COVID-19 Protocol
Mid Michigan Medical Examiner Group
TABLE OF CONTENTS

Medical Examiner
Dispatch Screening of COVID-19

Purpose: This is an emergency protocol to guide MEI response to scenes where there is a risk of coronavirus disease (COVID-19).

PSAP/EMD Focused Caller Screening ("public-safety access point" / 9-1-1)

1. This protocol is intended to augment, not replace, current approved EMD protocols.

2. Requests for MEI response should be screened for risks for coronavirus disease (COVID-19):
This information needs to be available to the MEI PRIOR to responding to the scene.

3. The dispatcher needs to ask the following:
A. High Fever
B. Difficulty Breathing/Shortness of Breath
C. Persistent Pain/Pressure in the Chest
D. Confusion
E. Bluish Lips/Face
F. Has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset.

4. Calls/requests that screen positive for any of the above, or any other complaint where caller reports decedent was under public health monitoring for coronavirus disease, will be treated as a positive screening for potential coronavirus disease (COVID-19). The responding MEI SHALL be advised of this information at the time of request.

A public made safer and more secure through universally-available state-of-the-art 9-1-1 systems and trained 9-1-1 professionals. https://www.nena.org/ **NENA: The 9-1-1 Association**

https://www.michigan.gov/documents/mdhhs/Communication_to_EMS_PSAPS_EMD_Revison_2_Final_3.11.2020_683597_7.pdf

West Michigan Regional Medical Control Consortium

Emergency System Protocol

CORONAVIRUS DISEASE (COVID-19)

3/28/2020

Scene Investigator Triage Intake Log

Date/Time: _____Investigator: _____ County of Death: _____

Decedent: _____ Age: _____ M/F DOB _____

To be completed by conclusion of scene investigation, but before calling Triage Number

	Y	N	N/A
What are your preliminary findings/assessment of the scene?			
Has the decedent been identified? ❒ Positive ❒ Presumptive ❒ Unidentified			
Fever - (or signs/symptoms of lower respiratory illness (e.g. cough or Difficulty Breathing/shortness of breath)			
Persistent Pain/Pressure in the Chest Cyanosis Lips/Face Confusion/Hypoxia			
Fever and signs/symptoms of a lower respiratory illness requiring hospitalization			
Fever with severe acute lower respiratory illness (e.g., pneumonia, ARDS) requiring hospitalization and without alternative explanatory diagnosis (e.g., influenza)			
Has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset			
Has **law enforcement** been **contacted**? Y/N If not have they been requested. Y/N			
Is **law enforcement** on **scene**? Y/N Which agency? Name:			
Has the agency detective been contacted? Y/N Name:			
Has a drug team been requested? Y/N Name:			
Has the prosecutor been contacted? Y/N On scene? Y/N Name:			
Request by law enforcement for autopsy? Y/N Requested by prosecutor for autopsy? Y/N			
Reason:			
Date and time of **L**ast **K**now to be **A**live been established?			
Have the witness(es)/reporting parties' been interviewed? Number on scene:			
Are the witness(es)/reporting parties' information consistent with the scene?			
Has the **N**ext of **K**in **N**otified been notified?			
Explain current/past medical history.			
Mental history?			
Social history: Smoking Y/N Tobacco/Marijuana/Vaporizer (yrs)			
Ethanol use: None/light/moderate/heavy/abuse Is there evidence of alcohol on scene			
Is there evidence of illicit drug use?			
Has PCP been established?			
Date last seen by PCP?			
Have medications been inventoried?			
Have medications been counted?			
Antemortem timeline/events been established?			
Overall photographs of scene/ body photography prior to movement?			
Has the area surrounding the body been examined for evidence?			
Has a detailed physical examination of the body been completed?			

Scene Investigator Triage Intake Log

Postmortem changes been documented?			
Detailed body photographs: (unclothed)/all injuries/marks/abnormalities.			
Is there evidence on the body that needs to be collected or preserve?			
Has a chain of custody been established for evidence/body handling as required?			
Has a time/date of death been established?			
Time and date pronounced dead?			
Has a reasonable/possible cause of death been established?			
Has a manner of death been established?			
Toxicology Specimens: ETOH/Drugs/COVID-19			
Autopsy:			
Contact the funeral home/transport service for removal, family choice first.			
Funeral home other then family choice/Family understands their financial responsibility?			
Maintain/provide security/protection of the body until released from scene.			
Was evidence on the body released to law enforcement?			
List:			
Reminder to start Gift of Life MDILog information or call them.			
Check MDILOG within 8 hours of the case called in: GOL shows pushed/Notes ref called to them			
If GOL information cannot be confirmed: Contact the investigator and/or the GOL to confirm case			

Hospital/SNF/Hospice -
Signing DC? ME /
Scene

Scene Investigator Triage Intake Log

MidMichigan Medical Examiner Group
On-Scene
Guidelines for Infectious Diseases

Preface: This is an internal protocol of the MMMEG MEO and may not be generalizable to other agencies. It should not be construed as a directive to any other agency but the MMMEG MEO. Suggestions for other first responders to unattended death scenes are meant only to be suggestions, not directives; other agencies should formulate their own directives and protocols. This protocol is based on the best information possible at the time of its writing, and while it is intended to keep all involved people safe including the community at large, there are many unknowns about this emerging pandemic. This document is subject to change as information becomes available. Changes to this protocol will be tracked in this document.

