



HEALTHCARE PROFESSIONALS ALLIANCE AGAINST COVID-19



ASIA PACIFIC CENTER FOR
EVIDENCE BASED HEALTHCARE



UNIFIED COVID-19 ALGORITHMS

LAST UPDATED: JUNE 21, 2021

DISCLAIMER

The current algorithms are based on the best evidence available in scientific literature at the time of its formulation. However, these algorithms are not a comprehensive guide to all practice questions and management options on COVID-19. This is not meant to restrict the practitioner in using sound clinical judgement and sharing the decision with the patient, and from considering other management options according to the patient's particular needs and preferences. The algorithms can serve to inform policy, but are not meant to serve as a basis for approving or denying financial coverage or insurance claims merely because of nonconformance with recommendations. Neither are the recommendations supposed to be considered as legal rules for dictating certain modes of action to the exclusion of others.

BACKGROUND

The Unified COVID-19 Algorithms is an ongoing collaboration between volunteer facilitators, technical specialists and algorithm constructors, contributors and reviewers from different medical organizations, and coordinated with the DOH Disease Prevention and Control Bureau. This release reflects evidence and policy updates, as well as medical community consensus since the call of the Health Professionals' Alliance Against COVID-19 to re-strategize the country's response against COVID-19.

Each algorithm was reviewed by subject matter experts, stakeholders, as well as end- users. With the Philippine context in perspective, the algorithms provide clear guidelines for COVID-19 management from both the community and hospital levels. Algorithms reinforce the [Philippine COVID-19 Living Recommendations](#). The development process was guided by evidence-based, patient-centered, and equity-driven principles.

Work on the first version of the Unified Algorithms was started as early as March 2020 with a small team of volunteer algorithm constructors and five core medical societies, facilitated by volunteers from the Asia-Pacific Center for Evidence-Based Healthcare (APCEBH), Alliance for Improving Health Outcomes (AIHO), and Kalusugan ng Mag-Ilna (KMI). The first version was hosted by the Philippine Society for Microbiology and Infectious Diseases (PSMID). With continued support from PSMID, this expansion was carried out by the HPAAC Steering Committee through its network of volunteers and the leadership of various medical professional societies.

These algorithms are subject to change as evidence emerges and guidelines are updated. Recommendations on patient care are not absolute. Final decisions remain under the discretion of the healthcare provider.

As the unified algorithms are utilized, end-users are enjoined to provide feedback as to their experience with use of the algorithms in the field through: secretariat@psmid.org and hpaac.org.ph/contact or secretariat@hpaac.org.ph.

DEVELOPED BY

Philippine Society of Microbiology and Infectious Diseases
Philippine College of Physicians
Philippine Society of Public Health Physicians
Philippine Society of General Internal Medicine
Philippine College of Emergency Medicine
Philippine College of Occupational Medicine
Philippine Society of Hospice and Palliative Medicine
Philippine College of Chest Physicians
Philippine Society of Newborn Medicine
Philippine Academy of Pediatric Pulmonologists
Philippine Hospital Infection Control Society
Asia Pacific Center for Evidence Based Healthcare
Alliance for Improving Health Outcomes
Kalusugan ng Mag-Ina
Healthcare Professionals Alliance Against COVID-19

ALGORITHM CONSTRUCTORS

Dr. Alberto E. Antonio, Jr.
Dr. Fae Princess Bermudez
Dr. Johannes Paolo B. Cerrado
Dr. Alexander Leandro B. Dela Fuente
Dr. Ronna Cheska V. De Leon-Yao
Dr. Enrico Ian L. Deliso
Dr. Zashka Alexis M. Gomez
Dr. John Michael B. Hega
Dr. Sarah Reem D. Hesham Mohamed Hagag
Dr. Jan Derek D. Junio
Dr. Richard Raymund R. Ragasa
Dr. Sitti Khadija U. Salabi
Dr. Philine Aurea Grace S. Salvador
Dr. Justin Alan A. Yao
Intern Lara Mara Marielle L. Castillo
Intern Patricia S. Sy

STEERING COMMITTEE

Dr. Marissa M. Alejandria
Dr. Maaliddin B. Biruar
Dr. Romelei S. Camiling-Alfonso
Dr. Antonio Miguel L. Dans
Dr. Pauline F. Convocar
Dr. Anna Sofia Victoria S. Fajardo
Dr. Rodney M. Jimenez
Dr. Mario M. Panaligan
Dr. Aileen T. Riel-Espina
Dr. Maria Asuncion A. Silvestre

CONTRIBUTORS

Dr. Cybele Lara R. Abad
Dr. Dennis James E. Absin
Dr. Roselle S. Andres
Dr. Ann Joan D. Bandonill
Dr. Jubert Benedicto
Dr. Regina Berba
Dr. Donna Isabel S. Capili
Dr. Criselda Isable C. Cenizal
Dr. Rumalie A. Corvera
Dr. Marilen Evangeline M. Cruz
Dr. Luningning P. Cubero
Dr. Guinevere Dy-Agra
Dr. Barbara Amity Flores
Dr. Karin Estepa-Garcia
Dr. Lester Sam A. Geroy
Dr. Elaisa M. Hasse
Dr. Mari Joanne Joson
Dr. Melissa M. Juico
Dr. Felix F. Labanda, Jr.
Dr. Margaret Leachon
Dr. Aurora Gloria I. Libadia
Dr. Dax Ronald O. Librado
Dr. Bryan Albert T. Lim
Dr. April Llaneta
Dr. Leslie Ann Lucas

Dr. Maria Margarita Ballon-Malabanan
Dr. Wendel Marcelo
Dr. Faith Joan Mesa-Gaerlan
Dr. Katerina Nono-Abiertas
Dr. Arabelle Colleen Ofina
Dr. Phil M. Pangilinan
Dr. Michal Emy Pasaporte-Hafalla
Dr. Djhoanna A. Pedro
Dr. Rommel B. Punongbayan
Dr. Josephine S. Raymundo
Dr. Neil P. Rodrigo
Dr. Generoso Roberto
Dr. Arthur Dessi E. Roman
Dr. Rachel Rosario
Dr. Evalyn A. Roxas
Dr. Rowena Samares
Dr. Richard Henry S. Santos
Dr. Gerard Danielle K. Sio
Dr. Rojim Sorrosa
Dr. Arnold P. Tabun, Jr.
Dr. Jeanne V. Tiangha-Gonzales
Dr. Patrick Joseph G. Tiglao
Dr. Ma. Esterlita V. Uy
Dr. Ivan N. Villespin

NAVIGATION TABLE FOR COVID-19 ([See Figure 1 for Instructions](#))

COVID-19 Classification	Triage and Testing	Management	Discharge and Reintegration
Asymptomatic patients - No symptom but travels from or lives in areas with community transmission	Figure A1	Figure A2	Figure A3
COVID-19 Contacts - Close contacts ¹ of confirmed, probable or suspected cases;	Figure B1	Figure B2	Figure B3
Mild COVID-19 (suspected² or confirmed) - Symptoms present, with no risk factors ³ and no signs of pneumonia	Figure C1	Figure C2	Figure C3
Moderate COVID-19 (suspected² or confirmed) - Symptoms present plus risk factors ³ , OR signs of pneumonia ⁴	Figure D1	Figure D2	Figure D3
Severe COVID-19 (suspected² or confirmed) - Symptoms present plus signs of respiratory failure ⁵	Figure E1	Figure E2	Figure E3
Critical COVID-19 (suspected² or confirmed) - Symptoms present plus deteriorating vital signs ⁶	Figure F1	Figure F2	Figure F3
Other Algorithms			
Emergency Department and Transport	Figure G1-5		
Pregnancy (H1), Labor (H2) and Newborn (H3)	Figure H1	Figure H2	Figure H3
Use of Personal Protective Equipment (PPE)	Figure J		
Advanced Care Planning	Figure K		
End-of-life Care	Figure L		
Post-mortem Care	Post-Mortem Care Guidelines		

FOOTNOTES

¹ Close Contact - failed in two or more of the following exposures to a probable or confirmed case in the past 14 days: poorly ventilated indoor area, distance < 1 meter, unprotected/no PPE, exposure >15 mins. Examples: living with or caring for a COVID-19 patient

² COVID-19 Suspect - A person who meets the clinical AND epidemiological criteria:

Clinical Criteria (symptoms):

- Acute onset of fever AND cough; OR
- Acute onset of ANY THREE OR MORE of the following signs or symptoms: Fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia/nausea/vomiting¹, diarrhea, altered mental status

Epidemiological Criteria

- Residing or working in an area with high risk of transmission of virus: closed residential settings, humanitarian settings such as camp and camp-like settings for displaced persons; anytime within the 14 days prior to symptom onset; or
- Residing or travel to an area with community transmission anytime within the 14 days prior to symptom onset; or
- Working in any health care setting, including within health facilities or within the community; any time within the 14 days prior of symptom onset

³ Risk factors: age > 60 OR comorbid conditions like chronic lung disease, chronic heart disease, hypertension, chronic kidney disease, chronic neurological conditions, diabetes, problems with the spleen, weakened immune system such as HIVm AIDS or medicines (steroid, chemotherapy), morbid obesity (BMI > 40)

⁴ Signs of pneumonia: difficulty of breathing, crackles on PE, Xray findings.

⁵ Respiratory failure: difficulty of breathing OR O2 saturation < 94 OR RR > 30

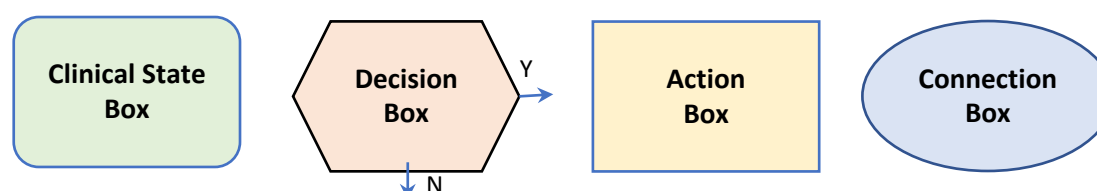
⁶ Hypotension, shock, diminished sensorium, ARDS, sepsis, or end organ failure

INSTRUCTIONS

HOW TO READ THE ALGORITHMS

[Return to Navigation](#)

The clinical algorithm (flow chart) is a text format that is specially suited for representing a sequence of clinical decisions which are intended to improve and standardize decisions in delivery of medical care. For the purpose of clarity, a typical clinical algorithm is depicted with basic symbols that represent clinical steps in decision-making:



1. The rectangle with rounded edges depicts the current clinical state of an individual patient;
2. The hexagon is decision box which contains a question answerable by yes or no; one arrow going to the right signifies “yes”, and one arrow going downwards signifies “no”;
3. The rectangle with sharp edges depicts the action to be done; and
4. The oval depicts connection to another algorithm in a different page.

Note that the following algorithms are adapted from multiple guidelines as released by the World Health Organization, Department of Health, and other societies. This document was also reviewed by different experts with the end-goal of having a summarized and comprehensive compilation of guidelines that will aid in management of COVID-19 patients by healthcare workers from both the community and hospital levels.

Lastly, while these patient-centered algorithms intend to summarize and simplify recommendations, these may be subject to change as evidence emerges and guidelines are updated. Any recommendations on patient care are not absolute. Final decisions remain under the discretion of the healthcare provider.

PART A

ASYMPTOMATIC PATIENTS

[Return to Navigation](#)

Figure A1 – Asymptomatic COVID-19 (Triage and Evaluation)

[Return to Navigation](#)

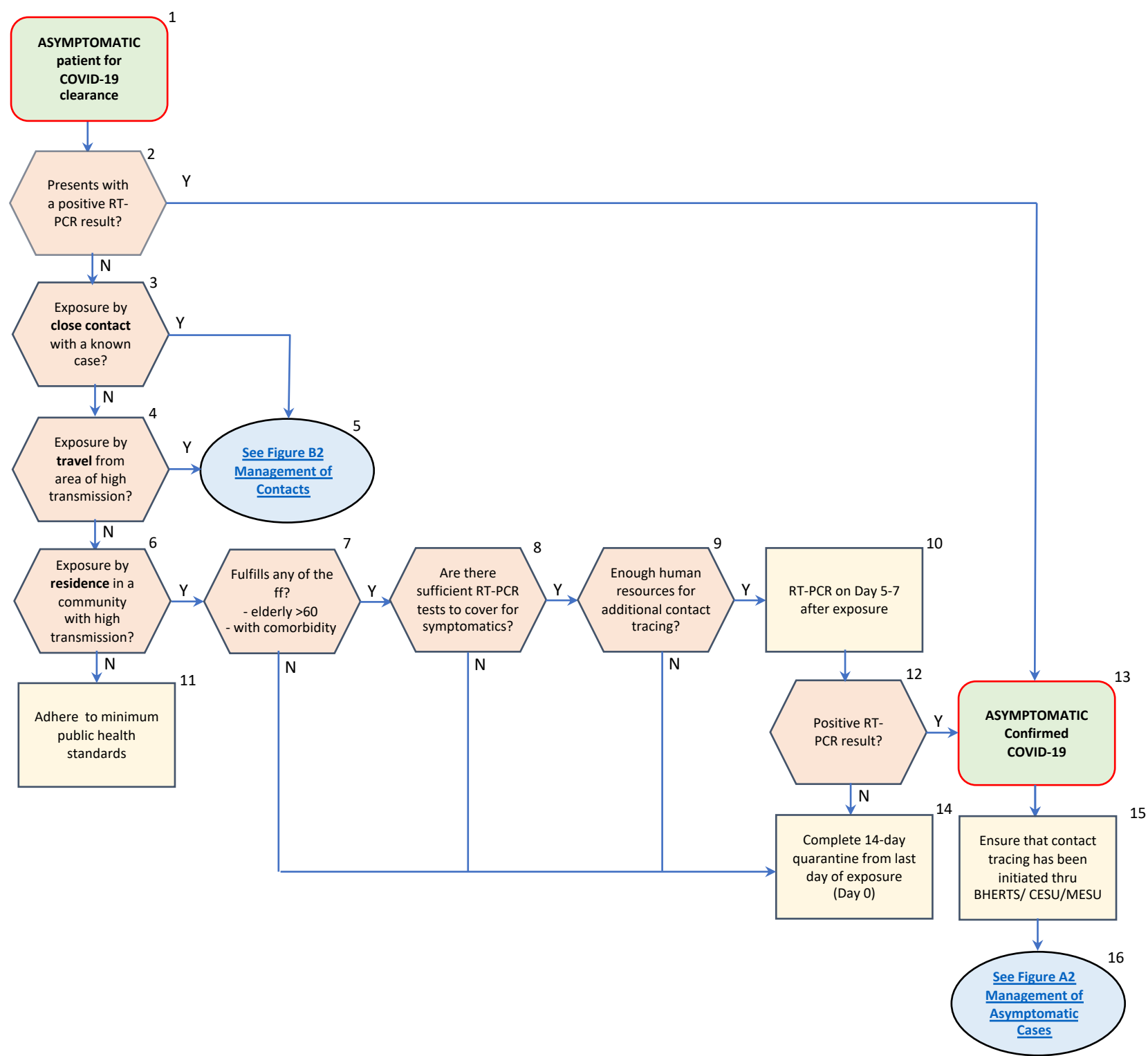
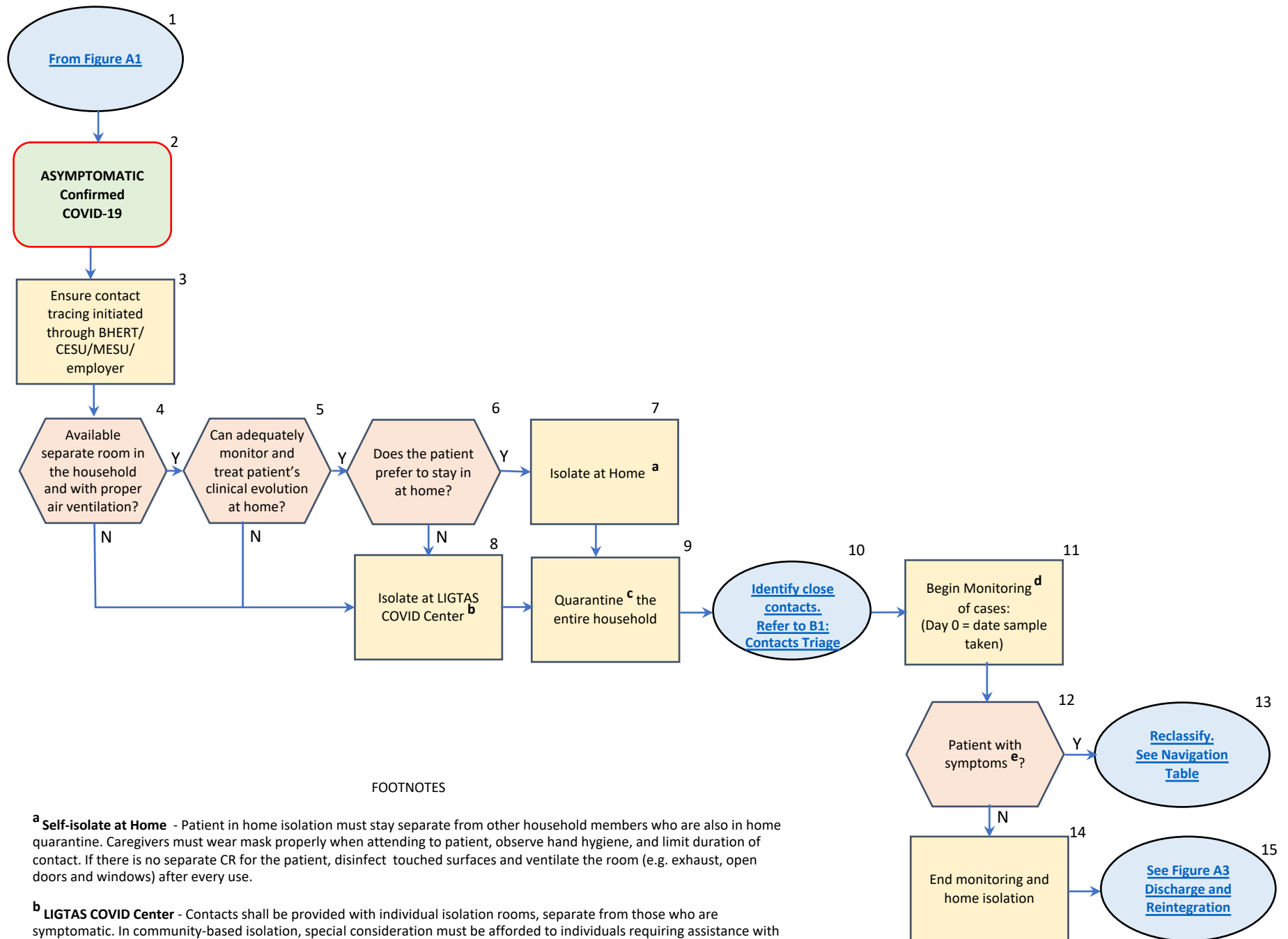


Figure A2 – Asymptomatic COVID-19 (Management)

[Return to Navigation](#)



FOOTNOTES

^a **Self-isolate at Home** - Patient in home isolation must stay separate from other household members who are also in home quarantine. Caregivers must wear mask properly when attending to patient, observe hand hygiene, and limit duration of contact. If there is no separate CR for the patient, disinfect touched surfaces and ventilate the room (e.g. exhaust, open doors and windows) after every use.

^b **LIGTAS COVID Center** - Contacts shall be provided with individual isolation rooms, separate from those who are symptomatic. In community-based isolation, special consideration must be afforded to individuals requiring assistance with activities of daily living e.g. elderly living alone, young children, persons with disabilities, mothers with young infants, etc.

^c **Home Quarantine** - All members of the household must strictly stay at home per LGU protocol.

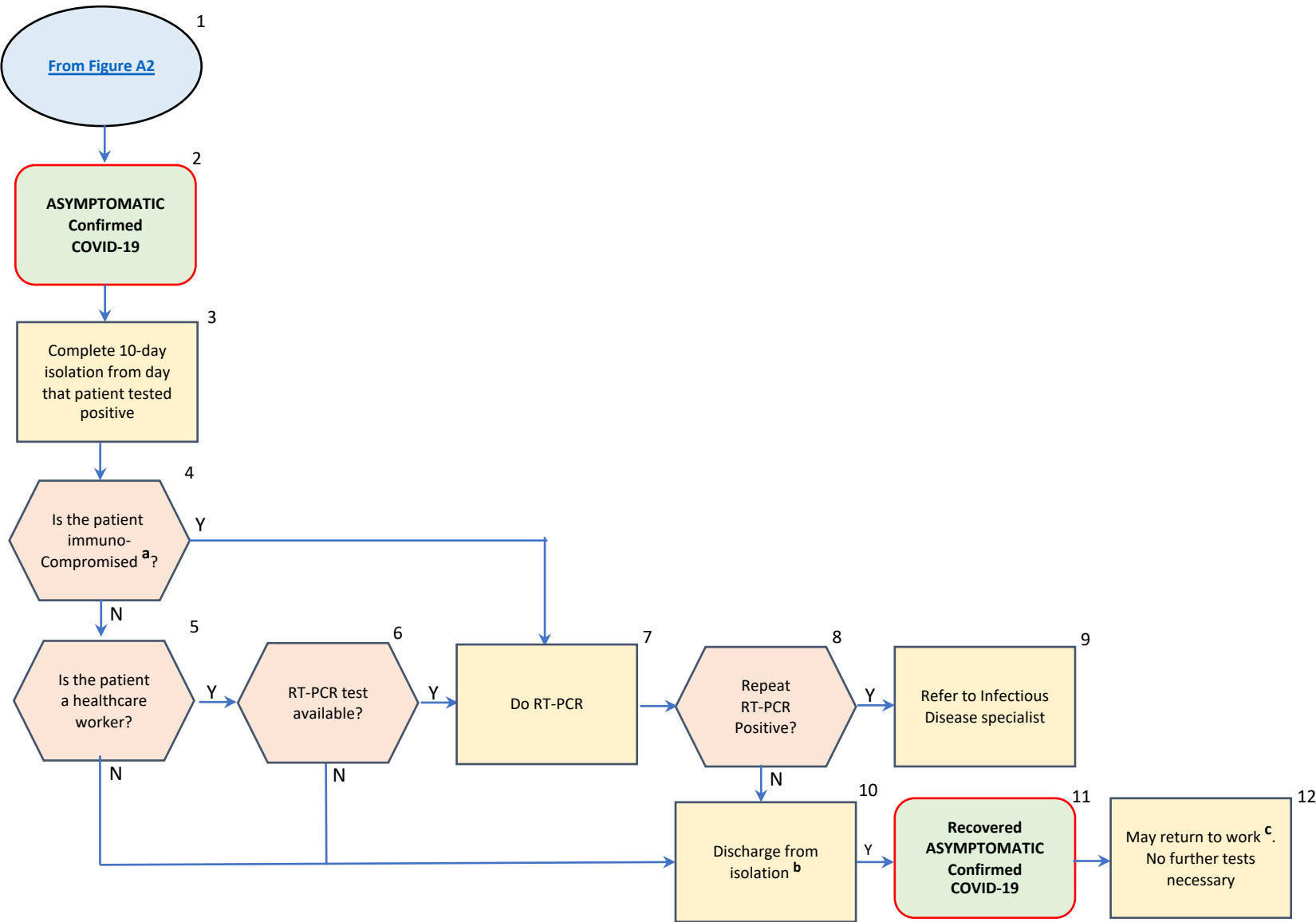
^d **Monitoring by Barangay Health Emergency Response Team (BHERT) for isolation:**

- Accomplish a Case Investigation Form (CIF) by BHERT and/or Primary Care Provider.
- Ensure daily monitoring throughout the duration of isolation and household quarantine.
- Facilitate home care and social safety nets as needed.

