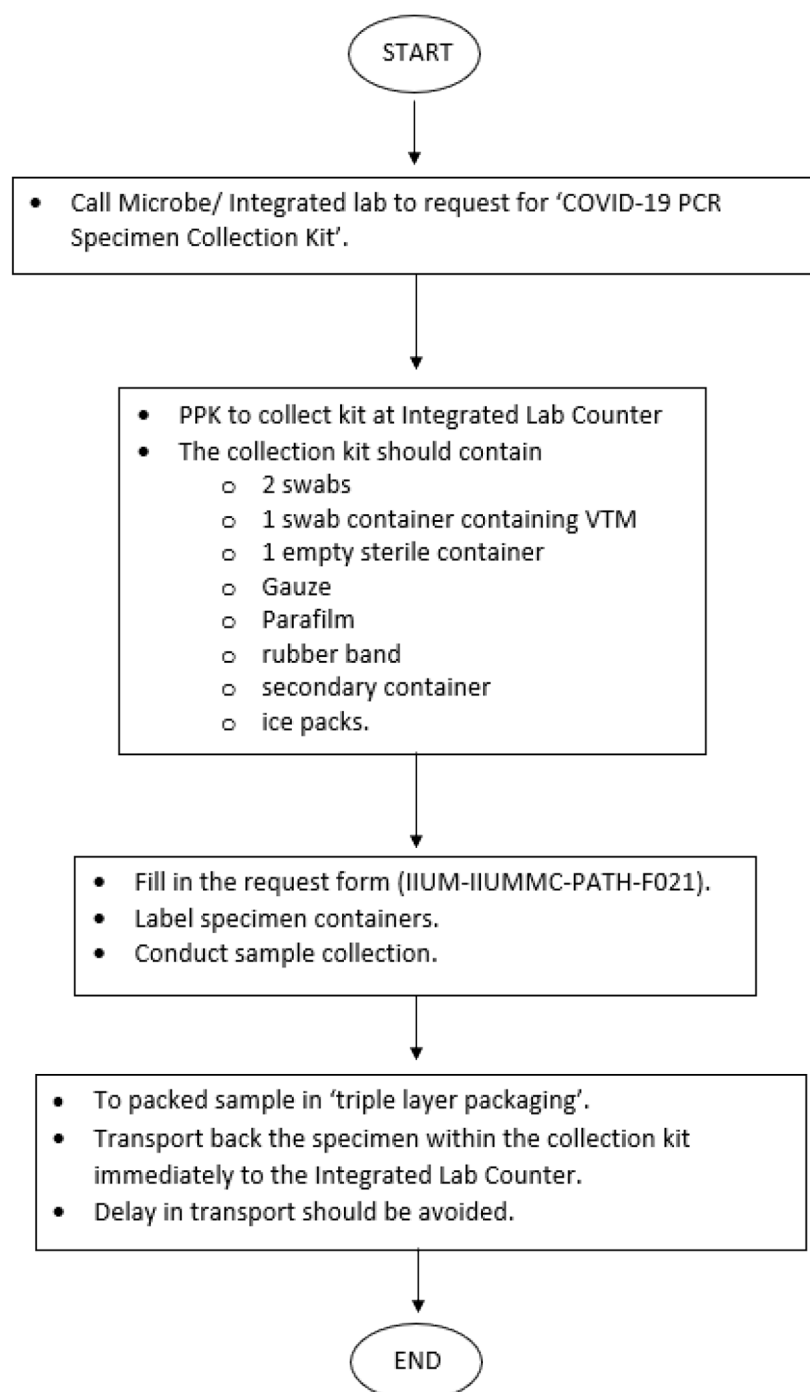
6. Test should be requested as 'COVID-19 PCR'

7. Store the specimen at 4-8 °C if delayed in transportation is expected

8. A single negative test result, particularly if the samples were collected from an upper respiratory tract does not exclude the infection. Repeat sampling and testing. Lower respiratory tract specimen is strongly recommended in severe or progressive disease

9. A positive result for any other pathogen does not necessarily rule out COVID-19 infection

PROTOCOL FOR COVID-19 rRT-PCR SAMPLE COLLECTION & HANDLING



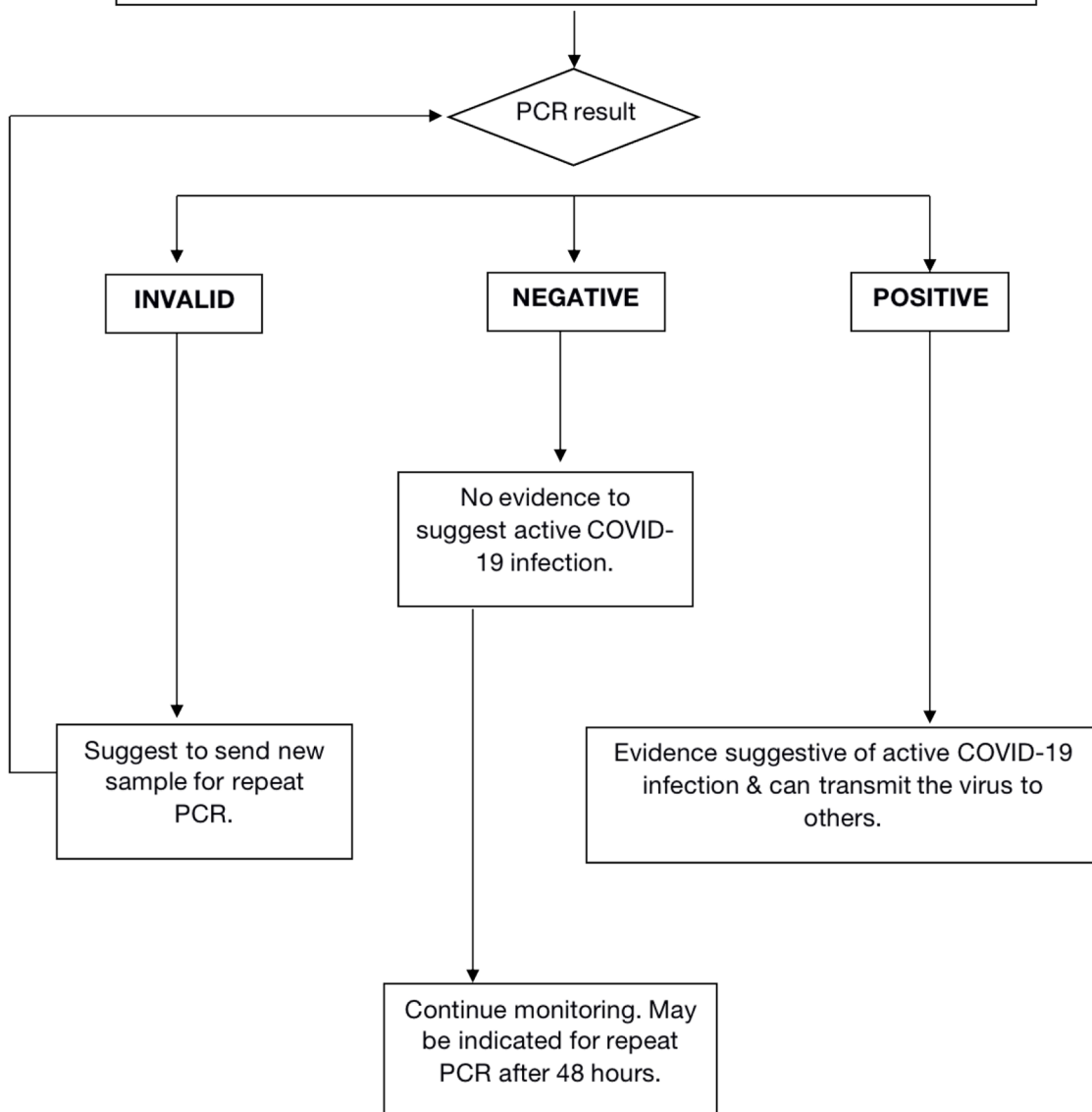
COVID-19



COVID-19 rRT-PCR TEST ALGORITHM

COVID-19 PCR test indication:

- Admission screening and pre-procedure screening for patient **WITH**:
 - symptoms of respiratory infection, or
 - epidemiological link to COVID-19 cases.
- For asymptomatic contact of any degree to COVID-19 cases.
- For patient with contact to ill person with respiratory symptoms.
- For patient with negative COVID-19 testing but persistent symptoms of respiratory infection.
- Admission and pre-procedure screening for paediatric patients.
- Brought in dead (BID) of unknown status OR with clinical suspicion of COVID-19.
- Healthcare worker screening.



GUIDELINES



COVID-19 Rapid Test Kit (RTK) Antigen Detection

RTK-Ag

RTK-Ag is used as a point-of-care testing (POCT) screening test. RTK-Ag does not replace the diagnostic function of Reverse Real-Time Polymerase Chain Reaction (rRT-PCR) for COVID-19 but has the advantage of detecting COVID-19 outbreaks quickly and in large quantities.

TEST INDICATIONS FOR RTK

-  Admission screening and pre-procedure screening for patient WITHOUT:
 - i. symptoms of respiratory infection, or
 - ii. epidemiological link to COVID-19 cases
-  Regular inpatient screening for patients with prolonged hospital stay
-  Screening for symptomatic HCW relatives, seen at Sejahtera Clinic
-  DID or BID WITHOUT clinical suspicion of COVID-19

TYPE OF SAMPLE: Nasopharyngeal swab

TIMING OF SAMPLE COLLECTION: At presentation

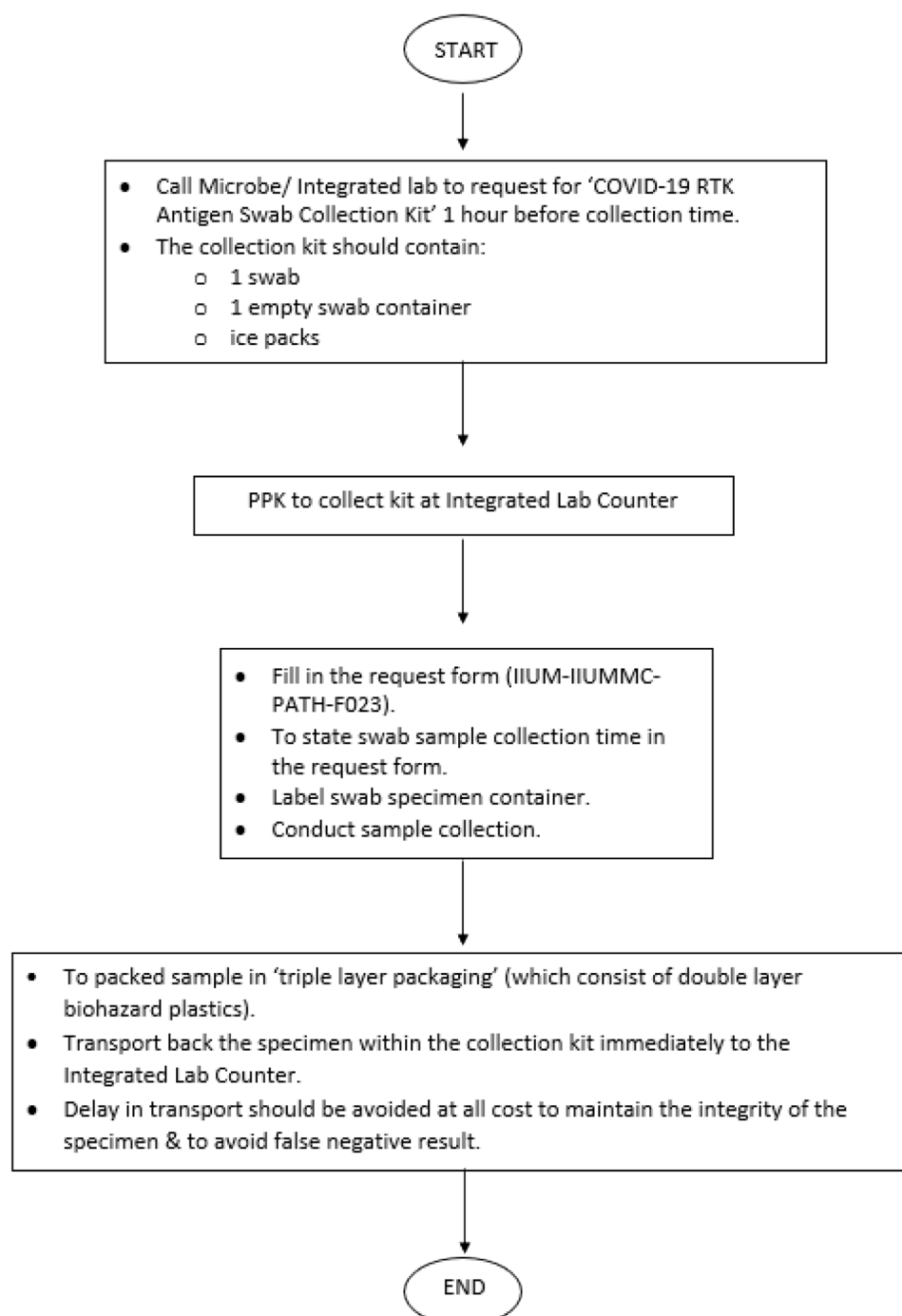
TURNAROUND TIME: 3 HOURS

RTK-Ag

IMPORTANT NOTES

- ✿ RTK-Ag Testing is not a confirmatory test and the test result will be affected due to:
 - [a] Time from the onset of illness
 - [b] Concentration of virus in the specimen
 - [c] How the sample is collected and processed
 - [d] Quality of specimen collected
- ✿ Failure to follow the test procedure may adversely affect test performance or produce invalid results.
- ✿ Sampling should be performed by fully trained health personnel using appropriate Personal Protective Equipment (PPE)
- ✿ Viral Transport Medium (VTM) is strictly not recommended to use for transportation or storage purposes
- ✿ Specimens can be stored at room temperature for maximum to 1 hour. However, it is better to perform the test as soon as possible.
- ✿ All samples must be sent in triple layer packaging and “COVID-19” must be labelled at the outer layer.
- ✿ A negative test result may be obtained if the concentration of antigen specimen is low and or the specimen was collected or transported improperly.
- ✿ Nonetheless, a negative result does not totally rule out the possibility of SARS-CoV-2 infection.
- ✿ RTK-Ag positive but tested by RT-PCR to be negative may suggest presence of SARS-CoV infection.
- ✿ In addition, a positive result does not rule out the possibility of co-infection with other pathogens.
- ✿ Whenever there is a doubt in the interpretation of test result, additional follow up (RT-PCR) and other clinical data is required to confirm the infection.