Issue being addressed by this protocol: The MMMEG MEO is responsible for investigating deaths that occur within the jurisdiction of the MEO. In this capacity, the MEO is routinely involved with deaths that occur outside of a healthcare facility, such as in a residence, outdoor setting or motor vehicle. These deaths are referred to as "unattended" due to a lack of presence of a healthcare provider at the time of death. Deaths involving people experiencing "flu-like" symptoms are very commonly reported to our office. This guideline is being developed to address unattended deaths under MMMEG MEO jurisdiction reportedly experiencing "flu-like symptoms" during the current emerging coronavirus disease 2019 (COVID-19) pandemic.

Overview of MMMEG MEO strategy for handling unattended deaths with "flu-like" symptoms:

The MMMEG MEO will be triaging unattended deaths in people with concerns of "flu-like" symptoms prior to death into four tiers:

Tier 1: Unattended deaths with potential COVID-19 infection (rule out COVID-19)
Tier 2: Unattended death with general "flu-like symptoms" / low risk for COVID-19
Tier 3: Unattended death without information on cause of death
Tier 4: Unattended death with very limited or no risk for covid-19 infection

Each tier will have specific protocol for MMMEG MEO personnel. Each tier will also include suggestions for other first responders responding to an unattended death scene. These additional personnel may include emergency medical services (EMS) providers, firefighters, police officers and funeral homes.

The CDC has issued guidance for handling decedents with potential COVID-19 infections for medical examiners, coroners, pathologists, other workers involved in the postmortem care of

decedents with potential COVID-19 infections, and local and state health departments. It can be found here:
https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html.
The CDC refers to people with potential COVID-19 infections as "Persons Under Investigation (PUI)". In general, the CDC believes COVID-19 to be spread by passage of respiratory droplets from person-to-person that generally occur while sneezing and coughing. It is believed that the risk of a deceased person to be able to transmit COVID-19 to a person handling the deceased is low because of the lack of production of respiratory droplets via coughing or sneezing by the decedent. The CDC has issued guidance on the risk for health care providers associated with treating patients with COVID-19 infections, however it does not discuss autopsy personnel specifically. This can be found here:
https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html

The CDC believes that standard precautions including good hand hygiene and use of personal protective equipment (PPE) including gloves, face masks, protective eye wear, face shields, and protective clothing (e.g., reusable or disposable gown, jacket, laboratory coat) are sufficient to protect someone handling a deceased individual with possible COVID-19 infection from acquiring it. More information on CDC recommendations for Standard Precautions can be found here:
https://www.cdc.gov/oralhealth/infectioncontrol/summary-infection-prevention-practices/standard-precautions.html

The CDC also offers a risk assessment for people encountering live persons with COVID-19 infection including offering definitions for "High Risk for Exposure", "Medium Risk for Exposure", and "Low Risk for Exposure". These definitions are intended for living individuals and do not translate exactly to deceased individuals who may have unknown past medical and social histories. Therefore, this document has developed an alternative four-tier triage system for classifying unattended deaths in people with flu-like symptoms prior to death. The CDC risk assessment document can be found here:
https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html

Triage System for Decedents with "Flu-like" symptoms (Four Tiers)

TIER 1: UNATTENDED DEATH WITH POTENTIAL COVID-19 INFECTION (RULE OUT COVID-19)

Decedent had symptoms consistent with an acute infectious illness (such as a flu or cold) and died while experiencing those symptoms. Symptoms may include **fever**, chills, cough, sore throat, runny/stuffy nose, muscle/body aches, fatigue, vomiting, and diarrhea. Furthermore, no sufficient explanation for this illness exists (such as medical testing diagnostic for influenza A infection); thus COVID-19 infection cannot be ruled out. An example of this would be a homeless individual with no other significant medical history who died his first night in a shelter after telling staff there that he had been suffering from chills, a fever, muscle aches and was coughing for the past week.

Decedents who would otherwise be considered in Tiers 2-4 may also be elevated to Tier 1 status if they meet the CDC criteria for high risk or medium risk for COVID-19 exposure based on geography/travel and/or contact with persons with symptomatic laboratory-confirmed COVID-19 infection.

(CDC) High Risk for Exposure: **-Recent International Travel**
-Living in the same household, being an intimate partner of, or providing care in a non-healthcare setting (such as a home) for a person with symptomatic laboratory confirmed COVID-19 infection without using recommended precautions for home care and home isolation.