^e **COVID-19 common signs and symptoms** – fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia, nausea, vomiting, diarrhea, altered mental status, anosmia, ageusia/dysgeusia

Figure A3 – Asymptomatic COVID-19 (Discharge and Reintegration)

[Return to Navigation](#)



FOOTNOTES

- ^a Immunocompromised individuals are patients
- On chemotherapy for cancer
 - Untreated HIV infection with CD4 T-lymphocyte count <200
 - Combined immunodeficiency disorder
 - Taking prednisone 20 mg/day for more than 14 days
- ^b A repeat negative RT-PCR test is no longer needed for discharge of immunocompetent patient with suspect, probable or confirmed COVID-19 regardless of severity.
- ^c Refer to workplace guidelines
1. DOLE-DTI Joint Memorandum Circular 20-04-A (August 15, 2020)
 2. DOH Workplace Handbook as of September 30, 2020

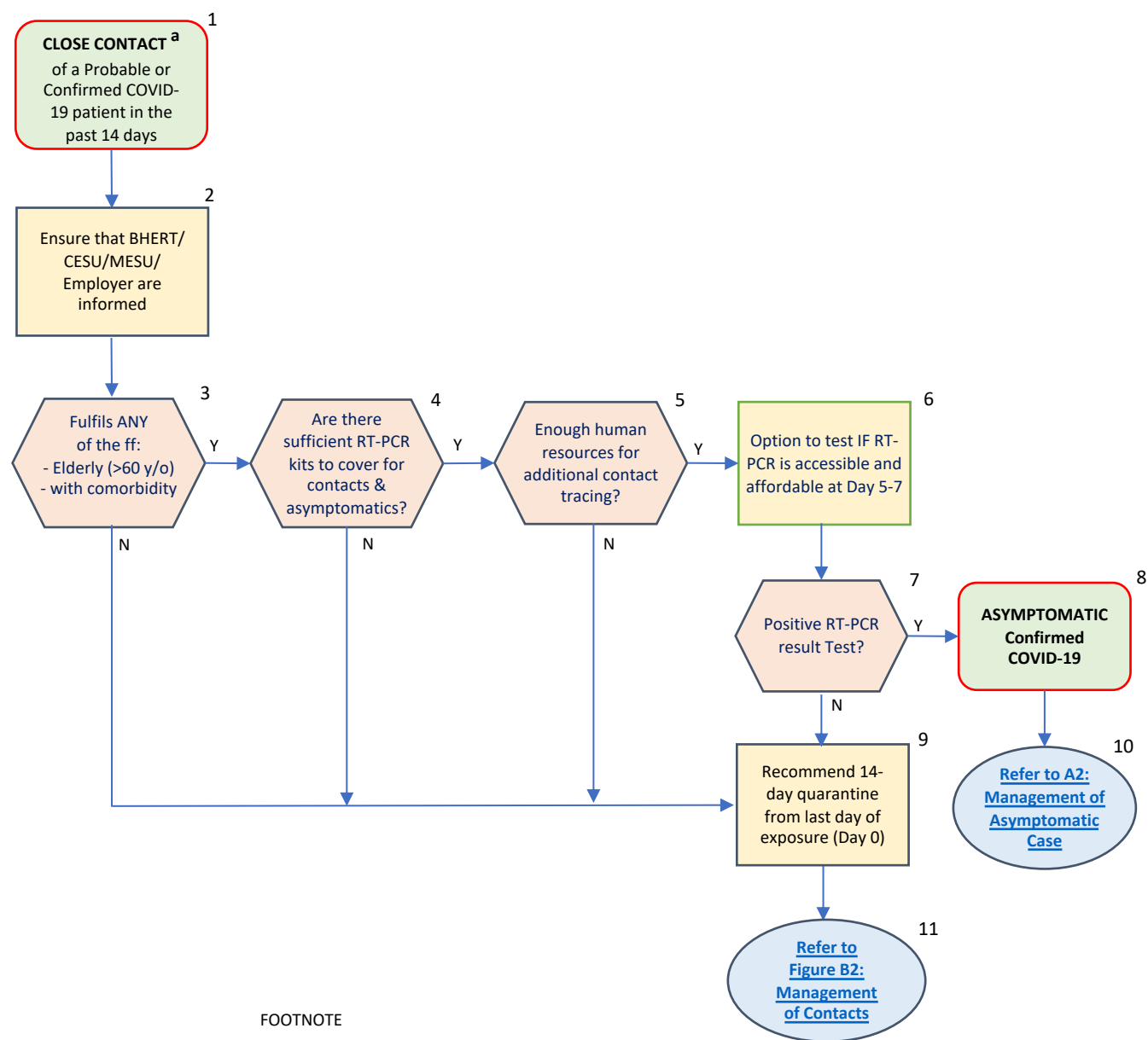
PART B

CONTACTS

[Return to Navigation](#)

Figure B1 – Contacts (Triage and Evaluation)

[Return to Navigation](#)

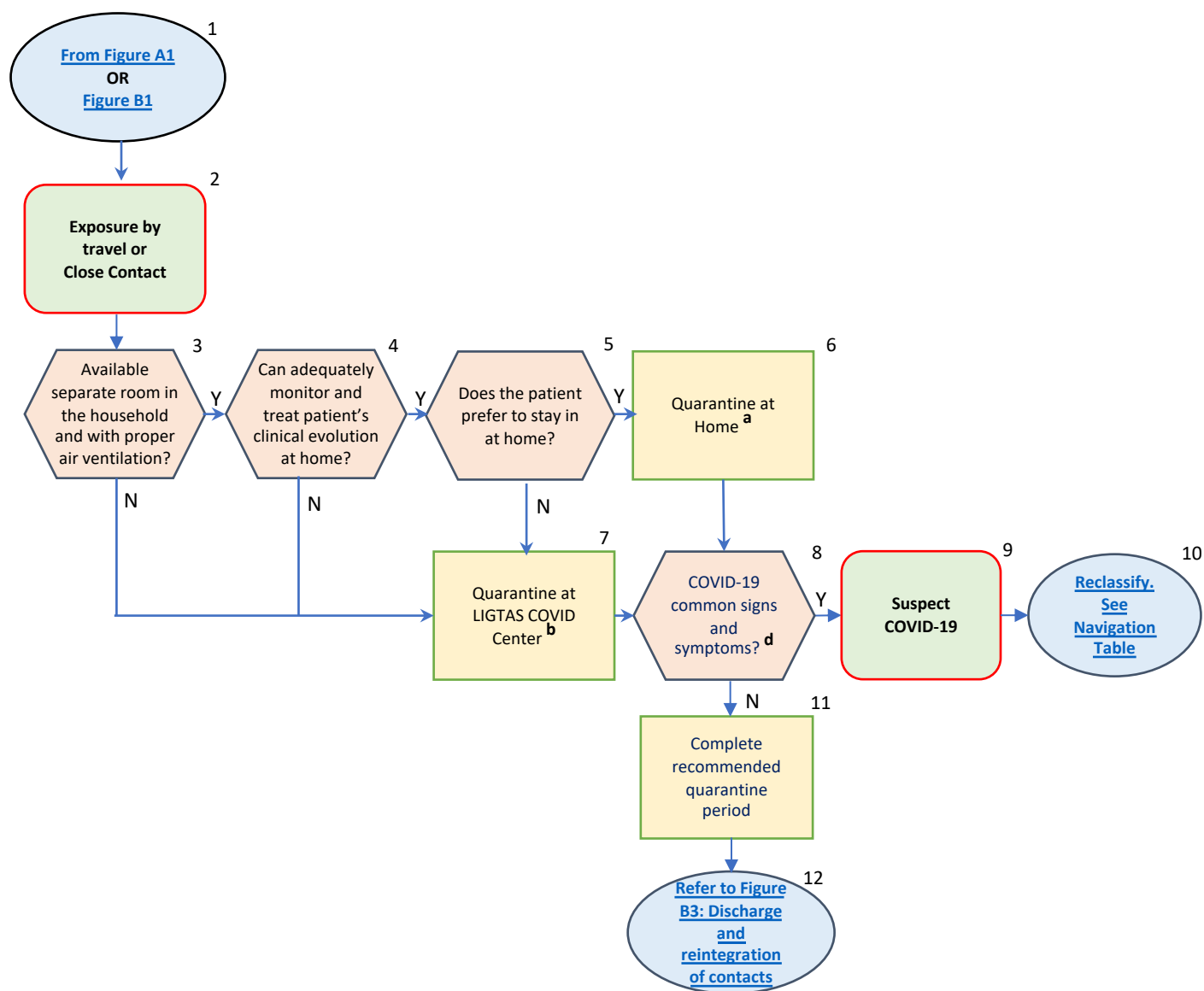


FOOTNOTE

^a **Close Contact:** failed in two or more of the following exposures to a probable or confirmed case in the past 14 days: poorly ventilated indoor area, distance < 1 meter, unprotected/no PPE, exposure >15 mins. Examples: living with or caring for a COVID-19 patient

Figure B2 – Contacts (Management)

[Return to Navigation](#)



FOOTNOTES

^a **Self-quarantine at Home** - Members of the same household who have been exposed must strictly separate from non-exposed members and stay at home per LGU protocol. If there is no separate CR for the patient, disinfect touched surfaces and ventilate the room (e.g. exhaust, open doors and windows) after every use.

^b **LIGTAs COVID Center** – Contacts shall be provided with individual quarantine rooms separate from those who are symptomatic. In community-based quarantine, special consideration must be attributed to individuals requiring assistance with activities of daily living (e.g., elderly living alone, young children, persons with disabilities, mothers of young infants)

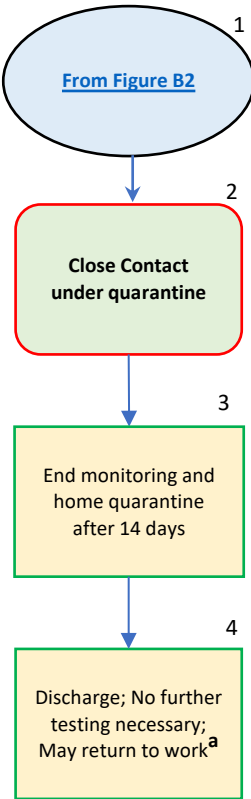
^c **Monitoring by Barangay Health Emergency Response Team (BHERT) for quarantine:**

- Accomplish a Case Investigation Form (CIF) by BHERT and/or Primary Care Provider.
- Ensure daily monitoring throughout the duration of isolation and household quarantine.
- Facilitate home care and social safety nets as needed.

^d **COVID-19 common signs and symptoms** – fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia, nausea, vomiting, diarrhea, altered mental status, anosmia, ageusia/dysgeusia

Figure B3 – Contacts (Discharge and Reintegration)

[Return to Navigation](#)



FOOTNOTE

^a RT-PCR tests, rapid antibody tests, and rapid antigen tests are NOT recommended for work clearance.

Refer to workplace guidelines

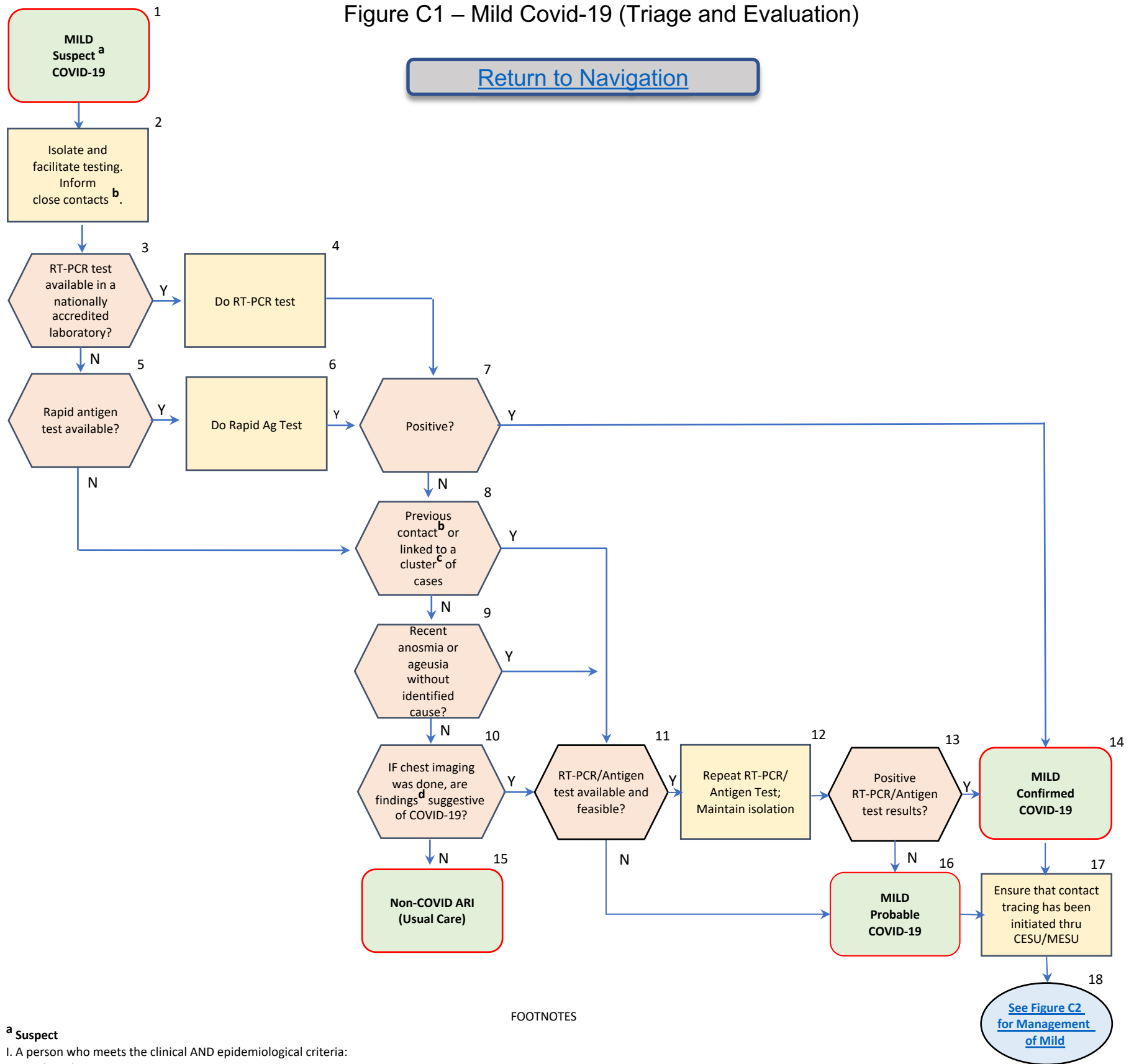
- 1. DOLE-DTI Joint Memorandum Circular 20-04-A (August 15, 2020)
- 2. DOH Workplace Handbook as of September 30, 2020

PART C

MILD COVID-19

[Return to Navigation](#)

Figure C1 – Mild Covid-19 (Triage and Evaluation)



FOOTNOTES

^a Suspect

I. A person who meets the clinical AND epidemiological criteria:

1. Clinical criteria:
 - Acute onset of fever AND cough; OR
 - Acute onset of ANY THREE OR MORE of the following signs or symptoms: fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia/nausea/vomiting, diarrhea, altered mental status.

AND

2. Epidemiological criteria:
 - Residing or working in an area with a high risk of transmission of the virus: for example, closed residential settings and humanitarian settings, such as camp and camp-like settings for displaced persons, anytime within 14 days prior to symptom onset; OR
 - Residing in or travel to an area with community transmission anytime within 14 days prior to symptom onset; OR
 - Working in a health setting, including within health facilities and within households, anytime within 14 days prior to symptom onset.

II. A patient with severe acute respiratory illness (SARI: acute respiratory infection with history of fever or measured fever of ≥ 38 degree Celsius; and cough; with onset within the last 10 days; and which requires hospitalization)

^b Close Contact

- Failed in two or more of the following exposures to a probable or confirmed case in the past 14 days: poorly ventilated indoor area, distance < 1 meter, unprotected/no PPE, exposure >15 mins
- Examples: living with or caring for a COVID-19 patient

^c A **cluster** is a group of symptomatic individuals linked by time, geographic location and common exposures, containing at least one RT-PCR confirmed case OR at least two epidemiologically linked, symptomatic {meeting clinical criteria in footnote b) persons with positive Rapid Antigen Test.

^d Typical chest imaging findings of COVID-19:

1. Chest radiography - hazy opacities, often rounded in morphology, with peripheral and lower lung distribution;
2. Chest CT - multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution;
3. Lung ultrasound - thickened pleural lines, B lines, consolidative patterns with or without air bronchograms.

Figure C2 – Mild Covid-19 (Management)

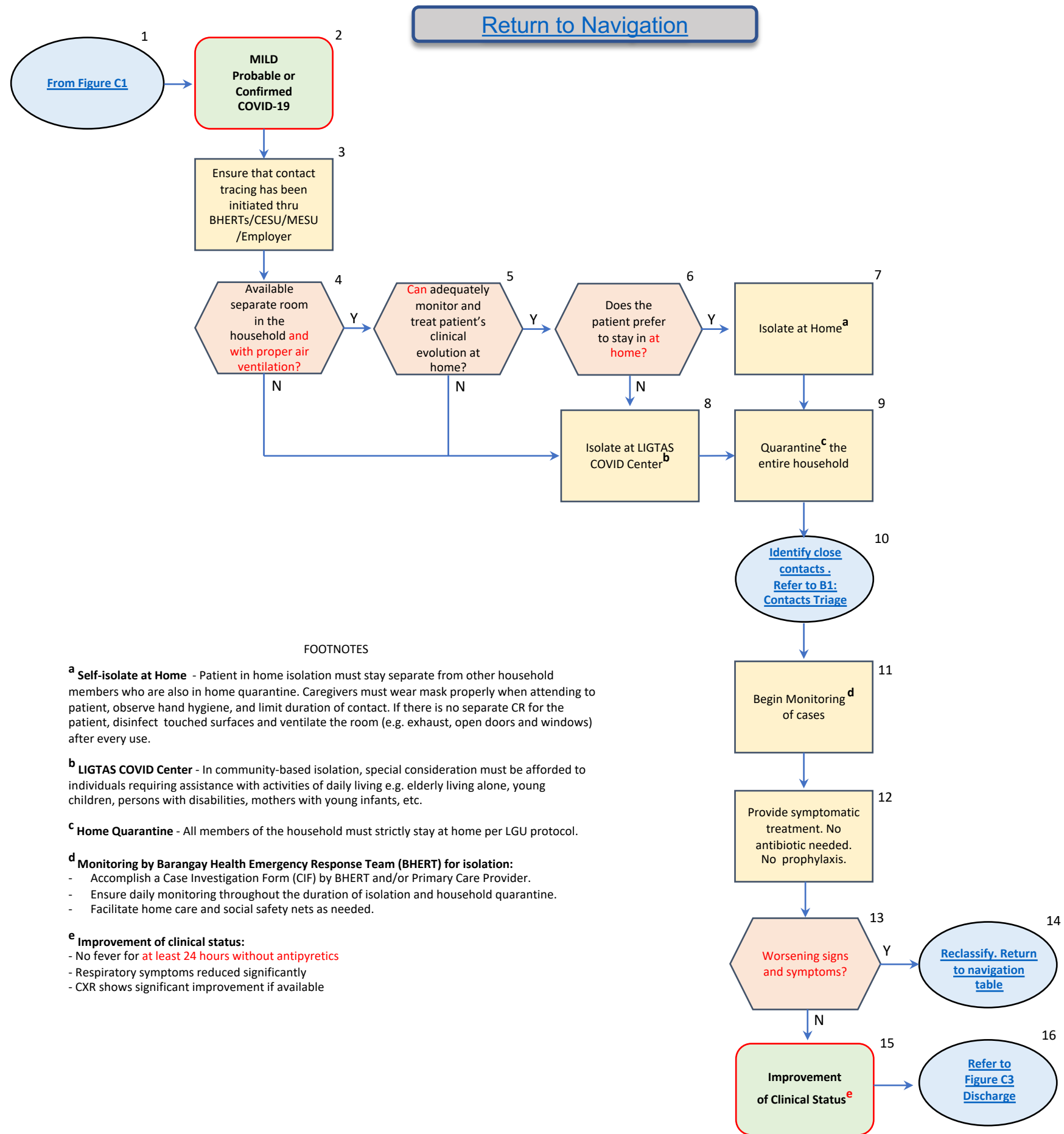


Figure C3 – Mild Covid-19 (Discharge and Reintegration)

[Return to Navigation](#)

FOOTNOTES

^a Improvement of clinical status

- No fever or use of antipyretic for at least 3 days
- Respiratory symptoms reduced significantly
- CXR (if available) shows significant improvement

