Guidelines on the Management of COVID-19 in Obstetrics and Gynaecology

First Edition

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ANNEX 23: GUIDELINES ON MANAGEMENT OF COVID-19 IN OBSTETRICS & GYNAECOLOGY

Content

KEY RECOMMENDATIONS

1. Obstetric services, which includes early pregnancy care remains an essential priority. The quality of provision of such services should continue without disruption despite this pandemic, although there can be modifications of care. Essential gynaecological services for malignancy and gynaecological emergencies should continue and this includes contraceptive advice and management.

2. All frontline staff should adhere to MOH recommendations on the use of PPE and should be updated on the available guidelines on management of COVID- 19 in pregnancy. Training on PPE should be extended to the concessionaire workers as well.

3. Screening of suspected and management of confirmed patients should be as per MOH guidelines which are constantly updated.

4. Confirmed patients should be referred to designated MOH COVID-19 hospitals or COVID-19 Low Risk Treatment and Quarantine Center (PKRC) or COVID-19 Assessment Center (CAC) for the suitability of home quarantine (Category 1 and Category 2).

5. Designated COVID-19 hospitals should establish a dedicated core O&G team who will oversee the management of COVID-19 patients during pregnancy. These hospitals should have a designated labour room and an operating theatre to manage confirmed and suspected patients.

6. Undesignated hospitals should identify a specific isolation room at the admission center, a labour suite and an operating theatre to manage potential suspected patient who may present in imminent labour. Pathways should be developed based on individual logistics and resources. These patients can then be referred to the designated COVID-19 hospitals post- delivery.

7. In the event of requiring an urgent surgical intervention, regional anaesthesia is preferred. If general anaesthesia is required, induction and reversal should preferably be done in a negative pressure ventilation room with staff optimising an enhanced PPE which includes a PAPR suit (surgeons included).

8. Patients in labour may be offered a caesarean section as mode of delivery in view of the lack of negative pressure ventilation in most labour rooms in Malaysia. Vaginal delivery is not contraindicated if the patient is in imminent labour. The patient should use a surgical mask (but this may be difficult for the patient) and staff should use full PPE which includes a N95 mask and a face shield all through the second stage of labour. Handling of bodily fluids, specimens including placentas and patient apparels should be handled based on standard universal precautions.

9. Medications such as aspirin and antenatal corticosteroids are not contraindicated in pregnancy among suspected or confirmed patients.

10. Breastfeeding is not a contraindication; the risk of transmission from an asymptomatic mother is extremely rare. If the baby is isolated from the mother, Expressed Breast Milk feeding is encouraged. Refer to MOH Annex 39 for further guidance.

11. VTE prophylaxis is recommended if there are no contraindications.

12. Patients undergoing elective surgeries may be offered a screening test depending on the availability of resources, although a routine chest x-ray for all pregnant mothers is not practical. However, testing should not cause undue delay in providing needed care and the operating team should wear the appropriate PPE to perform the surgical procedure if the patient status is unknown. The safety of patients and healthcare givers remains a priority. Refer to MOH Annex 22 in regards to screening and testing of patients prior to surgery.

A. Rationale of guideline

1. The continuation of the safe and optimal provision of O&G services in health facilities in Malaysia during the COVID-19 pandemic.

2. To reduce the risk of transmission to other patients and healthcare professionals in the management of patients identified as SARI, suspected or confirmed COVID-19.

B. Statement on National O&G Services during COVID-19 pandemic

1. Obstetric services, which includes early pregnancy care remains an essential priority and the quality of provision should continue without disruption despite this pandemic although there can be modifications of care. This includes elective caesarean sections which should not be delayed and should be performed based on current available O&G recommendations. Postpartum care and contraception services are also an essential component which should not be compromised. This statement is relevant for both primary and tertiary obstetric services in Malaysia.

2. It is recommended that husband friendly policies among mother's identified as suspected or confirmed COVID-19 to be suspended until such time it is deemed safe. Husband friendly services can be continued for the non COVID wards but the husband should be screened or tested prior to labour. The husband should always wear a mask while in the labour room.

3. Essential gynaecological services for malignancy and gynaecological emergencies should continue and this includes contraceptive advice and services. Barriers towards care which includes access to healthcare should be identified and it is essential to avoid undue delay in management of these patients. Consider the uptake of telemedicine to provide contraceptive advice.

4. Since we will have to optimize our resources and priorities, non-essential gynaecological services can be delayed and rescheduled but mechanisms should be in place for patients to have access to medications and healthcare when required. Telemedicine can be optimized as a mechanism to manage these patients.

5. A precautionary approach in the provision of Assisted Reproductive Technologies (ART) is recommended with prioritization of services and resources being based on current situation.

6. Low COVID-19 risk mothers should wear a surgical mask during admission and during labour. This universal precaution should be practiced at all times

OBSTETRICS

C. General information on COVID-19 and pregnancy

1. COVID-19 is an infectious disease caused by a newly discovered Coronavirus named SARS-CoV-2.

2. First reported in the Hubei Province, China at the end of 2019, this pandemic now has affected more than two million people globally. The WHO COVID19 dashboard provides an up-to-date global report.

3. There are two identified routes of transmission:

   a. Direct: Close contact with an infected person, irrespective of symptoms. Hence it is recommended to maintain a distance of at least 1-2 meters.

   b. Indirect: Contact with surface, object or hands etc. which has been contaminated by an infected person.

   **Some recent evidence does suggest vertical transmission is probable although the absolute risk is yet to be established*.

4. Although most reports have shown that pregnant mothers are not at an increased risk of having severe COVID-19 infections, we are still concerned about the theoretical risk to pregnant mothers, especially in the third trimester due to the change in the immune system. Hence, patients should be advised to follow strict precautions, maintain personal hygiene and to practice physical distancing if possible.

5. COVID-19 infection can be classified into five stages according to its severity:

   I. Stage 1: - Asymptomatic
   II. Stage 2: - Symptomatic, No pneumonia
   III. Stage 3: - Symptomatic, Pneumonia
   IV. Stage 4: - Pneumonia with Hypoxia
   V. Stage 5: - Critically Ill with Multi Organ Failure

6. Most pregnant mothers will be asymptomatic. Some may have mild symptoms like fever and cough. However, if patients are unwell, especially if experiencing breathing difficulties, it is best for them to seek urgent medical

attention.

7. COVID-19 does not cause fetal anomalies. Studies have not proven the association with an increased risk of miscarriage or preterm deliveries although these are the concerns. Hence, patients with COVID-19 do not need additional interventions or monitoring apart from routine evidence based obstetric care.

8. Although the evidence and information are evolving and there are concerns with regards to COVID-19 infections among pregnant mothers who are still deemed as a vulnerable group especially in the third trimester, the benefits of universal screening of all patients remains controversial and thus is not currently recommended until we have further evidence.

D. Management of suspected or confirmed COVID-19 patients

1. These patients should be managed as per MOH recommendations and ideally at the designated COVID-19 hospitals or hybrid COVID-19 hospitals by a multidisciplinary team involving an Infectious Disease Specialist, Intensivist, Anaesthetist, Obstetrician and Neonatologist.

2. The care for these mothers remains unchanged in pregnancy although there are some concerns in the third trimester which is perceived as a time of vulnerability, especially if these patients have other confounding risk such as diabetes, obesity, cardiac diseases or medical complications in pregnancy. It is best to involve a senior obstetrician in the management although having a COVID-19 infection per se is not an indication for delivery.

3. All pregnant women with suspected or confirmed COVID-19 are to be admitted either to a COVID-19 hospital, hybrid COVID-19 hospital, Quarantine Centre or home quarantined.

4. These women should be advised to wear a surgical mask and practice hand hygiene at all times.

5. Chest x-rays and CT scans are not contraindicated as the radiation doses are below the toxic dose of 50mG, especially if these tests are performed for the benefit of the mother as part of her management of COVID-19. (Refer to Appendix 13). If ultrasound or CTG's are used, the probes should be cleaned using disinfectants and then wiped dry.

6. There is no need for additional obstetric monitoring or interventions such as frequent ultrasound monitoring or the need for early delivery apart from the usual obstetric indications. Delivery is best delayed to beyond 14 days of positivity if possible unless the mother is ventilated and there are respiratory issues that warrant a resuscitative hysterotomy. Planned delivery or induction of labour should also be postponed beyond the isolation period unless there exists an obstetric indication.

7. If these patients spontaneously progress into labour, vaginal delivery is not contraindicated if labour progresses without intervention, otherwise, a Caesarean Section should be considered. Observations during labour should include respiratory rate and oxygen saturations (maintained above 95%) in addition to standard monitoring. If a Caesarean section is considered, regional anaesthesia is preferred.

8. Risk of aerosol transmission is perceived to be higher during the second stage of labour. All women admitted to the COVID-19 delivery room should wear a surgical mask during labour. Faecal contamination should be minimized.

9. There should be a continuous electronic fetal heart monitoring intrapartum. Entonox is best avoided until further evidence is available due to the perceived risk of aerosol contamination of the system.

10. The neonatal team should be informed in advance and the management should be based on the current MOH neonatal protocol.

11. Staff managing these patients should be kept to a minimum, including the duration of contact with the patient if possible, without affecting patient safety.

12. Staff managing these patients should adhere to full PPE precautions which includes a N95 mask and a face shield.

13. Medication such as antiviral medication is not contraindicated in such patients. There are no contraindications for neonatal vaccinations.

14. NSAIDS should ideally be avoided and although there are no absolute contraindications for aspirin and antenatal corticosteroids, the decision and the benefits for use should be weighed by a consultant.

15. Corticosteroids are recommended for treating COVID-19 patients who require supplementary oxygen.

16. Although data regarding malformation risks following first trimester exposure to corticosteroids are conflicting, the majority of the best quality evidence does not suggest increased risks in either the overall malformation rate, or for specific malformations (including orofacial clefts and cardiac anomalies). The small number of methodologically limited studies investigating miscarriage and intrauterine death risks do not provide reliable evidence of increased risks, and similarly there is no reliable evidence indicating use of systemic corticosteroids impairs fetal growth. Some studies have shown increased risks of preterm delivery, but the evidence is likely confounded by the underlying condition for which the corticosteroids were administered.

17. Remdesivir can be given in pregnancy if the benefits outweigh the potential risks. It has been recommended for use in patients who have been hospitalized and are on supplementary oxygen therapy. (However, there are very limited pregnancy data available for this drug).

18. Usage of favipiravir is contraindicated in pregnancy as it is teratogenic.

19. The role of low dose colchicine for treatment is currently being studied. In low doses, data do not currently indicate an increased risk of miscarriage, congenital malformation or chromosomal anomalies. Colchicine is currently not part of standard treatment of COVID-19.

20. The usage of high dose intravenous Vitamin C, which acts as an antioxidant may be able to attenuate the severe oxidative stress caused by a cytokine storm in severe COVID-19 infection. Further studies involving the obstetric population is needed to look into efficacy of vitamin C for treatment of this disease.

21. A case control study measured the level of serum micronutrients (25(OH)D, Zinc and Vitamin B12) in pregnant women with COVID-19 and found that these levels were lower than the cut-off values. These low values might have contributed to a deficiency in their immune response and thus made these patients susceptible to COVID-19 infection. Hence, preventative supplementation of these micronutrients could be beneficial during pregnancy. However, further studies are needed to show their effects on COVID-19 infection.

22. As a general recommendation, obstetric COVID-19 patients should be continued on multivitamins and Vitamin C.

23. Breastfeeding is not an absolute contraindication; the risk of transmission from an asymptomatic mother is extremely rare. If the baby is isolated from the mother, expressed breast milk feeding is encouraged if possible. Refer to MOH Annex 39 for further guidance.

24. Post-delivery, the placenta will need to be placed in a double bag and be buried or disposed in adherence to standard infection prevention protocols. (Refer to Appendix 1)

25. In cases of delivery of macerated / fresh still birth, a COVID-19 swab test has to be taken for the baby and the body will be sent to the Forensic Department until result is available. Positive cases will require disposal either by burial or cremation in adherence to standard infection prevention protocols. (Refer to Appendix 2)

E. Recommendations for thromboprophylaxis

1. The hypercoagulable state of pregnancy and the puerperium renders mothers to be more susceptible to venous thromboembolism (VTE). This coupled with inflammation caused by COVID-19 puts obstetric patients at a higher risk of venous thromboembolism. Hence, all patients should have an individual risk assessment for VTE.

2. In adherence to the 'KKM VTE in pregnancy and puerperium guidelines 2018', we recommend that all obstetric patients who are admitted to the hospital or PKRC, be assessed using the VTE risk scoring table (Refer to Appendix 3).

3. Those patients with category 1& 2 disease should be given an additional VTE score of 1, and those with COVID stage 3 and above be given an additional VTE score of 4. This would mean that patients with COVID-19 category 3 and above would require thromboprophylaxis for the duration of her admission unless contraindicated. The need to continue and the duration of prophylaxis post discharge should be individualized based on risk factors.

4. A higher dose of thromboprophylaxis should be considered for patients who are admitted to the ICU and require ventilation. This decision should be made

in consultation with an intensivist, physician and/or a haematologist.