PROTOCOL FOR COVID-19 RTK Antigen SAMPLE COLLECTION & HANDLING



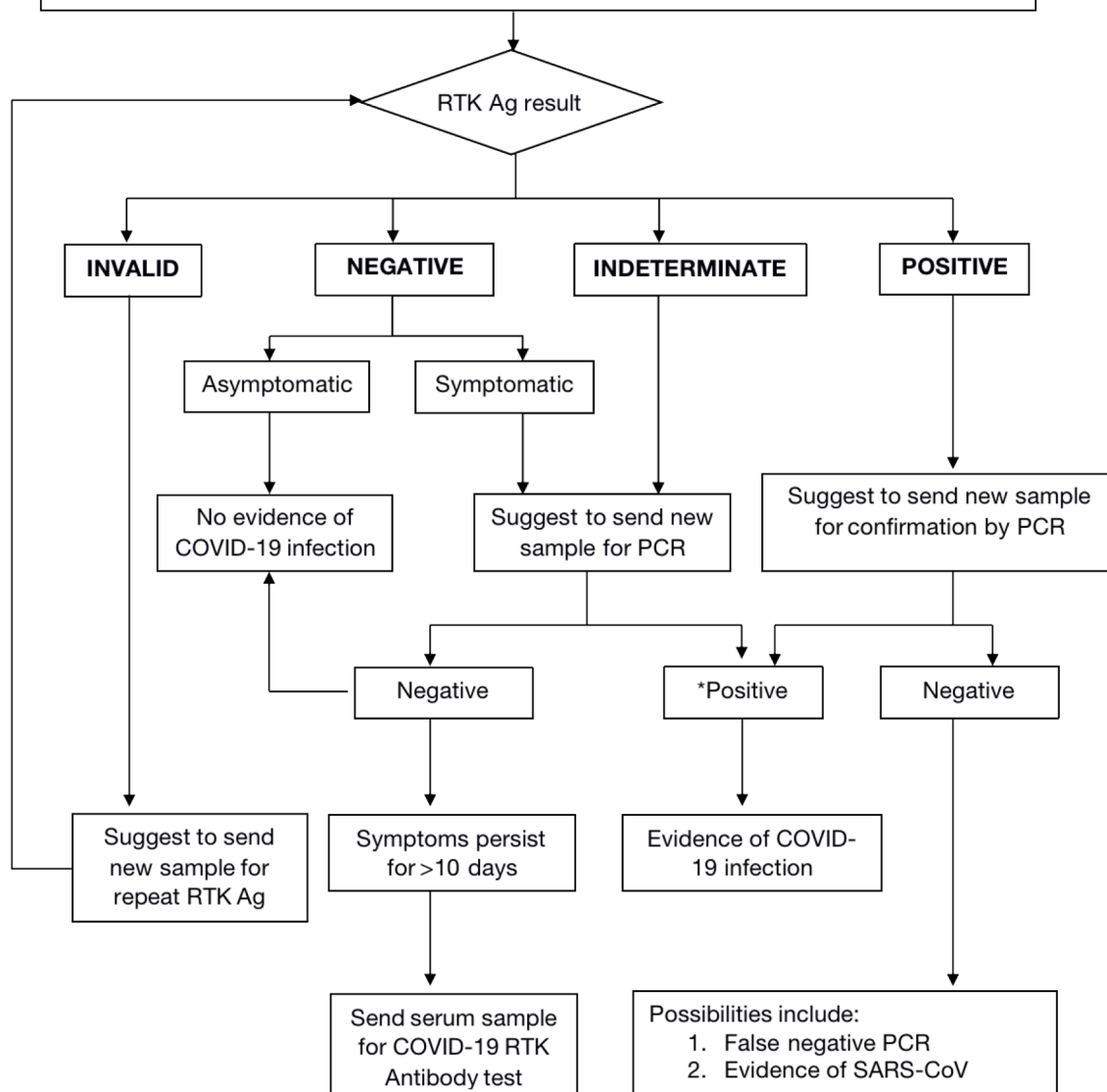
COVID-19



COVID-19 RTK Antigen TEST ALGORITHM

Test Indications for RTK Ag:

- Admission screening and pre-procedure screening for patient WITHOUT:
 - symptoms of respiratory infection, or
 - epidemiological link to COVID-19 cases.
- Regular inpatient screening for patient with prolonged hospital stay.
- Screening for symptomatic HCW relatives, seen at Sejahtera Clinic.
- DID or BID WITHOUT clinical suspicion of COVID-19.



*RTK-Ag negative but tested by RT-PCR to be positive (in symptomatic patients) is possible as the sensitivity rate for this test device is only 84.4%.

GUIDELINES



COVID-19 Rapid Test Kit (RTK) IgM/ IgG Detection

RTK-Antibodies

RTK-Antibodies is used as a point-of-care testing (POCT) screening test. It is a form of qualitative presumptive detection of specific IgM and IgG to SARs-CoV 2 virus in human serum.

TEST INDICATIONS FOR RTK

-  Admission screening and pre-procedure screening for patient WITH:
 - i. prolonged symptoms of respiratory infection, or
 - ii. epidemiological link to COVID-19 cases
-  Asymptomatic contact to COVID-19 cases
-  For HCW who show negative PCR result with prolonged respiratory symptoms.
-  Detection of asymptomatic infection.
-  To establish an epidemiological link during an outbreak.

RTK antibodies

SAMPLE REQUIREMENT

- ✿ Blood collected in a plain tube, transported inside the designated box, at room temperature.

TURNAROUND TIME: 4 Hours

IMPORTANT NOTES

- ✿ Request form is similar to RTK-Ag (IIUM-IIUMMC-PATHO-F023)

**IIUM MEDICAL CENTRE
 DEPARTMENT OF PATHOLOGY & LABORATORY MEDICINE
 MOLECULAR MEDICAL MICROBIOLOGY REQUEST FORM**

1. PATIENT IDENTIFICATION		
Name	RN	Age
Identification No (NRIC/ passport no.)	Occupation	
Ward/ clinic	Nationality/ race	Gender ☐ Male ☐ Female
2. RELEVANT CLINICAL INFORMATION		
General symptoms		Date of onset
☐ Fever of $\geq 38^{\circ}\text{C}$ / history of fever		
☐ Cough		
☐ Runny nose		
☐ Shortness of breath		
☐ Hypoxia		
☐ Acute respiratory distress syndrome		
☐ Other symptoms (please specify):		
Examination & Investigation		
Temperature : $^{\circ}\text{C}$	Lungs: _____	
White blood cell count : _____	Platelet count: _____	
CXR findings:		
Additional Information for Case Suspected of MERs COV		
History of close contact with a confirmed MERs COV case?		
☐ YES (please specify name & address):		
☐ NO		
History of travel to areas reporting confirmed case of MERs COV prior to onset of symptoms		
☐ YES (please specify):		
☐ NO		
3. INFORMATION ON SPECIMEN COLLECTION		
Collection date:	Collection time:	
TYPE OF SPECIMEN COLLECTED		
☐ Nasopharyngeal swab	☐ *Sputum	
☐ Throat swab	☐ *Blood	
☐ Nasopharyngeal aspirate	☐ *Serum	
☐ Bronchoalveolar lavage	☐ Others (please specify):	
☐ Endotracheal tube aspiration		
* Only for MERs COV PCR assay.		
NOTE: Swab specimen must be sent to the laboratory in viral transport medium (VTM). Transport other specimen in sterile container. All specimens should be kept in $2-8^{\circ}\text{C}$ following collection and upon arrival at the laboratory receiving counter.		
4. TYPE OF TEST REQUESTED	5. APPLICANT'S DETAIL	
☐ Respiratory pathogen qualitative PCR Panel	Name:	
☐ MERs COV qualitative PCR	Signature & stamp:	
6. FOR LABORATORY USE ONLY		
Lab result:	Validated by:	
	Date:	

COVID-19



IIUM MEDICAL CENTRE
DEPARTMENT OF PATHOLOGY & LABORATORY MEDICINE
MEDICAL MICROBIOLOGY: VIROLOGY & IMMUNOLOGY REQUEST FORM

1. PATIENT IDENTIFICATION	
Name	RN
Identification No (NRIC/ passport no.)	Age
Ward/ clinic	Gender ☐ Male ☐ Female
2. RELEVANT CLINICAL INFORMATION	
<i>*For dengue case, please state days of illness & result of previous dengue test if available</i>	
3. APPLICANT'S INFORMATION	
Name: Signature & stamp: MMC no.: Date of collection:	
4. TYPE OF TEST REQUESTED	
VIROLOGY/ SEROLOGY TEST	IMMUNOLOGY TEST
☐ CMV IgM ☐ CMV IgG ☐ Dengue IgG/ IgM ☐ Dengue NS1 Ag ☐ HSV IgG ☐ HSV IgM ☐ Leptospira IgM ☐ Mycoplasma pneumoniae IgM ☐ Mycoplasma pneumoniae IgG ☐ Rubella IgG ☐ Rubella IgM ☐ TORCH IgM Panel ☐ TORCH IgG Panel ☐ Toxoplasma IgG ☐ Toxoplasma IgM ☐ Others (please specify):	☐ Antinuclear antibody (ANA) EIA ☐ Extractable nuclear antigen antibody (ENA) panel ☐ Anti-double stranded antibody EIA ☐ Anti-Streptolysin-O Test (ASOT) ☐ Rapid plasma reagin (RPR) ☐ Rheumatoid factor (RF) ☐ Others (please specify):
5. FOR LABORATORY USE ONLY	
Lab result:	Validated by:
	Date:

GUIDELINES



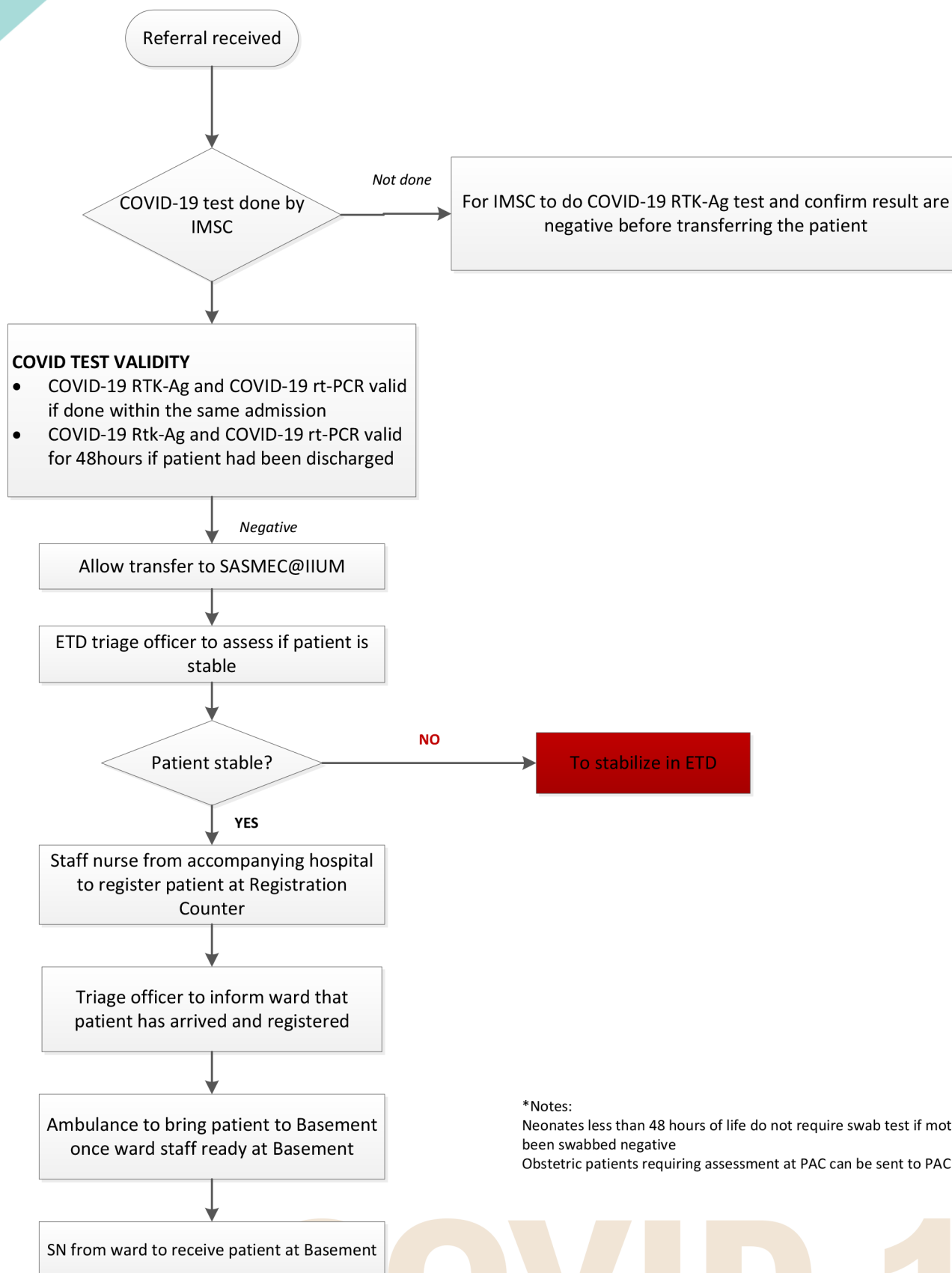
rRT-PCR



RTK-Ag

R E F E R R A L
P R O T O C O L

FLOWCHART FOR ADMISSION FROM IMSC



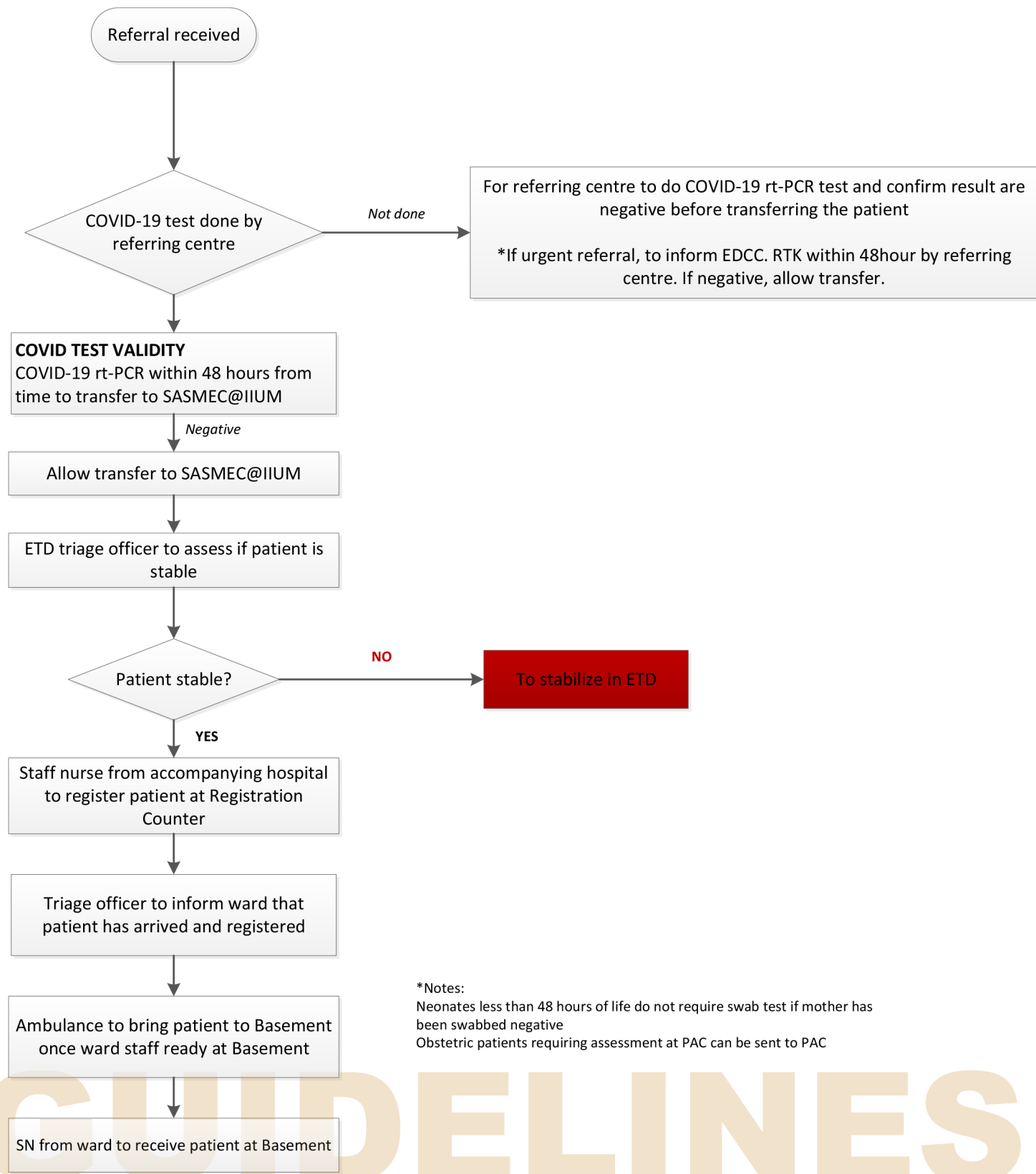
***Notes:**

Neonates less than 48 hours of life do not require swab test if mother has been swabbed negative
 Obstetric patients requiring assessment at PAC can be sent to PAC

COVID-19

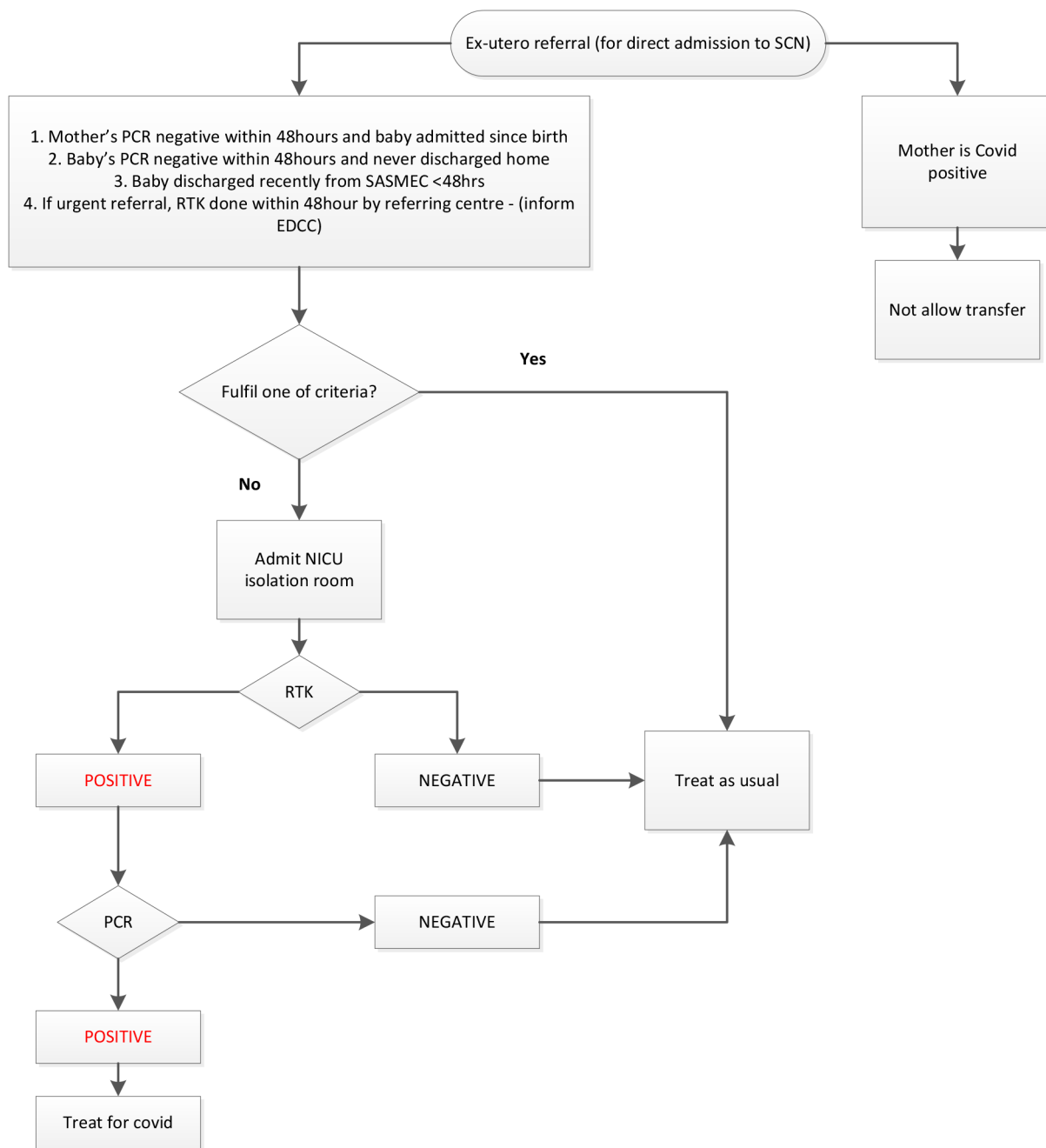


FLOWCHART FOR ADMISSION FROM EXTERNAL HOSPITAL



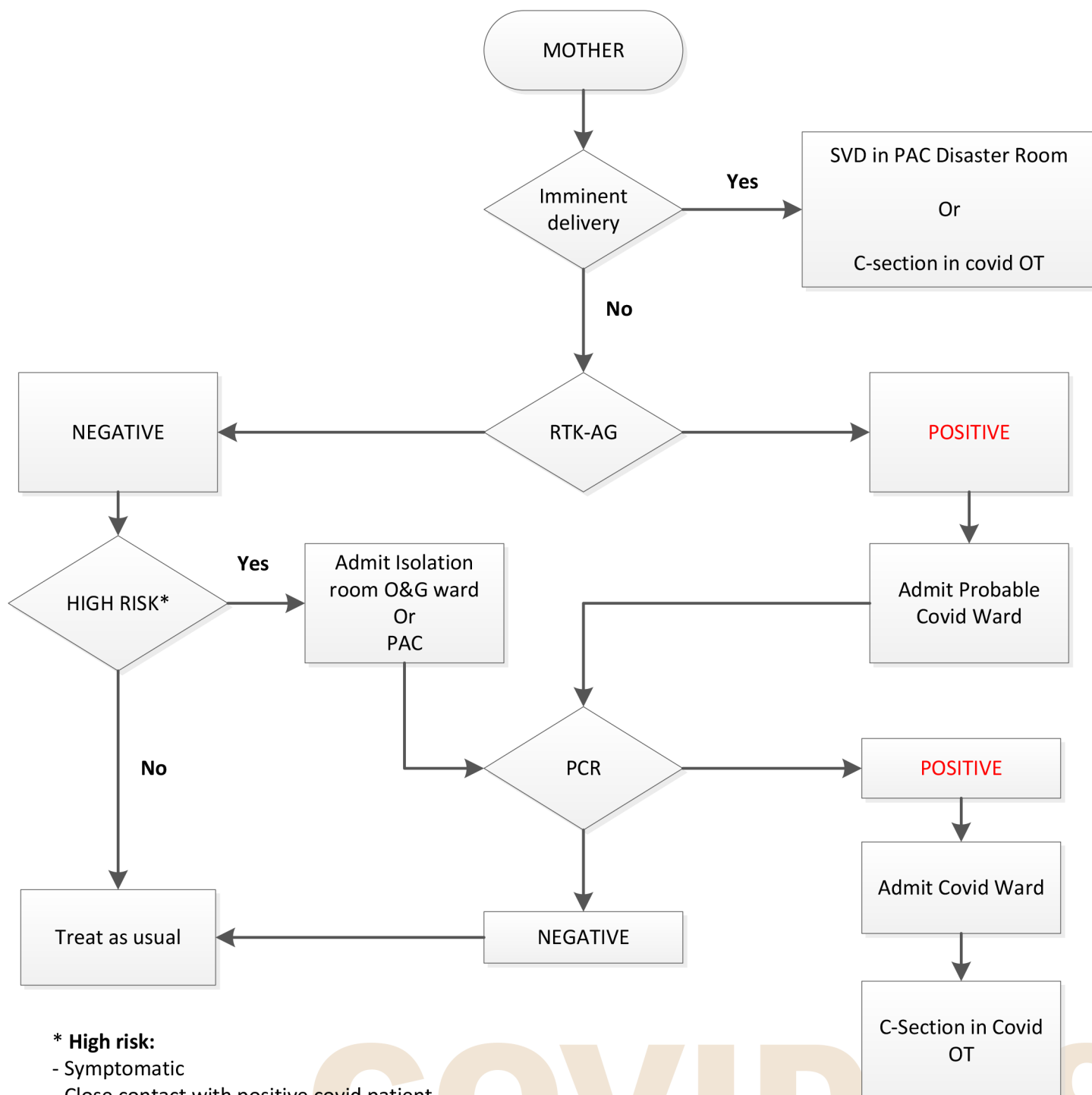
*Notes:
 Neonates less than 48 hours of life do not require swab test if mother has been swabbed negative
 Obstetric patients requiring assessment at PAC can be sent to PAC