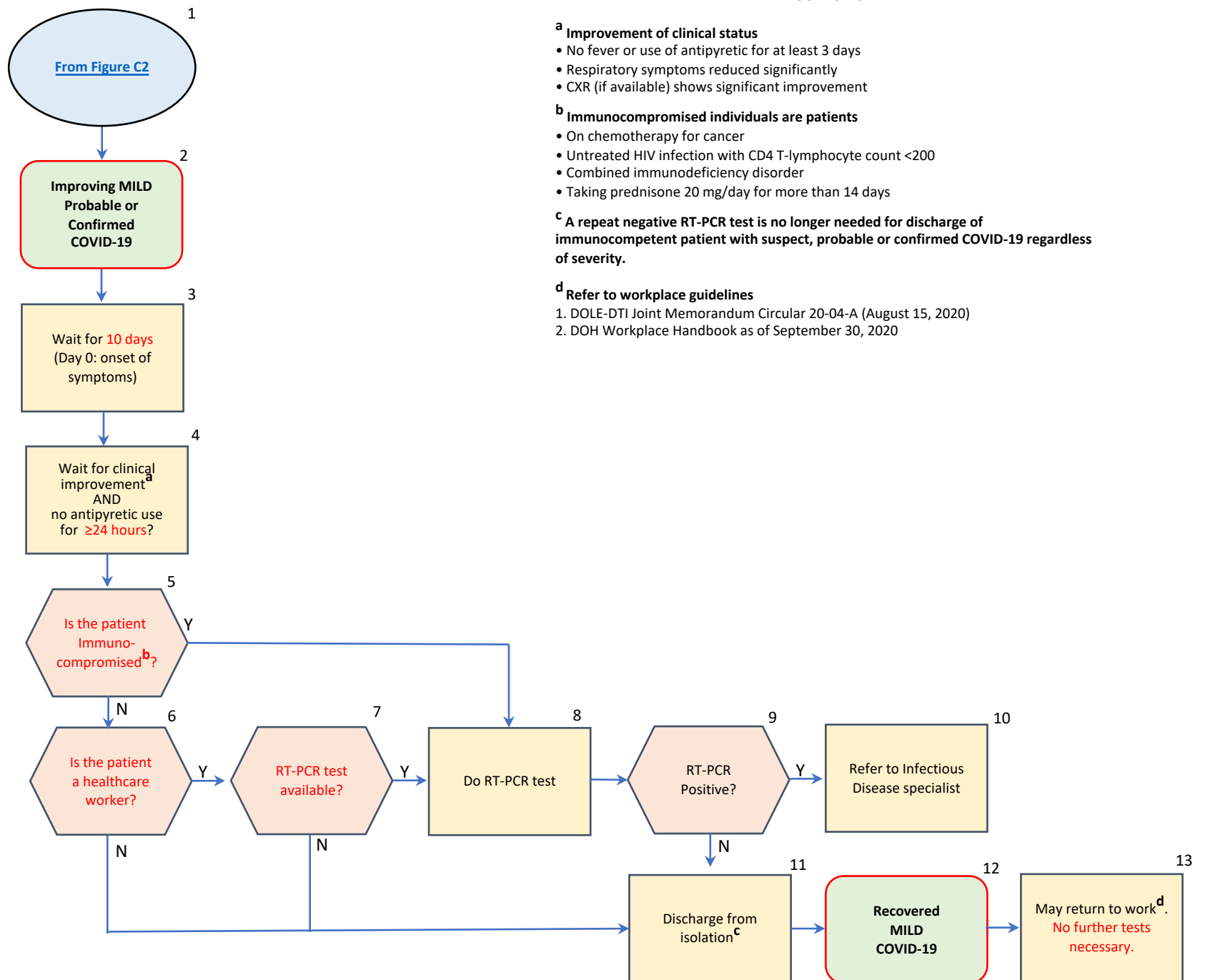
^b Immunocompromised individuals are patients

- On chemotherapy for cancer
- Untreated HIV infection with CD4 T-lymphocyte count <200
- Combined immunodeficiency disorder
- Taking prednisone 20 mg/day for more than 14 days

^c A repeat negative RT-PCR test is no longer needed for discharge of immunocompetent patient with suspect, probable or confirmed COVID-19 regardless of severity.

^d Refer to workplace guidelines

1. DOLE-DTI Joint Memorandum Circular 20-04-A (August 15, 2020)
2. DOH Workplace Handbook as of September 30, 2020



PART D

MODERATE COVID-19

[Return to Navigation](#)

Figure D1 – Moderate COVID-19 (Triage and Evaluation)

[Return to Navigation](#)

FOOTNOTES

- ^a Risk Factors:** age > 60 **OR** any comorbid conditions as listed below:
chronic lung disease, chronic heart disease or hypertension
chronic kidney disease, chronic liver disease, chronic neurological conditions
diabetes, problems with the spleen, morbid obesity (BMI > 40)
weakened immune system such as HIV or AIDS, or medicines such as steroid tablets or chemotherapy
- ^b** Administer acute care for the patient while considering admission and service capability. Service capability as basis for admission can depend on multiple factors including: (1) best clinical judgement of the health provider (2) appropriateness of health care facility (3) geographical access to the next higher level facility (4) patient context.
- ^c Close Contact:** Failed in two or more of the following exposures to a probable or confirmed case in the past 14 days: poorly ventilated indoor area, distance < 1 meter, unprotected/no PPE, exposure >15 mins
Examples: living with or caring for a COVID-19 patient
- ^d** A **cluster** is a group of symptomatic individuals linked by time, geographic location and common exposures, containing at least one RT-PCR confirmed case **OR** at least two epidemiologically linked, symptomatic {meeting clinical criteria in footnote b) persons with positive Rapid Antigen Test.
- ^e Typical chest imaging findings of COVID-19:**
1. Chest radiography - hazy opacities, often rounded in morphology, with peripheral and lower lung distribution;
2. Chest CT - multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution;
3. Lung ultrasound - thickened pleural lines, B lines, consolidative patterns with or without air bronchograms.

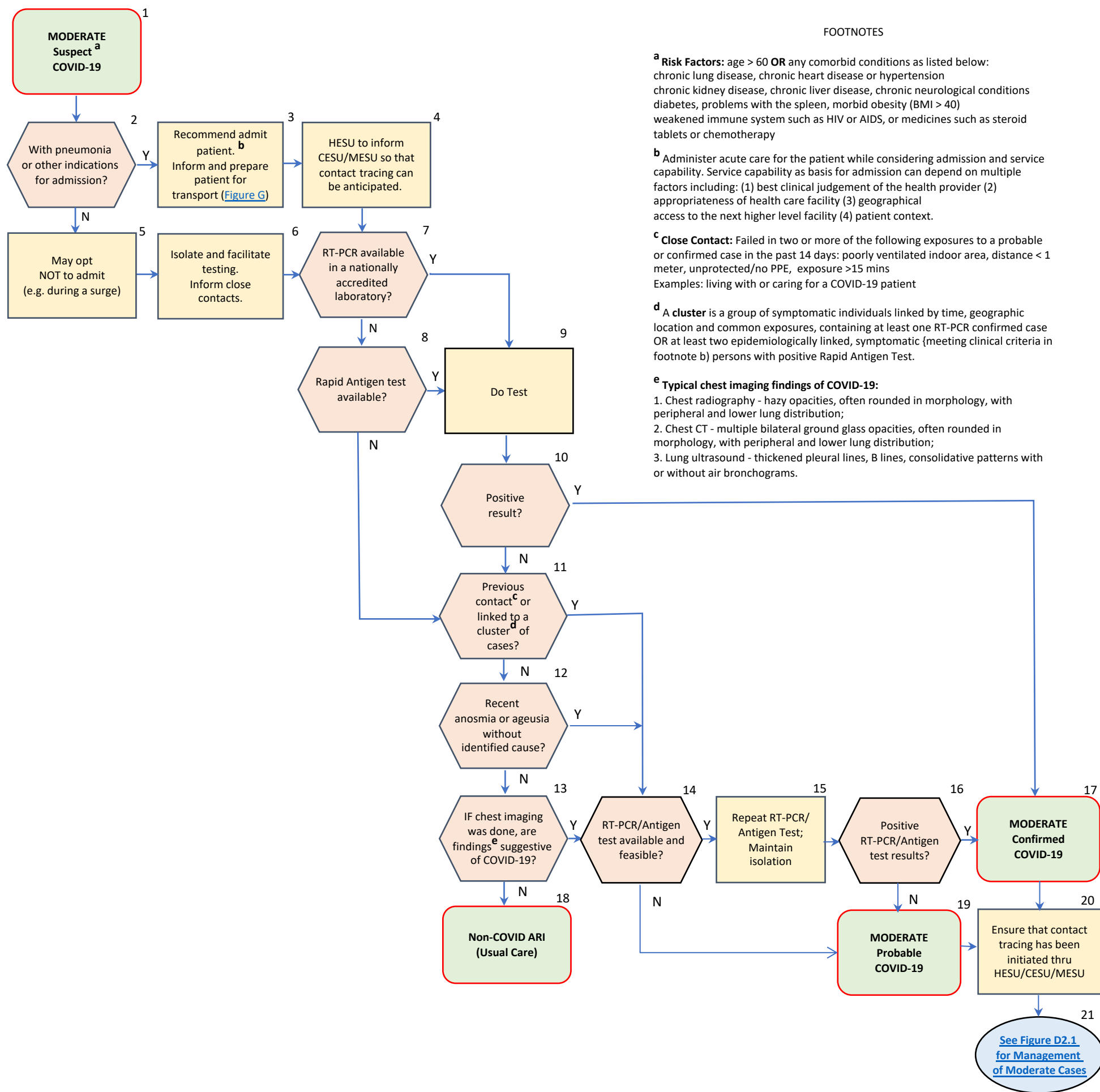


Figure D2.1 – Moderate COVID-19 (Outpatient Management)

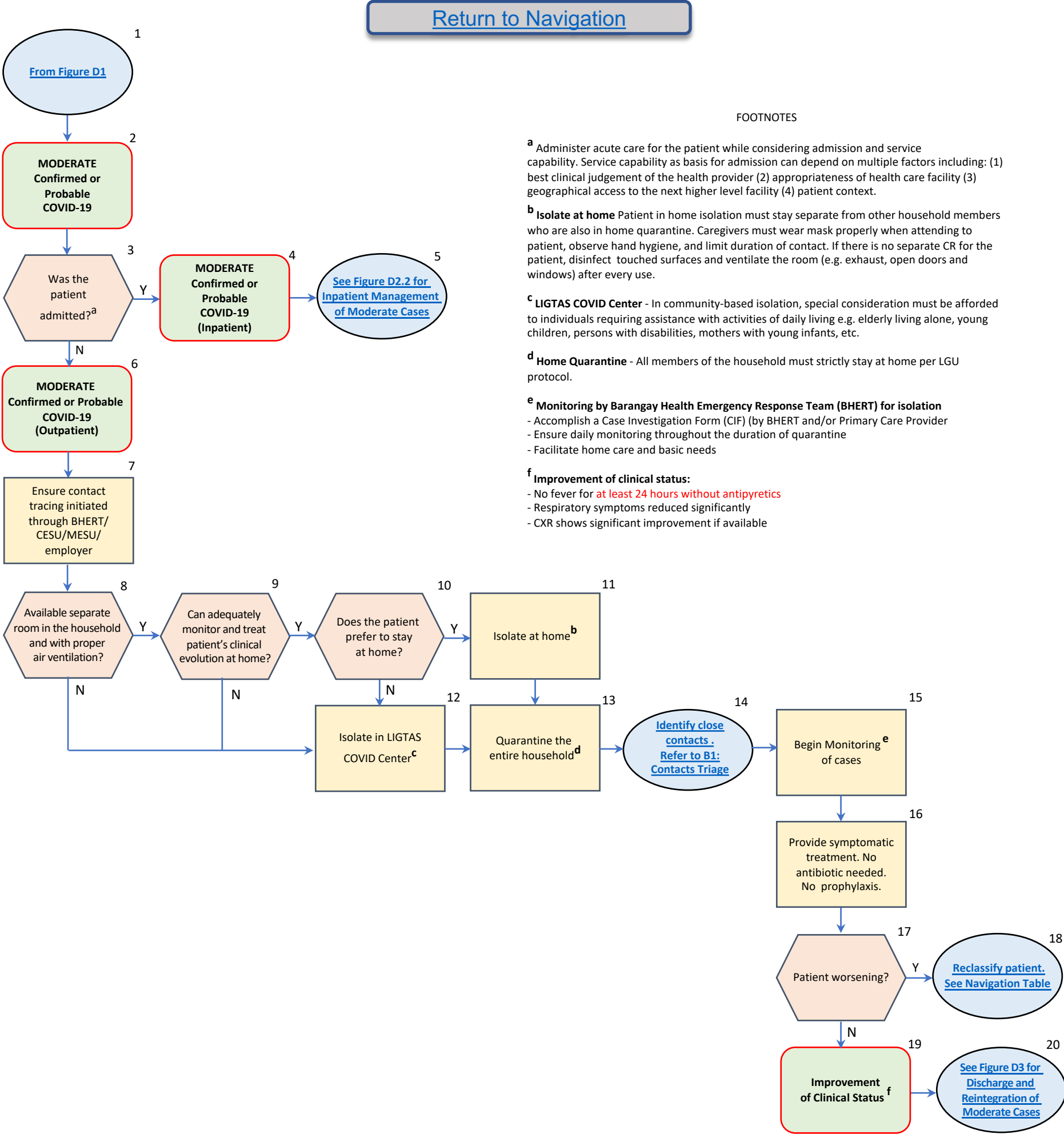
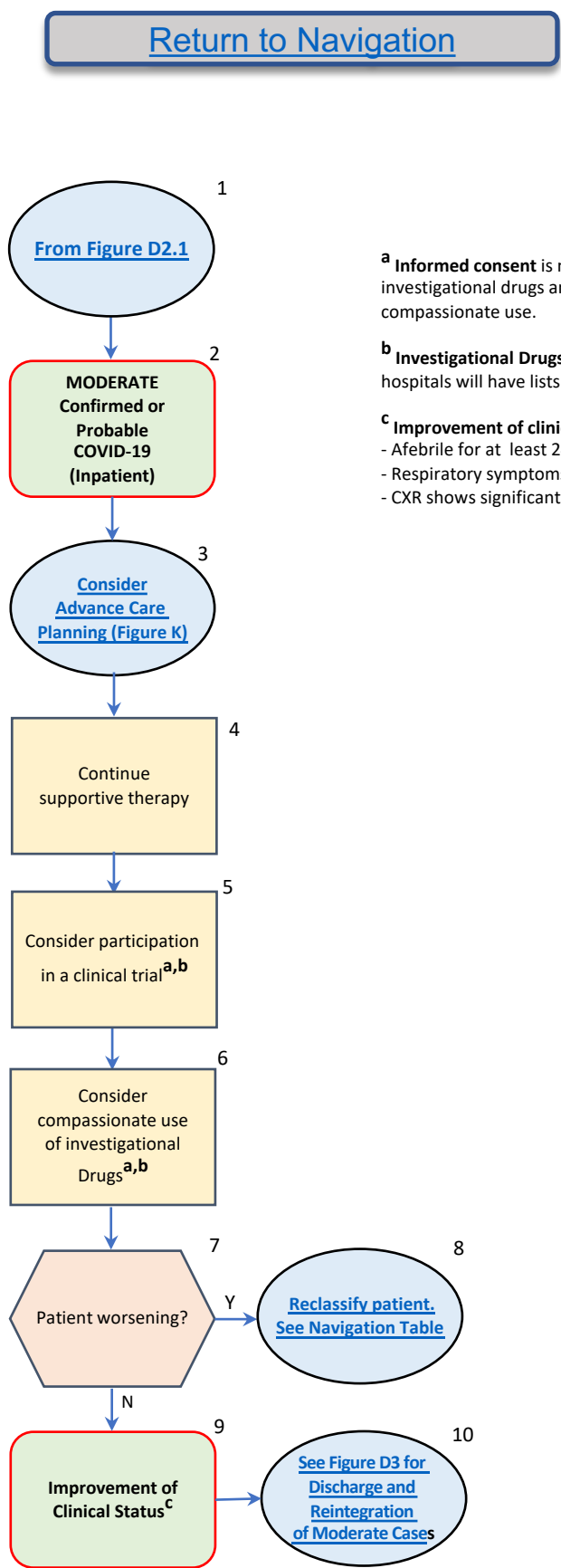


Figure D2.2 – Moderate COVID-19 (Inpatient Management)

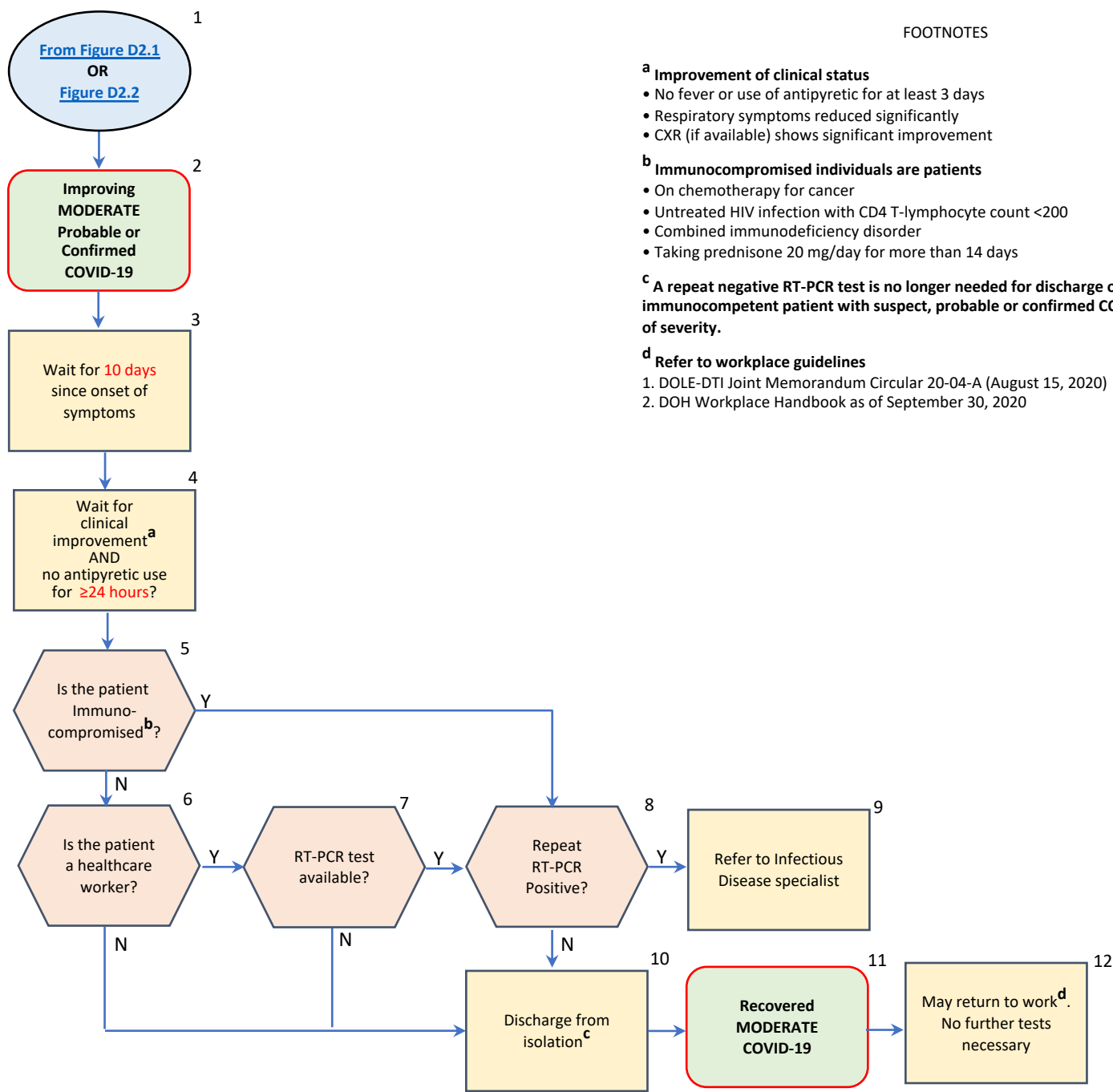


FOOTNOTES

- ^a Informed consent** is needed BEFORE using COVID-19 investigational drugs and interventions in trials or compassionate use.
- ^b Investigational Drugs For Moderate COVID-19** – Individual hospitals will have lists of trials they are involved in.
- ^c Improvement of clinical status:**
- Afebrile for at least 24 hours without antipyretics
 - Respiratory symptoms reduced significantly
 - CXR shows significant improvement if available

Figure D3 – Moderate COVID-19 (Discharge and Reintegration)

[Return to Navigation](#)



FOOTNOTES

- a Improvement of clinical status**
- No fever or use of antipyretic for at least 3 days
 - Respiratory symptoms reduced significantly
 - CXR (if available) shows significant improvement
- b Immunocompromised individuals are patients**
- On chemotherapy for cancer
 - Untreated HIV infection with CD4 T-lymphocyte count <200
 - Combined immunodeficiency disorder
 - Taking prednisone 20 mg/day for more than 14 days
- c A repeat negative RT-PCR test is no longer needed for discharge of immunocompetent patient with suspect, probable or confirmed COVID-19 regardless of severity.**
- d Refer to workplace guidelines**
1. DOLE-DTI Joint Memorandum Circular 20-04-A (August 15, 2020)
 2. DOH Workplace Handbook as of September 30, 2020

PART E

SEVERE COVID-19

[Return to Navigation](#)

Figure E1 – Severe COVID-19 (Triage and Evaluation)

[Return to Navigation](#)

FOOTNOTES

a Administer acute care for the patient while considering admission and service capability. Service capability as basis for admission can depend on multiple factors including:

- (1) Best clinical judgement of the health provider
- (2) Appropriateness of health care facility
- (3) Geographical access to the next higher level facility
- (4) Patient context

b Close contact: A person who failed in *two or more* of the following exposures to a probable or confirmed case:

- Poorly ventilated indoor area
- Distance less than 1 meter
- Unprotected/no PPE
- Exposure >15 mins

c A cluster is a group of symptomatic individuals linked by time, geographic location and common exposures, containing at least one RT-PCR confirmed case OR at least two epidemiologically linked, symptomatic (meeting clinical criteria in footnote b) persons with positive Rapid Antigen Test.

d Typical chest imaging findings of COVID-19:

- Chest radiography – hazy opacities, often rounded in morphology, with peripheral and lower lung distribution
- Chest CT – multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution;
- Lung ultrasound – thickened pleural lines, B lines, consolidative patterns with or without air bronchograms.

