

GUIDELINE ON MANAGEMENT OF ELECTROCONVULSIVE THERAPY DURING COVID-19 PANDEMIC (Version 3, April 2021)

A modified Electroconvulsive Therapy (ECT) with the use of general anaesthesia is an aerosol generating procedure as it involves manual bagging and oral suctioning for non-complicated cases. As such, the risk for viral infection during the COVID-19 pandemic is significant with the high potential for aerosolization of respiratory droplets. Even if proper screening is done prior to ECT, some patients could be asymptomatic carriers.

Precautionary measures therefore are to be undertaken at the patient, healthcare worker and ECT suite (or designated operation theatre) levels to further minimise the risk of viral transmission and cross-contamination (refer Appendix 1).

1. Patient level

1.1 Prior to obtaining consent for ECT, do ask the screening questions

- In order to further increase surveillance and reduce exposure risk of any potential COVID-19 cases, screening for the symptoms prior to obtaining ECT consent is required (refer Appendix 2).
- ECT is to be avoided for any COVID-19 positive patient or suspected COVID-19 case unless there is imminent risk for the patient (e.g. in life-threatening cases of suicide or severe malnutrition due to psychiatric illness). If a COVID-19 positive or suspected COVID-19 patient requires ECT, the issue of intubation may be raised by the anaesthetic team and risks / benefits should be reviewed.⁽¹⁾

2. Healthcare worker level

2.1 Only essential healthcare workers are assigned for the ECT procedure

- Depending on the availability of staff, it is recommended to only incorporate essential and dedicated healthcare personnel for the procedure in the suite or designated operation theatre i.e.
 - 1 ECT Medical Officer
 - 2 ECT Co-ordinators
 - 1 Anaesthetic Medical Officer
 - 1 Anaesthetic Assistant

2.2 Donning of appropriate Personal Protective Equipment (PPE)

- For both the ECT team and anaesthetic team, at least 4 PPE items to be don i.e. 3-ply surgical mask, face shield, disposable sleeveless apron and gloves.

2.3 Practice of physical distancing in the ECT suite or designated operation theatre

- For ECT staff, after placing the electrodes, to step away at least 1 meter from the area of manual bagging
- Ensure positioning of ECT machine is of at least 1 meter from the area of manual bagging.

2.4 (optional) Use of aerosol box for further protection against aerosolization

- In uncomplicated cases that do not require intubation of patients, an aerosol box is recommended during ECT procedure with manual bagging and oral suctioning, particularly in situations with limited PPE supply. Without the box, contamination could be seen more than 2 meters away from the patient.⁽²⁾
- Aerosol box: a box made of acrylic sheets with an opening on one side and 2 pre-cut holes on the opposite side (refer Figures 1 to 3 below).⁽³⁾
- This aerosol box is only possible for administering bilateral electrode placement using headband. It is to be disinfected with alcohol wipes after completion of each case.



Figure 1: Aerosol box



Figure 2: Manual bagging by Anaesthetic Medical Officer / Assistant



Figure 3: A semi-circular hole on lower right edge of box to accommodate oxygen tubings & ECT electrode cables

3. ECT suite or designated operation theatre level

3.1 Disinfection regime to be implemented

- It is recommended to disinfect ECT suite or operation theatre before commencement of ECT procedure for the day.
- For terminal cleaning of suite or operation theatre after completion of ECT procedure for the day.

4. Pre-ECT COVID-19 testing

Giving due consideration to ECT as an aerosol generating procedure and the ongoing third wave of COVID-19 pandemic that poses higher infection probability, the following recommendations on pre-ECT COVID-19 testing are added for current guideline.

4.1 Definitions of cases related to COVID-19

Definitions of cases related to COVID-19 are classified according to suspected, probable, confirmed and person under surveillance or PUS (refer Annex 1 for further details).

4.2 Types of COVID-19 tests (refer to Table 1: RT-PCR vs RTK-Ag)

Table 1: RT-PCR vs RTK-Ag

	Reverse Transcriptase-Polymer Chain Reaction (RT-PCR)	Rapid Test Kit -Antigen (RTK-Ag)
Type of Test	Molecular (detects viral genetic material)	Antigen (detects antigens belonging to the virus)
Sample Collection	NasoPharyngeal Swab (NPS) + OroPharyngeal Swab (OPS) *may send only NPS if unable to take OPS	NasoPharyngeal Swab (NPS)
Sample Collection Tube	Viral Transport Medium (VTM)	Falcon's tube / Plain tube
Storage of Sample Collection Tube prior to use	Stored at 2-8°C	Room temperature
Test Results (TAT)	Approximately 24-48 hours	Approximately 4-6 hours
Diagnostic Value	Gold standard	Sensitivity: 90% Specificity: 100%