FLOWCHART FOR



MATERNITY & NEONATAL GUIDELINES

FLOWCHART FOR MATERNAL ADMISSION AND DELIVERY



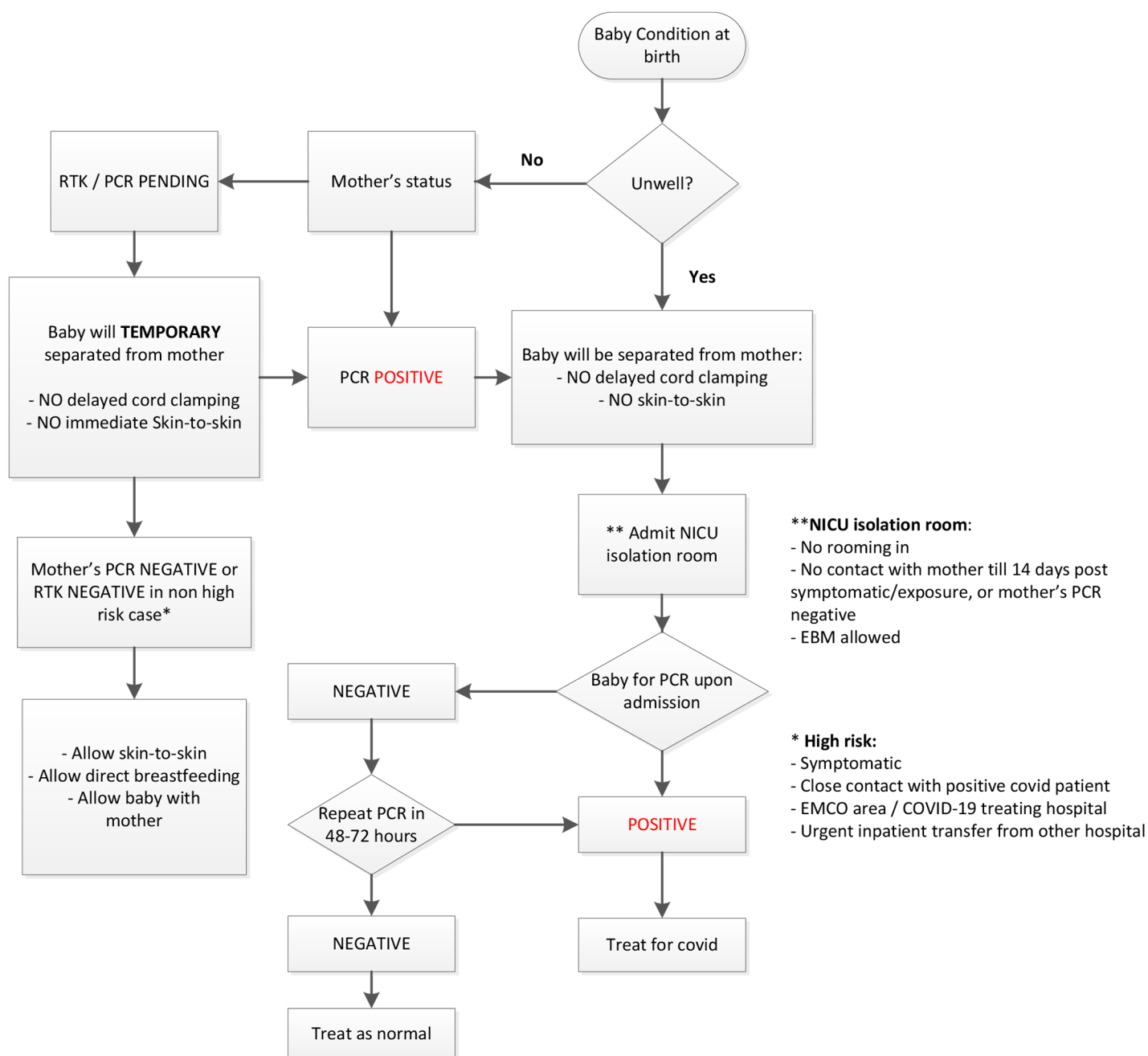
*** High risk:**

- Symptomatic
- Close contact with positive covid patient
- EMCO area / COVID-19 treating hospital
- Urgent inpatient transfer from other hospital