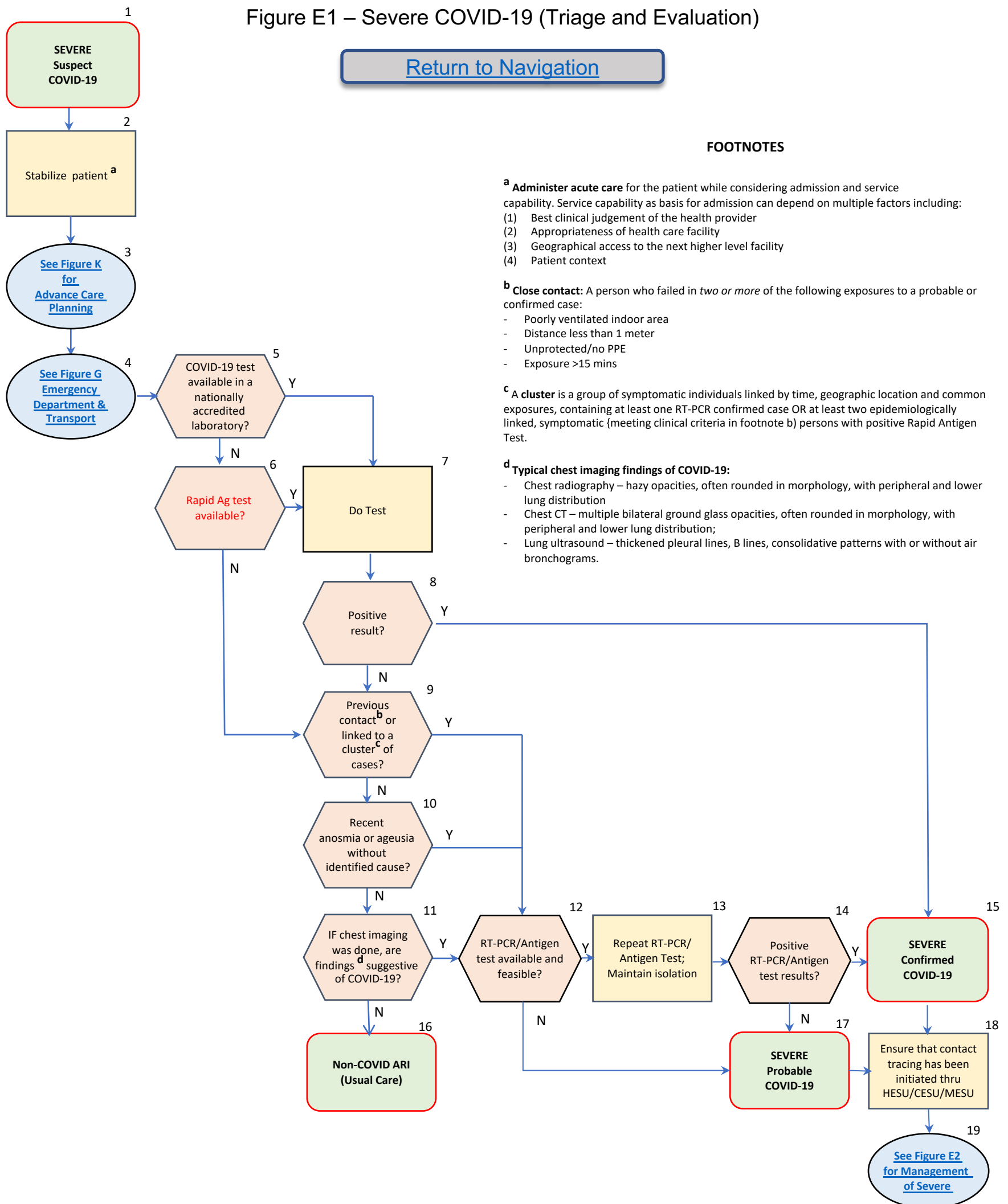


Figure E2 – Severe COVID-19 (Management)

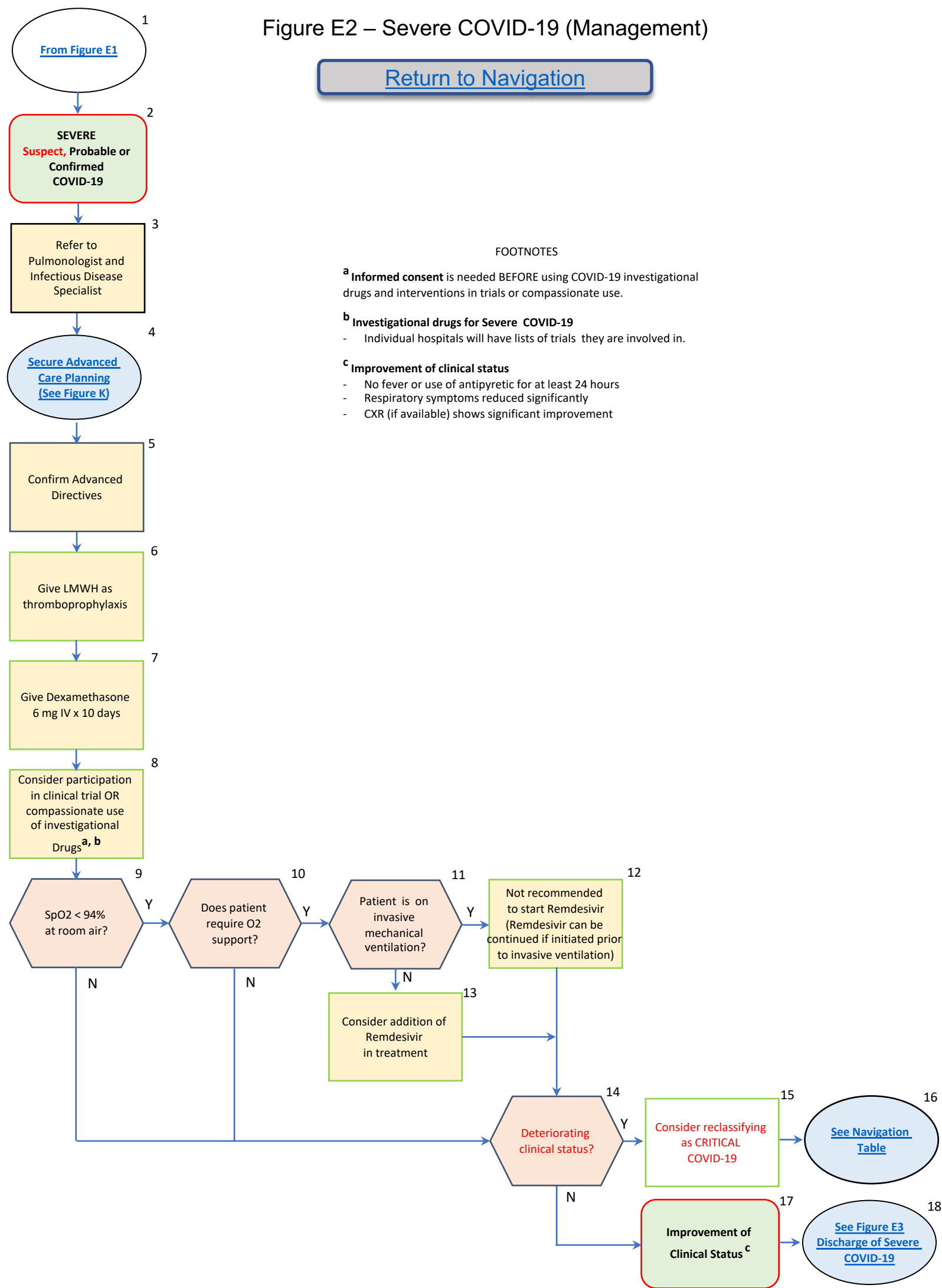
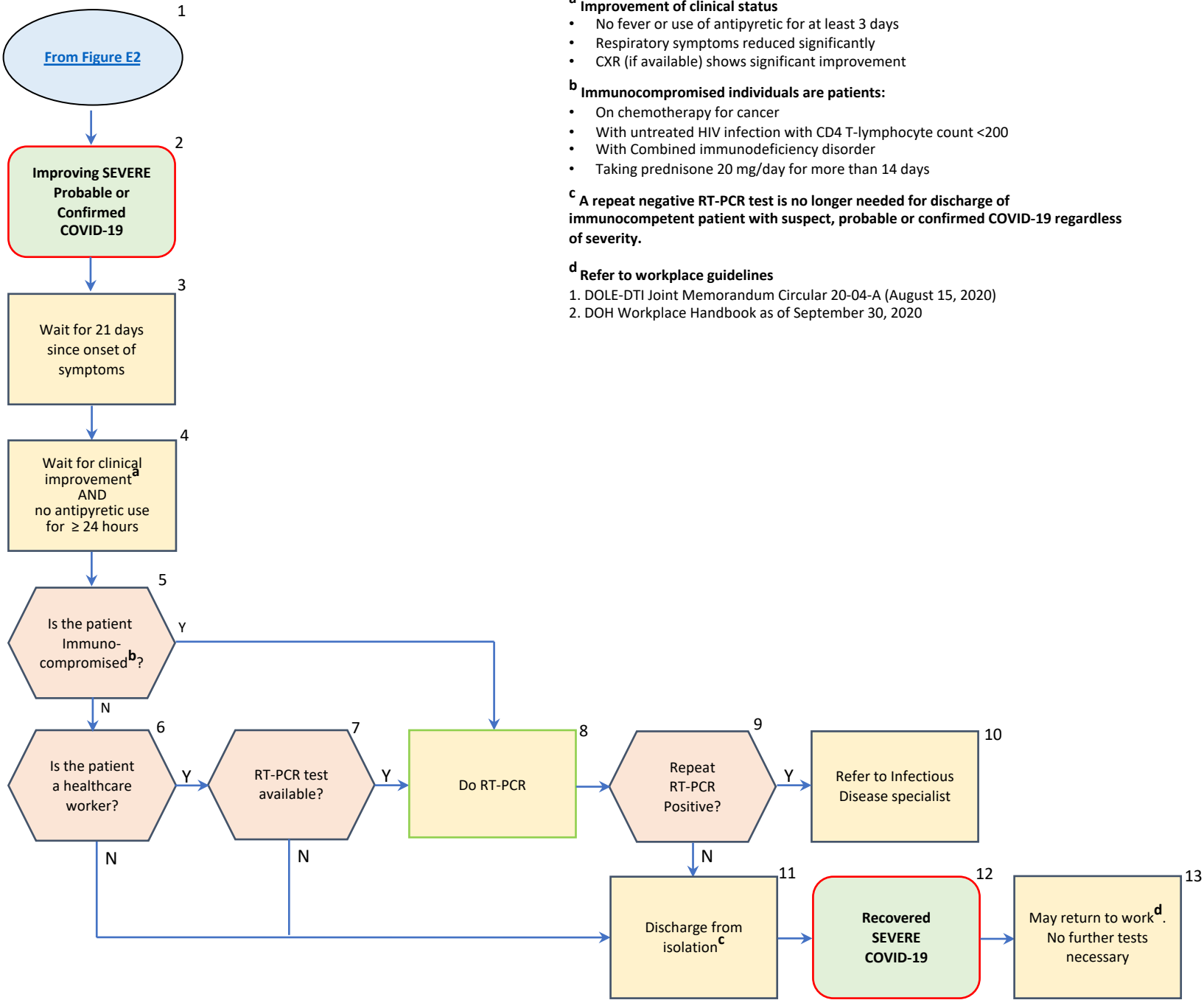


Figure E3 – Severe COVID-19 (Discharge and Reintegration)

[Return to Navigation](#)

FOOTNOTES



PART F

CRITICAL COVID-19

[Return to Navigation](#)

Figure F1 – Critical COVID-19 (Triage and Evaluation)

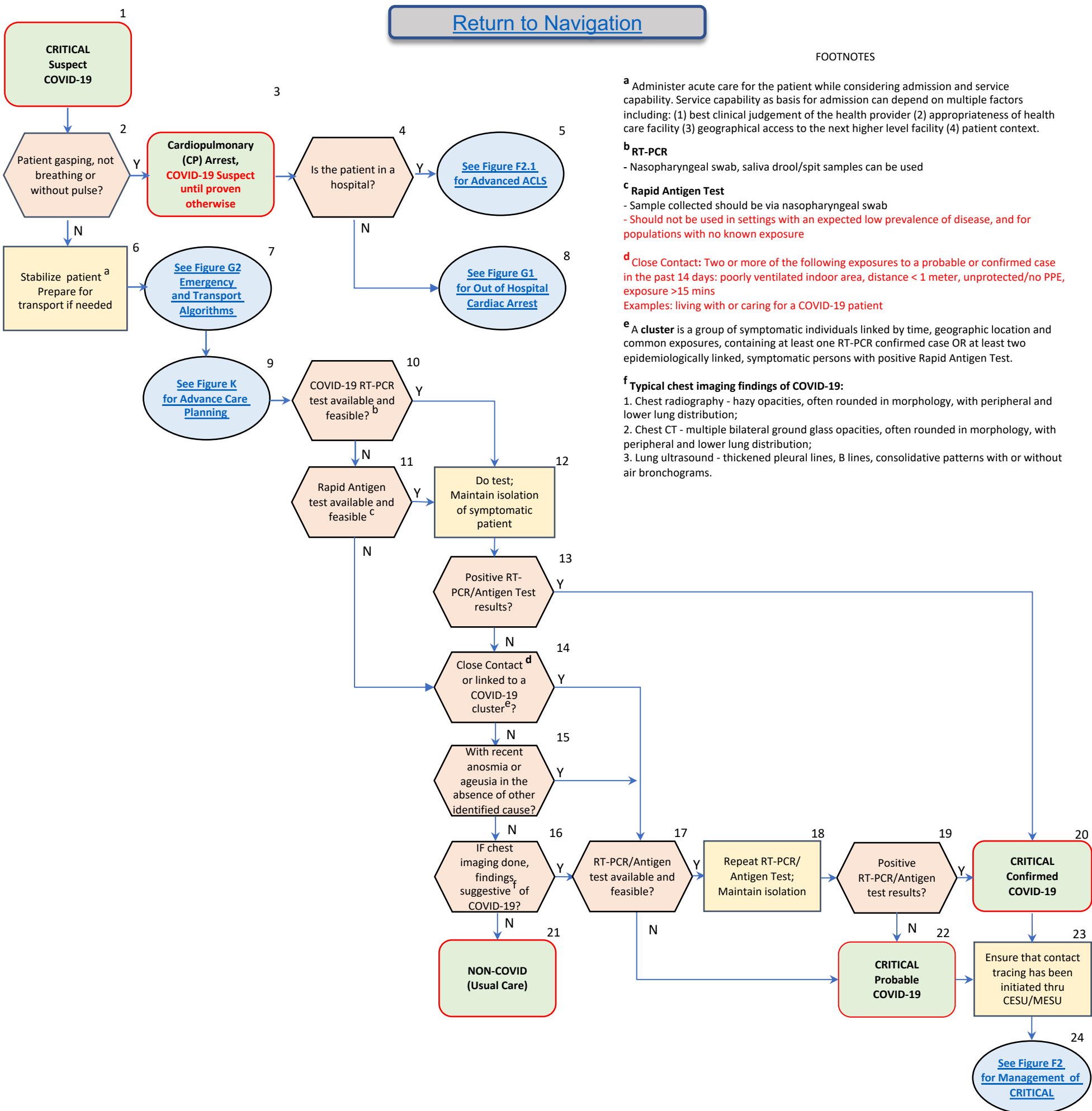


Figure F2 – Critical COVID-19 (Management)

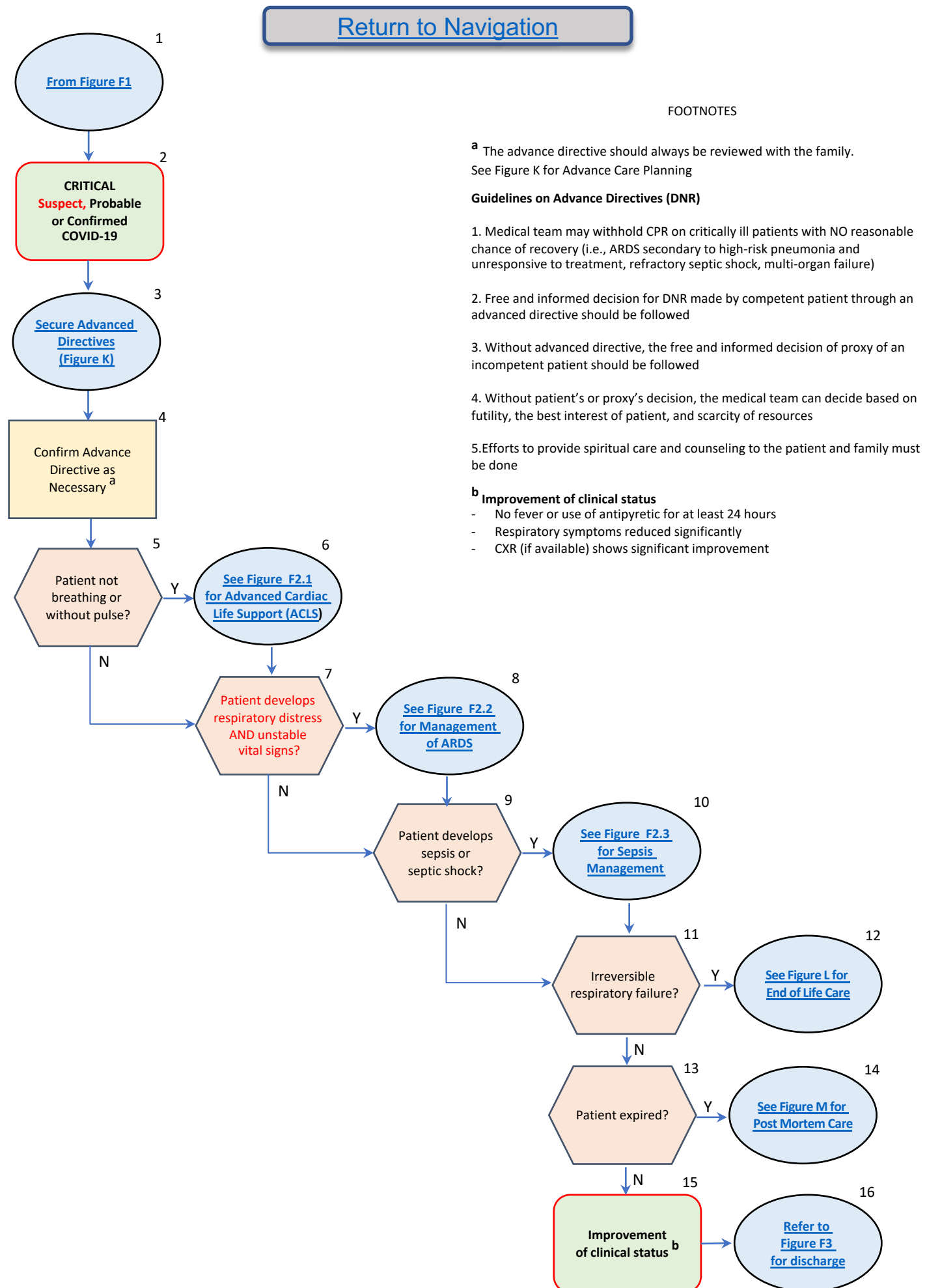


Figure F2.1 – Critical COVID-19 (Advanced Cardiac Life Support or ACLS)

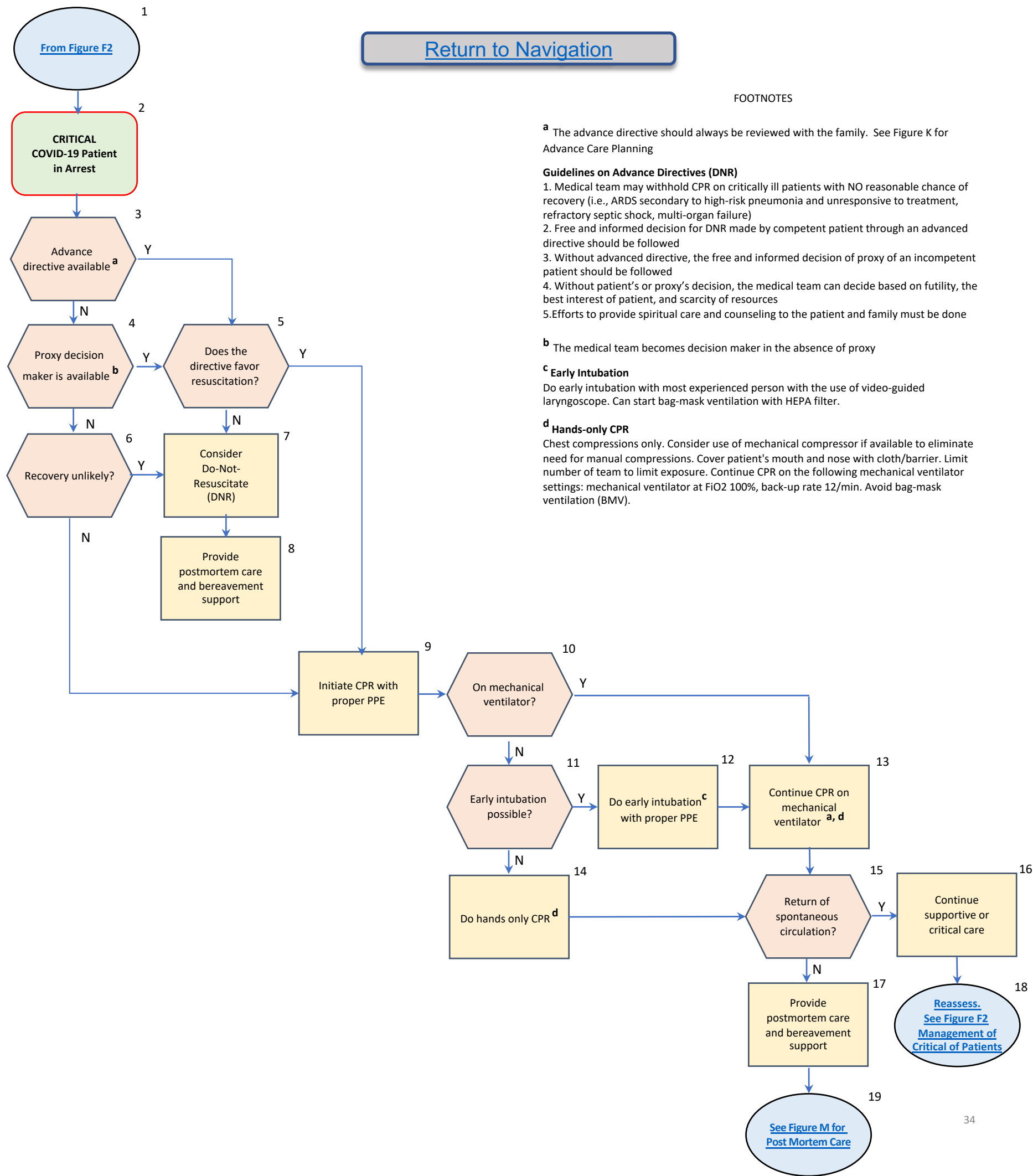


Figure F2.2 – Critical COVID-19 (Management of Acute Respiratory Distress Syndrome or CARDS)