4.3 Pre-ECT COVID-19 testing protocol

ALL PATIENTS PLANNED FOR ECT:

- **MUST BE SCREENED WITH THE UPDATED COVID-19 SCREENING FORM (Refer APPENDIX 2)**
- **MUST HAVE A COVID-19 TEST DONE WITHIN 72 HOURS PRIOR TO ECT AND**
- **MUST HAVE BEEN TESTED NEGATIVE FOR COVID-19**

4.3.1 Acute Electroconvulsive Therapy (aECT) in ECT suite

- RT-PCR is the recommended test.
- If the patient is agitated or uncooperative, the treating team may consider pre-testing sedation before taking the NPS for RT-PCR test.
- If ECT is to be done urgently, RTK-Ag may be sent for testing (refer Annex 4c).

4.3.2 Maintenance Electroconvulsive Therapy (mECT) in ECT suite

- RT-PCR is the recommended test.
- mECT patient is to be self-isolated or admitted to the transition room in ward (refer subsection 4.3.4 Transition room) while waiting for RT-PCR result.

4.3.3 ECT in operation theatre (refer Annex 22)

- For non-urgent aECT or mECT patients planned for ECT in the operation theatre, COVID-19 testing with RT-PCR must be carried out.
- mECT patient is to be self-isolated or admitted to the transition room in ward (refer subsection 4.3.4 Transition room) while waiting for RT-PCR result.
- For urgent aECT patients, RTK-Ag test must be performed.

4.3.4 Transition room

- Transition room: recommended as a temporary room for mECT patients awaiting RT-PCR result (e.g. for those who could not be self-isolated after specimen taken and required ward admission while waiting for test result).
- Ensure physical distance of patients' beds of at least 1 meter apart.

- All mECT patients must wear 3-ply surgical masks from the hospital.
- Ward staff to monitor these patients from outside the room through view window or closed-circuit television, and ensure that the patients adhere to the appropriate infection control measures.
- Patients are allowed to return to the general ward if the COVID-19 test results are negative.

4.3.5 Isolation room

- Isolation room: a room designated for ECT patients (both aECT and mECT cases) with clinical / epidemiological criteria for COVID-19 or suspected / probable COVID-19 case.

4.3.6 Specimen collection, packaging & transportation

- For all ECT patients, COVID-19 sampling procedure or specimen collection must be carried out within 72 hours prior to the planned ECT session.
- All specimens from the transition room and isolation room must be transported using triple layer packaging as soon as possible to the laboratory (refer Annex 5b).
- Specimens are to be despatched by the ward paramedic in-charge.

4.3.7 Pre-ECT information for patient and relative / guardian

- Patient and relative / guardian must be educated on the pre-ECT COVID-19 test by the treating team.
- Patient is required to report any symptoms that may occur at any time before or after ECT session.
- Concealing symptoms may have dramatic consequences for both the patient and the department or hospital (e.g. infecting healthcare workers or other patients).
- If a suspicion or confirmation of COVID-19 exists after the pre-ECT testing, the ECT session may be postponed or cancelled, unless there is imminent risk for the patient (refer subsection 1.1 Prior to obtaining consent for ECT, do ask the screening questions).
- Despite all precautionary measures, the infection risk for COVID-19 could not be completely excluded during admission or ECT procedure.
- All mECT patients to be admitted to the transition room must wear 3-ply surgical masks from the hospital.

4.4 Specific tasks of healthcare workers

4.4.1 Treating team (Psychiatrist & Medical Officer) in charge of ECT patient

- Ensure adherence to the pre-ECT COVID-19 testing protocol (refer subsection 4.3).
- Educate patient and relative / guardian on the pre-ECT COVID-19 test (refer subsection 4.3.7 Pre-ECT information for patient and relative / guardian).
- Review the COVID-19 test result and inform ECT Co-ordinator of result prior to ECT session.

4.4.2 ECT Co-ordinator

- Ensure adherence of the treating team to the required type of COVID-19 test prior to ECT procedure.
- Alert and inform Medical Officer in charge of pre-ECT COVID-19 testing of patients planned for ECT.

4.4.3 Medical Officer in charge of pre-ECT COVID-19 testing

- Responsible for sampling procedure of ECT patients in transition room and isolation room.
- Adhere to appropriate donning of Personal Protective Equipment or PPE (refer Personal Protective Equipment When Managing Suspected, Probable or Confirmed COVID-19) & infection control precautions during sampling procedure.
- Ensure proper documents are filled up and completed post-sampling.