5. As the relative risk for VTE in the postnatal period is five-fold higher than the antenatal period, postnatal patients with COVID-19 category 3 and above who have been ventilated may benefit from a longer duration of thromboprophylaxis for of up to 42 days postnatal. Category 1 and 2 COVID-19 patients who do not require admission (who are deemed fit to be isolated at home) may not be started on thromboprophylaxis. These patients should be counselled to do regular exercises and to stay hydrated to reduce the risk of VTE. They should also be educated on the signs and symptoms of VTE.

F. COVID-19 vaccination in pregnancy

1. COVID-19 vaccines do not contain live coronavirus or any additional ingredients that are harmful to pregnant women or their babies. Vaccinations are being offered to some pregnant women including health and social care workers in the UK. For further details, please refer Guidelines on COVID-19 Vaccination in Obstetrics & Gynaecology.

G. Management of probable COVID-19 patients

Refer to Annex 1 for definition of probable patient.

In view of the current pandemic in Malaysia, all maternity units should be ready to deal with probable COVID-19 cases.

1. These patients can be managed at non designated COVID-19 hospitals but should ideally be isolated from other healthy patients.

2. The outpatient appointments of these patients are best deferred for beyond 14 days if possible unless they have urgent obstetric issues.

3. It is best to discuss with the physicians / infectious disease team to screen these patients especially if they are symptomatic.

4. All staff should be kept to a minimal number and those managing these

patients should also adhere to full PPE. There is no need for additional obstetric monitoring or interventions or the need for delivery apart from the usual obstetric indications.

5. Chest x-rays are not contraindicated as the radiation dose of <0.01mG is below the toxic fetal doses of 50mG (Refer to Appendix 13). If ultrasound is used, the probes should be cleaned using disinfectants and then wiped dry.

6. Medications such as certain antiviral medications, aspirin and antenatal corticosteroids are not contraindicated in such patients.

7. If patients present in established labour or with imminent delivery, vaginal delivery should be aimed for. Otherwise, a Caesarean section should be considered. Regional anaesthesia is preferred.

8. Vaginal delivery is not contraindicated if the patient has imminent delivery and there are no benefits of shortening the second stage of labour. All staff should wear a full PPE. There should be a continuous electronic fetal heart monitoring intrapartum and Entonox is best avoided.

9. There are no contraindications for neonatal vaccinations.

10. Post-delivery, the placenta will need to be placed in a double bag and be buried or disposed in adherence to standard infection prevention protocols. (Refer to Appendix 1)

11. These patients should be on thromboprophylaxis provided there are no contraindications.

H. Management of COVID-19 patients in low risk COVID-19 Quarantine and Treatment Centers (PKRC)

(This guideline can be adapted to individual facilities based on capacity and operational considerations)

1. Category 1 or 2 COVID-19 patients who are less than 28 weeks of gestation with no added comorbidities can be admitted to a PKRC directly once a baseline assessment has been done by medical personnel and discussed with the designated obstetrics and medical team.

2. Postnatal category 1 or 2 COVID-19 patients can be transferred to PKRC before discharge. The criteria for step down include:

a. More than 3 days post delivery
b. Stable vitals and no hypoxia
c. No added medical or obstetric co-morbids.
d. Stable laboratory data including inflammatory markers
e. Able to ambulate without assistance

3. PKRC with obstetric patients should be equipped with a Daptone and a basic Ultrasound Scan for fetal assessment.

4. For postnatal mothers in PKRC daily review by a midwifery team and daily injection of anticoagulation will be required.

5. All patients should be monitored daily for clinical warning signs, this includes;

   a) Persistent or new onset fever
   b) Worsening or persistent symptoms such as lethargy and cough
   c) Reduced level of consciousness
   d) Exertional dyspnoea

6. If patients develop obstetric related or COVID related complications while being admitted to PKRC discussion with the obstetrics and medical team should be made and patient transferred / retrieved to the nearest COVID-19 hospital.

7. An obstetric retrieval flow chart should be available in the PKRC and should be made known to the health care personnel in charge. All emergency contact numbers should be updated in the chart.

8. All patients discharged from a PKRC should be updated to the designated obstetrics team, medical team and health officer. Patients should also be provided with a discharge summary and a definitive plan to be carried out in the Maternal and Child Health Clinic.

9. Following practices help better assessment of patients and recognizing early deterioration:

   a) Have a proper clinical space with blood taking and radiology facilities in all PKRC where patients can be brought for assessment one by one.
   b) Educate the paramedics and midwifery staff on the warning signs, so that they can ask the relevant questions to the patients when the vital signs are being measured.
   c) Educate patients to do self-assessment by putting up posters in the PKRC encouraging patients to call the staff if deemed necessary.

d) To enable better monitoring of these patients, it is best that a designated PKRC / area within the PKRC is assigned for pregnant and postnatal mothers

I. Home monitoring for COVID-19 obstetric patients.

1. Pregnant mothers who are diagnosed with COVID-19 will be assessed by medical officers for suitability for home monitoring. Criteria for home monitoring includes:

    a) Stage 1 or 2 mild disease
    b) Confirmed intrauterine pregnancy by early scan
    c) Less than 22 weeks of gestational period
    d) No additional co-morbidities (medical & obstetric)
    e) No history of any per vaginal bleeding or hyperemesis
    f) Adequate home facilities
        i. Separate room with adequate ventilation
        ii. Separate bathroom if possible
    g) Adequate understanding of adherence to protocol and usage of home assessment tool provided
    h) Patient should be able to contact the nearest health facilities and be contactable at all times
    i) No adults over the age of 60 / immunocompromised / person with multiple co-morbid that live in the same house

2. Identified patients for home monitoring will be tagged by health officers after assessment and explanation of the home assessment tool according to MOH Annex 14d (Refer to Appendix 4).

3. The antenatal appointment of these patients should be deferred until the isolation period has ended.

4. Patient and caregiver will also be educated on basic infection prevention control measures.

    a) Practice of good hand hygiene
    b) Practice of good cough etiquette

c) Caregivers should maintain at least a 1-meter distance with patient to attend to their needs and should use a mask and face shield when in the same room as the patient or when at a distance of less than 2 meters from the patient.

5. Patient is required to self monitor the temperature at home and provided with pregnancy vitamins.

6. Patients are advised to use a separate bathroom. If this is not possible, then the bathroom should be cleaned with soap and water after each use.

7. Patients are to eat separately and should avoid sharing utensils with other family members. Utensils should be washed separately with warm water and soap. Care givers handling utensils should wear a mask and face shield during cleaning and sanitize their hands after cleaning.

8. All contaminated items or rubbish should be separately disposed in a plastic bag by patient followed by a second bagging by care giver. Care givers handling these items should wear a face mask and gloves subsequently sanitize their hands after cleaning.

9. Patients' dirty laundry should be washed separately, ideally with warm water. Caregivers handling the laundry should wear a face mask and gloves during cleaning and sanitize their hands after cleaning.

10. Patients and caregivers should be educated on identification of warning signs that will require them to contact the dedicated emergency facility for escalation of treatment. These warning signs include:

    a) Shortness of breath
    b) Prolonged fever for more than 2 days
    c) Unable to tolerate orally
    d) Chest tightness
    e) Frequent vomiting and diarrhea
    f) Reduced urine output
    g) Coughing out blood
    h) Exertional dyspena
    i) Abdominal pain and per vaginal bleeding

11. If there are any urgent obstetric issues that develop within this isolation period, these patients should be managed as per MOH guidelines and retrieval should be arranged by the nearest health care facility to a COVID / Hybrid Hospital.

J. Management of recovered patients or those returning from isolation/ quarantine.

1. These patients should have routine obstetric care and there are no benefits of additional obstetric monitoring or intervention.

2. The risk of secondary infection remains unknown and they should adhere to standard precautions of physical distancing, wearing a mask and maintaining personal hygiene.

3. Persistent physical symptoms after acute COVID-19 are common. Persistent symptoms are more common in those with severe acute disease but can also happen in those with mild disease. Most common symptoms are fatigue, dyspnea, chest pain and cough and can last up to 3 months after.

4. If a patient present within 90 days of their first positive results, a risk assessment should be done. If the patient has no COVID-19 symptoms, then a repeat swab test is not required. Every patient should be assessed individually. An appropriate testing can be done to aid in assessment.

5. If a patient presents after 90 days of their first positive results, then a repeat swab may be done after a risk assessment based on symptoms, area of residence, history of travel, contact history etc. Every O&G department should have a specified flow chart for screening of patients.

6. If a patient test positive, then a cycle threshold (CT) value should be obtained to assess patients' infectivity. This will aid with triaging patients.

K. Management of general O&G patients

1. It is essential to screen all patients attending the clinic, Early Pregnancy Assessment Unit (EPAU) and Patient Assessment Centre (PAC) as per MOH recommendations with potential risk, especially those who are symptomatic or those who have significant contact with confirmed COVID-19 patients. Universal testing of asymptomatic mothers remains controversial and is not the current standard of care in Malaysia at the point of preparing this guideline.

2. Patients are also advised to check-in through MySejahtera at the triage as part of the compulsory screening for the risk of COVID-19 infection.

3. These patients should adhere to the movement restriction order and adhere to

the advice of physical distancing and maintaining personal hygiene. Ultrasound which is now an essential part of obstetrics is also a potential source of infection which needs to be cleaned, especially the probes which should be cleaned in-between patients.

4. However, all obstetric cases should be seen on the given appointment date. Appointments are staggered and physical distancing should be practiced in patient waiting area and consultation rooms.

L. Safety of Staff (including concessionaire workers)

1. All health care staffs, both front liners and non-clinicians who are involved in clinical work should ideally adhere to the MOH recommended PPE especially when in contact with a probable, suspected or a confirmed patient. (Refer to Appendix 12).

2. The recommended PPEs when in contact with a probable, suspected or a confirmed patient:

   a) Surgical mask (N95 mask is recommended for aerosol generating procedures and for conducting deliveries).
   b) Respirator (PAPR) for suspected or confirmed COVID-19 patients undergoing general anaesthesia or intubation.
   c) Eye protection (googles or face shield).
   d) Disposable double layer gloves.
   e) Head cover.
   f) Disposable plastic aprons.
   g) Isolation gown (long sleeved, fluid resistant)

M. Mental health for staff and patients

1. Front liners and essential workers face long hours, heavy workload and potential stigma and discrimination due to COVID-19. Unchecked, this can lead to fatigue, mental distress and burnout.

2. As patients are required to be admitted or isolated from their family members, they may develop a negative psychological response such as anxiety as they are not able to provide for their loved ones and they may also face loneliness,

depression, increased stress as they are not able to carry out daily routines or activities. These pregnant mothers may also feel worried about the effects of COVID-19 on the unborn baby.

3. Hence, the MOH has implemented a support system called the Mental Health and Psychosocial Support (MHPSS). This follows the principle that basic needs shall be provided to all victims, followed by restoration of community and family support. This is followed by focused and specialized services to smaller subgroups within those affected by crisis. Specific workflow systems have been put in place to manage and give adequate mental health support to our healthcare workers and patients. (Refer to appendix 17 and 18, adapted from MOH Annex 33).

4. MOH has also made available a COVID-19 mental health tool kit that can be accessed online for patients and healthcare workers which include screening tools, info graphics and e-teaching materials.

5. Every department/unit should be made aware of the above systems to educate their staff and patients to ensure that mental health is not neglected.

N. Modifications of antenatal and postnatal care while maintaining safety and quality during this pandemic

1. Patients attending the outpatient clinic, Early Pregnancy Assessment Unit (EPAU) and Patient Assessment Unit (PAC) should be screened with a standard screening questionnaire as per MOH recommendations.

2. Patients are advised to check-in through the MySejahtera app at the triage as part of the compulsory screening for the risk of COVID-19 infection.

3. Patients reviewed in the clinic should continue to observe physical distancing and wear face mask while the appointments can be staggered as to minimize overcrowding. Partners and those accompanying patients should be kept to a minimum while visitation hours can also be limited and restricted as per current MOH directive.

4. Sufficient medications should be given to avoid repeated visits to the hospital. Compliance should also be addressed.

5. Telemedicine consultation can be performed for selected patients to follow up on their wellbeing.

6. Patients who require an elective caesarean section should be risk stratified by

the attending medical officer during booking of a caesarean section date. (Refer Appendix 8) This may include testing by RT PCR.

7. Patients who require an emergency caesarean section should be risk stratified by a medical officer to decide on requirements for a swab test to be done. If the surgery / delivery is imminent and is not able to be delayed till testing results are available, then the patient should be treated as a suspected case. (Refer to Appendix 6) This may include testing by RTK Ag.

8. Refer Guidelines on Pre-admission Screening of COVID-19 to for any patients require admission.

9. Each obstetric unit should continue to audit the number of patients who have been confirmed, suspected or those who had probable COVID-19 in pregnancy. Audits should include standard auditable measures in O&G such as maternal and neonatal morbidity and mortality as to ensure these variables remains unaffected during this pandemic.

10. Postnatal care remains an essential component and should be addressed as per recommended standards. This is more relevant now as patients may not be able to return to their hometown as per their cultural norms and isolation may be an additional risk of postnatal mental health issues. Health care givers should continue to be vigilant about such issues and escalate the care if required as per current guidelines in management of mothers with mental health issues.

GYNAECOLOGY

O. Gynaecological services

1. It is essential to screen all patients who have potential risk, especially those who are symptomatic or those who have significant contact with confirmed COVID-19 patients. Patients are also required to check-in through MySejahtera as part of the management.