[Return to Navigation](#)

FOOTNOTES

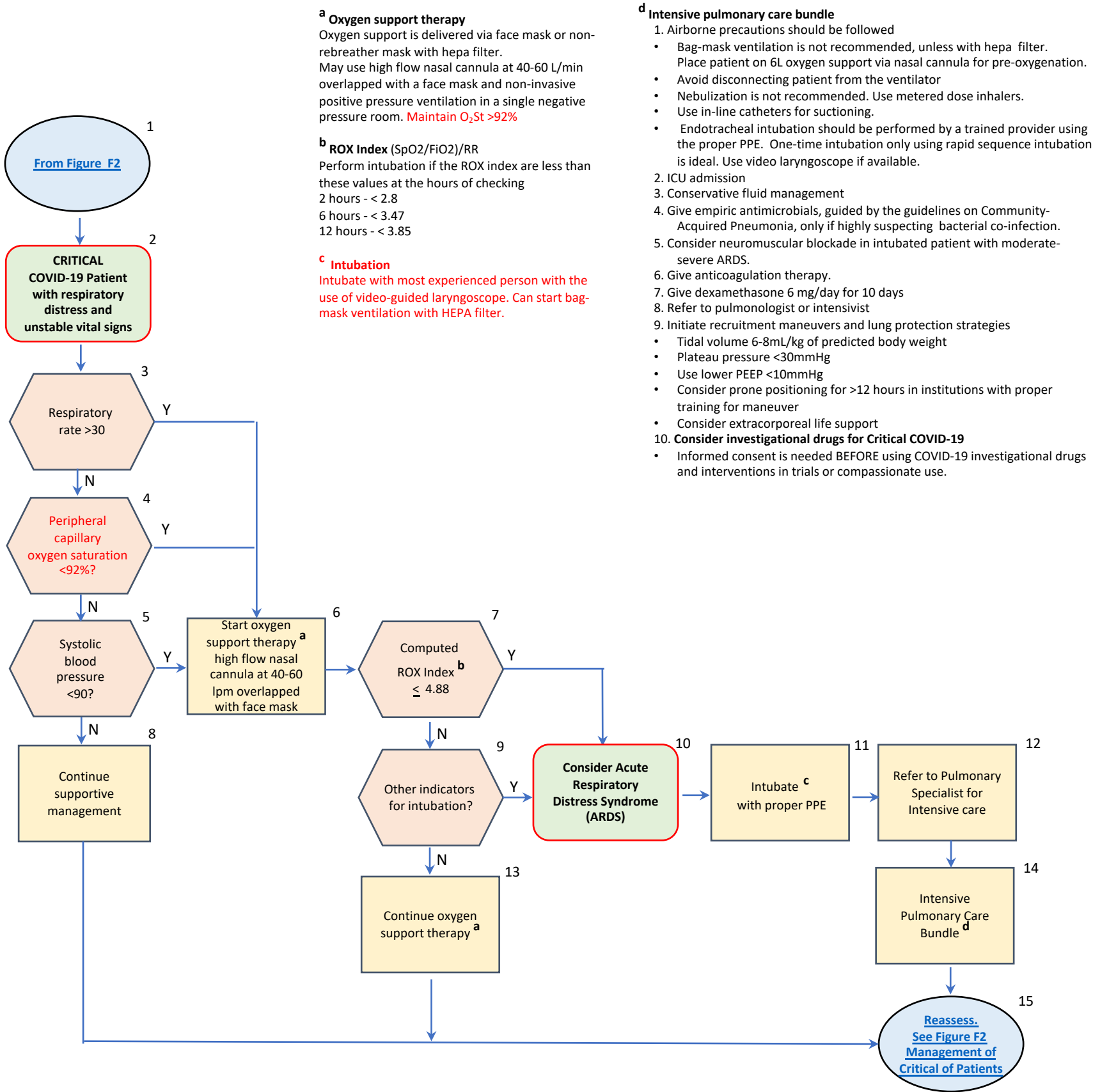
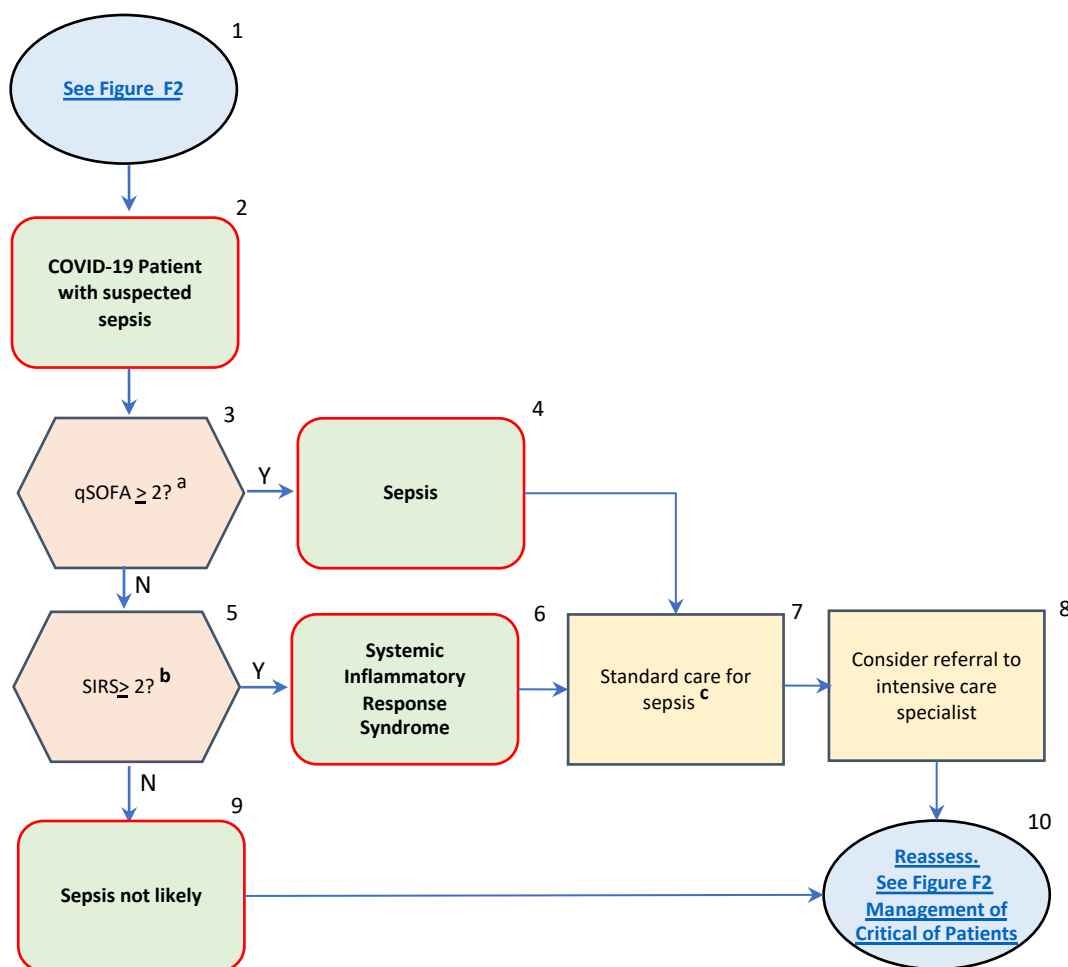


Figure F2.3 – Critical COVID-19 (Management of Sepsis)

[Return to Navigation](#)



FOOTNOTES

^a qSOFA Variables

- Respiratory rate >22 breaths/min
- Altered mentation
- Systolic blood pressure ≤ 100 mmHg

^b Systemic Inflammatory Response Syndrome (SIRS) Criteria

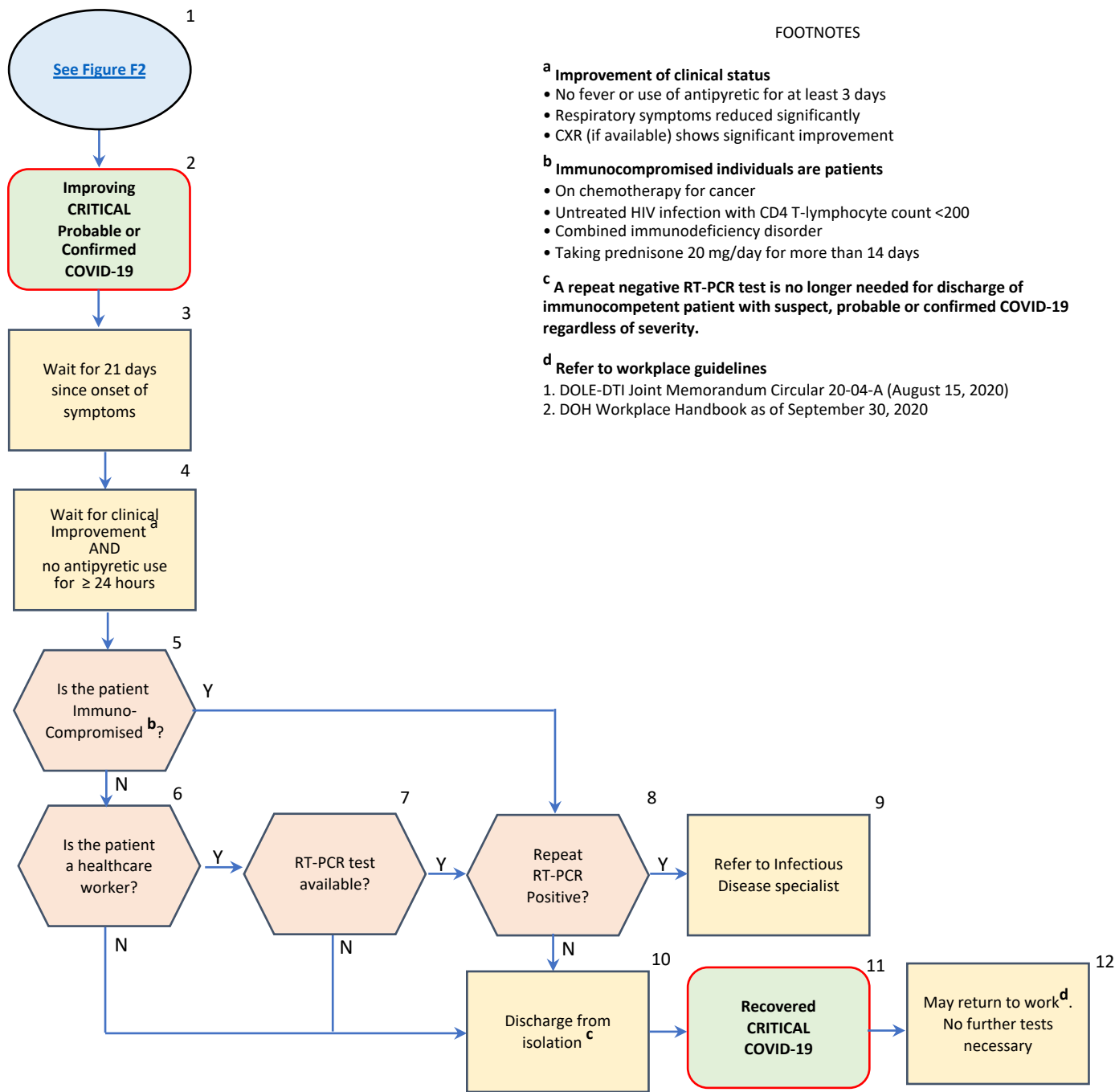
1. Temperature $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$
2. Heart rate >90 beats/min
3. Respiratory rate >20 breaths/min, or $\text{paCO}_2 <32$ mmHg
4. WBC count $>12,000$ or $<4,000$ cells/ mm^3 , or $>20\%$ immature (band) forms

^c Standard of care for sepsis: (Intensive Care for Severe Sepsis and Septic Shock)

1. Admit patient to the ICU.
2. Give antimicrobials within 1 hour of initial patient assessment. Follow current Guidelines for Diagnosis and Treatment of CAP in Adults.
3. Blood cultures ideally should be collected prior to antimicrobial treatment, but should not delay administration of antimicrobials.
4. Early effective fluid resuscitation needed
 - Administer at least 30 mL/kg of isotonic crystalloid in adults in the first 3 hours.
 - Monitor for volume overload during resuscitation.
5. Apply vasopressors when shock persists in the form of norepinephrine, vasopressin, or dobutamine (if with signs of poor perfusion and cardiac dysfunction).
6. Maintain initial BP target as MAP $>$ or $=$ to 65 mmHg.
7. Insert central venous catheters. If not available, vasopressors may be given through peripheral IV access with the use of a large vein.

Figure F3 – Critical COVID-19 (Discharge and Reintegration)

[Return to Navigation](#)



PART G

EMERGENCY DEPARTMENT AND TRANSPORT

[Return to Navigation](#)

Figure G1 – Management of Out-of-Hospital Cardiac Arrest (OHCA) in Adults

[Return to Navigation](#)

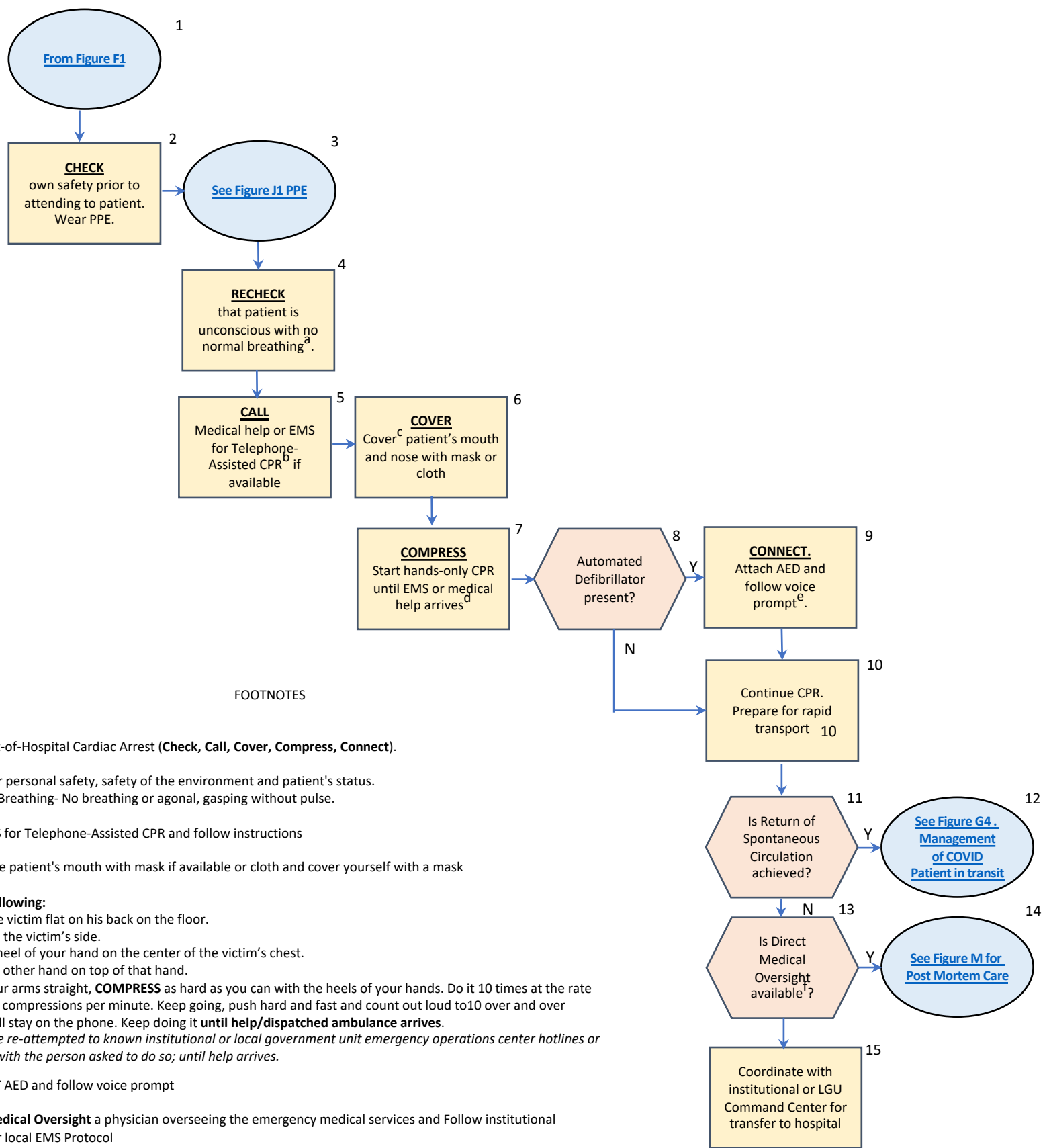
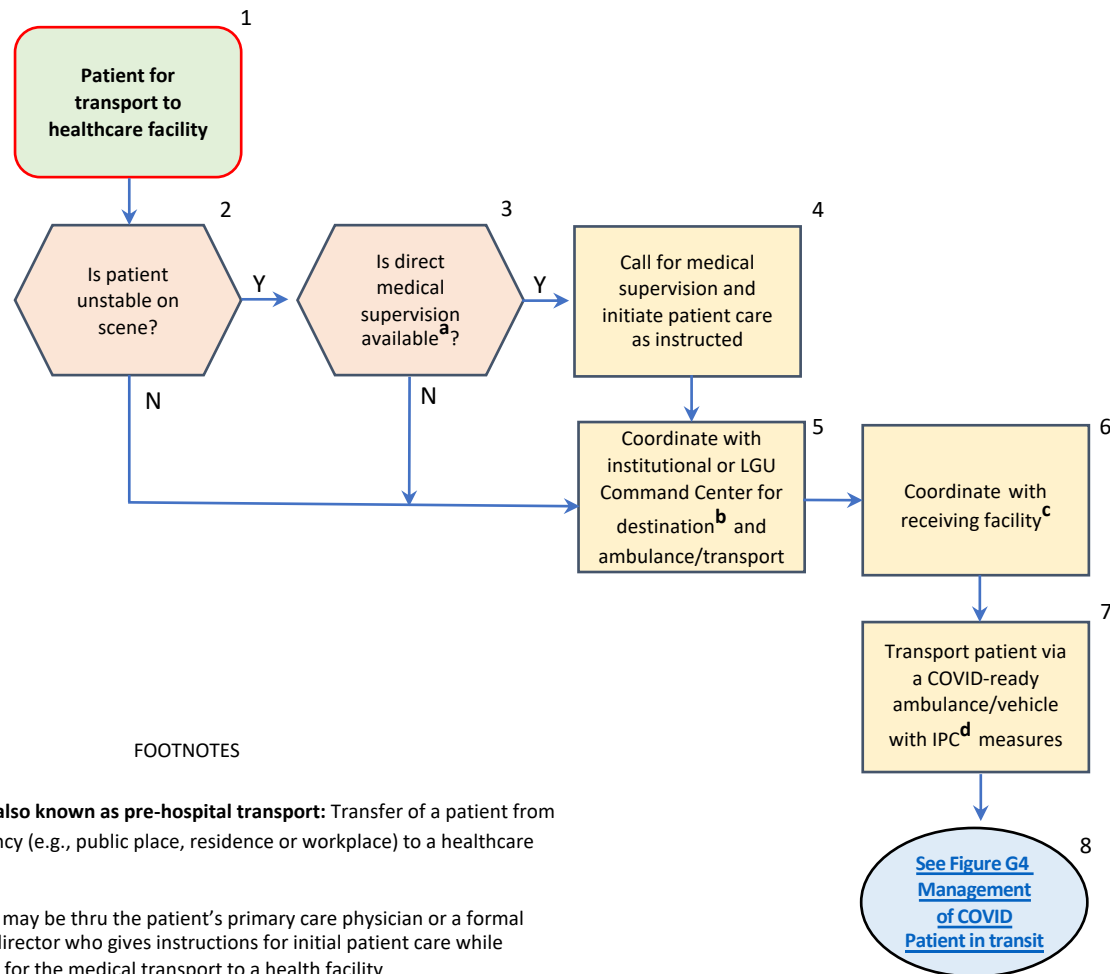


Figure G2 –Primary Transport to a Healthcare Facility*

[Return to Navigation](#)



FOOTNOTES

* **Primary transport also known as pre-hospital transport:** Transfer of a patient from the site of an emergency (e.g., public place, residence or workplace) to a healthcare facility.