COVID-19



FLOWCHART FOR NEWBORN OF SUSPECTED/CONFIRMED COVID-19 MOTHER

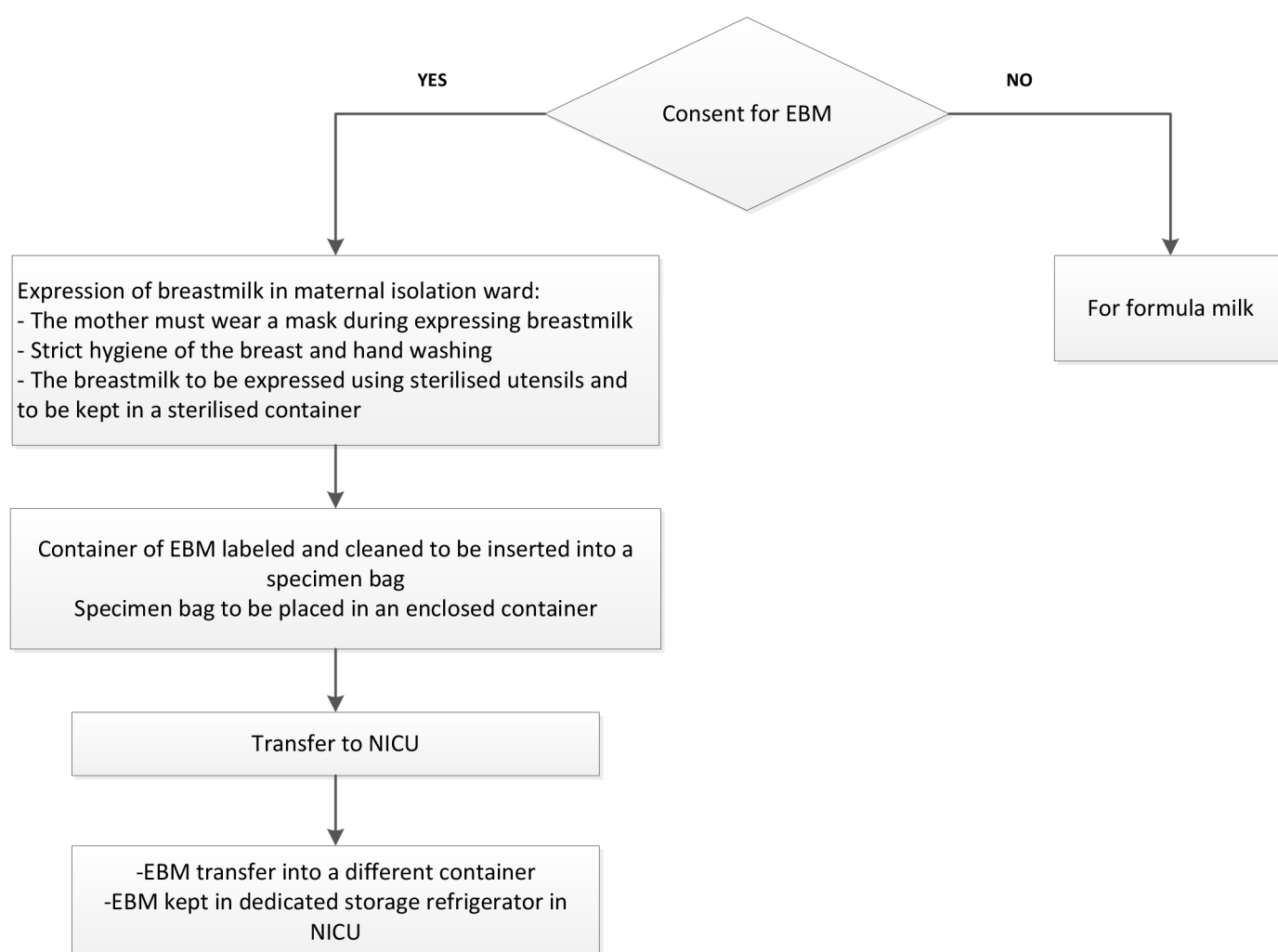


GUIDELINES



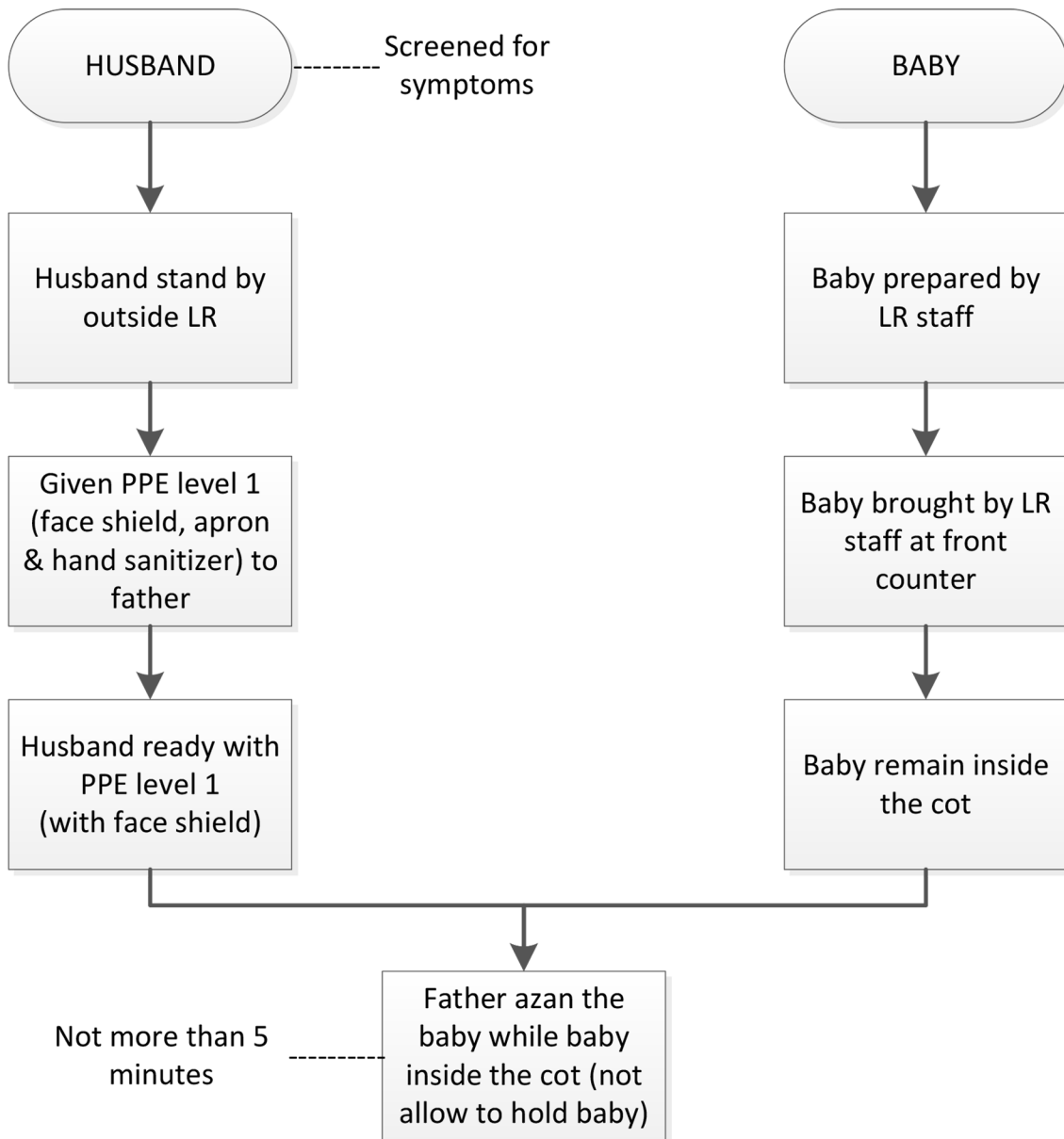
FLOWCHART FOR EBM IN COVID-19 POSITIVE MOTHER

FLOWCHART FOR EBM IN COVID19 POSITIVE MOTHER



COVID-19

FLOWCHART FOR FATHER *AZAN* AND *IQAMAH* TO HIS NEWBORN DURING PANDEMIC COVID-19



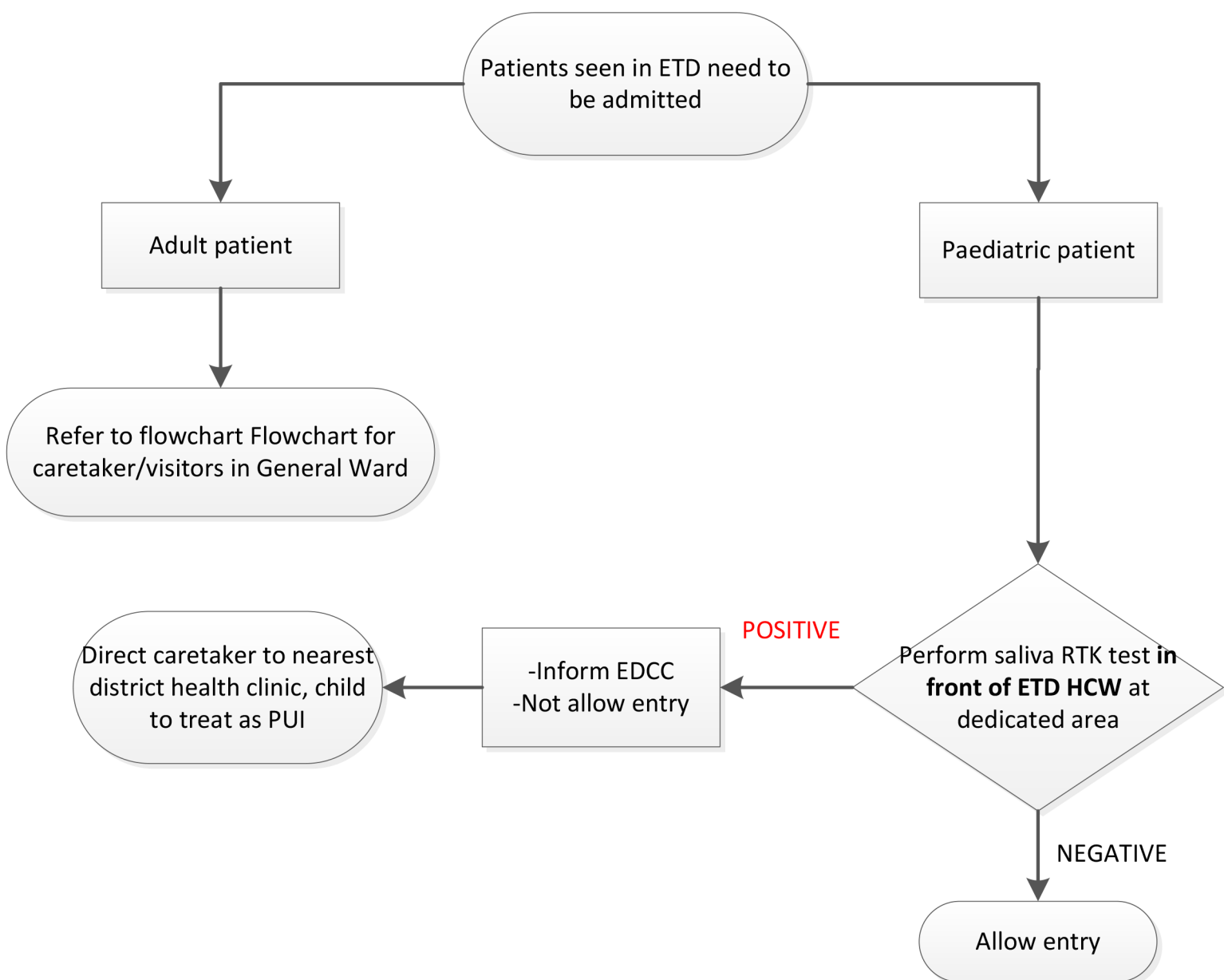
-Staff to always adhered to PPE level 1

-No entry after 9pm. Father advised to come for Azan and Iqamah tomorrow morning

GUIDELINES



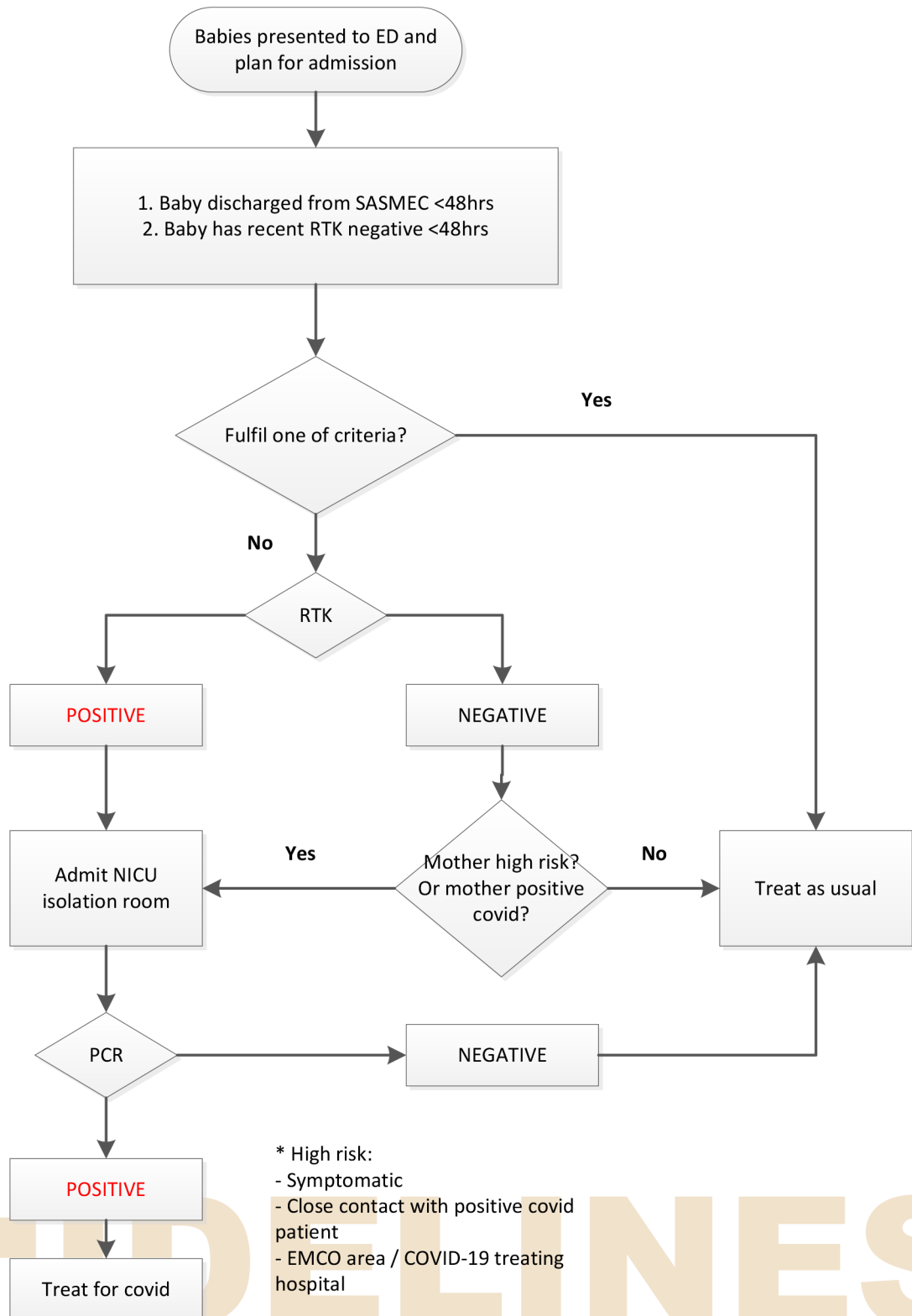
FLOWCHART FOR CARETAKER FOR PEADIATRIC PATIENT FROM ETD



COVID-19



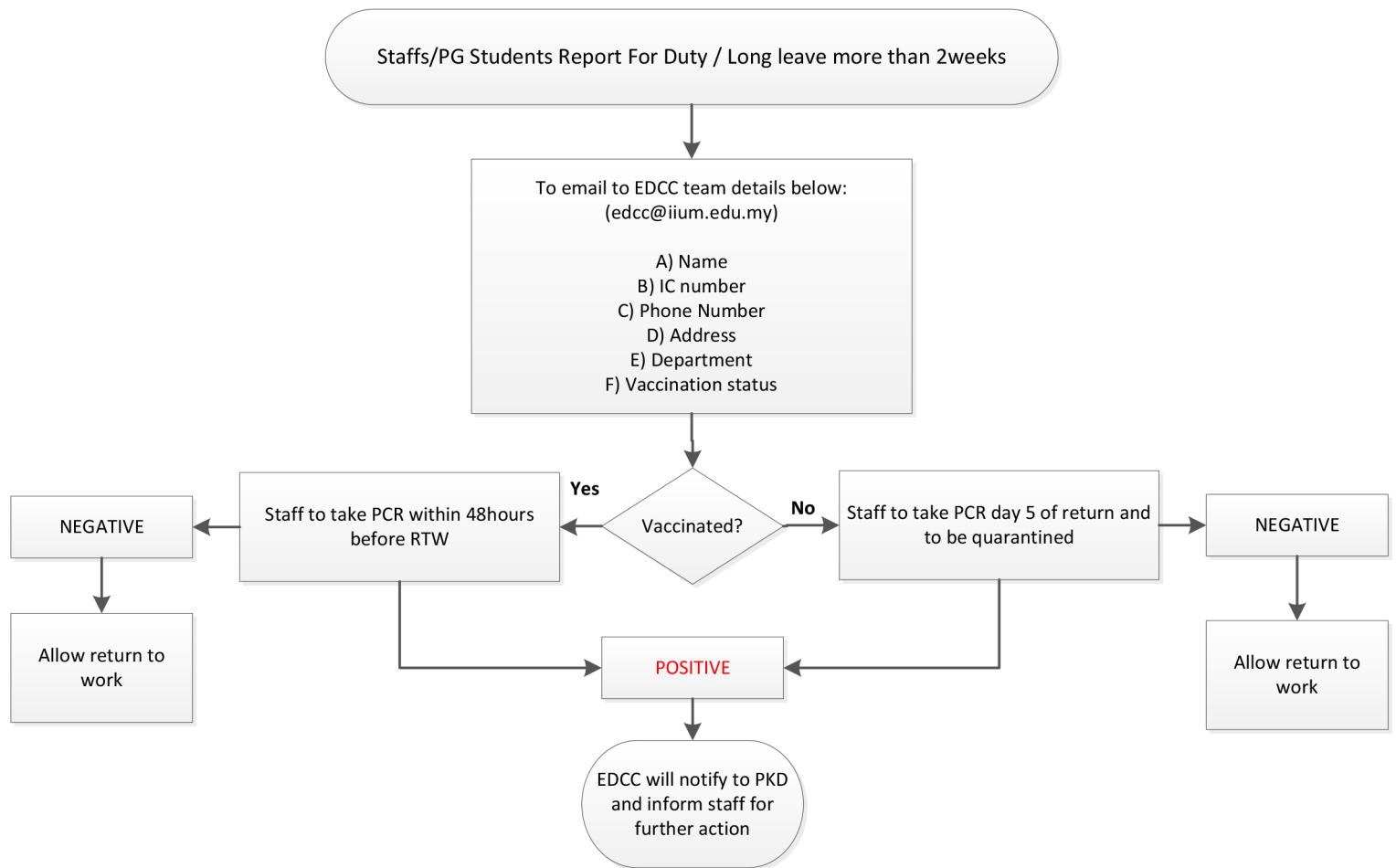
FLOWCHART FOR INFANT ADMISSION FROM ETD SASMEC@IIUM



GUIDELINES FOR HEALTHCARE WORKERS

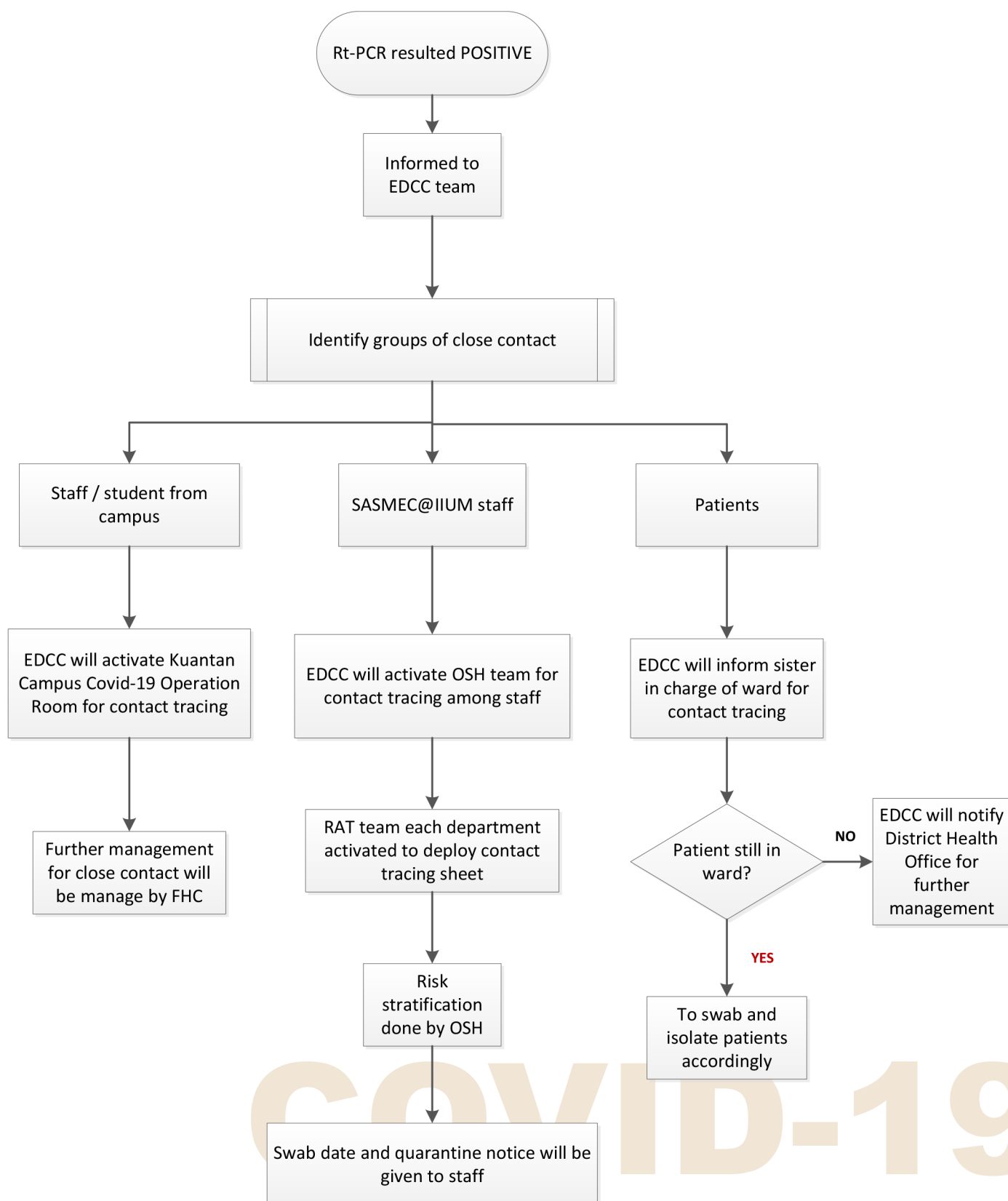
FLOWCHART FOR REPORT DUTY OR RTW

Flowchart of Staff / Post Graduate Student Report for Duty or Returning to SASMEC @IIUM