2. Suspected, probable or confirmed COVID-19 patients should ideally be isolated/ quarantined and have their gynaecological reviews delayed unless in the event of a gynaecological emergency.

3. Care for patients with significant conditions such as malignancies or gynaecological emergencies should be continued without disruption while

optimizing universal and transmission-based precautions. If these patients are symptomatic or has had a significant contact, liaise with the infectious disease specialist to best optimize care for these patients.

4. For other non-gynaecological emergencies, it is suggested to delay routine clinic reviews including elective non critical gynaecological surgeries. This should also be relevant for full paying patients within MOH hospitals.

5. Each unit should develop their own protocols to manage such patients. This includes protocols to ensure patients have sufficient medications and can still access healthcare if required in the event of an emergency or a concern.

6. Contraception remains an essential need and this advice and service should continue to be provided by healthcare professionals. In view of the possible challenges in assessing quality in health care, it is advisable for women to practice effective contraception for now and to avoid a pregnancy during this pandemic.

7. Assisted reproductive technologies are best deferred at this moment as we continue to prioritize our resources and healthcare.

P. Elective and emergency gynaecological services

1. The provision to continue elective gynaecological surgical services may be limited to non-COVID-19 hospitals only and limited in hybrid COVID-19 hospitals. However, these surgeries should ideally not involve postoperative management in the intensive care unit and require blood transfusions. Elective surgeries should be deferred to a later date if possible.

2. Emergency gynaecological surgery services should continue to be provided.

3. The MOH guideline recommends screening and testing of patients prior to elective or semi-emergency surgeries depending on the risk of patients, especially those requiring general anaesthesia (Refer MOH Annex 22).

Q. Laparoscopic gynaecological surgeries among asymptomatic patients during the COVID-19 pandemic

Key recommendations:

1. There is still a role for laparoscopic surgeries during this pandemic as it has various benefits which outweighs the risk associated with laparotomies. The timing and type of laparoscopic surgery would be dependent on appropriate indication and urgency.

2. Laparoscopic surgeries are best avoided among suspected or confirmed patients. If possible, surgery should be deferred until such time the patient has recovered fully from COVID-19 infection.

3. Universal screening testing of all patients prior to laparoscopic procedures are recommended.

4. Experienced surgeons and anaesthetist should be involved in laparoscopic procedures during this pandemic.

5. Refined techniques can be optimized to minimize exposure.

6. All staff to adhere to PPE and available MOH guidelines.

R. Assisted Reproductive Technology (ART) Services

MOH of Malaysia is aware of the statement from the European Society of Human Reproduction and Embryology (ESHRE) & Human Fertilisation and Embryology Authority (HFEA) dated on the 12th of January 2021 which recommends that men and women should have access to fertility services. However, the MOH recommends a precautionary approach in the provision of ART services in Malaysia and this should be based on current situation.

Our priority will be to ensure the safety of patients and healthcare givers during this pandemic while we continue to prioritise our resources and on essential and critical issues. Thus, we recommend adherence to the above guidance and with a selective and cautious approach in providing ART services, irrespective of being hospital based or stand-alone ART centre for the following reasons:

1. Patients having already commenced on Controlled Ovarian Stimulations. In these circumstances, it is in the best interest to continue treatment until Ovum pick up and these embryos and oocytes should eventually be frozen.

2. Patients requiring urgent fertility cryopreservation, especially oncology patients.

3. Monitoring and management of OHSS patients.

4. When the delay of treatment could lead to psychological impact, especially in the older women or those with poor ovarian reserve.

Other essential recommendations are:

1. All clinics and ART laboratories to maintain skeletal and support staff.

2. Healthcare professionals and clinics should remain available to provide clinical consultations and supportive care, preferably via phone/online consultation. This includes counselling and completing existing cycles.

3. Laboratory staff to check on daily maintenance of the lab.

4. Staff to adhere to the current recommendations of physical distancing and maintenance of hygiene and universal precautions.

S. Information for O&G Units

1. Each O&G unit should establish a core COVID-19 team to manage suspected or confirmed COVID-19 patient and the team should comprise of at least:

   a) One O&G Specialist
   b) One O&G Registrar
   c) At least 2 Nurses/Midwives (more if necessary).

2. This designated team should be on-standby for all suspected or confirmed COVID-19 patients and should be optimally trained in management of COVID-19 patients apart from handling the personal protective equipment. They should be trained to ‘don’ and ‘doff’ and should be able to manage specimen collection.

3. Universal precautions.

   a) The number of staff managing a suspected or confirmed COVID-19 patient should be kept to a minimum. The suspected or confirmed COVID-19 patient should wear an appropriate mask (surgical mask) at all times.

   b) The intrapartum management of suspected or confirmed COVID-19 patient should be by the core team, both incorporating vaginal or caesarean deliveries.

4. Despite no evidence of vertical transmission, it is good clinical practice to treat the body fluids, tissues (placenta) and apparels as potentially biohazards.

Hence, the labour suite and the operating theatre should be cleaned based on universal recommendations following a biohazard exposure.

5. Transfer and documentation.

   a) All suspected or confirmed COVID-19 patients must be given a surgical mask to be used at all times.
   b) All staff managing a suspected or confirmed COVID-19 patient should wear appropriate PPE and these patients should be transferred to the holding area (via passage of minimal exposure) where appropriate screening and investigations can be performed.
   c) It is important to minimize exposure for patients and health care providers.
   d) Documentation by health care providers involved in managing suspected or confirmed COVID-19 patient is essential.

6. Designated labour suite.

   a) The location of such labour suites should ideally be nearest to the point of entry which is either at the Patient Admission Centre or the isolation ward but this should depend on the resources of the individual hospitals. Each O&G unit is recommended to have their own logistics based on their own resources. These labour rooms should preferably have negative pressure ventilation as well as a designated donning and doffing area with shower facilities.

   b) Disposable equipment where available is preferred. Cleansing of the labour room should adhere to biohazard decontamination protocols.

7. Undesignated labour suites

   a) All undesignated O&G units should be prepared to manage probable COVID-19 patients who present in imminent labour. They should have a designated team and the delivery should be conducted by staff in appropriate PPE. The location of this labour suite should ideally be located near the Patient Admission Centre or at a location with minimal exposure to other patients. Each unit should have their own written protocols in the event of having such patients presenting with imminent delivery.

   b) Post-delivery, the patient and the baby should be transferred to the designated admitting hospital. Cleansing of the labour room should adhere to the biohazard decontamination protocol.

c) At least one doctor and midwife should attend a patient who has an imminent vaginal delivery.

8. Designated operation theatre

a) All tertiary hospitals should have a dedicated operating theatre for patients with suspected or confirmed COVID-19 disease. This theatre should be fully equipped and negative pressure ventilation is recommended. However, this will depend on the resources available in each hospital. Most operation theaters have their own air handling units.

b) The location of this theatre should be easily accessible from the point of contact but this once again should depend on the individual logistics and resources of each hospitals. The benefits of having this theatre nearby to the point of entry will also facilitate crash caesarean sections if required.

9. Undesignated operating theatre

a) Undesignated O&G hospitals should also have protocols to manage suspected COVID-19 patients who present in active labour and require a caesarean section. A dedicated operating theater and workflow should be created based on logistics to facilitate patients requiring unscheduled surgical interventions.

b) The recommended number of staff to manage a patient during caesarean section are ten (two medical personnel from the obstetrics team, two medical personnel from the anesthetic team, GA nurse, scrub nurse, two circulating nurses, a paediatric medical officer and a receive nurse).

10. Postnatal care

Following delivery, the suspected COVID-19 patient should be transferred to the dedicated wards for monitoring as per MOH guidelines.

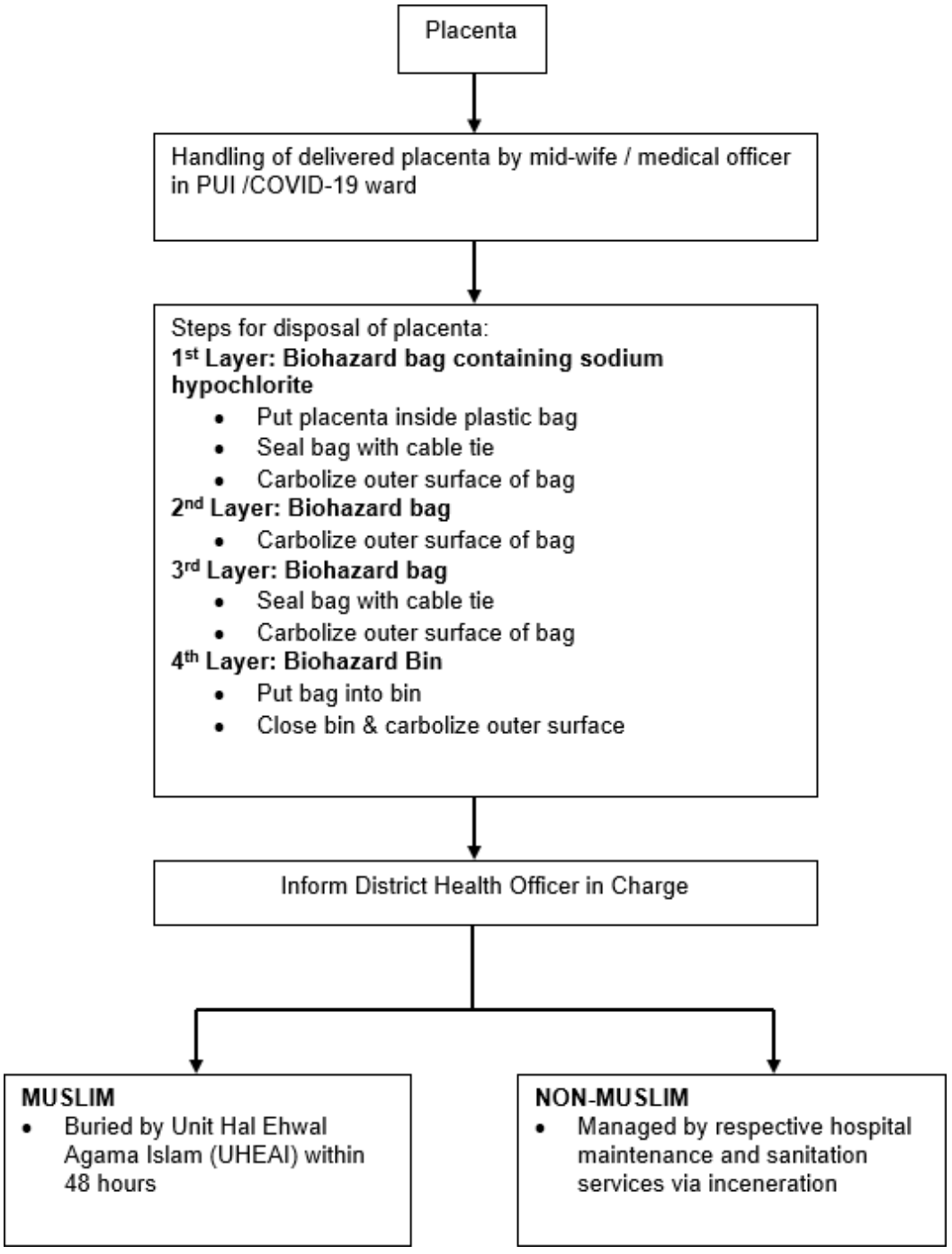
APPENDICES

Content

Number	Title
1	Workflow for disposal of placenta in hospital for PUI or COVID-19 Case
2	Workflow for burial / disposal of macerated / fresh stillbirth for PUI or COVID-19 Case
3	VTE risk scoring
4	Home Assessment Tool
5	Assessment of O&G patients requiring admission for surgery or delivery
6	Workflow for management of O&G patients requiring admission for surgery or delivery in tertiary hospitals
7	Workflow for management of O&G patients requiring admission surgery or delivery in district hospitals
8	Pre-operative testing for caesarean section (elective)
9	Pre-operative testing for gynaecological cases (elective)
10	Testing for O&G cases (emergencies)
11	Workflow management for home monitoring for COVID-19 obstetric patients
12	Recommended personal protective equipment (PPE) in managing obstetrics and gynaecological patients during the COVID-19 pandemic
13	Safety of imaging in pregnancy
14	Haematological problems
15	Patient information
16	Consent form for breastfeeding
17	Flow Chart of MHPSS for healthcare workers
18	Flow Chart of MHPSS for patients