^a Medical supervision may be thru the patient's primary care physician or a formal institutional medical director who gives instructions for initial patient care while waiting and preparing for the medical transport to a health facility

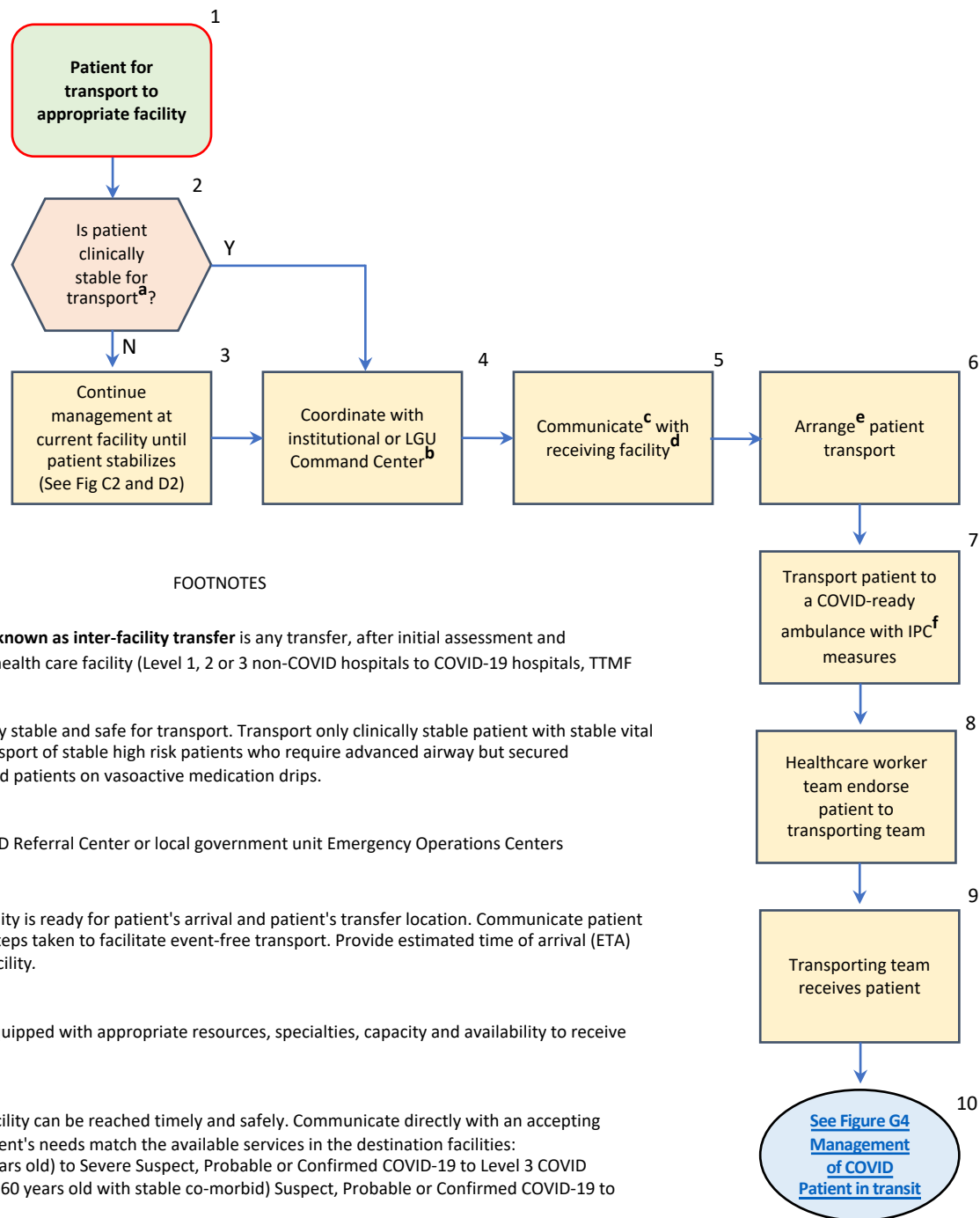
^b Receiving health facility equipped with appropriate resources, specialties, capacity and availability to receive and treat patient.

^c Confirm that receiving facility is ready for patient's arrival and patient's transfer location. Communicate patient updates and management steps taken to facilitate event-free transport. Provide estimated time of arrival (ETA) for ambulance at sending facility.

^d Satisfy following criteria: (1.) Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut; (2.) Use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area.(3.) If 1 and 2 are not met, all windows are kept open to ensure adequate airflow.

Figure G3 – Secondary Transport (Inter-Facility Transport) *

[Return to Navigation](#)



FOOTNOTES

***Secondary transport also known as inter-facility transfer** is any transfer, after initial assessment and stabilization, from and to a health care facility (Level 1, 2 or 3 non-COVID hospitals to COVID-19 hospitals, TTMF and LIGTAS centers).

^a Reassess patient if clinically stable and safe for transport. Transport only clinically stable patient with stable vital signs. This also includes transport of stable high risk patients who require advanced airway but secured (intubated, on ventilator) and patients on vasoactive medication drips.

^b Coordinate with One COVID Referral Center or local government unit Emergency Operations Centers

^c Confirm that receiving facility is ready for patient's arrival and patient's transfer location. Communicate patient updates and management steps taken to facilitate event-free transport. Provide estimated time of arrival (ETA) for ambulance at sending facility.

^d Receiving health facility equipped with appropriate resources, specialties, capacity and availability to receive and treat patient.

^e Ensure that destination facility can be reached timely and safely. Communicate directly with an accepting provider and check that patient's needs match the available services in the destination facilities:
 (a.) Admit Moderate (>60 years old) to Severe Suspect, Probable or Confirmed COVID-19 to Level 3 COVID Hospital. Admit Moderate (<60 years old with stable co-morbid) Suspect, Probable or Confirmed COVID-19 to Level 2 Hospital;
 (b.) Isolate Asymptomatic to Mild Suspect, Probable or Confirmed COVID-19 to LIGTAS or TTMF;
 (c.) Step up care referral from LIGTAS/TTMF to Level 3 COVID Hospital;
 (d.) Step down care referral from Level 3 COVID Hospital to LIGTAS/TTMF

^f Satisfy following criteria: (1.) Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut; (2.) Use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area. (3.) If 1 and 2 are not met, all windows are kept open to ensure adequate airflow.

Figure G4 – Management of Patient in Transit

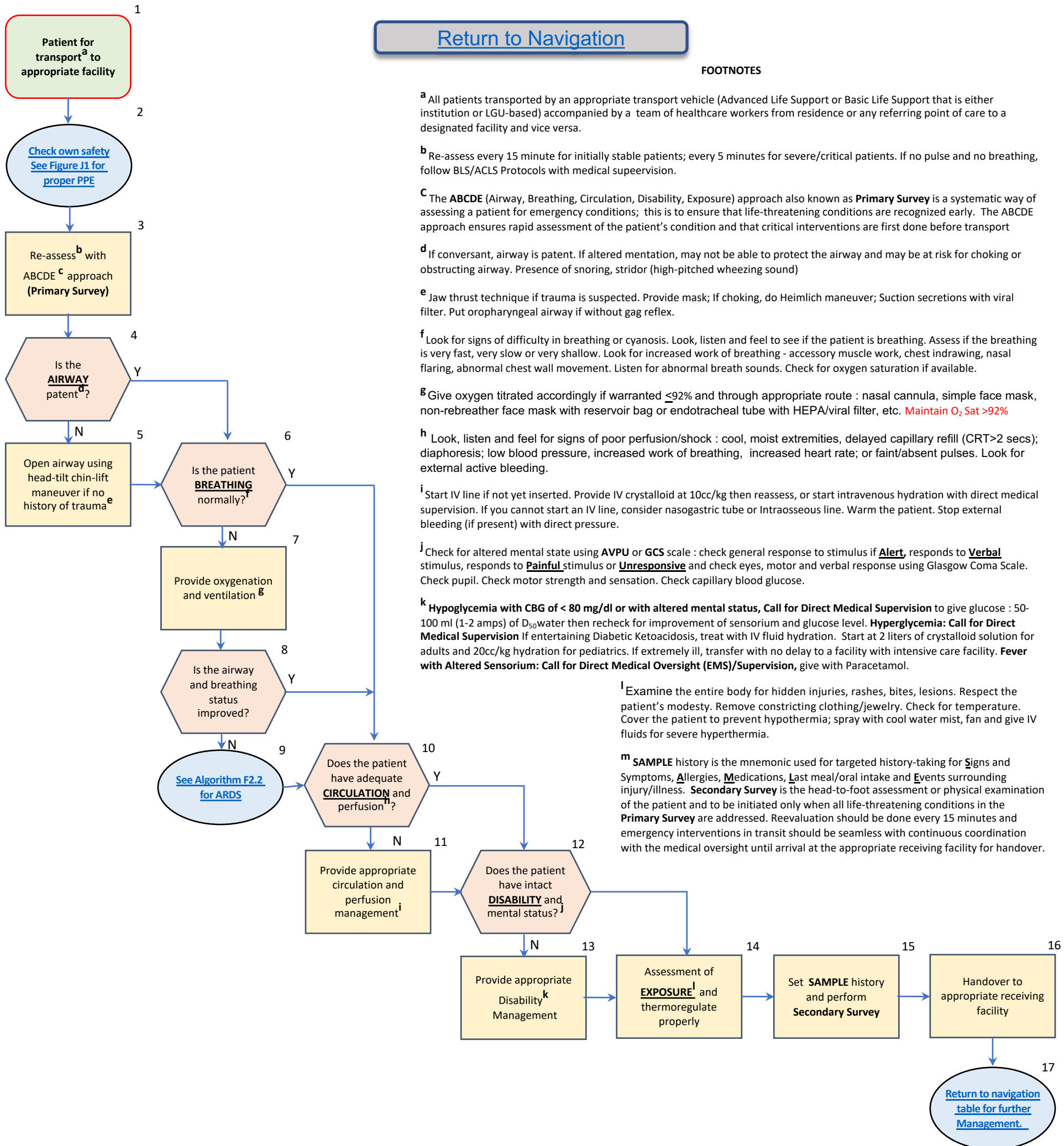
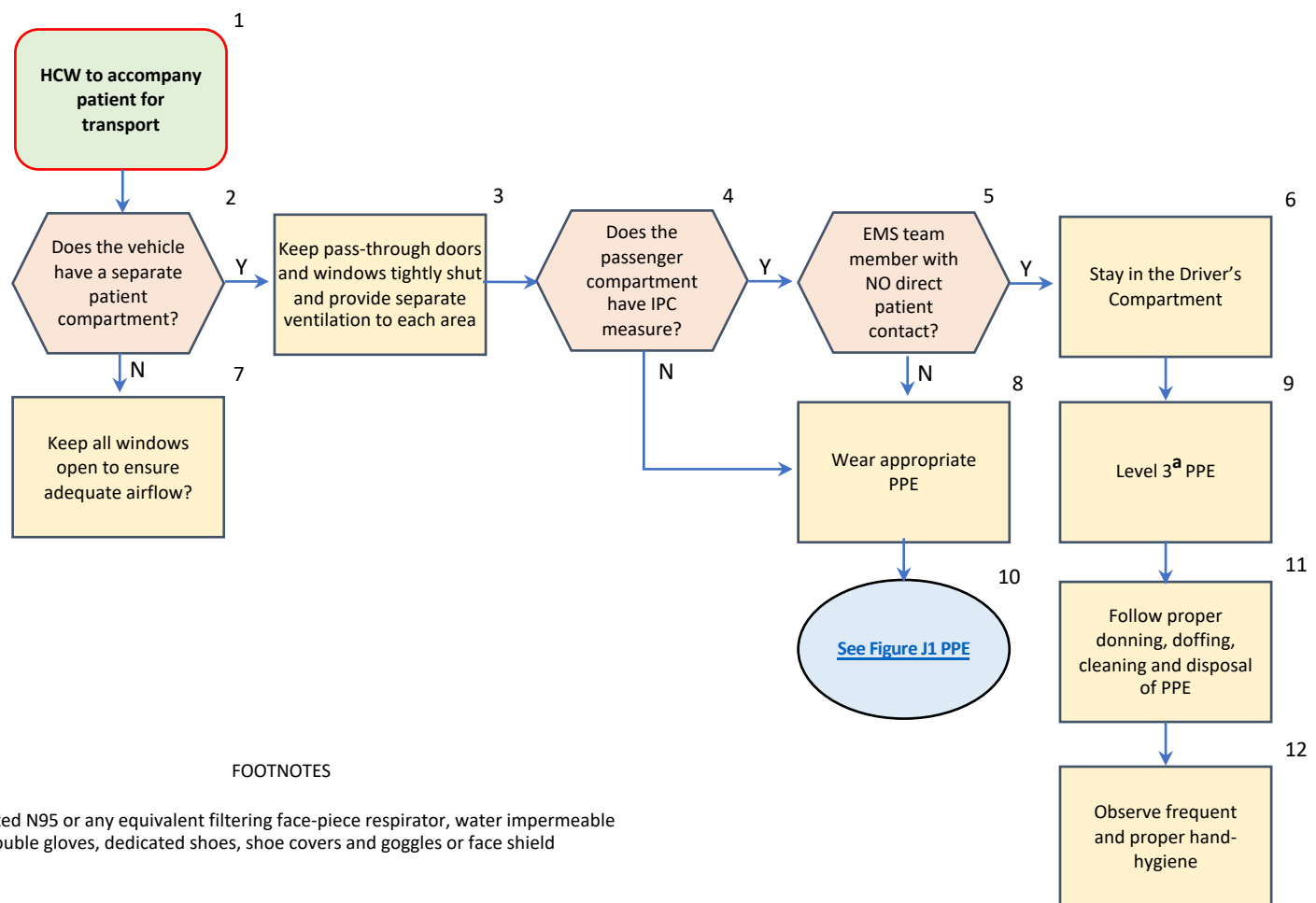


Figure G5 – Infection Prevention and Control for Ambulance EMS Team

[Return to Navigation](#)



PART H

PREGNANCY, LABOR AND NEWBORN CARE

[Return to Navigation](#)

Figure H1 – Management of Pregnant Women During the COVID-19 Pandemic

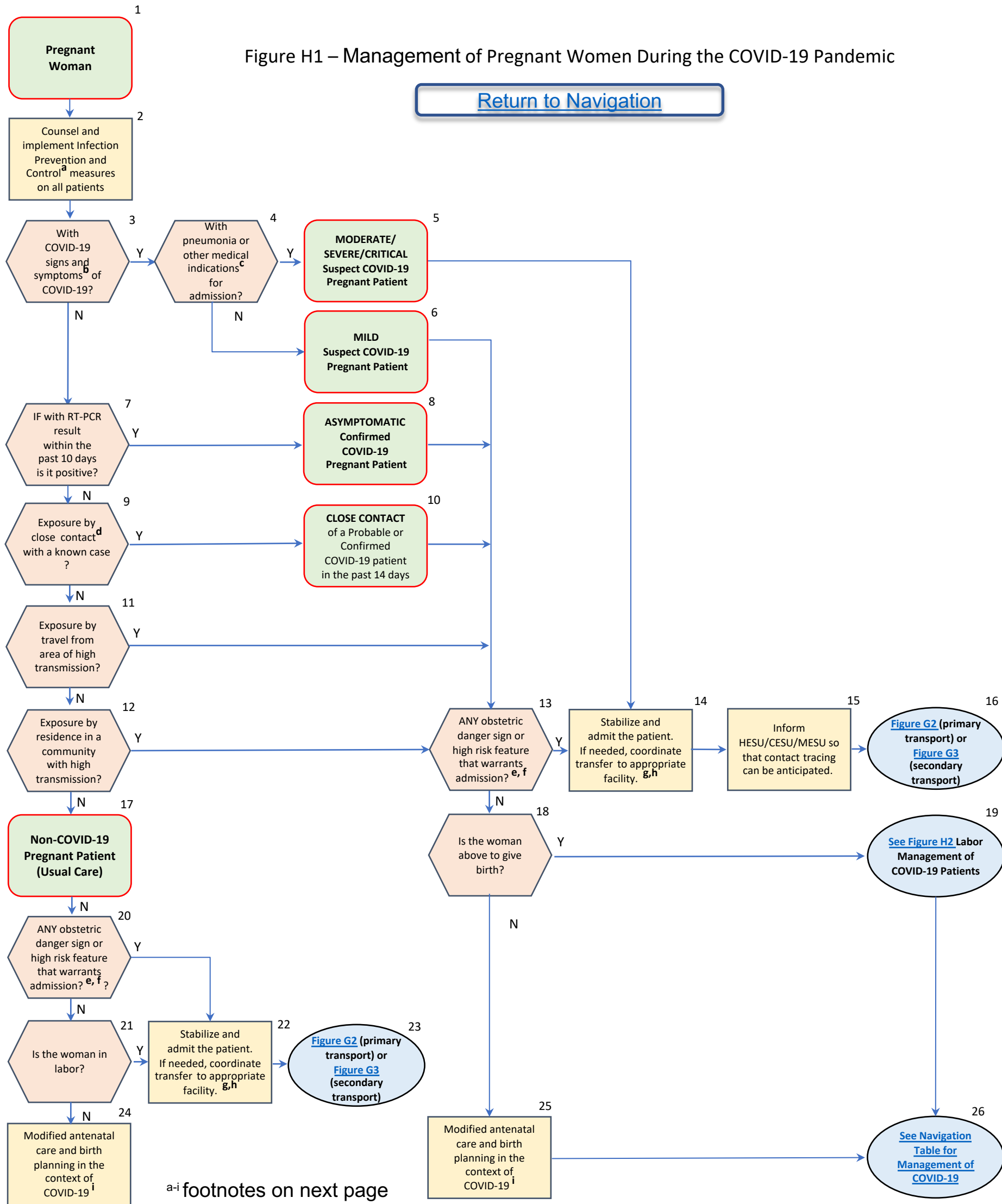


Figure H1 – Management of Pregnant Women During the COVID-19 Pandemic

[Return to Navigation](#)

FOOTNOTES

^a Maternal Infection Prevention and Control (IPC)

Prior to the use of this algorithm, it is expected that the mother is already aware of and following maternal IPC measures:

- A minimum of a face mask must be worn by or provided to the mother during delivery, postpartum, and during care of the baby
- Wash hands using soap and water immediately before and immediately after handling infants
- On nipple care, as long as IPC measures above are observed washing/cleaning the nipple before/after feeding is discouraged

^b Common signs and symptoms of COVID-19

fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia, nausea, vomiting, diarrhea, altered mental status, anosmia, ageusia/dysgeusia

^c Comorbid conditions as listed below:

- chronic lung disease, chronic heart disease or hypertension
- chronic kidney disease, chronic liver disease, chronic neurological conditions
- diabetes, problems with the spleen, morbid obesity (BMI > 40)
- weakened immune system such as HIV or AIDS, or medicines such as steroid tablets or chemotherapy

^d Close Contact

Failed in two or more of the following exposures to a probable or confirmed case in the past 14 days:

- poorly ventilated indoor area
- distance < 1 meter
- unprotected/no PPE
- exposure >15 mins

Examples: living with or caring for a COVID-19 patient

^e Obstetric danger signs (DOH MNCHN MOP, 2011)

1. Swelling of legs, hands, and/or face
2. Severe headache, dizziness, blurring of vision
3. Convulsion
4. Vaginal bleeding, pale skin
5. Fever and chills
6. Absence or decrease in baby's movement inside the womb,
7. Severe abdominal pain
8. Vaginal bleeding, foul smelling/watery vaginal discharge
9. Painful urination
10. Too weak to get out of bed

^f Examples of High-risk features

- Preterm labor
- Vaginal bleeding
- Pre-eclampsia/eclampsia
- Preterm pre-labor rupture of membranes (pPROM)
- Malpresentations
- Young primigravid
- Elderly primigravid
- Multifetal pregnancy

^g Administer acute care for the patient while considering admission and service capability.

Service capability as basis for admission can depend on multiple factors including:

- (1) best clinical judgement of the health provider
- (2) appropriateness of health care facility
- (3) geographical access to the next higher level facility (4) patient context.

^h Stabilize the Pregnant Patient according to the medical and obstetric indication, as indicated by the Basic and Comprehensive Emergency Obstetrics and Newborn Care (BEmONC/CEmONC) Guidelines, as applicable. Target pulse oximetry 92-95% at room air.