4.4.4 Assistant Medical Officer / Staff Nurse in charge of ward

- Co-ordinate staffing for assisting Medical Officer in sampling of patients.
- Co-ordinate staffing for monitoring ECT patients in transition room and isolation room.
- Ensure adequate supplies of PPE and sample collection tubes in the ward for COVID-19 sampling purposes.
- Ensure COVID-19 specimens are packed (with triple layer packaging) and despatched as soon as possible to the laboratory.

4.4.5 Ward paramedic

- Two ward paramedics are recommended to assist Medical Officer in sampling procedure.
- Ensure adequate supplies of PPE and sample collection tubes in the ward for COVID-19 sampling purposes.
- Ensure COVID-19 specimens are packed (with triple layer packaging) and despatched as soon as possible to the laboratory.
- Monitor ECT patients in transition room and isolation room.

4.5 Disinfection of transition room & isolation room

- Terminal cleaning is to be carried out if any patient were tested positive for COVID-19 on transfer out or discharge.
- Standard infection control precautions apply.

4.6 Transfer in of ECT cases from other hospitals

- Patient who is transferred directly from other hospital for the purpose of ECT (either aECT or mECT) must be tested negative for COVID-19 with RT-PCR or RTK-Ag test within 72 hours prior to transfer.
- The type of COVID-19 test depends on urgency for ECT (refer subsections 4.3.1 aECT in ECT suite, 4.3.2 mECT in ECT suite or 4.3.3 ECT in operation theatre).
- Prior to transfer, the mECT patient is to be self-isolated or admitted to the transition room in ward (refer subsection 4.3.4 Transition room) while waiting for RT-PCR result.

5. References

1. Letter on COVID-19 and ECT by International Society for ECT and Neurostimulation (ISEN) Executive Committee on April 2, 2020.
2. R. Canelli, C.W. Connor, M. Gonzalez, A. Nozari, R. Ortega, Barrier Enclosure during Endotracheal Intubation, N. Engl. J. Med. (2020).
3. Everington K. Taiwanese doctor invents device to protect US doctors against coronavirus. Taiwan News. March 23, 2020 (<https://www.taiwannews.com.tw/en/news/3902435>).
4. Annex 1: Case Definition of COVID-19, Guidelines COVID-19 Management In Malaysia.
5. Annex 24: Standard Operating Procedure (SOP) For Performing Radiological Procedures For Suspected, Probable And Confirmed COVID-19 Patient, December 2020.
6. Annex 4c: Guideline on COVID-19 Testing Using Antigen Rapid Test Kit (RTK-Ag) For The Health Facilities, Ministry Of Malaysia, Version 5.0.
7. Annex 22: Guidelines On Management Of Coronavirus Disease 2019 (COVID-19) In Surgery - Mac 2020.
8. Annex 5b: Specimen collection, packaging, transportation and storage, November 2020.
9. Personal Protective Equipment When Managing Suspected, Probable or Confirmed COVID-19, Medical Program, Ministry of Health, Malaysia.

Standard Operating Procedure for **ELECTROCONVULSIVE THERAPY**

SCREENING FOR COVID-19

Completion of Borang Deklarasi Saringan Penyakit COVID-19, prior to obtaining consent for ECT

ESSENTIAL HEALTHCARE WORKERS

Only essential healthcare workers assigned for ECT procedure i.e. 1 ECT Medical Officer, 2 ECT Co-ordinators, 1 Anaesthetic Medical Officer & 1 Anaesthetic Assistant

PERSONAL PROTECTIVE EQUIPMENT

Donning of appropriate Personal Protective Equipment i.e. 3-ply surgical mask, face shield, disposable sleeveless apron & gloves

PHYSICAL DISTANCING

Practice of physical distancing of at least 1 meter

DISINFECTION

Disinfect ECT suite or operation theatre before & after ECT procedure for the day





Versi 4/2021

BORANG DEKLARASI SARINGAN PENYAKIT COVID-19 (PESAKIT/PENJAGA)*(Fasiliti kesihatan boleh membuat modifikasi yang bersesuaian, mengikut keperluan setempat)***SILA JAWAB SEMUA SOALAN (TANDAKAN MANA YANG BERKENAAN)**