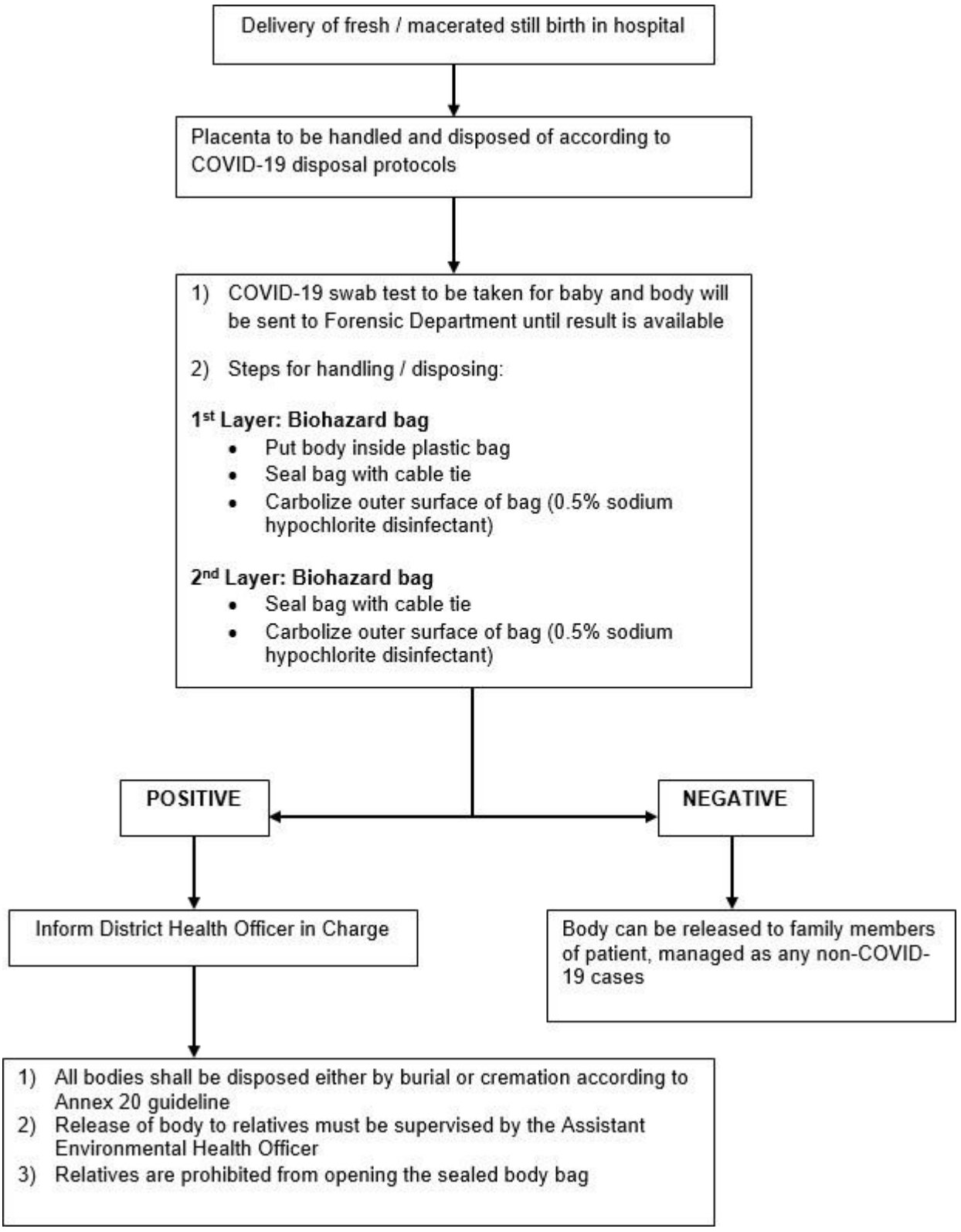
Appendix 1

WORKFLOW FOR DISPOSAL OF PLACENTA IN HOSPITAL FOR SUSPECTED OR CONFIRMED COVID-19 CASE



Appendix 2

BURIAL/DISPOSAL OF MACERATED/FRESH STILL BIRTH FOR SUSPECTED OR CONFIRMED COVID-19 CASE



Appendix 3

VTE Risk Scoring

VTE Risk Factors	VTE Score	Tick		
		Pre Pregnancy/ Booking	Admission New Illness	Post Delivery
Date				
Pre-existing risk factors				
Previous VTE	4			
High Risk Thrombophilia	3			
Medical comorbidites (malignancies , cardiac failure , active SLE, IVDU/TB, nephrotic syndrome, DM with nephropathy, thalassemia major or intermedia post splenectomy)	3			
BMI > 40kg/m2	2			
BMI 30-39kg/m2	1			
Family history of VTE	1			
Low risk thrombophilia	1			
Current smoker >10/day	1			
Obstetric risk factors				
Caesarean section (emergency &elective)	2			
Pre eclampsia	1			
IVF (1st trimester risk only)	1			
Rotational instrumental delivery	1			
PPH(>1000mls) or requires blood transfusion	1			
Stillbirth (current)	1			
Prolonged labour (>24 hours)	1			
Transient risk factors				
Surgical procedures (excluding episiotomy, 1st &2nd degree perineal repair and evacuation of retained products of conception_	4			
Hyperemesis gravidarum/OHSS	4			
COVID stage 3,4&5	**4**			
Systemic/postpartum infection	1			
Immobility/dehydration	1			
Admission beyond 3 days	1			
Long distance travel (>4 hours)	1			
COVID stage 1&2	**1**			
Total score				
Name & stamp				

ANNEX 14d
Edition 19 Feb 2021

MINISTRY OF HEALTH
MALAYSIA

File Ref.:

District Health Office / Entry Point Health Office
.....
.....
Telephone No: .....

To:

Name: .....
Identification Card / Passport No: .....
Address: .....
.....
Phone No.:.....
Name & Phone No. next of kin:.....

Order for Observation and Surveillance for Case of Corona Virus Disease (COVID-19) Infection Under Section 11(3) Prevention and Control of Infectious Disease Act 1988 [*Act 342*]

1. To carry out the order under section 11 (3) Prevention and Control of Infectious Diseases Act 1988 [*Act 342*], I ....., the Authorized Officer appointed under section 3 of Act 342 hereby order you to undergo observation and surveillance at such residence as per above address with conditions as stated in para 2,3,4 and 5 of this order and other conditions as stated in Home Assessment Tool form, for ..... days, from ..... (*date of symptoms onset / date of sample taken for asymptomatic cases*) till ..... (*date of 10th day*) or for a period of time as directed by the Authorized Officer ("observation and surveillance period").

2. You are required to wear a surveillance wristband, given by the Authorized Officer during the observation and surveillance period and to ensure the said surveillance wristband always in a good condition. If the said surveillance wristband is damaged, you are required to inform the nearest District Health Office (DHO) and to get a replacement surveillance wristband. You should not remove, cut, or damaged the said surveillance wristband. The said surveillance wristband can only be removed by the Authorized Officer after you have received a letter of discharged order of observation and surveillance or with written permission by the Authorized Officer.

3. You are required to download the *MySejahtera* application or any other application fixed by the Government into your smartphone or any other device either registered on your behalf or under your control and shall ensure the mobile phone or the device is always with you and in active mode at all times during the period of observation and surveillance. You shall ensure that all information submitted in *MySejahtera* application is accurate and correct.

4. While you are placed under the observation and surveillance order, you are required to comply with the order and the conditions stated herein and to monitor your health status using the Home Assessment Tool form (Appendix 1) attached together with this order or through the *MySejahtera* appplication.

5. If you are the legal guardian of a child under the age of eighteen (18) years old or a disabled person (OKU), you shall provide the information of the child under the age of eighteen (18) years old or disabled person in Appendix 2 and to ensure that the person under your care complies with this order and the conditions stated herein.

6. If you are not contacted by the District Health Office on the last day of the observation and surveillance period, you are required to contact the Authorized Officer to obtain relief from this Order and, to enable the surveillance wristband to be removed. .

7. Your failure to comply with this order and the conditions stated herein constitute an offence under section 11(5) of Act 342 and if convicted may be punishable under section 24 of Act 342.

The Authorized Officer	
Name	
Designation	
Date & Time	
Confirmation on Receiving a Copy of the Order by the Case Placed Under Observation and Surveillance	
Name	
Identification / Passport No.	
Date & Time	
Signature	

c.c District Health Office

.....

ANNEX 23

Appendix 1

'HOME ASSESSMENT TOOL' FOR ADULT WITH POSITIVE COVID-19

NOTE: Please (√) if you experience any of the symptoms below

SYMPTOMS	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	NOTES
Sore throat or runny nose											
Cough											
***Fever**											
*** Shorten of breath (SOB)**											
Loss of taste											
Loss of smell											
Diarrhea											
Nausea and/or vomiting											
Lethargy											
Myalgia											
Able to carry out daily activities											
***Chest pain**											
***Unable to tolerate orally / food / drinks**											
***Worsening of lethargy eg: struggling to get out of bed**											
***Unable to ambulate without assistance**											
***Worsening or persistent symptoms such as cough, nausea, vomiting or diarrhea**											
***Reduced level of consciousness**											
***Reduced urine output in the last 24 hours**											

NOTE: i) * RED FLAGS - If present, patient is CAT 2 MODERATE and needs referral to clinic/hospital/COVID-19 assessment centre for further assessment

ii) If self-monitoring of health status has been done through the MySejahtera application, this form does not need to be filled out.

'HOME ASSESSMENT TOOL' FOR PARENTS WITH A CHILD POSITIVE COVID-19
(To be filled by the parents / guardian of the child)

NOTE: Please (√) if your child experience any of the symptoms below.

SYMPTOMS	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	NOTA
Fever											
Sore throat or runny nose											
Cough											
Vomiting or diarrhoea											
Active on handling											
***Symptoms more than 7 days**											
***Lethargy**											
***Poor feeding**											
***Chest or abdominal pain**											
***Cold or clammy peripheries**											
***Signs of dehydration (less urinate (within 24 hours))**											
***Change in mental status**											
***Seizures**											

NOTE: *RED FLAGS IN PAEDIATRIC: If present the child shall be referred hospital for further assessment

ANNEX 23

Appendix 2

LIST OF CHILDREN UNDER 18 YEARS OLD / DISABLE PERSONS (OKU) UNDER CARE

I, ... [name]

*identity card no./ Pasport no. .....

address in .....

hereby confirm that the persons named below are children under the age of 18 years old / persons with disabilites and under my care.

NO.	NAME	IDENTITY CARD / MYKID / PASPORT NO.

Signature: .....

Name: .....

IC No:: .....

Address: .....

Handphone No.: .....

Date: .....

Appendix 5

ASSESSMENT FOR O&G PATIENTS REQUIRING ADMISSION FOR SURGERY OR DELIVERY IN HOSPITALS DURING COVID-19 PANDEMIC PERIOD

History taking from patient or family members:

Refer Annex 1 for Definition of COVID-19 and close contact.

Physical Examination:

1. Fever on admission (Temperature ≥ 37.5^0C)
2. Lungs – crepitations or added sounds on auscultation

Investigation:

1. Abnormal CXR – with evidence of pneumonic changes.

   Chest X-Ray for symptomatic pregnant women is carried out with abdominal shield with informed consent

2. Lung USG (if indicated) – suggestive of pneumonic changes.

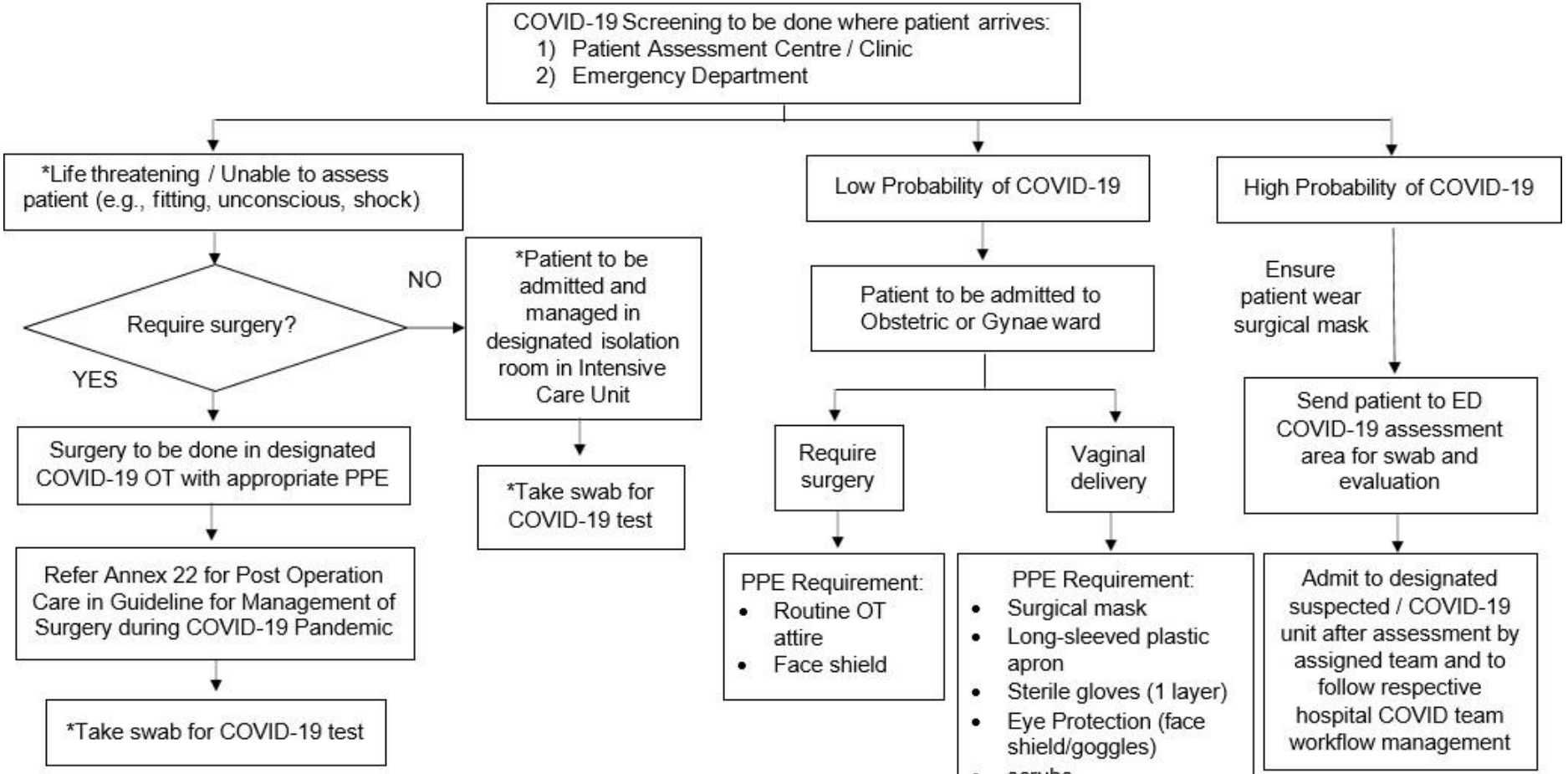
Special Group

1. Workers/detainees/residents of congregational/ crowded settings, such as long-term living facilities, prisons, shelters, depot etc.
2. Patient on regular hemodialysis
3. Unconscious patients requiring emergency surgery with no available history of exposure.