ⁱ Antenatal Care

- Consider modifications to standard protocols for antenatal visits and procedures, depending on levels of community quarantine including use of telehealth, reducing the number of clinic visits. (DOH DM 2020-0319)
- Phone consultations recommended to minimize exposure risk
- Antenatal care under the current situation remains the same as standard of care, provided that physical distancing and IPC measures are still followed for in-person meetings
- Emphasis on obstetric danger signs must be made during all consults, including the need to escalate care from remote healthcare to the need to transfer to health care facilities
- Antenatal discussions should include consideration of COVID-19 vaccination, feeding options, formulation of updated birth preparedness, and complication readiness plans that include when, where and how to seek appropriate care

Figure H2 – Management of COVID-19 Cases Above to Give Birth

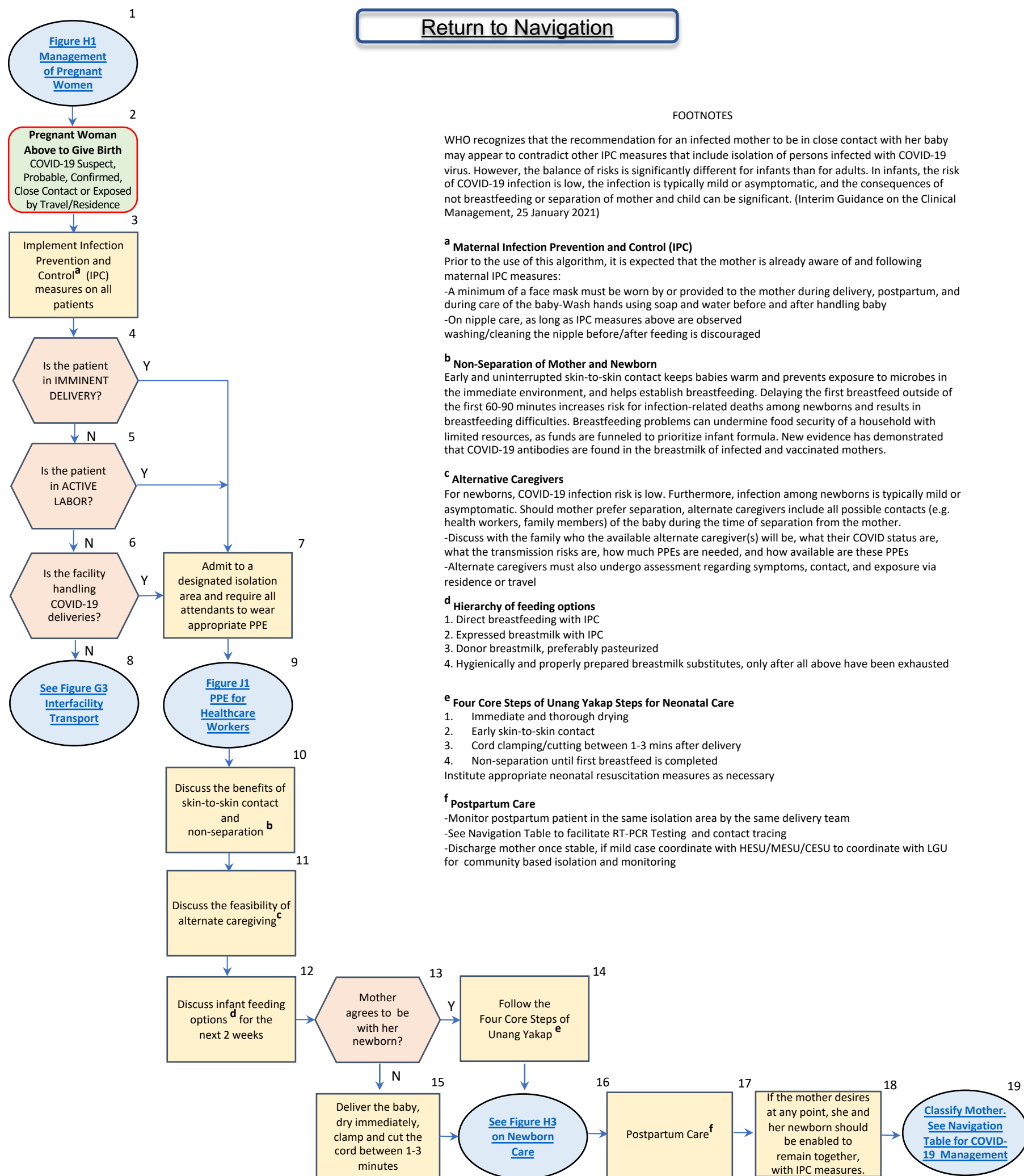
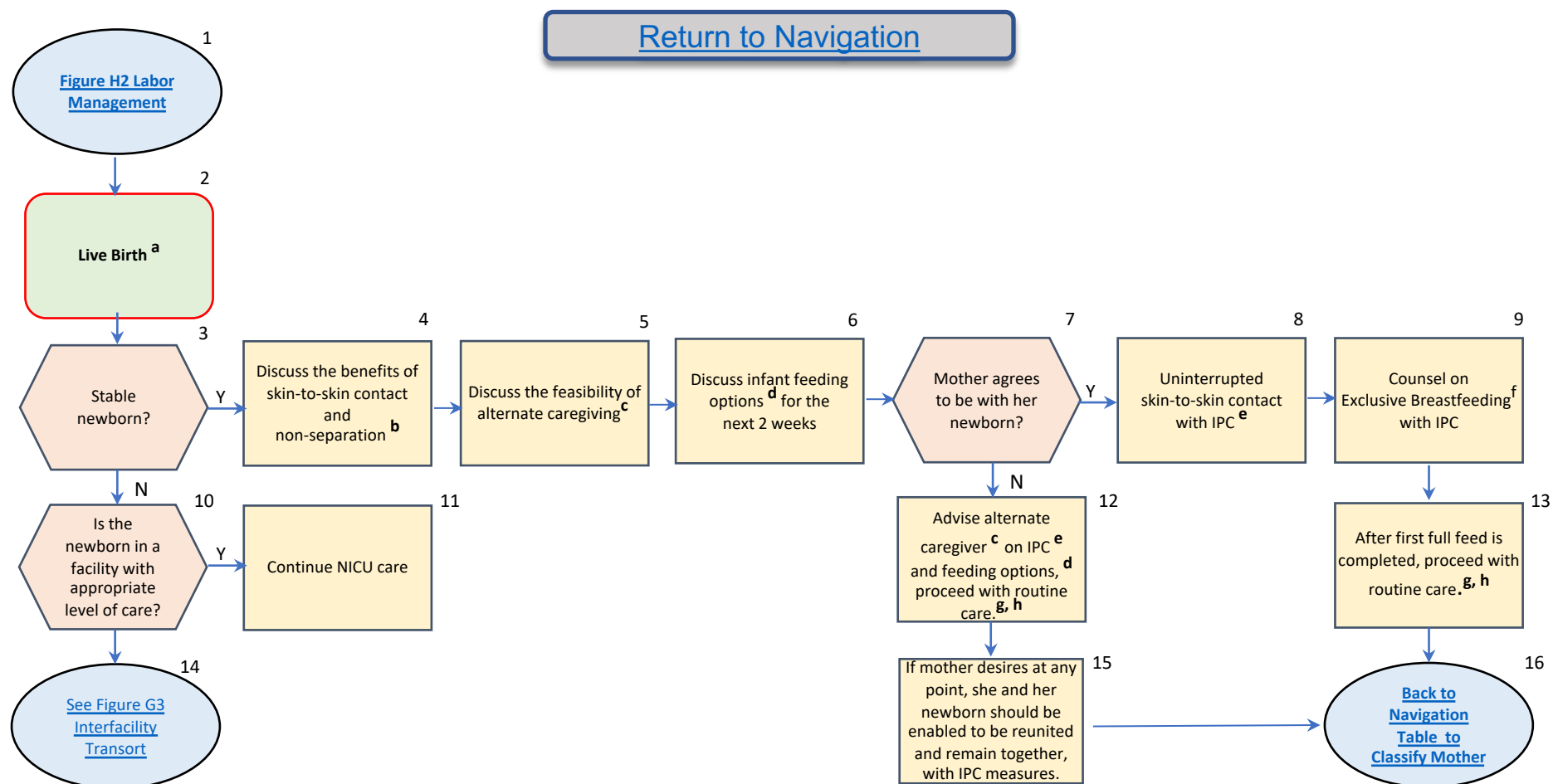


Figure H3 – Care of the Newborn whose Mother is a COVID-19 Case



FOOTNOTES

WHO recognizes that the recommendation for an infected mother to be in close contact with her baby may appear to contradict other IPC measures that include isolation of persons infected with COVID-19 virus. However, the balance of risks is significantly different for infants than for adults. In infants, the risk of COVID-19 infection is low, the infection is typically mild or asymptomatic, and the consequences of not breastfeeding or separation of mother and child can be significant. (Interim Guidance on the Clinical Management, 25 January 2021)

a Mothers should not be separated from their infants unless the mother is too sick to care for her baby. If the mother is unable to care for the infant another competent family caregiver should be identified. Mother and infant should be enabled to remain together while rooming-in throughout the day and night and practice skin-to-skin contact, including kangaroo mother care, especially immediately after birth and during establishment of breastfeeding, whether they or their infants have suspected or confirmed COVID-19 virus infection. (WHO Interim Guidance on the Clinical Management, 25 Jan 2021)

b Non-Separation of Mother and Newborn

Early and uninterrupted skin-to-skin contact keeps babies warm and prevents exposure to microbes in the immediate environment, and helps establish breastfeeding. Delaying the first breastfeed outside of the first 60-90 minutes increases risk for infection-related deaths among newborns and results in breastfeeding difficulties. Breastfeeding problems can undermine food security of a household with limited resources, as funds are funneled to prioritize infant formula. New evidence has demonstrated that COVID-19 antibodies are found in the breastmilk of infected and vaccinated mothers.

c Alternative Caregivers

For newborns, COVID-19 infection risk is low. Furthermore, infection among newborns is typically mild or asymptomatic. Should mother prefer separation, alternate caregivers include all possible contacts (e.g. health workers, family members) of the baby during the time of separation from the mother.

-Discuss with the family who the available alternate caregiver(s) will be, what their COVID status are, what the transmission risks are, how much PPEs are needed, and how available are these PPEs

-Alternate caregivers must also undergo assessment regarding symptoms, contact, and exposure via residence or travel

d Hierarchy of feeding options

1. Direct breastfeeding with IPC
2. Expressed breastmilk with IPC
3. Donor breastmilk, preferably pasteurized
4. Hygienically and properly prepared breastmilk substitutes, only after all above have been exhausted

e Maternal Infection Prevention and Control (IPC)

Prior to the use of this algorithm, it is expected that the mother is already aware of and following maternal IPC measures:

- A minimum of a face mask must be worn by or provided to the mother during delivery, postpartum, and during care of the baby
- Wash hands using soap and water before and after handling baby
- On nipple care, as long as IPC measures above are observed washing/cleaning the nipple before/after feeding is discouraged
- In the context of newborn care and breastfeeding, cough etiquette should be into a tissue that is disposed immediately in proper bins, followed by hand hygiene practice
- Do NOT put mask on the newborn

f Counseling on Exclusive Breastfeeding (EBF) with IPC

1. Exclusive breastfeeding per demand
2. Positioning and attachment
3. Coughing/sneezing into tissue (not into elbow) and disposing
4. Proper way of wearing a mask when near her baby
5. Washing hands before and after contact with the baby
6. Cleaning/disinfecting contaminated surfaces, e.g. cellphone
7. Mother should be able to see the baby in an infant crib that is at least one (1) meter or three (3) feet away from mother's bed, exercising fall precautions.
8. EBF should not be stopped either before or after receiving any of the COVID-19 vaccines.

g Routine Care

- Eye care, thorough physical exam, vitamin K injection, birth doses of hepatitis B and BCG vaccines; newborn and hearing screens, if available.
- Counsel mother and partner on family planning

h Testing

- RT-PCR testing may be done at DOH accredited testing centers at 24 hours or once newborn is stable

PART J

USE OF PERSONAL PROTECTIVE EQUIPMENT

[Return to Navigation](#)

Figure J1 – Recommended PPE for Healthcare workers

[Return to Navigation](#)

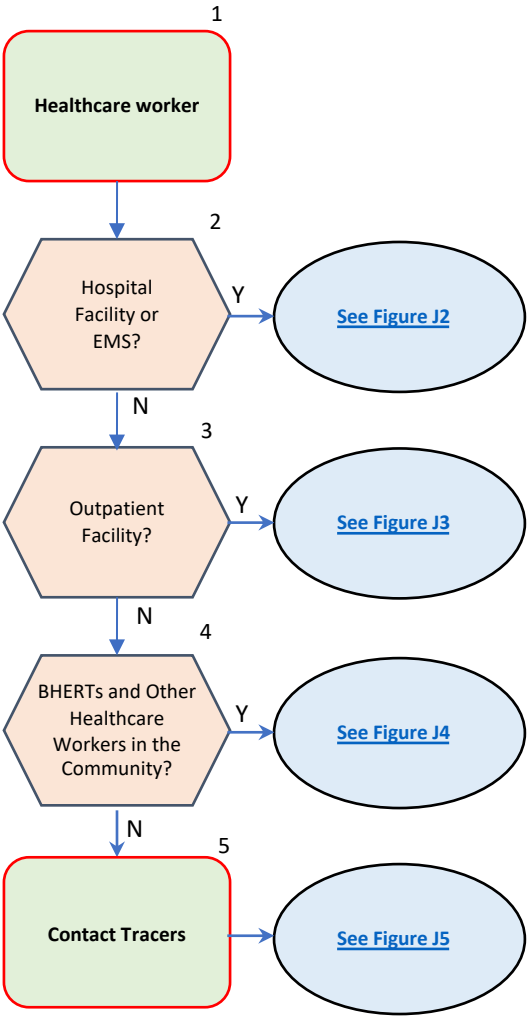
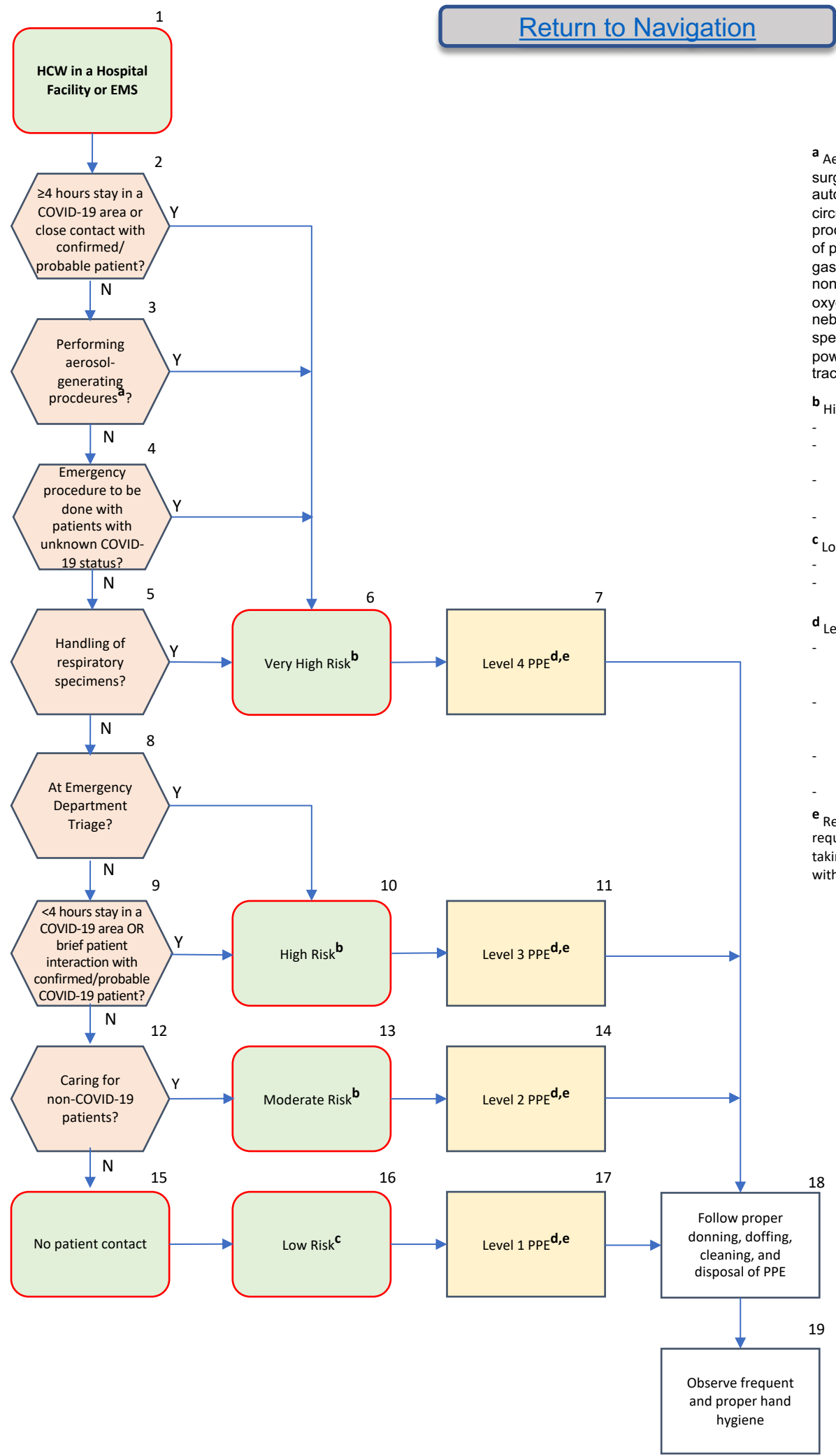


Figure J2 – Recommended PPE for Healthcare Workers In Hospital Facilities and Emergency Medical Services



FOOTNOTES

- ^a Aerosol generating procedures (not limited to the following): Airway surgeries (e.g. ENT< thoracic, transsphenoidal surgeries), autopsies, bronchoscopy (unless carried out through a closed-circuit ventilation system, cardiopulmonary resuscitation, dental procedures, endotracheal intubation and extubation, evacuation of pneumoperitoneum during laparoscopic procedures, gastrointestinal endoscopy, high frequency oscillatory ventilation, non-invasive ventilation (e.g. BiPAP, CPAP, high-flow nasal oxygen), open suctioning of airways, manual ventilation, nebulization, sputum induction, surgical procedures using high-speed/high-energy devices (e.g. high-speed cutters and drills, powered instrumentation, suction microdebrider, tracheotomy/tracheostomy)
- ^b High Risk for Transmission include any of the following:
- aerosol generating procedures
 - emergent/urgent/unplanned intervention needed or anticipated with unknown or unavailable result of RT-PCR
 - handling of specimens of suspected or confirmed COVID-19 patients
 - confirmed COVID-19 patient
- ^c Low Risk for Transmission
- Negative RT-PCR result
 - Asymptomatic patients with no respiratory symptoms or concerns but pending RT-PCR results
- ^d Levels of PPE:
- Level 4 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, coveralls, double gloves, dedicated shoe, shoe covers, and goggles or face shield
 - Level 3 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, water impermeable gown, double gloves, dedicated shoe, shoe covers, and goggles or face shield
 - Level 2 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, goggles or face shield, with or without gown
 - Level 1 PPE: Surgical mask
- ^e Respirators with exhalation valves should not be used in situations requiring a sterile area. May cover exhalation valve with a face mask taking precautions to maintain respirator fit if resources are limited or with no alternatives

Figure J3 – Recommended PPE for Healthcare Workers In Outpatient Facilities in Areas with Sustained Community Transmission

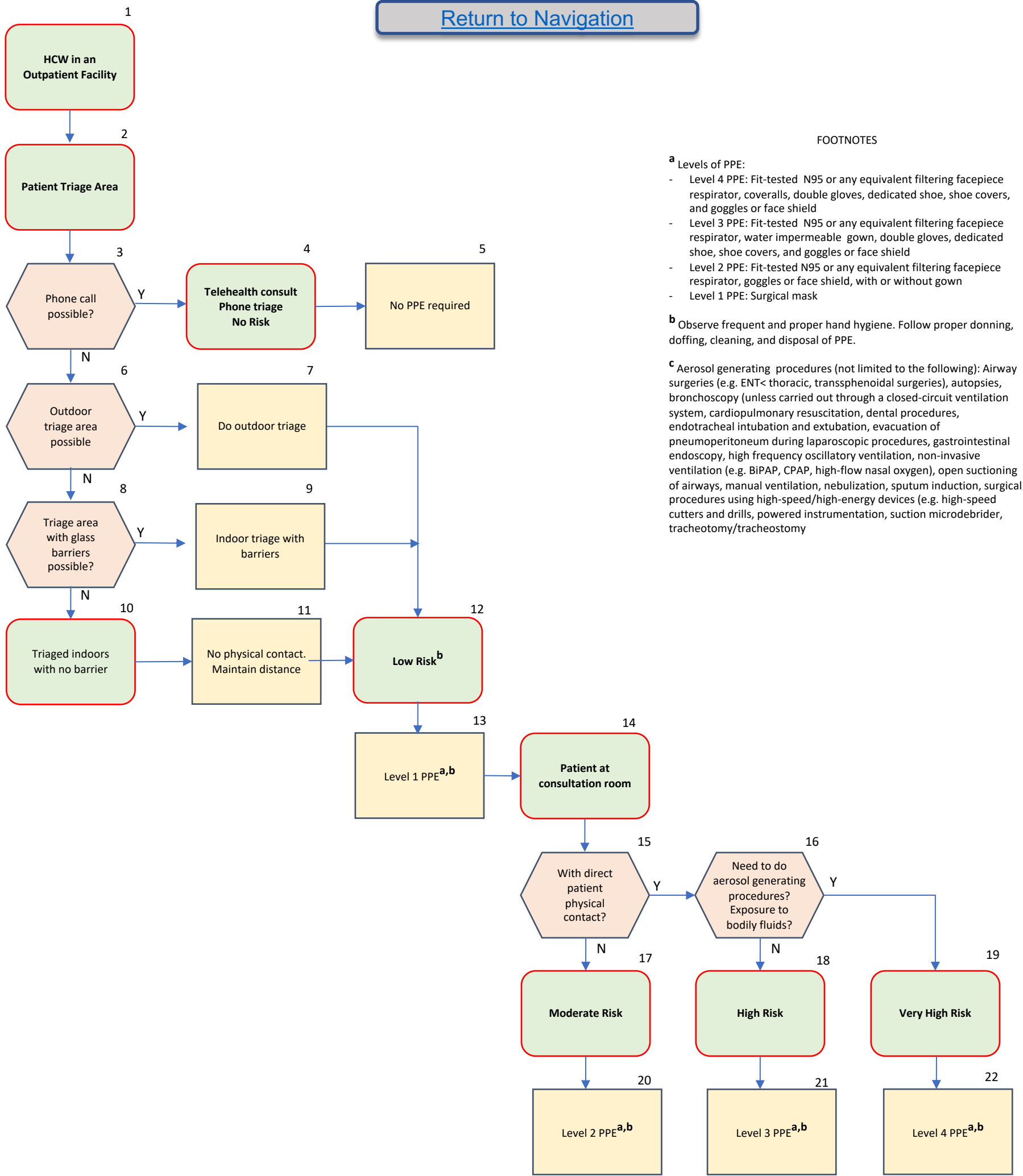
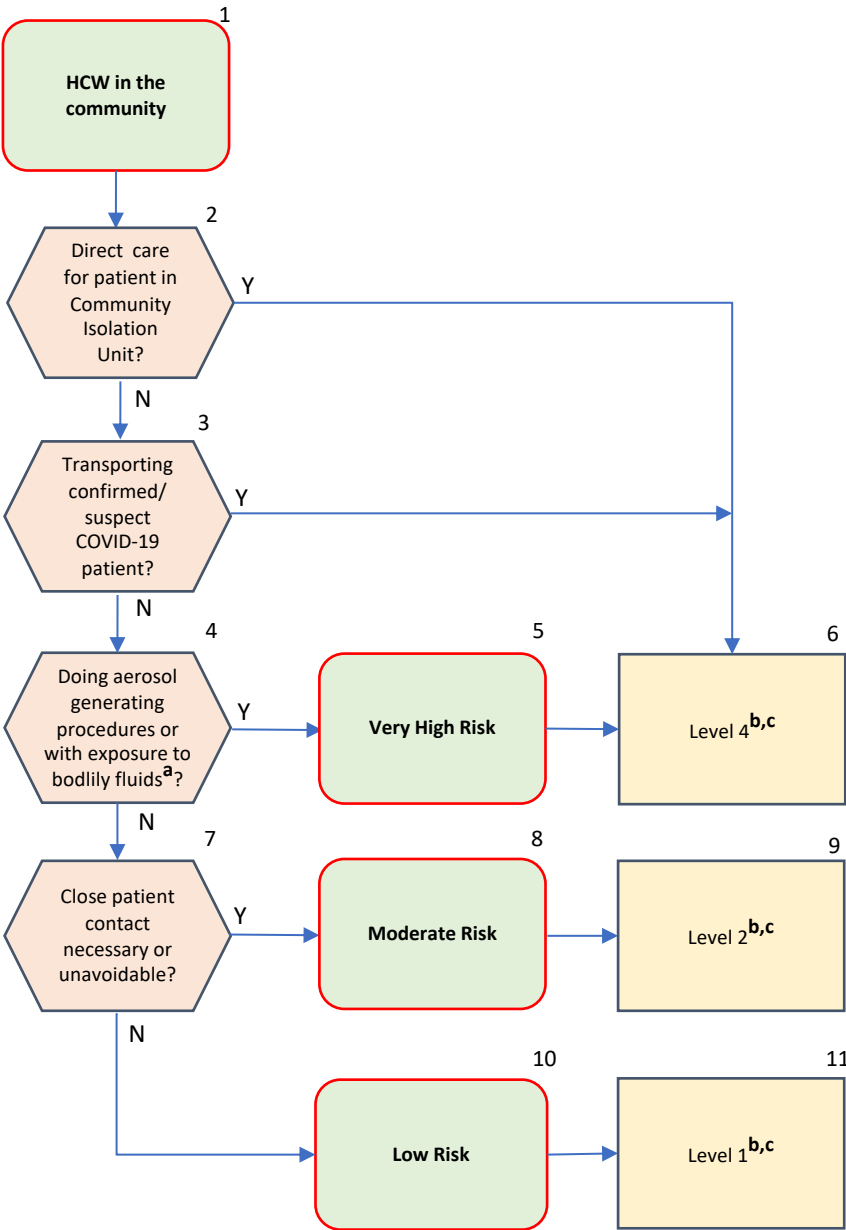