A. HUBUNGAN EPIDEMIOLOGI		Ya	Tidak
1	Adakah anda menetap / bekerja di kawasan dengan risiko tinggi penularan penyakit COVID-19: Kediaman tertutup, institusi seperti penjara, depot tahanan imigresen; dalam tempoh masa 14 hari sebelum gejala bermula. Jika YA, nyatakan nama kawasan tersebut: _____		
2	Adakah anda menetap / melawat ke kawasan dengan penularan komuniti dalam tempoh masa 14 hari sebelum gejala bermula. Jika YA, nyatakan nama tempat yang dilawati: _____		
3	Adakah anda bekerja di mana-mana fasiliti penjagaan kesihatan, termasuk fasiliti kesihatan atau di dalam komuniti; dalam tempoh masa 14 hari sebelum gejala bermula. Jika YA, nyatakan nama fasiliti kesihatan tersebut: _____		
4	Adakah anda mempunyai kaitan dengan mana-mana kluster COVID-19 dalam tempoh masa 14 hari sebelum gejala bermula?.		
5	Adakah anda merupakan kontak rapat kepada individu yang disahkan positif COVID-19 dalam masa 14 hari Jika YA, sila jawab soalan a hingga c:		
	a. Bekerja bersama dalam jarak dekat atau berkongsi persekitaran bilik/ ruang yang sama dengan pesakit COVID-19.		
	b. Menaiki kenderaan yang sama dengan individu yang disahkan positif COVID-19.		
	c. Tinggal serumah dengan individu yang disahkan positif COVID-19.		

B. GEJALA		Ya	Tidak
1	Demam (<i>fever</i>)		
2	Batuk (<i>cough</i>)		
3	Kelesuan (<i>general weakness</i>) /Keletihan (<i>fatigue</i>)		
4	Sakit kepala (<i>headache</i>)		
5	Sakit badan (<i>myalgia</i>)		
6	Sakit tekak (<i>sore throat</i>)		
7	<i>Coryza</i>		
8	Sesak nafas (<i>dyspnea</i>)		
9	Anorexia / Loya (<i>nausea</i>) / Muntah-muntah (<i>vomiting</i>)		
10	Cirit-birit (<i>diarrhea</i>)		
11	Perubahan status mental (<i>altered mental status</i>)		
12	Hilang deria bau secara tiba-tiba (<i>sudden loss of smell/anosmia</i>)		
13	Hilang deria rasa secara tiba-tiba (<i>sudden loss of taste/ argeusia</i>)		

SUHU: _____ °C

Tandatangan Anggota Kesihatan:

Tandatangan Anggota Kesihatan Yg Menyaring:

Nama: _____

Nama: _____

No. Kad Pengenalan: _____

No. Kad Pengenalan: _____

Tarikh: _____

Tarikh: _____

HENTIKAN COVID-19!

**KEJUJURAN ANDA BOLEH MENYELAMATKAN RAMAI NYAWA TERMASUK ANGGOTA KESIHATAN.
PASTIKAN ANDA MENDAFTAR DI DALAM MySejahtera**



Version 4/2021

COVID-19 DECLARATION FORM (PATIENT/CARER)*(Individual facility may amend the form according to the need of local setting)***ANSWER ALL QUESTIONS (TICK ✓ WHERE APPROPRIATE)**

A. EPIDEMIOLOGICAL LINK		Yes	No
1	Residing or working in an area/locality with high risk of transmission of virus: closed residential settings, institutional settings such as prisons, immigration detention depots ; anytime within the 14 days prior to sign and symptom onset If yes, please specify the area: _____		
2	Residing or travel to an area with community transmission anytime within the 14 days prior to sign and symptom onset If yes, please specify the area: _____		
3	Working in any health care setting, including within health facilities or within the community; any time within the 14 days prior to sign and symptom onset. If yes, please specify the health care setting: _____		
4	Linked to a COVID-19 cluster within the past 14 days prior to sign and symptom onset.		
5	Close contact to a confirmed case of COVID-19, within 14 days before onset of illness. If yes, please answer questions a to c:		
	a. Working together in close proximity or sharing the same classroom environment with a with COVID-19 patient		
	b. Traveling together with COVID-19 patient in any kind of conveyance		
	c. Living in the same household as a COVID-19 patient		

B. SYMPTOMS							
		Yes	No			No	Yes
1	Fever			8	Dyspnea		
2	Cough			9	Anorexia / Nausea / Vomiting		
3	General weakness /Fatigue			10	Diarrhea		
4	Headache			11	Altered mental status		
5	Myalgia			12	Sudden loss of smell (Anosmia)		
6	Sore throat			13	Sudden loss of taste (Ageusia)		
7	Coryza				TEMPERATURE		_____°C

Signature of Patient/Carer:

Signature of Screening Officer:

Name: _____

Name: _____

IC Number: _____

IC Number: _____

Date: _____

Date: _____

STOP COVID-19!

**YOUR HONESTY CAN SAVE MANY LIVES INCLUDING HEALTH CARE WORKERS.
MAKE SURE YOU REGISTER IN MySejahtera**