High Probability cases include Person Under Surveillance (PUS), Suspected and Probable case for COVID- 19 as well as patients from Special Groups and Patients requiring Aerosol Generating Procedures.

Refer COVID-19 Pre-operative Risk Assessment Checklist in Annex 22, Guideline for Management of Surgery during COVID-19 Pandemic for categorization of patients.

WORK FLOW MANAGEMENT FOR O&G PATIENTS REQUIRING ADMISSION FOR SURGERY OR DELIVERY IN TERTIARY HOSPITALS DURING COVID-19 PANDEMIC PERIOD

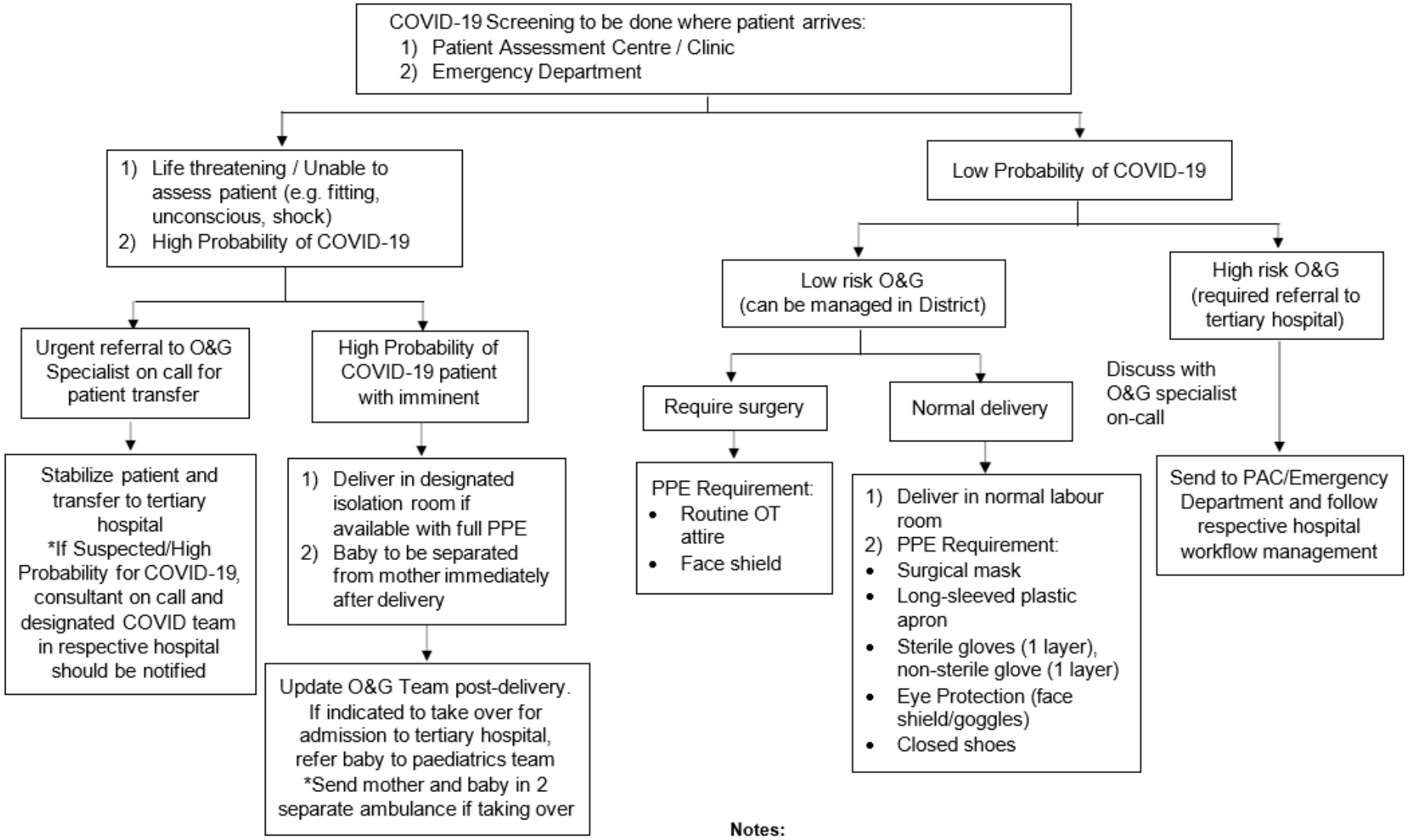


Notes:
*COVID-19 screening and investigations to be taken in admitting ward post admission/procedure
All staff should take bath after conducting deliveries/gynae procedure

ANNEX 23

Appendix 7

WORK FLOW MANAGEMENT FOR O&G PATIENTS REQUIRING ADMISSION FOR SURGERY OR DELIVERY IN DISTRICT HOSPITALS DURING COVID-19 PANDEMIC PERIOD



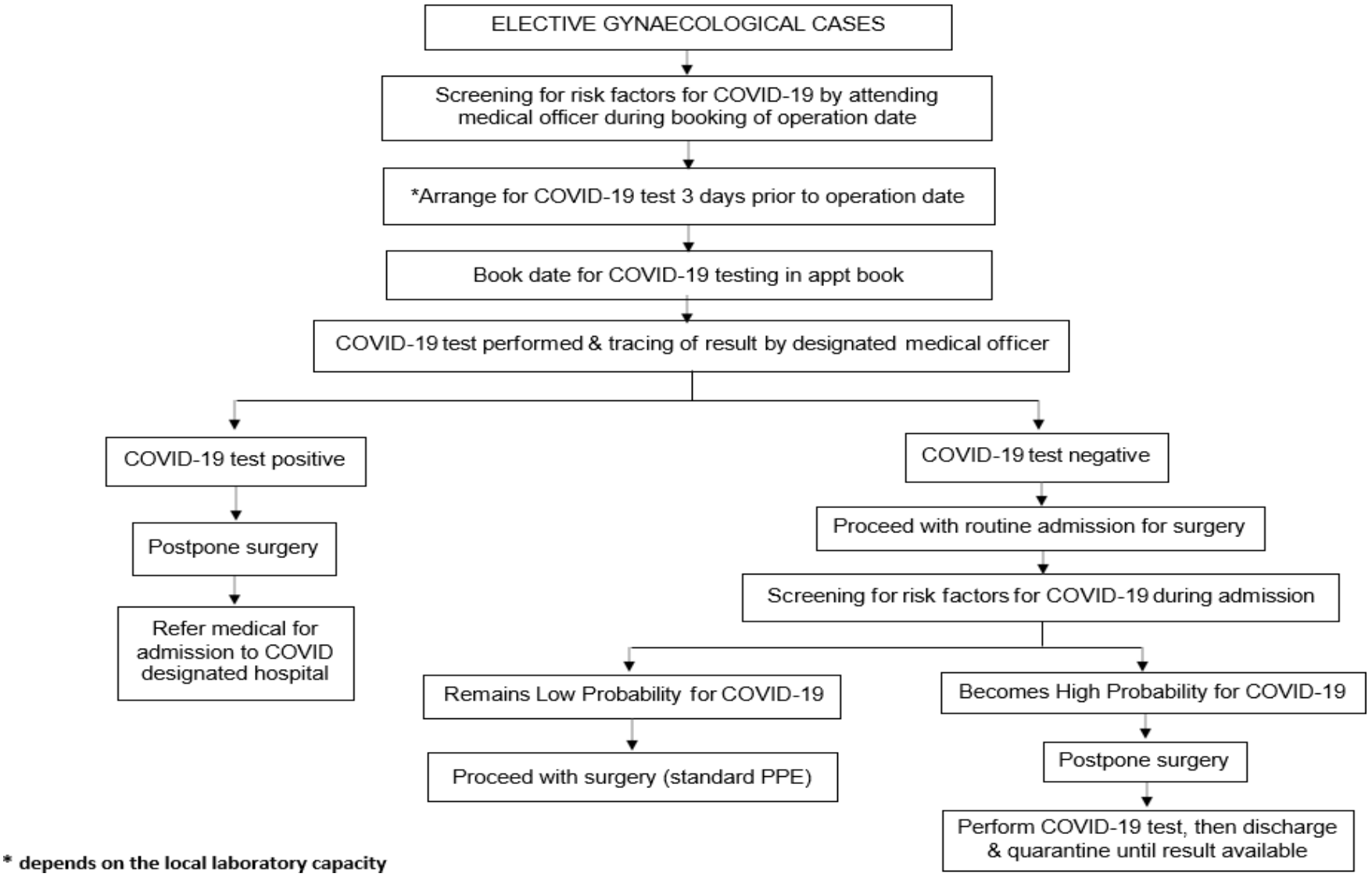
Notes:
All staff should take bath after conducting deliveries/gynae procedure

Updated on 27 January

ANNEX 23

Appendix 8

PRE-OPERATIVE TESTING FOR COVID-19 FOR GYNAECOLOGICAL CASES (ELECTIVE)



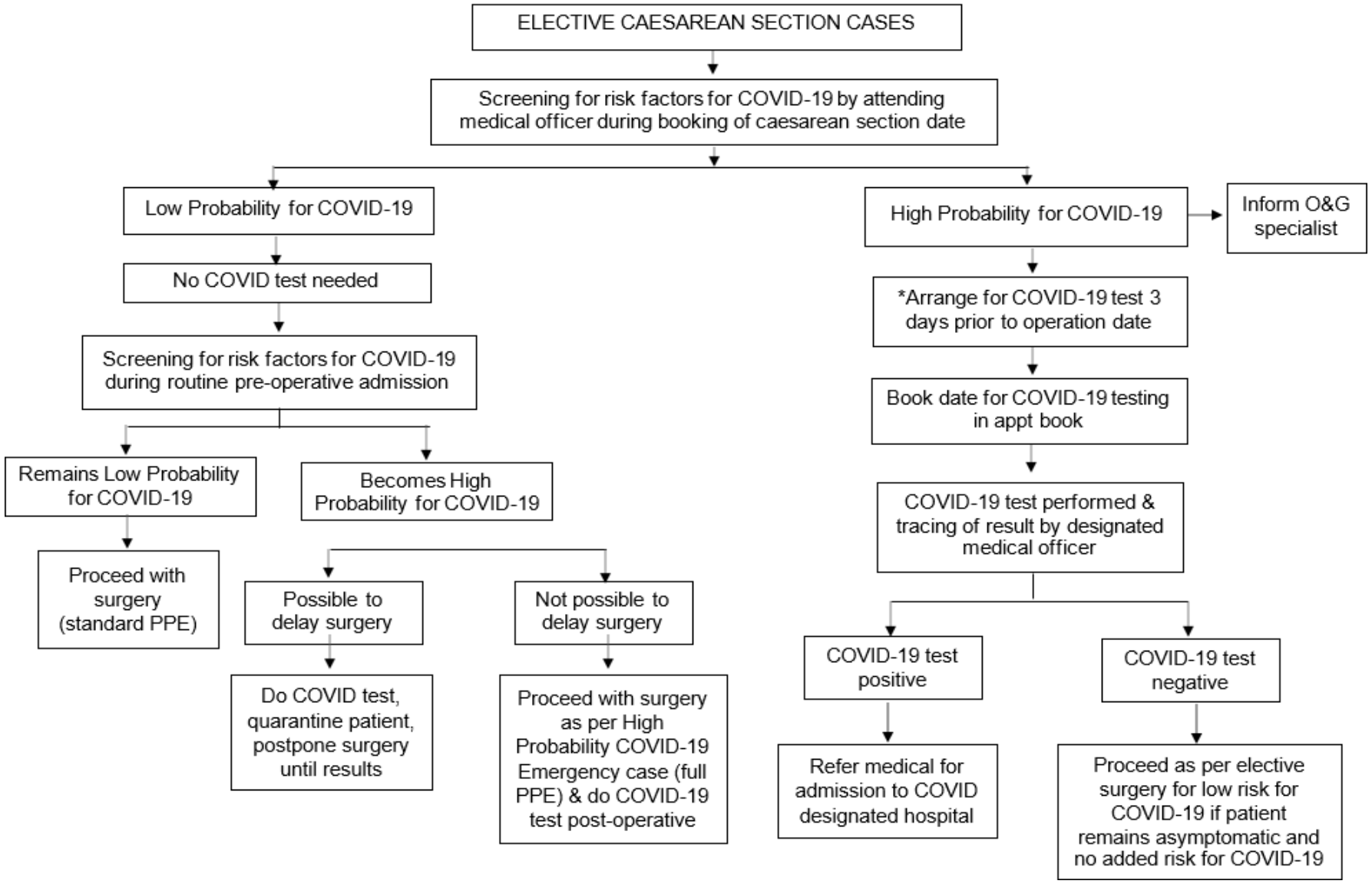
*** depends on the local laboratory capacity**