Figure J4 – Recommended PPE for Healthcare Workers in the Community

[Return to Navigation](#)



FOOTNOTES

^a Aerosol generating procedures (not limited to the following): Airway surgeries (e.g. ENT< thoracic, transsphenoidal surgeries), autopsies, bronchoscopy (unless carried out through a closed-circuit ventilation system, cardiopulmonary resuscitation, dental procedures, endotracheal intubation and extubation, evacuation of pneumoperitoneum during laparoscopic procedures, gastrointestinal endoscopy, high frequency oscillatory ventilation, non-invasive ventilation (e.g. BiPAP, CPAP, high-flow nasal oxygen), open suctioning of airways, manual ventilation, nebulization, sputum induction, surgical procedures using high-speed/high-energy devices (e.g. high-speed cutters and drills, powered instrumentation, suction microdebrider, tracheotomy/tracheostomy)

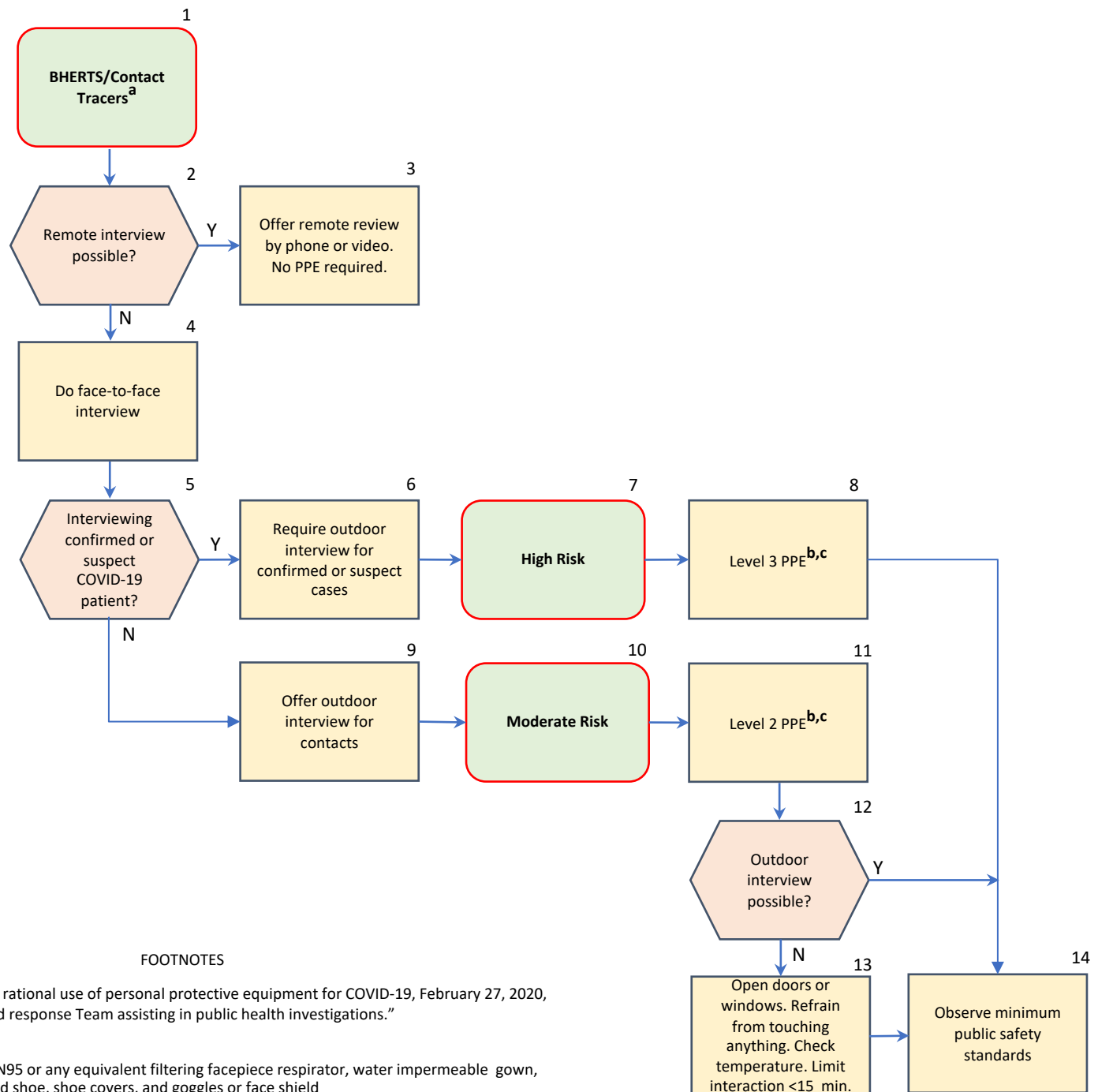
^b Levels of PPE:

- Level 4 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, coveralls, double gloves, dedicated shoe, shoe covers, and goggles or face shield
- Level 3 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, water impermeable gown, double gloves, dedicated shoe, shoe covers, and goggles or face shield
- Level 2 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, goggles or face shield, with or without gown
- Level 1 PPE: Surgical mask

^c Observe frequent and proper hand hygiene. Follow proper donning, doffing, cleaning, and disposal of PPE.

Figure J5 – Recommended PPE for Contact Tracers
Assisting in Public Health Investigations

[Return to Navigation](#)



FOOTNOTES

^a WHO interim guidance on rational use of personal protective equipment for COVID-19, February 27, 2020, refers to this group as “rapid response Team assisting in public health investigations.”

^b Levels of PPE

- Level 3 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, water impermeable gown, double gloves, dedicated shoe, shoe covers, and goggles or face shield
- Level 2 PPE: Fit-tested N95 or any equivalent filtering facepiece respirator, goggles or face shield, with or without gown

^c Observe frequent and proper hand hygiene. Follow proper donning, doffing, cleaning, and disposal of PPE.

PART K

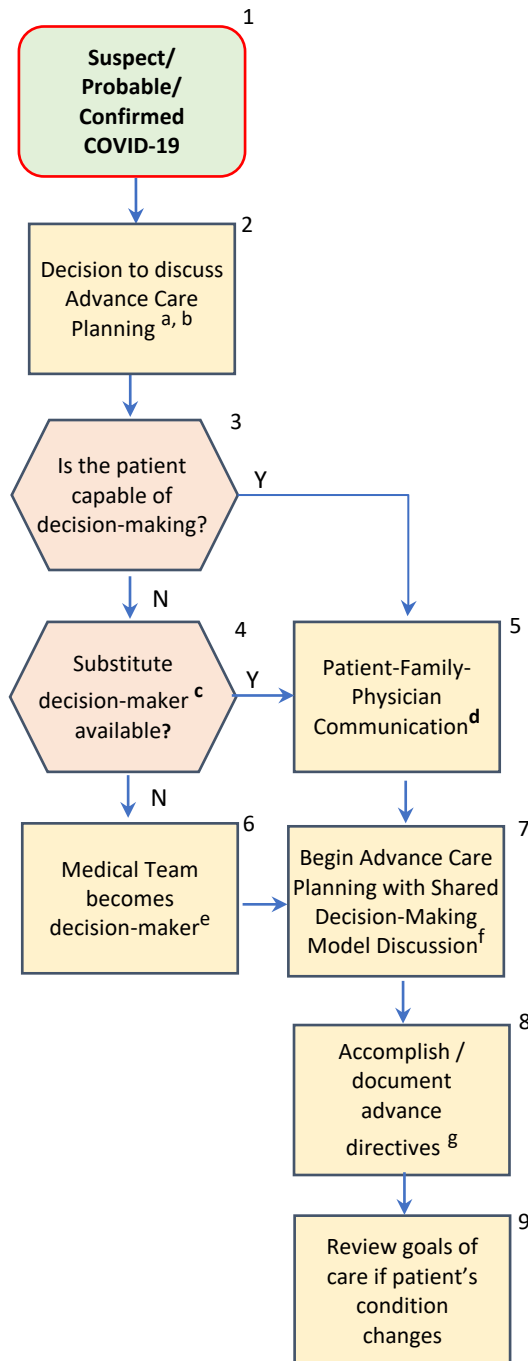
ADVANCED CARE PLANNING

[Return to Navigation](#)

Figure K – Advanced Care Planning

[Return to Navigation](#)

FOOTNOTES



^a Timing of ACP Discussion

In a pandemic situation, advanced care planning at the onset of serious acute illness will be beneficial and should be given priority. Proper timing of ACP discussion is important, should be sensitive and will depend on several factors including patient's clinical status and prognosis, patient/family preferences and values, and HCW team/facility capabilities among others. Too early discussion may cause distress and demoralization, while too late may delay patient/family preparation for acute medical crisis, and cause incongruences in patient care.

^b Advance Care Planning

Advanced Care Planning is making decisions about the healthcare a patient would want to receive if one is facing a medical crisis. This may take time so do not force arriving at a decision abruptly.

Advanced Care planning includes :

1. Assessing the patient's / decision-maker's mental capacity to make informed decisions. Look for signs of losing the capacity to understand information, to retain information, to use and weigh information, and to communicate information.
2. Giving the patient / decision-maker information on the types of life-sustaining treatments that are available.
3. Helping the patient / decision-maker decide what types of treatment he/she would or would not want should the patient be diagnosed with a life-limiting illness.
4. Encouraging the patient / decision-maker to share one's personal values with loved ones.
5. Completing Advance Directives to put into writing what types of treatment the patient / decision-maker would or would not want – and who to speak to – should the patient be unable to speak for himself/herself.
6. To ensure that the document reflects the current wishes of the patient, initiate a review of the advance planning decisions if there is a change in the patient's perception of their quality of life; For patients that lack capacity, critical care teams should enquire about the presence of any ACP or advanced statements to better understand the beliefs of the individual; and in a pandemic situation, advanced care planning at the onset of serious acute illness will be beneficial and should be given priority.

^c Substitute Decision-maker

Appointed according to the following hierarchy:

1. Power of Attorney
2. Spouse (living together in a married or common-law relationship)
3. Parent or child
4. Siblings
5. Other relatives

^d Patient-Family-Physician Communication

The guide includes the following reminders:

Ensure Comfort

1. Assess Emotional Temperature
2. Listen to Patient Concerns
3. Reassure
4. Assess Need for Information
5. Deliver Information with Empathy
6. Explore Emotions and Provide Support

^e Medical Team becomes decision-maker

In the premise there is no appointed/surrogate decision-maker, medical team makes a "best interest" decision following consultation with family members and any written statements. This is an attempt to make the same decision the patient would in these circumstances should they have had capacity.

^f Shared decision making model

Key component process of patient-centered health care in which clinicians, patients and their families work together to make decisions and select tests, treatments and care plans based on clinical evidence that balances risks and expected outcomes with patient preferences and values.

^g Advanced Directive definition

An advance directive consists of a person's oral and written instructions about his or her future medical care, in the event he or she becomes unable to communicate, becomes incompetent to make health care decisions or is in a persistent vegetative state.

PART L

END-OF-LIFE CARE

[Return to Navigation](#)

Figure L – End-of-Life Care for COVID-19 Patients

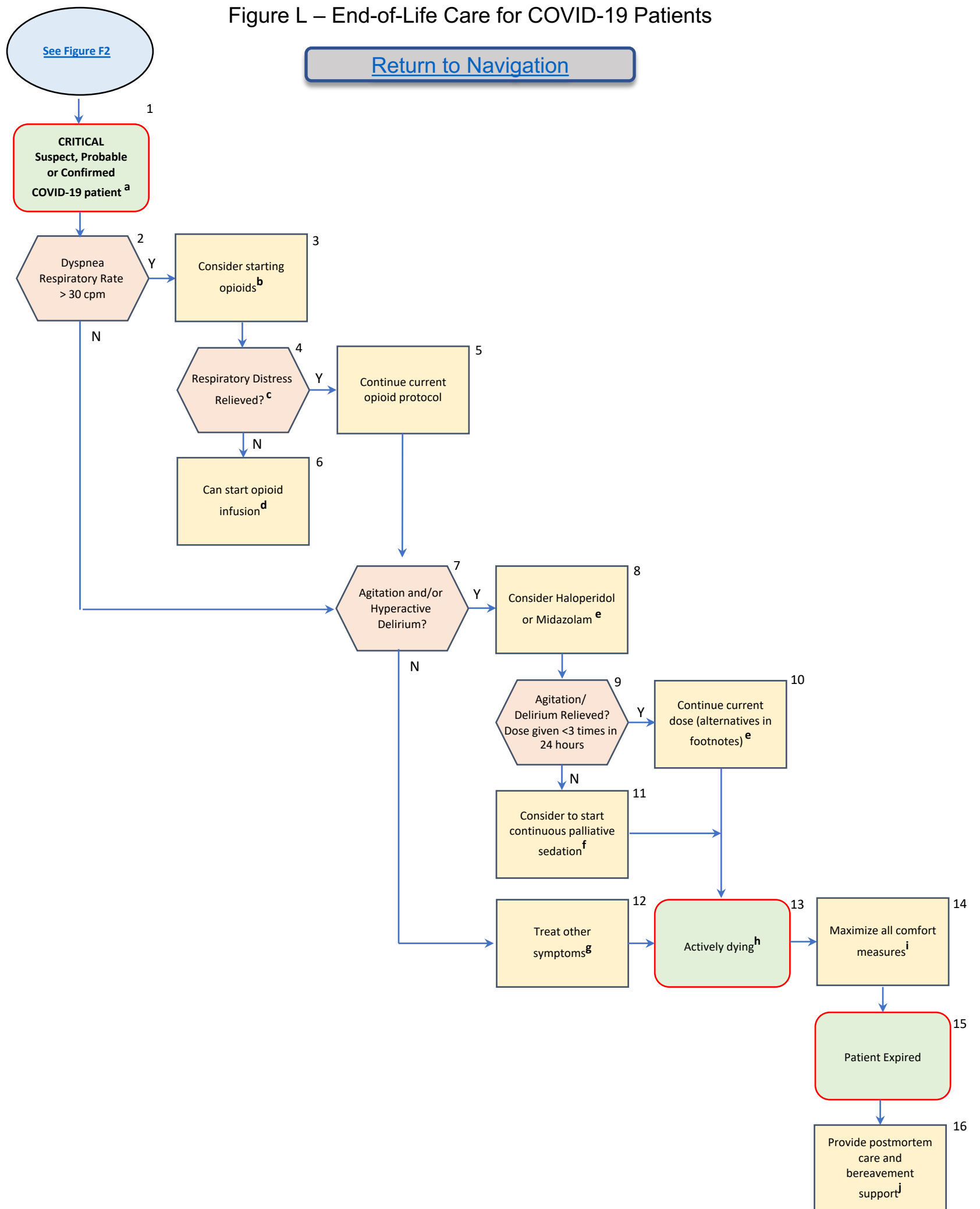


Figure L – End-of-Life Care for COVID-19 Patients

[Return to Navigation](#)

FOOTNOTES

^a Prerequisite before using this algorithm

Patient/ substitute decision-maker are not amenable to life-sustaining interventions and/or medical team see no reasonable chance of recovery. Discussed de-escalation of care. Ensure psychosocial support and provide spiritual care (may call spiritual care provider/ Chaplain) to patient and the family. May refer patient to palliative care team if available.

^b Opioid options for dyspnea

- (1) Morphine Sulfate 2-4 mg IV/IM/SC every 30 minutes. Monitor every 15 mins.
- (2) Morphine 5-10 mg tab every 4 hours PO/NGT
- (3) Fentanyl IV continuous drip 12.5 mcg/hour
- (4) Oxycodone IV 10-20 mg every 4-6 hours
- (5) Oxycodone PO/NGT short-acting 10-20 mg every 4-6 hours

* Do opioid precaution monitoring for opioid-naïve patients

* Do dose adjustment for opioid-tolerant patients

^c Respiratory Distress relieved

- (1) Respiratory Rate <20 cpm
- (2) Severity score using the Visual Analog Scale (VAS) \leq 5 out of 10

^d Opioid Infusion Principles

- (1) If initial dose of IV opioid is ineffective after 2 doses at least 15 minutes apart, double the dose
- (2) Typically need 6-8 hours of controlled symptoms to calculate a continuous opioid infusion
- (3) If starting a continuous infusion, do not change more often than every 6 hours. Adjust infusion dose based on the 24 hour sum of PRNs

^e Medications for Agitation/ Delirium

- (1) Haloperidol 2.5 mg IM/SC every 4 hours PRN
- (2) Midazolam 2 mg IV every 4 hours PRN
- (3) Midazolam 7.5-15 mg PO every 4-6 hours PRN
- (4) Diazepam 5 mg IV
- (5) Rectal Diazepam 10 mg
- (6) Diazepam 5 mg PO/NGT

^f Palliative Sedation

Palliative sedation is a measure of last resort used at the end of life to relieve severe and refractory symptoms. It is performed by the administration of sedative medications in monitored settings and is aimed at inducing a state of decreased awareness or absent awareness (unconsciousness). The intent of palliative sedation is to relieve the burden of otherwise intolerable suffering for terminally ill patients and to do so in such a manner so as to preserve the moral sensibilities of the patient, the medical professionals involved in their care, and concerned family and friends.

Titrate sedatives accordingly every 2 hours to determine effectiveness of palliative sedation until the desired level of comfort is acceptable to the family and the medical team caring for the patient. (May use palliative sedation scoring system i.e. RASS, Ramsay Sedation scale)

Midazolam Infusion

Start Midazolam drip 20 mg in 30 ml PNSS to run at 2 cc (2 mg)/hour, titrate by increments of 1 mg/mL every hour until agitation is adequately controlled and maintain at that dose
Alternative to Midazolam for palliative sedation: Rectal Diazepam 10 mg every hour or Clonazepam 1-2 mg sublingual q6 hourly.

^g Other symptoms

- (1) Anxiety:
 - Diazepam 2 mg IV/IM/SC
 - Diazepam 5 mg PO/NGT every 8 hours
 - Midazolam 2 mg IV q4 or Midazolam 7.5-15 mg PO q4-6 hours
- (2) Cough:
 - Butamirate citrate 50 mg PO/NGT q8-12 hours
 - Levodropropizine 30 mg PO/NGT q8 hourly
 - Morphine 2.5 mg IV/SC PRN
 - Morphine Controlled Release 10-20 mg q12 hours
 - Oxycodone 5-10 mg q12 hours
- (3) Increased Oral Secretions:
 - Hyoscine-N-Butylbromide 20 mg IV q6-8 hours
 - Hyoscine-N-Butylbromide 10-20 mg PO/NGT q6-8 hours

^h Actively Dying

The hours or days preceding imminent death during which time the patient's physiologic functions wane

The patient may exhibit signs and symptoms of near death.

- (1) Long pauses in breathing: patient's breathing patterns may also be very irregular
- (2) Blood pressure drops significantly (continuous steady decline of \geq 20 mmHg)
- (3) Patient's skin changes color (mottling) and their extremities may feel cold to the touch
- (4) Patient is in a coma, or semi-coma, or cannot be awoken
- (5) Urinary and bowel incontinence and/or decrease in urine; urine may also be discolored
- (6) Hallucinations, delirium, and agitation
- (7) Build-up of fluid in the lungs, which may cause unusual gurgling sounds

ⁱ Comfort Measures

Refers to medical treatment of a dying person where the natural dying process is permitted to occur while ensuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. Comfort measures is commonly referred to as "comfort care" by the general public.

^j Bereavement Support – After the patient's death, a member of the health care team should contact the family caregiver(s) to offer condolences and answer questions of the family

PART M

POSTMORTEM CARE

[Return to Navigation](#)

Burial

1. Burial, preferably cremation, shall be done within 12 hours after death
2. However, burial of the dead body shall, to the most possible extent, be in accordance with the person's religion or customs

Removal of the Body and Transport to Cemetery

1. Transfer the body to the mortuary as soon as possible after death
2. Wrap the body with cloth and place in the airtight cadaver bag that is leak-proof and shall be zipped or closed tightly with tapes and bandage strips
3. Decontaminate surface of the bag with hypochlorite solution or any hospital approved disinfectant
4. Ensure that the body is fully sealed in an impermeable airtight cadaver bag before being removed from the isolation room or area, and before transfer to the mortuary, to avoid leakage of body fluid
5. When properly packed in the airtight cadaver bag, the body can be safely removed for storage in the mortuary, sent to the crematorium or placed in a coffin for burial
6. At no instance shall unzipping the cadaver bag of the body and removal of the body be permitted
7. The funeral establishment shall provide the transport of the cadaver to the burial site/crematorium. The vehicle shall be disinfected afterwards

Environmental Control

1. Make sure that supply of disposable gloves, protective equipment, alcohol-based hand rub and disinfectant such as household bleach is readily available
2. After use, the disposable items such as gloves and protective clothing should be disposed of in a plastic bag
3. All surfaces which may be contaminated should be wiped with "1 in 49 diluted household bleach" (mixing 1 part of bleach with 49 parts of water), leave it for 15-30 minutes, and then rinse with water. Metal surfaces could be wiped with 70% alcohol
4. Surfaces visibly contaminated with blood and body fluids should be wiped with "1 in 4 diluted household bleach" (mixing 1 part of bleach with 4 parts of water), leave it for 10 minutes, and then rinse with water.