GUIDELINES

FLOWCHART FOR CONTACT TRACING COVID-19 PATIENT



GUIDELINES FOR HEALTHCARE WORKER EXPOSED TO CONFIRMED COVID-19 PERSON

GENERAL CONSIDERATION



HCW who intend to travel or have returned from affected countries should declare to their respective HOD and inform OSHE promptly



Symptomatic HCW should not enter their respective working areas, but instead **MUST** inform their superior and go to Sejahtera Clinic for assessment



Asymptomatic HCW with red flags based on the SASMEC@IIUM COVID-19 Health Declaration Form; in the past 14 days should declare to their respective HOD and inform OSHE



HCW exposed to household members who are being investigated as PUI should inform their superior and OSHE (CC2 household); staff should be excluded from work until 1st PCR result of the PUI is available. If the PCR is negative, the HCW may return to work immediately with strict SOP.

MINISTRY OF HEALTH MALAYSIA

ANNEX 21

RISK ASSESMENT AND MANAGEMENT OF HEALTHCARE WORKER WITH EXPOSURE TO A PERSON WITH CONFIRMED COVID-19 (TABLE 2)
 (UPDATED ON 25TH JANUARY 2021)

STEP 1: Determine Exposure Scenario During Contact	STEP 2: Determine Exposed HCW PPE level	STEP 3: Determine Exposure Risk Category	STEP 4: Implement Recommended Management	
			ASYMPTOMATIC HCW	SYMPTOMATIC HCW
*Source person with confirmed COVID-19 NOT wearing mask				
1. Within 1 meter distance. AND/OR 2. Cumulative exposure more than 15 min during one work shift.	Wearing 3 ply surgical mask with eye protection (face shield/goggle).	LOW (protected exposure)	1. Continue to work. 2. No test required. 3. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	1. Re-evaluate risk and symptoms. 2. RT-PCR immediately. 3. Exclude from work with MC until test result available and/or until acute symptoms improve
	Wearing 3 ply surgical mask without eye protection .	MEDIUM (unprotected exposure)	1. Exclude from work with HSO for 10 days from exposure date. 2. RT-PCR at D3 post-exposure, repeat at D8 if 1 st test negative. 3. In the event of crisis and staff shortage , RTW may be allowed as soon as 1 st test (D3 post-exposure) is negative with strict daily monitoring by OSH/ authorized personnel and adherence to RTW practice. 4. Self-monitor symptoms for 14 days from exposure date, test immediately if symptoms occur.	1. Exclude from work with HSO for 10 days from exposure date. 2. RT-PCR immediately. 3. If 1 st test negative and: - still symptomatic, repeat test after 48 hours - symptoms have resolved, repeat test at D8 post exposure. 4. Strict daily monitoring by OSH/authorized personnel.
	NOT wearing 3 ply surgical mask.		HIGH (unprotected exposure)	
3.Performing AGP.	NOT wearing full PPE with respirator (N95/PAPR).			

***Source person** = A person who is a confirmed case of COVID-19

RTW = Return To Work

According to MOH GUIDELINES Annex 21: MANAGEMENT OF HEALTHCARE WORKERS (HCW's) DURING THE COVID-19 PANDEMIC

Ministry of Health Malaysia
 Updated on 7 September 2021 | 13

GUIDELINES



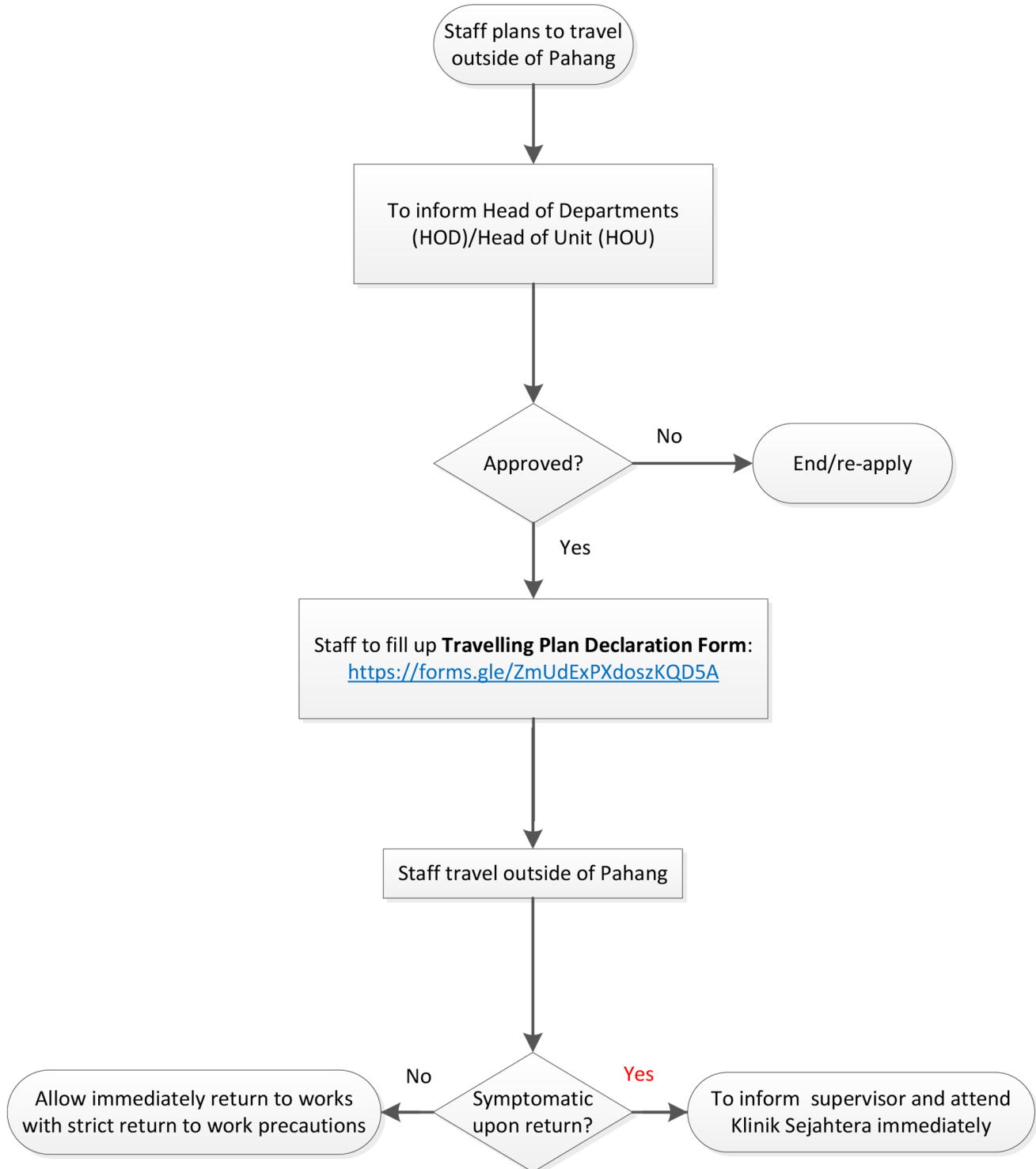
Management of vaccinated HCW exposed to confirmed COVID-19 patient

1. Department R.A.T is in charge of identifying all HCW in a particular department that were exposed to a COVID-19 positive patient.
2. Names of involved HCW will be informed to OSHE for proper stratification and further action.
3. Involved HCW should remain where they are (at work or at home during notification of exposure) until they have been stratified and alerted further action by OSHE.