Updated on 27 January

ANNEX 23

Appendix 9

PRE-OPERATIVE TESTING FOR COVID-19 FOR CAESAREAN SECTIONS (ELECTIVE)

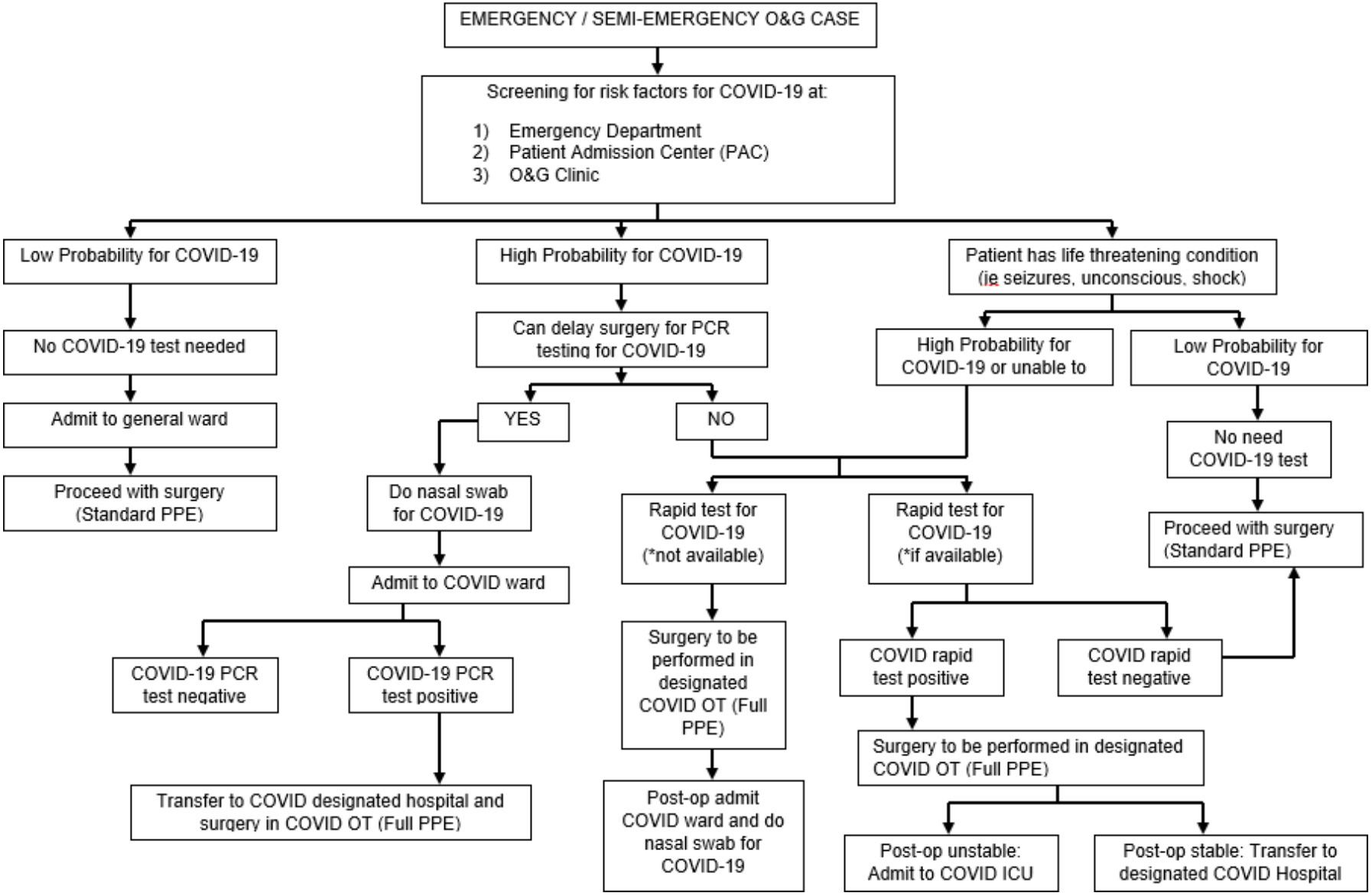


Updated on 27 January

ANNEX 23

Appendix 10

TESTING FOR COVID-19 IN OBSTETRIC & GYNAECOLOGICAL CASES (EMERGENCIES / SEMI-EMERGENCIES)

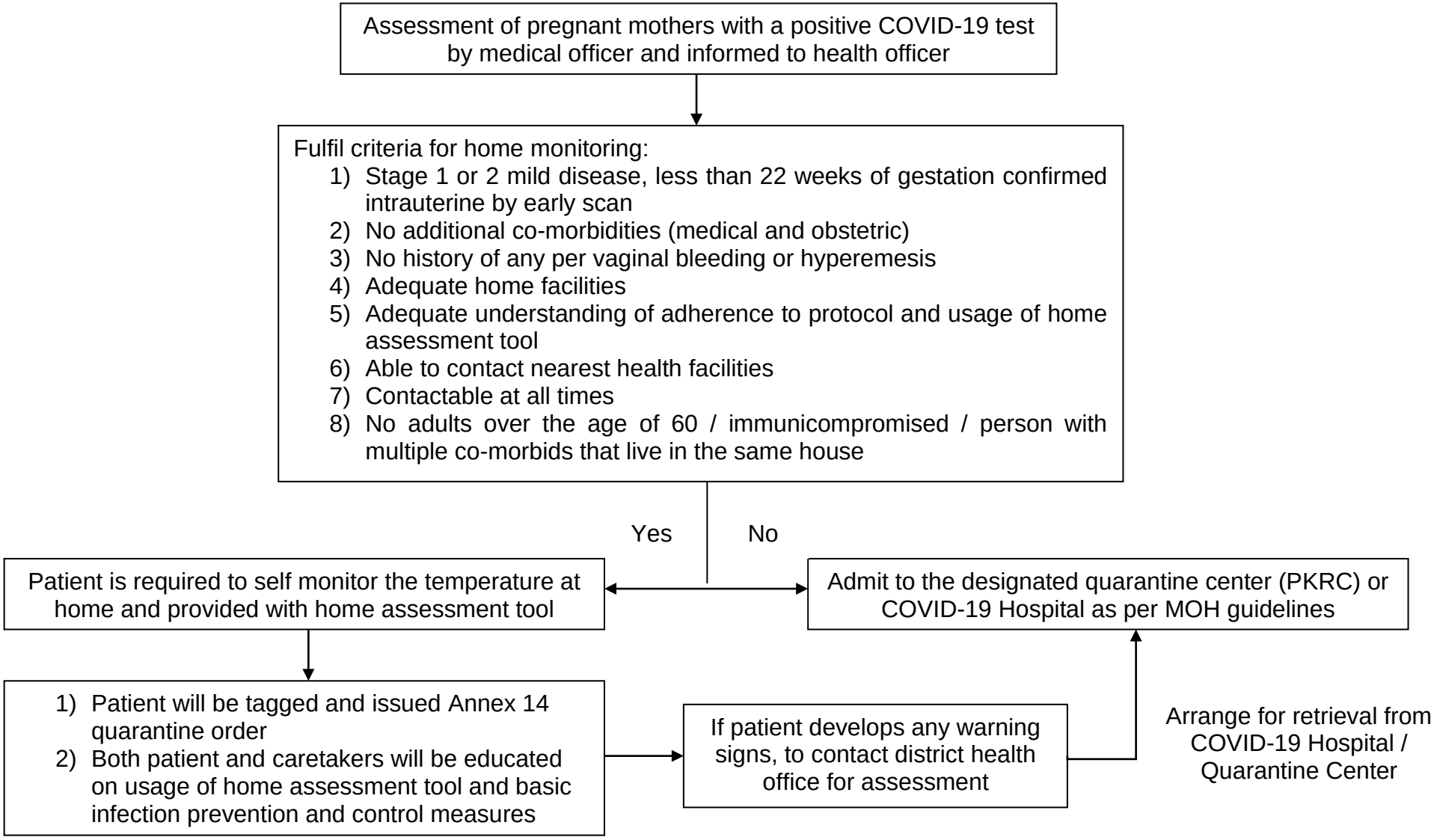


Updated on 27 January

ANNEX 23

Appendix 11

WORK FLOW MANAGEMENT FOR HOME MONITORING FOR COVID-19 OBSTETRIC PATIENTS



Updated on 27 January

ANNEX 23

Appendix 12

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE) IN MANAGING OBSTETRIC & GYNAECOLOGY (O&G) PATIENTS DURING THE COVID-19 PANDEMIC

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
TRIAGE			
Screening / Triaging	Preliminary screening with no direct contact with patient	• Surgical mask • Face shield – (if unable to maintain physical distance of at least 1 meter and unable to create physical barrier)	• Practice frequent hand hygiene • Maintain physical distance of at least 1 meter at all time with patient • Ideally, build glass/plastic screens to create barrier between healthcare workers & patients. • Provide surgical mask to patient with respiratory symptoms. (Providing to all patients is optional) • Ensure patient to be seated at least 1 meter distance from each other at waiting area • Full PPE set must be made available at the site in case of emergency
WARDS			
a) Non-Suspected /Non-confirmed COVID-19/SARI - Asymptomatic patient	Ward rounds/patient assessment • Without body fluid splashing risk • Non-aerosol generating procedure (Non-AGP)	Surgical mask	• Practice frequent hand hygiene • Minimum number of HCW during ward rounds. • Practice appropriate distancing during ward round. • Surgical masks for patients (optional)

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
b) Non-Suspected /Non-confirmed COVID-19 - Patient with Influenza like Illness (ILI) symptoms	Ward rounds/patient assessment • Without body fluid splashing risk • Non-aerosol generating procedure (Non-AGP)	• Surgical mask • Long-sleeved plastic apron • Gloves • Eye protection (face shield/goggles)	• Ensure patient is wearing surgical mask (if tolerable). If not tolerable, advise the patient to cover nose and mouth during coughing or sneezing with tissue or flexed elbow. • Minimum number of HCW during ward rounds.
- Severe Acute Respiratory Illness (SARI) patient	Performing Aerosol Generating Procedures (AGP) • High-flow mask oxygen • Intubation • Suctioning • Nebulization • CPR Also, when performing oropharyngeal or nasopharyngeal swab	• N95 mask • Gloves • Isolation Gown (fluid-repellent long- sleeved gown) • Eye protection (face shield/goggles) • Head cover • Boot cover/shoe cover- not always necessary unless when anticipating spillage and vomiting	• Practice appropriate distancing during ward round. • HCW attending patient must be trained in donning and doffing procedure. • Reduce the number and duration of contact to as minimum if possible. • May use innovative ways of clerking patient (e.g., using mobile phone) for stable patient. • Visitors are not allowed
c) Suspected/ Confirmed COVID- 19 d) Patient awaiting swab result	Ward rounds/patient assessment • **Patient is able to wear surgical mask** • Without body fluid splashing risk • Non-aerosol generating procedure (Non-AGP)	• Surgical mask • Isolation Gown (fluid-repellent long-sleeved gown) • Gloves • Eye Protection (face shield/ goggles) • Boot cover/shoe cover (when anticipating spillage and vomiting)	• Ensure patient is wearing surgical mask. If not tolerable, advise the patient to cover nose and mouth during coughing or sneezing with tissue or flexed elbow. • Limit number of HCW reviewing the patient to one. • HCW attending patient must be trained in donning and doffing procedure.