COVID-19



FLOWCHART FOR VACCINATED STAFF TRAVELLING OUTSIDE PAHANG



GUIDELINES

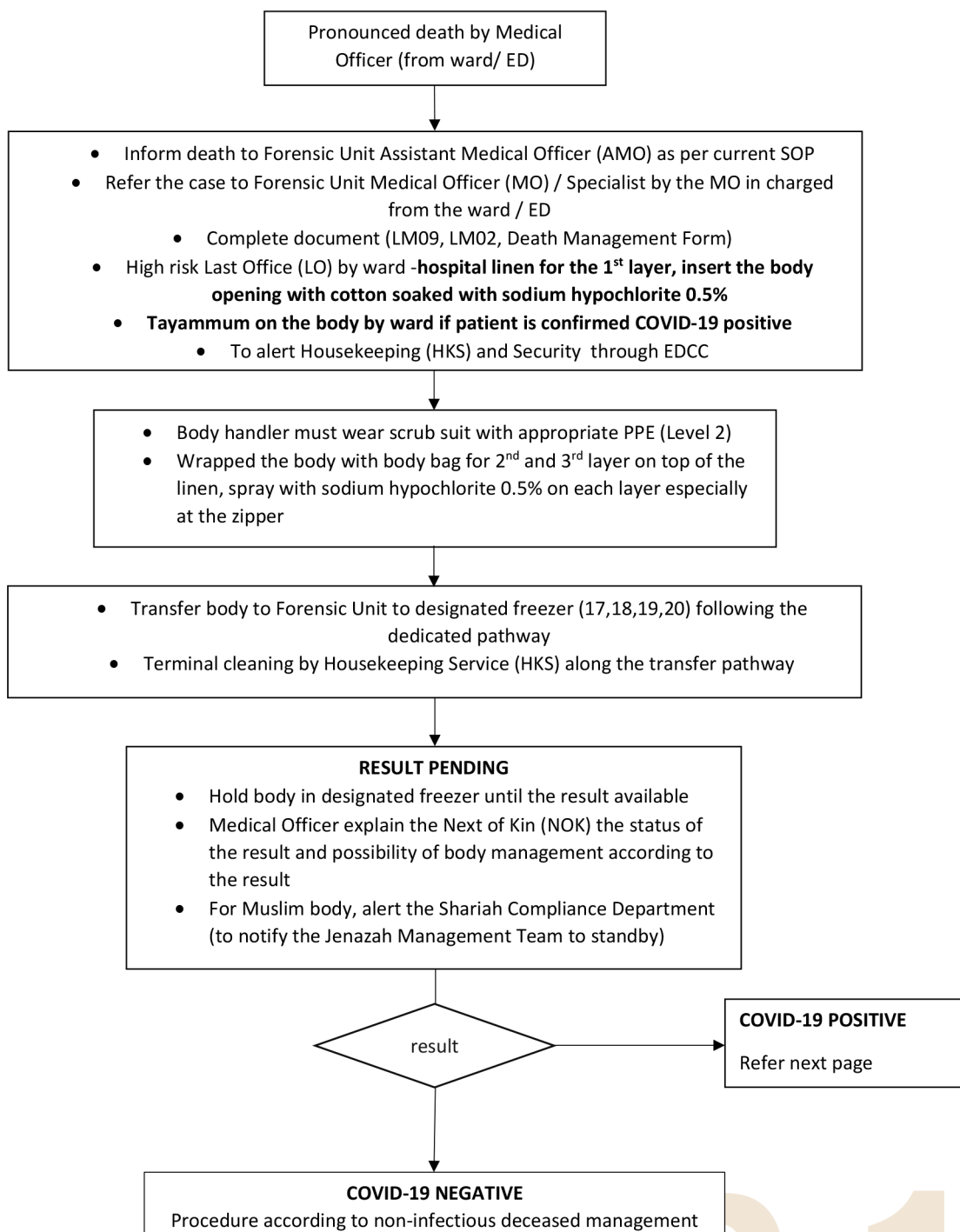


F O R E N S I C
U N I T



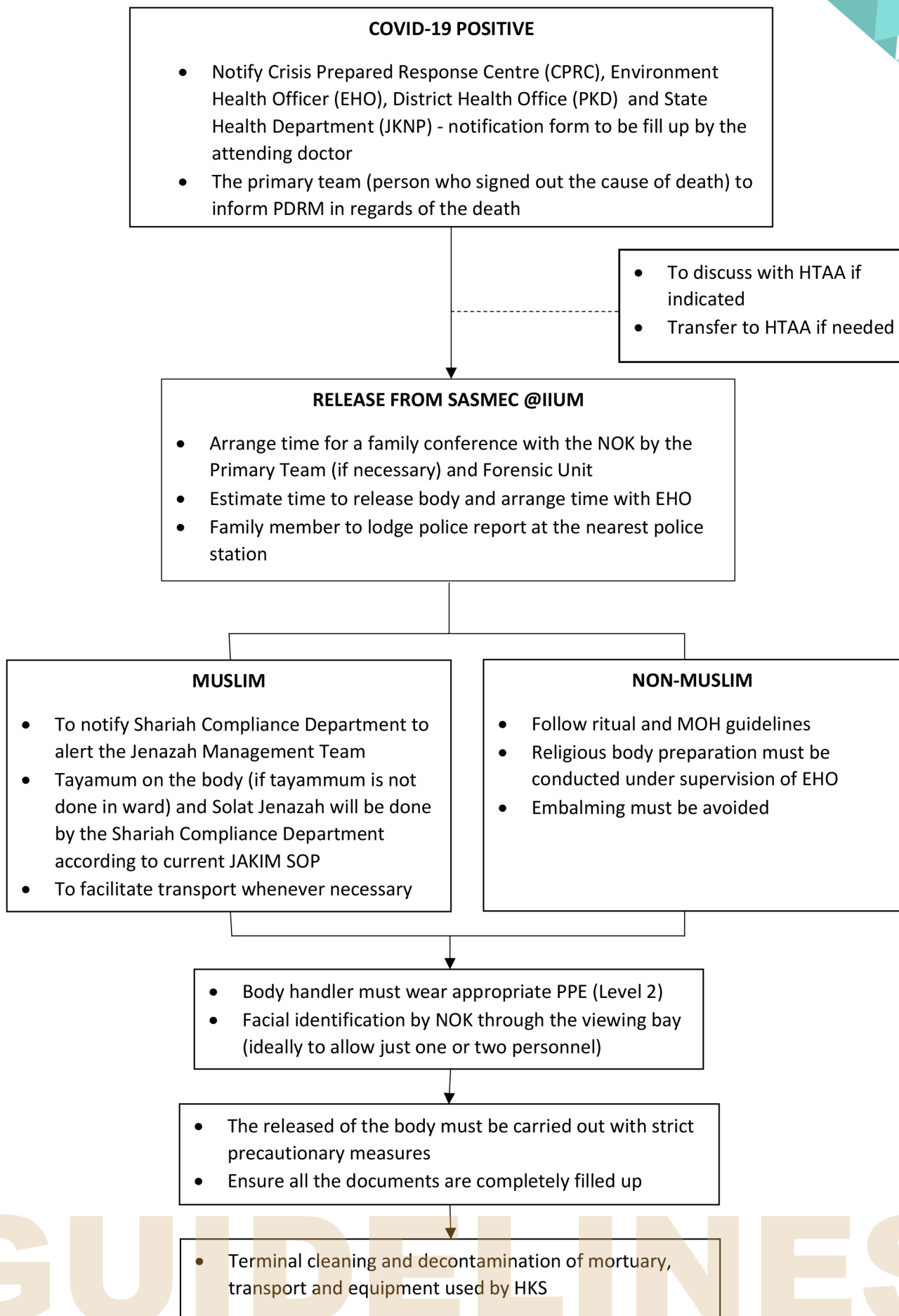
FLOWCHART FOR MANAGEMENT OF DECEASED PATIENT

FLOWCHART ON MANAGEMENT OF SUSPECTED/ CONFIRMED COVID-19 OR AWAITING RESULT FOR
 SURVEILLANCE COVID-19 SWAB
 (Manner of death: Natural)



COVID-19





CHECK LIST FOR HANDLING OF BODY SUSPECTED / AWAITING RESULT FOR SURVEILLANCE SWAB / POSITIVE COVID-19 FROM WARD/ ED (for Forensic Unit usage)

No.	Steps	Yes/No	Remarks
1.	Get proper information form ward/ ED the status of the body – sample status (swab taken-types of swabs RTK-Ag?, RTPCR?/ result pending/ result available/etc.)		
2.	To discuss with medical officer /specialist oncall in regards of status (muslim/ non muslim/ awaiting result etc.) ‘ Police / non police case? Manner of death?		
3.	To ensure body last office done correctly as per high risk procedure and followed the interim guideline (3 layer; 1 st –shroud, 2 nd body bag, 3 rd body bag sprayed with disinfectant) Tayammum done by ward staff if patient is confirmed COVID-19 positive		
4.	To alert the security guards		
5.	To alert the house keeping site to be ready for decontamination process (via EDCC)		
6.	Keep the standardize practice of route to mortuary		
7.	Inform the specialist oncall		
8.	In charge staff to wear proper PPE prior to handling the body		
9.	Use dedicated trolley (for smooth decontamination process)		
10.	Body kept in dedicated body freezer (17/18/19/20) , tag it		
11.	Discuss and decide how the management of the body should be done (case by case basis) - For pending investigation to liaise with Microbiologist - Muslim- to alert Shariah Compliance Department - Once result available, to liaise with Primary Team - Inform the driver (positive Muslim case)		
12.	If the result is positive, to discuss with HTAA whether the body can be released from SASMEC @IIUM or requiring transfer to HTAA (case by case basis)		
13.	Primary team to notify CPRC, EHO , PKD, JKPN, and PDRM. Notification form to be filled up by primary team.		
14.	Family member to lodge police report (if indicated)-otherwise, ensure person who signed out the case notify the police		
15.	If the body can be released from SASMEC @IIUM Estimate time to release body and arrange time with EHO and PDRM. Inform next-of-kin regarding the time to release body. - If muslim deceased, Shariah Compliance to explain the management of positive COVID-19 deceased (tayammum (if not done in ward) , solat jenazah and etc). - If non-muslim, for family members to liaise with the dedicated undertaker		
16.	To conduct a family conference by the Primary team and Forensic team. (if needed)		
17.	Facial identification and properties/ belongings hand over if any		
18.	To handover PPE to the Jenazah Management Team / undertaker.		
19.	Ensure all documents are fully filled up		
20.	Certified copy of LM02 and LM09 to be given to pengurusan jenazah team for Muslim body (for financial claimance from respective bodies)		
21.	NADMA form to family		
22.	Ensure sanitize workplace, van jenazah, surface disinfection being done		
23.	Ensure notify the clinical waste team for waste management		
24.	Ensure collection of used linen		
25.	Ensure linen par level being checked and notify respective team		

Reference:

-Guidelines COVID-19 Management In Malaysia No. 5/2020

ANNEX 1: Case Definition of COVID-19 (Updated on 30 August 2021)

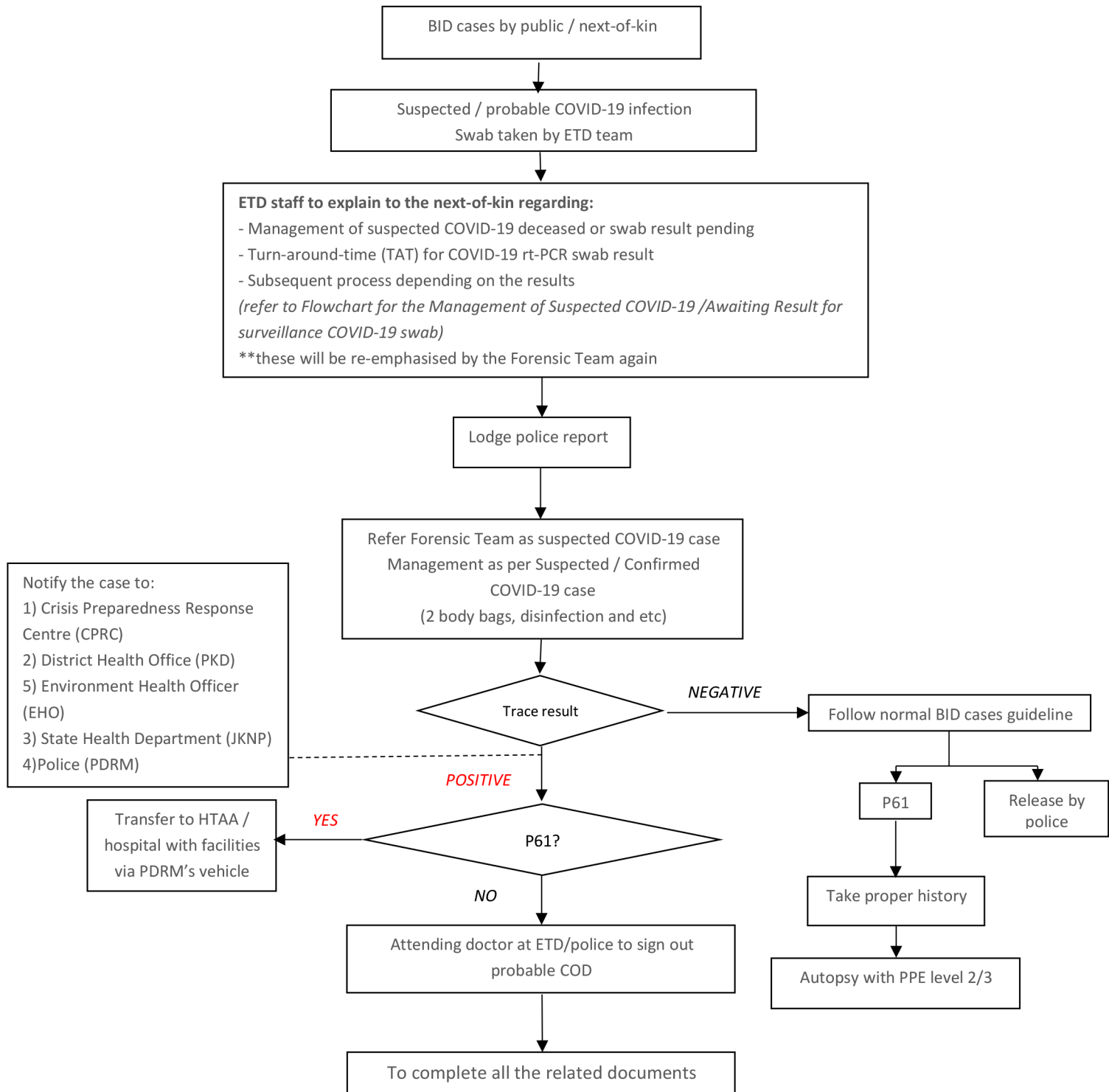
ANNEX 20 : Interim Guideline For Handling Dead Bodies Of Suspected / Probable /Confirmed COVID-19 Death – 02-Dec2020

-Surat Rujukan: KKM.600-27/3/1 JLD. 3(37) – Keperluan Memaklumkan Pengesahan Kematian Kes Jangkitan COVID-19 Kepada Pihak Polis Diraja Malaysia

Keputusan Mesyuarat Jawatankuasa Perundingan Hukum Syarak Negeri Pahang (JPNSNP) Bil.2/2021



FLOWCHART FOR MANAGEMENT OF BROUGHT IN DEAD



GUIDELINES



Abu Hurairah (May Allah be pleased with him) reported:

الشُّهَدَاءُ خَمْسَةٌ: الْمَطْعُونُ، وَالْمَبْطُونُ، وَالْغَرِيقُ، وَصَاحِبُ الْهَضَمِ، وَالشَّهِيدُ فِي سَبِيلِ اللَّهِ

The Messenger of Allah (pbuh) said, "The martyrs are of five kinds:
One who dies of plague;
one who dies of disease of his belly;
the drowned; one who dies under the debris (of construction, etc.),
and one who dies while fighting in the way of Allah."

Sahih Al-Bukhari (2829) and Muslim (1914)