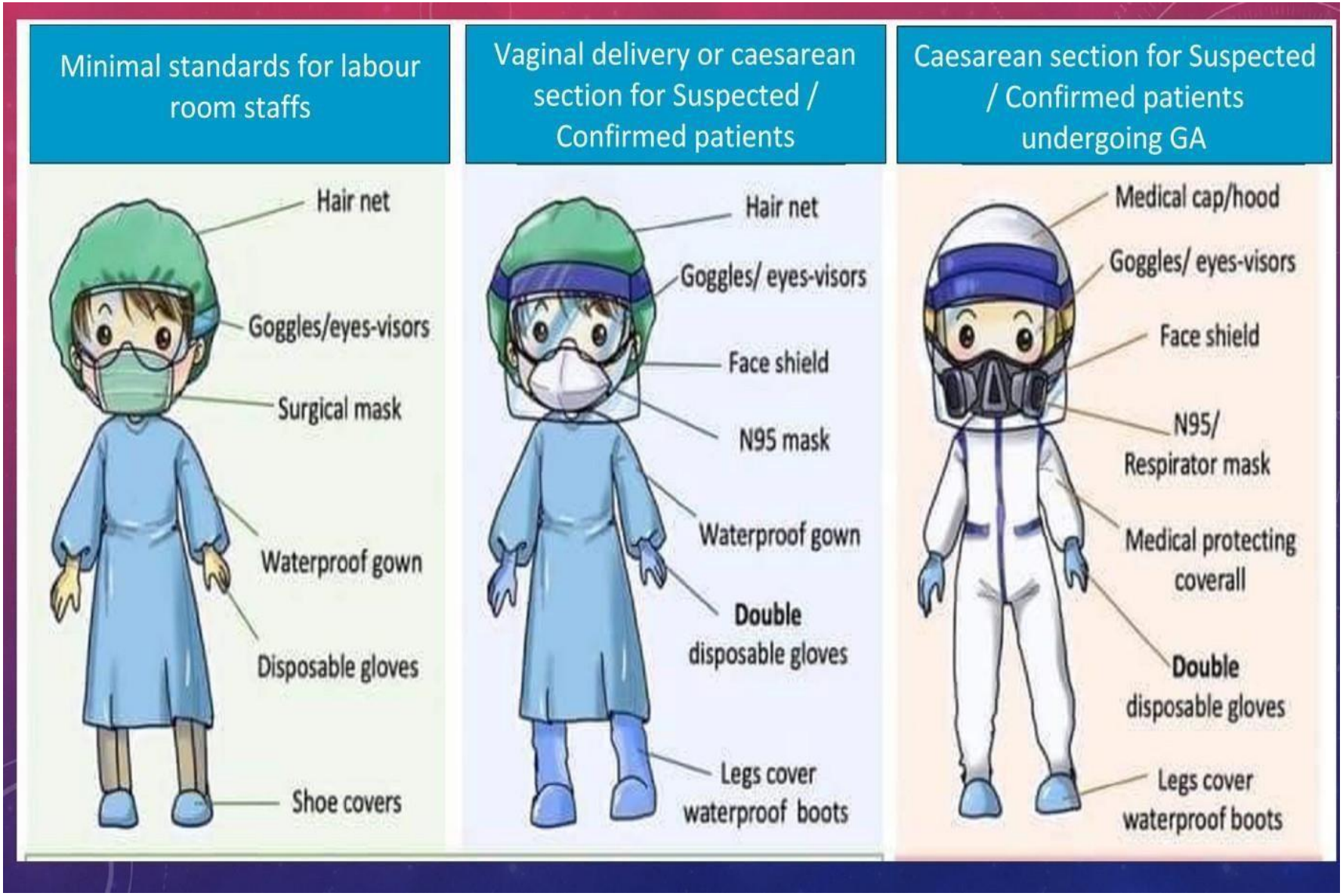
SETTING	ACTIVITY	TYPE OF PPE	REMARKS
c) Suspected/ Confirmed COVID- 19 d) Patient awaiting swab result	Ward rounds/patient assessment • **Patient NOT able to wear surgical mask** • Without body fluid splashing risk • Non-aerosol generating procedure (Non-AGP)	• N95 mask • Isolation Gown (fluid-repellent long-sleeved gown) • Gloves • Eye Protection (face shield/ goggles) • Head cover • Boot cover/shoe cover (when anticipating spillage and vomiting)	• Reduce the number and duration of contact to as minimum if possible. • May use innovative ways of clerking patient (e.g. using mobile phone) for stable patient. • Visitors are not allowed
	Performing Aerosol Generating Procedures (AGP) *Fordetailed information, kindly refer to Infection Prevention and Control Measures, Annex 8 (Guidelines COVID-19 Management in Malaysia Version 5/2020)	Option 1 (Preferred): • Powered air-purifying respirator (PAPR) • Isolation Gown (fluid-repellent long-sleeved gown) with plastic apron / Coverall suit • Gloves • Eye Protection (face shield/ goggles) * • Boot cover/shoe cover *Depends on type of PAPR	
		Option 2: • Coverall suit • N95 mask • Eye Protection (face shield/ goggles) • Gloves • Boot cover/shoe cover	

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
		Option 3 (if Option 1 & 2 not available): • N95 mask • Isolation Gown (fluid-repellent long-sleeved gown) with plastic apron • Gloves • Eye Protection (face shield/ goggles) • Head cover • Boot cover/shoe cover	
LABOUR WARD			
a) Non-Suspected/ Non-COVID-19/SARI - Asymptomatic patient	Patient review/assessment • Non-aerosol generating procedure (Non-AGP)	• Surgical mask • Plastic apron • Gloves (non- sterile/sterile depending on procedure)	Labour Companion is not recommended, if present MUST be screened and sign declaration form, and wear surgical mask.
	Conducting vaginal delivery	• Surgical mask • Long-sleeved plastic apron • Gloves (sterile) • Eye Protection (face shield/ goggles) • Closed shoes	• Labour Companion are not recommended, if present MUST be screened and wear 3 ply surgical mask. • Minimize the HCW involve in conducting delivery/present in delivery room.
	Assisting vaginal delivery	• Surgical mask • Long-sleeved plastic apron • Gloves (non-sterile) • Eye Protection (face shield/) • Closed shoes	

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
b) Non-Suspected/ Non-COVID-19/SARI - Patient with Influenza like Illness (ILI) symptoms	Patient review/assessment • Non-aerosol generating procedure (Non-AGP)	• Surgical mask • Long-sleeved plastic apron • Gloves (non- sterile/sterile depending on procedure) • Eye Protection (face shield/ goggles)	Labour Companion are not recommended, if present MUST be screened and sign declaration form, and wear surgical mask.
	Conducting vaginal delivery	• Surgical mask • Long-sleeved plastic apron • Gloves (sterile) • Eye Protection (face shield/ goggles) • Closed shoes	• Labour Companion is not recommended, if present MUST be screened and wear surgical mask. • Minimize the HCW involve in conducting delivery/present in delivery room.
	Assisting vaginal delivery	• Surgical mask • Long-sleeved plastic apron • Gloves (non-sterile) • Eye Protection (face shield/ goggles) • Closed shoes	
c) Suspected/ Confirmed COVID-19/SARI	Patient review/assessment • Non-aerosol generating procedure (Non-AGP)	• N95 mask • Isolation Gown (fluid-repellent long-sleeved gown) • Gloves (non- sterile/sterile depending on procedure) • Eye Protection (face shield/ goggles) • Head cover • Boot cover/shoe cover	Labour Companion is not recommended, if present MUST be screened and sign declaration form, and wear surgical mask.

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
	Conducting vaginal delivery	• N95 mask • Isolation Gown (fluid-repellent long-sleeved gown) • Gloves (sterile) • Eye Protection (face shield/ goggles) • Head cover • Boot cover/shoe cover	• HCW attending patient must be trained in donning and doffing procedure. • Limit number of HCW in delivery room. • Senior doctor to attend the delivery if possible, to minimize the risk of complication. • Donning/Doffing should be carried out in appropriate designated area. • Ensure appropriate disinfection of reusable respirators/filters after each use. • Paediatric team informed and on standby ** Elective Caesarean Section is the preferred mode of delivery **
	Assisting vaginal delivery	• N95 mask • Isolation Gown (fluid-repellent long-sleeved gown) • Gloves (non-sterile) • Eye Protection (face shield/ goggles) • Head cover • Boot cover/shoe cover (ONLY when anticipating spillage and vomiting)	
OPERATION THEATRE			
a) Pre-op RT-PCR swab negative		Follow PPE in Annex 22 Guidelines on Management of Surgery during COVID-19”	• Ensure patient is on surgical mask (if practical). • Limit number of HCW in the operating room.
b) Unknown status & Low Probability			• Ensure patient is on surgical mask (if practical). • HCW attending patient must be trained in donning and doffing procedure. • Limit number of HCW in the operating room.

SETTING	ACTIVITY	TYPE OF PPE	REMARKS
			• Senior Doctor to perform the surgery to minimize the risk of complication.
c) Suspected/ Confirmed COVID- 19/ SARI patient or Unknown status but stratified as HighProbability			• Ensure patient is on surgical mask (if practical). • HCW attending patient must be trained in donning and doffing procedure. • Limit number of HCW in the operating room. • Senior Doctor to perform the surgery to minimize the risk of complication. • Ideally, OT should be negative pressure, if not, should be isolated from other OT room. • Donning/Doffing should be carried out in appropriate designated area. • Ensure appropriate disinfection of reusable respirators/filters after each use.


Minimal standards for labour room staffs
Hair net
Goggles/eyes-visors
Surgical mask
Waterproof gown
Disposable gloves
Shoe covers
Vaginal delivery or caesarean section for Suspected / Confirmed patients
Hair net
Goggles/ eyes-visors
Face shield
N95 mask
Waterproof gown
Double disposable gloves
Legs cover waterproof boots
Caesarean section for Suspected / Confirmed patients undergoing GA
Medical cap/hood
Goggles/ eyes-visors
Face shield
N95/ Respirator mask
Medical protecting coverall
Double disposable gloves
Legs cover waterproof boots

Further reading on PPE

Recommended PPE to be used when managing Person Under Surveillance (PUS), Suspected, Probable or Confirmed Corona Virus Disease (COVID-19), Annex 8, Guidelines COVID-19 Management in Malaysia.

ANNEX 23

Appendix 13

Safety of imaging in pregnancy

Gestational age (weeks)	Effect of <50 mGy (<5 rad)	Effect of 50–100 mGy (5–10 rad)	Effect of >100 mGy (>10 rad)	Estimated threshold dose*
0–2	None	None	None	50–100 mGy
3–4	None	Probably none	Possible spontaneous miscarriage	
5–10	None	Uncertain May be clinically undetectable	Possible congenital anomaly (skeletal, ophthalmic, genital tract) Fetal growth restriction	200 mGy 200–250 mGy
11–17	None	Uncertain	Risk of diminished IQ or mental retardation Microcephaly Severity is dose dependent	60–310 mGy 200 mGy 25 IQ point loss per 1000 mGy
18–27	None	None	IQ deficits not detectable at diagnostic doses	
>27	None	None	Not applicable to diagnostic medicine	

*Data based on results of animal studies, epidemiological studies of survivors of atomic bombs and groups exposed to medical radiation. IQ = intelligence quotient.

Type of examination	Fetal radiation dose (mGy)
Very low dose examinations (<0.1mGy)	
Cervical spine X-ray (AP and lateral views)	<0.001
Chest X-ray (two views)	0.0005–0.01
Radiography of extremities	<0.001
Mammography (two views)	0.001–0.01
Head and neck CT	0.001–0.01
Low to moderate dose examination (0.1–10 mGy)	
Abdominal X-ray	0.1–3.0
Lumbar spine X-ray	1.0–10
CT chest or pulmonary angiography	0.01–0.66
Limited CT pelvimetry	<1
Low-dose perfusion scintigraphy	0.1–0.5
Technetium-99m bone scintigraphy	4–5
Pulmonary digital subtraction angiography	0.5
Higher dose examinations (10–50 mGy)	
Abdominal CT	1.3–35
Pelvic CT	10–50
^{18}F-FDG PET/CT whole-body scinitigraphy	10–50

^{18}F-FDG = 2-deoxy-2[fluorine-18]-fluoro-D-glucose; AP = anterior-posterior; CT = computed tomography; PET = positron emission tomography.

Source TOG, March 2019

Appendix 14

Practical Guide for Managing Haematological Problems in Patients with COVID-19 in ICU

Routine Haematological Management

1. Check Haemoglobin
   - If Hb <7 g/dL → give single unit red cell transfusion and recheck
2. Check Platelet count
   - If Plt <20 x 10^9/L → give one pool of platelets and recheck
3. Check coagulation results
4. Check thromboprophylaxis
   - Check if special circumstances apply (see special circumstances)
   - If none, go to no. 5
5. Check creatinine clearance
   - If CrCl >30 mL/min → prescribe *LMWH as per thromboprophylaxis dose (if BW <60 kg → Enoxaparin 40 mg OD; if BW ≥60 kg → Enoxaparin 1 mg/kg OD)
   - If CrCl ≤30 mL/min → prescribe S/C **UFH 5000 IU BD or reduced dose LMWH (Enoxaparin 20 mg OD or 40 mg EOD)

* Low molecular weight heparin ** Unfractionated heparin

General Principles

Minimise phlebotomy

- Avoid excessive blood sampling

Special circumstances

AF or previous VTE

- If AF or previous VTE >90 days ago, no special circumstances apply
- If VTE ≤90 days ago, prescribe treatment dose LMWH (Enoxaparin 1 mg/kg BD)

Active bleeding

- Correct abnormal results

Planned procedures

- See targets for procedures

Targets for procedures

Central line/ arterial line insertion

- Platelet transfusion if Plt <20 x 10^9/L

Central line/ arterial line removal

- Do not remove until Plt >50 x 10^9/L

Chest drain or tracheostomy insertion

- INR <1.5 or APTTr <1.5
- Fibrinogen >1.5 g/dL
- Platelet count >50 x 10^9/L

Patient information

1. Physical distancing

a. It is recommended to advice all patients to observe physical distancing and avoidance of contact with people who are known to have COVID-19 or anyone who is symptomatic.
b. Wearing a mask is essential.

2. Obstetric care

a. Obstetric care remains important for optimal outcomes. It is best to contact and communicate with your doctors on how this can be modified but it is not advisable to miss essential appointments without advice from your obstetrician.
b. However, if you are unwell or if you came in contact with someone who is confirmed positive, it is best you to go to the nearest clinic or hospital for testing. Also inform your obstetrician before your appointment. It is not recommended to attend routine obstetric care if you are unwell or at risk of contact. It is best to be honest to your healthcare givers.