DONNING AND DOFFING PERSONAL PROTECTIVE EQUIPMENT

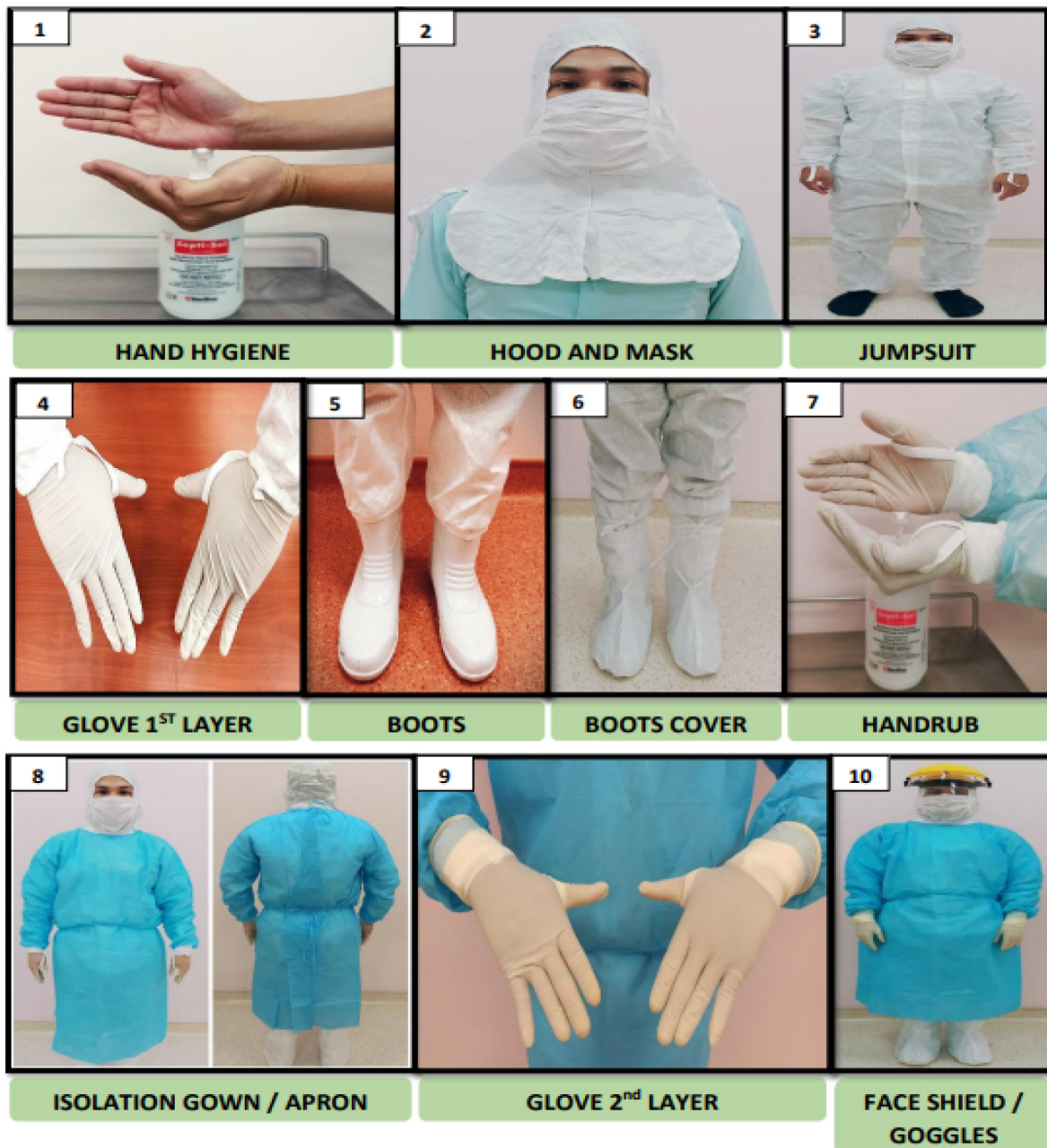
DOFFING LEVEL II PPE



GUIDELINES



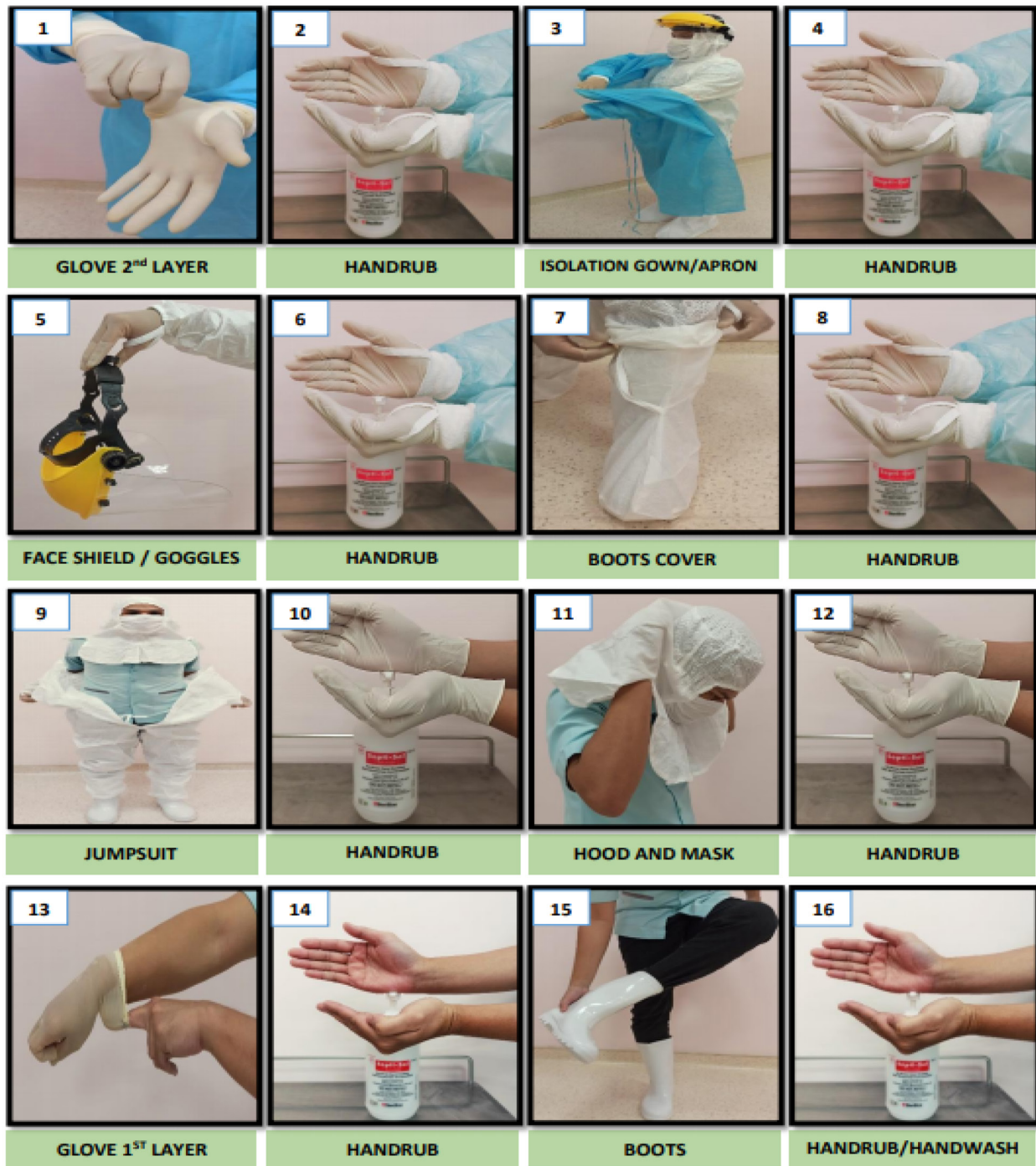
DONNING LEVEL III PPE



COVID-19



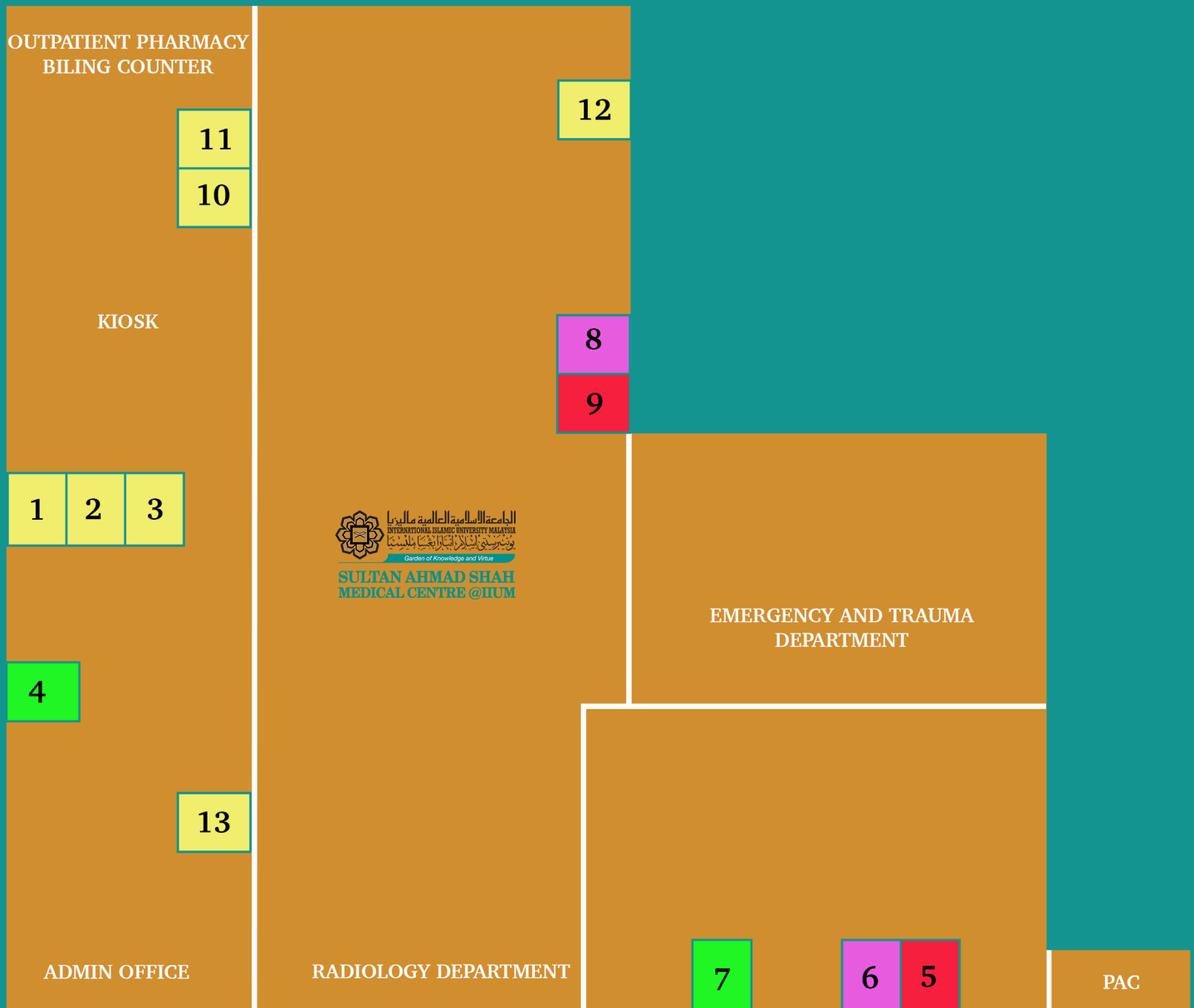
DOFFING LEVEL III PPE



GUIDELINES



LAYOUT OF LIFTS IN SASMEC@IIUM



PUBLIC AND STAFF LIFT

NON COVID PATIENT LIFT

COVID PATIENT LIFT / DECEASED

CLEANER, FOOD AND CLEAN UTILITY LIFT

G L O S S A R Y

COVID-19	Coronavirus Disease 2019
SOP	Standard Operating Procedure
EDCC	Emergency & Disaster Coordination Centre
OSHE	Occupational Safety & Health Environment
R.A.T	Rapid Assessment Team
RRT	Rapid Response Team
ETD	Emergency & Trauma Department
ENT	Ear, Nose & Throat
PKPB/PKPD	Perintah Kawalan Pergerakan Bersyarat/Diperketatkan
PKD	Pejabat Kesihatan Daerah
TCA	To come again (follow-up)
SN	Staff nurse
AMO	Assistant Medical Officer
PPE	Personal Protective Equipment
rRT-PCR	Real-time Reverse Transcriptase Polymerase Chain Reaction
SARI	Severe Acute Respiratory Illness
MRSA	Methicillin-resistant Staphylococcus aureus
ILI	Influenza-like Illness
GA	General Anaesthesia
LA	Local Anaesthesia
JKNP	Jabatan Kesihatan Negeri Pahang
CPRC	Crisis Preparedness & Response Centre
HTAA	Hospital Tengku Ampuan Afzan
RTK-Ag	Antigen Rapid Test Kit
MO	Medical Officer
ICU	Intensive Care Unit
ID	Infectious disease
MECC	Medical Emergency Coordinating Centre
EP	Emergency Physician
JAKIM	Jabatan Kemajuan Islam Malaysia
BID	Brought In Dead
IMSC	IIUM Medical Specialist Centre
NICU	Neonatal Intensive Care Unit
PAC	Pregnancy Assessment Centre
CMCO	Conditional Movement Control Order
KKM	Kementerian Kesihatan Malaysia
HCW	Healthcare worker
HSO	House surveillance order
D5/D7/D13	Day 5/ Day 7/ Day 13
RTW	Return to work
PAPR	Powered air-purifying respirator
AGP	Aerosol generating procedure
LR	Labour room

R E F E R E N C E S

ANNEX 21: Management of Healthcare Workers (HCW) During COVID-19 Outbreak (Updated on 7th September 2021)

Surat Rujukan: (1) dlm.JKN.Phg((KA-EPID) 5/101 Jld. 10 (25th June 2021)

Surat Rujukan: (2) dlm.JKN.Phg((KA-EPID) 5/101 Jld. 10 (25th June 2021)

Surat Rujukan: KKM.600-27/3/1 JLD. 3(37) - Keperluan Memaklumkan Pengesahan Kematian Kes Jangkitan COVID-19 Kepada Pihak Polis Diraja Malaysia

Keputusan Mesyuarat Jawatankuasa Perundangan Hukum Syarak Negeri Pahang (JPHSNP) Bil.2/2021

ANNEX 1: Case definition of COVID-19 (Updated on 30th August 2021)

ANNEX 20: Guidelines For The Handling Of Dead Bodies Of Suspected Or Probable / Confirmed COVID-19 Death (Updated on 2nd Dec 2020)

ANNEX 4g: Garis Panduan Pengurusan Penggunaan Kit Ujian Kendiri COVID-19 (Updated on 23rd July 2021)

ANNEX 10: Home Assessment tool (Updated on 14th July 2021)

ANNEX 4c: Guideline On COVID-19 Testing Using Antigen Rapid Test Kit (RTK-Ag) Version 6 (Updated on 28th June 2021)

ANNEX 2p: Pre Admission Screening for COVID-19 (Updated on 4th June 2021)





SULTAN AHMAD SHAH MEDICAL CENTRE @IIUM COVID-19 GUIDELINES

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