3. Gynaecological care

a. If you do have a routine gynaecology review and if you are well, it is perhaps best to communicate with your healthcare giver and to delay such consultations until the restriction of movement order has been lifted.
b. However, if you do have an emergency or if you are unwell, do contact your hospital O&G Department who will facilitate a review.
c. Follow up of essential patients such as cancer patients and chemotherapies are unaffected and are continued and it is in your best interest not to miss these appointments.
d. Contraception remains an essential practice and we believe every pregnancy should be planned.

4. Can you get pregnant during this pandemic?

a. There are many uncertainties with regards to COVID-19 especially with regards to the implications on the mother and the baby. The burden on healthcare is significant.
b. Although there are no general consensus with regards to conception during this pandemic, the possibility of you having optimal access to healthcare may be a challenge apart from the quality of your care during pregnancy which may be affected.
c. Use contraception and is best to plan your pregnancy for optimal outcomes.
d. Assisted reproductive techniques may also be delayed at this moment of time but speak to your infertility expert if you are unsure.

COVID 19 INFECTION IN PREGNANCY

INFORMATION FOR PATIENTS

WHAT IS COVID 19?

COVID 19 is an infectious disease caused by a newly discovered *Coronavirus* named *SARS-CoV-2*.

Pregnancy does not increase the risk of you having severe infections although it is best to be cautious especially in the third trimester.

Design and creation by CJMR / April 2020

MOH GUIDELINES ON COVID 19 IN PREGNANCY

Updated on 27 January

Jangkitan COVID-19 Ketika Hamil

Informasi Untuk Pesakit

Apa Itu COVID-19?

COVID-19 adalah penyakit berjangkit disebabkan oleh coronavirus yang baru ditemui, SARS-CoV-2. Kehamilan tidak meningkatkan risiko anda untuk mendapat jangkitan teruk. Namun adalah penting untuk mengambil langkah berjaga-jaga, terutamanya ketika trimester ke-3 (7-9 bulan kehamilan).

1 Gejala

Kebanyakan pesakit tidak menunjukan gejala.

Sebilangan kecil menunjukkan gejala ringan seperti demam atau batuk. Namun dapatkan rawatan segera jika anda rasa sukar bernafas.

2 Jangkitan

Anda boleh dijangkiti COVID-19 jika berlaku kontak rapat dengan individu yang dijangkiti atau menyentuh permukaan yang tercemar dengan virus tersebut. Risiko jangkitan dari ibu kepada kandungan masih dikaji.

3 Penjarakan Sosial

Penjarakan sosial sekurang-kurangnya 1-2 meter adalah disarankan. Elakkan kontak dengan pesakit COVID-19 atau individu yang mempunyai simptom.

4 Kekalkan Kebersihan Diri

Kerap cuci tangan menggunakan sabun dan air. Elakkan menyentuh mata, hidung dan mulut tanpa mencuci tangan.

5 Gunakan Penutup Mulut Dan Hidung

Gunakan penutup mulut dan hidung sekiranya anda tidak sihat. Tutup mulut apabila bersin atau batuk.

6 Pemeriksaan Ketika Hamil

Sentiasa patuhi tarikh temu janji anda. Namun, sekiranya anda tidak sihat atau mempunyai kontak dengan pesakit COVID-19, anda perlu maklumkan kepada doktor anda sebelum hadir untuk temu janji.

7 Jika Anda Berisiko

Maklumkan kepada doktor anda melalui telefon sekiranya mempunyai kontak dengan pesakit COVID-19. Dapatkan rawatan segera sekiranya anda rasa sukar bernafas.

8 Kesan Terhadap Bayi Anda

COVID-19 tidak menyebabkan kecacatan bayi. Penjagaan kesihatan semasa dan selepas anda bersalin adalah berdasarkan Garis Panduan COVID-19 ketika hamil, KKM.

Sumber : MOH Guidelines On COVID-19 In Pregnancy

KEMENTERIAN KESIHATAN MALAYSIA

CONSENT TO BREASTFEED OR PROVIDING EXPRESSED BREAST MILK BY A MOTHER WITH COVID-19 POSITIVE OR SUSPECTED CASE

By signing below, I hereby confirm the following:

- I have been given verbal/written information regarding breastfeeding in situation where I am COVID-19 positive or a suspected case.
- I understand that although there is no evidence that COVID-19 virus is transmitted in breast milk, there are also no studies to prove that breastfeeding is 100% safe
- I certify that I have been given sufficient time to consider the benefits and risks of breastfeeding versus the risks of not breastfeeding in my current situation.
- I certify that I have been given adequate information regarding steps I need to take to prevent transmission of infection during the period I am breastfeeding or expressing my breast milk:

  i. Wash my hands properly with soap and water or use hand sanitiser before start of breastfeeding or breast milk expression
  ii. Wear a mask during breastfeeding or breast milk expression
  iii. Ensure a suitably comfortable distance between my face and baby or from container during breastfeeding or breast milk expression

- I hereby agree that if I am unable to fulfil any of these conditions or if situation does not permit, I will not be allowed to breast feed or provide expressed breastmilk for my baby

Signature of Mother:…… IC number:……

Date: ……

Signature of Doctor: …… Witness by: ……..

Name of Doctor: …….. Name of witness: ……

Date: …….

FOR HOSPITAL USE

Mother has been counseled on……..(Date and Time)

Signature of Doctor/Nurse on duty……

Name:…… Stamp:…….

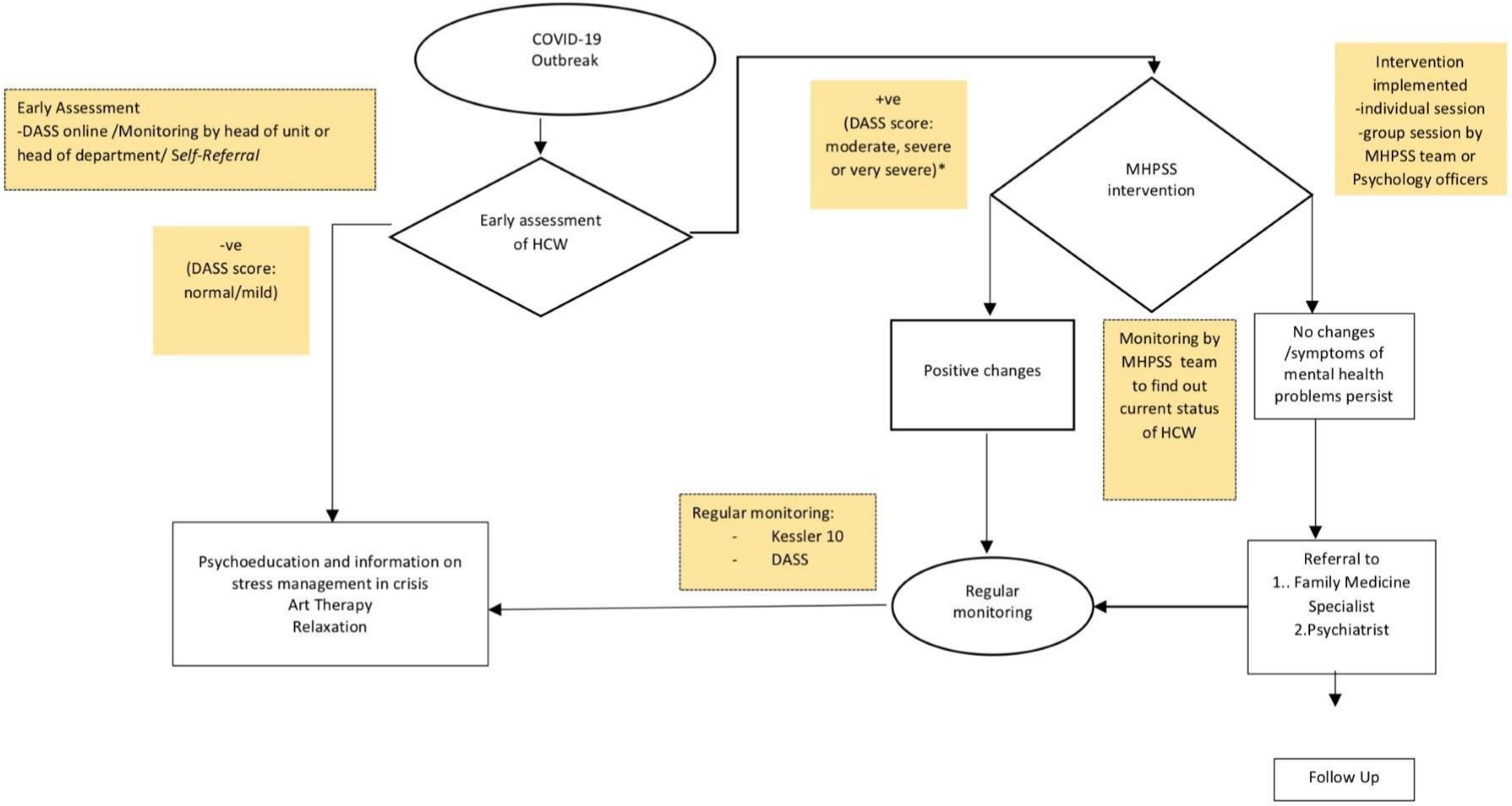
Date:……..

ANNEX 23

Appendix 17

ANNEX 33

FLOW CHART OF MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT SERVICES FOR HEALTH CARE WORKERS (HCW) /RESPONSE WORKERS - COVID-19



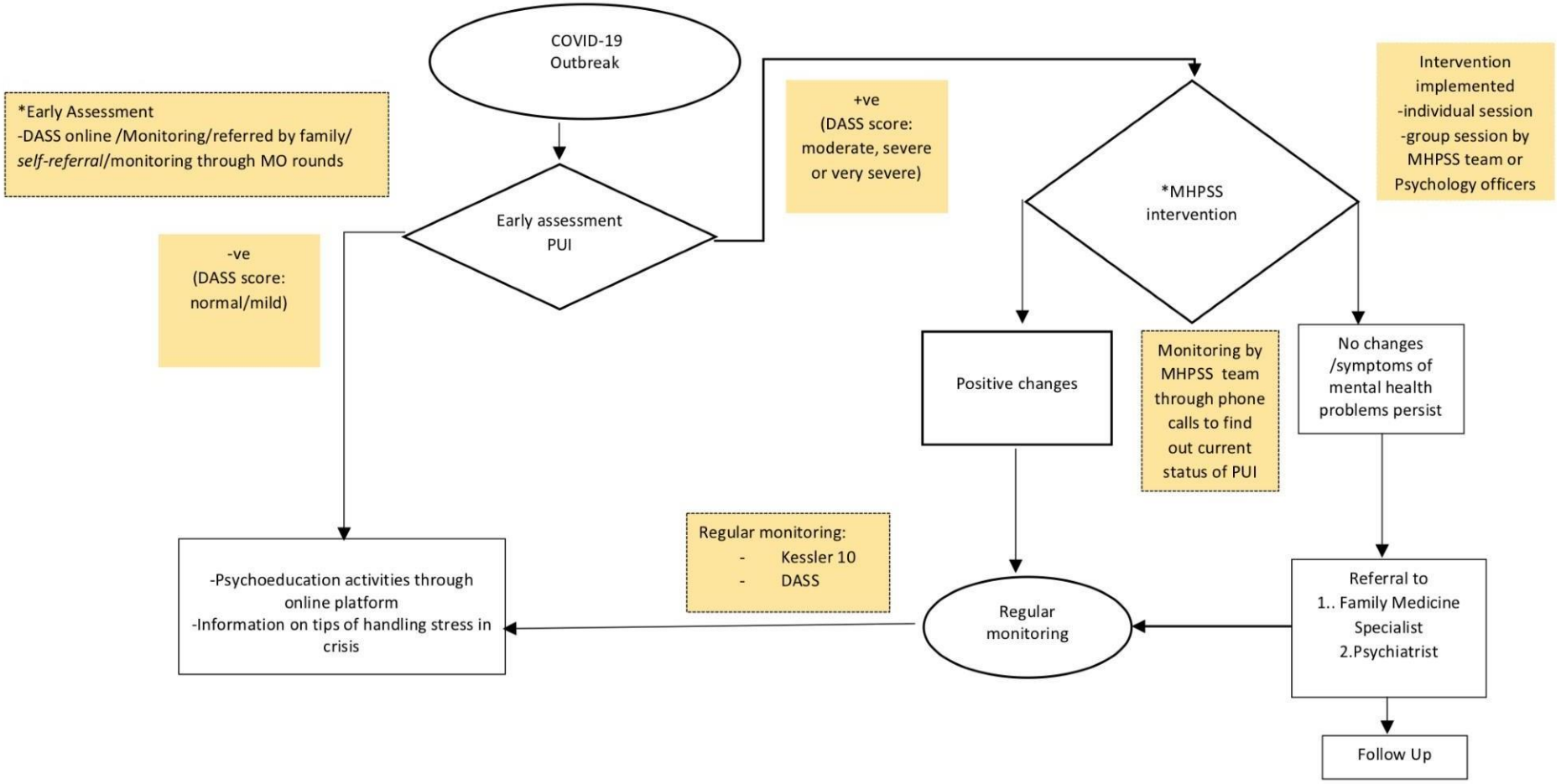
Updated on 27 January

ANNEX 23

Appendix 18

ANNEX 33

FLOW CHART OF MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT SERVICES FOR PERSONS UNDER INVESTIGATION - COVID-19



Updated on 27 January

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