(CDC) Medium Risk for Exposure: **-Recent International Travel**
-Travel from a country with sustained transmission.
-Close contact with a person with symptomatic laboratory-confirmed COVID-19.
-On an aircraft, being seated within 6 feet (two meters) of a traveler with symptomatic laboratory-confirmed COVID-19 infection; (i.e., approximately 2 seats in all directions).
-Living in the same household, being an intimate partner of, or providing care in a non-healthcare setting (such as a home) for a person with symptomatic laboratory confirmed COVID-19 infection while consistently using recommended precautions for home care and home isolation.

TIER 2: UNATTENDED DEATH WITH GENERAL "FLU-LIKE SYMPTOMS" / LOW RISK FOR COVID-19

Decedent had symptoms described as "flu-like" but has other significant co-morbidities (medical conditions) that most likely account for their death. There are no CDC conditions described in the Tier 1 section above for "medium risk" or "high risk" for COVID-19 exposure as described above. In particular, high and medium risk factors are excluded. A COVID-19 infection has not been definitively ruled out (for example, a person with an infectious illness has a laboratory diagnosed Influenza A infection therefore presumptively ruling out COVID-19 as a potential cause of death). Examples of comorbid medical conditions can include heart failure due to cardiovascular disease, chronic alcoholism, cerebral stroke, etc. An example of an unattended death that would be considered a Tier 2 case would be a person who smokes a pack of cigarettes daily, has had stenting of the coronary arteries of the heart due to blockages (coronary artery atherosclerosis), has high blood pressure, and 2 days of "flu-like" symptoms including nausea and vomiting prior to death, without any recent travel or contacts with sick people; in this case,

the likely cause of death is a heart attack, however a COVID-19 infection cannot be absolutely excluded.

Decedents who would otherwise be considered in Tiers 3-4 may also be elevated to Tier 2 status if they meet the CDC criteria for low risk for COVID-19 exposure based on geography/travel and/or contact with persons with symptomatic laboratory-confirmed COVID-19 infection.

(CDC) Low Risk for Exposure: **-Travel from any other country**
- Being in the same indoor environment (e.g., a classroom, a hospital waiting room) as a person with symptomatic laboratory-confirmed COVID-19 for a prolonged period of time but not meeting the definition of close contact (high and medium risk criteria).

TIER 3: UNATTENDED DEATH WITHOUT INFORMATION ON CAUSE OF DEATH

Decedent has no or very limited information regarding the circumstances of their death. An example of this would be a reclusive individual with limited social contact who was discovered deceased in their home after a neighbor notices their mail piling up; no further information about their health is known. No information to assess for "low risk", "medium risk", or "high risk" for COVID-19 exposure is available.

TIER 4: UNATTENDED DEATH WITH VERY LIMITED OR NO RISK FOR COVID-19 INFECTION

Decedent does have a pre-death history available (due to review of medical records, acquaintance interviews, etc.) and did not experience flu-like symptoms prior to death. The decedent did not travel anywhere recently. The decedent either 1) did not have any interactions with any person with a known laboratory-confirmed COVID-19 infection, or 2) had an interaction with a person with a known laboratory-confirmed COVID-19 infection that did not meet any of the high-, medium- or low-risk conditions described in Tier 1 and Tier 2 above (for example, the maximum encounter was walking by an infected person or being briefly in the same room). An example of this would be a person who was otherwise healthy, did not recently travel, and had no known sick contacts who hung himself.

MMMEG MEO Protocol for handling unattended deaths in decedents with "flu-like" symptoms by TIERS

GENERAL PROTOCOL

Intake:

1. Acquire all known information about decedent in order to be able to assign tier to case. Ask the following questions of all decedents:
    a. Flu-like symptoms prior to death (headache, cough, sore throat, **fever**, shortness of breath / difficulty breathing, nausea, vomiting, diarrhea, chills). Document which ones.
    b. Contact with persons with a known COVID-19 infection.
    c. Contact with other people with flu-like symptoms (not known to be COVID-19 infections).
    d. Travel history? Domestic/Foreign, Plane travel, High-Risk countries (China, Japan, Iran, Italy, South Korea).

2. Notify the 'Triage Intake' number as soon as possible with case information. The Chief Medical Examiner will be contacted immediately of all potential Tier 1 or Tier 2 cases and will determine tier status.

3. Request all pertinent investigatory records (Health, EMS, PCP, PD, etc.)

4. Medicolegal Examiner Investigators (MEIs) assist in acquiring as much information as swiftly as possible on decedent, particularly health and social information. Call family when relevant.

    a. MEO will report "Tier 1 coronavirus" cases to the MDHHS.

TIER SPECIFIC PROTOCOLS:

TIER 1 PROTOCOL: UNATTENDED DEATH WITH POTENTIAL COVID-19 INFECTION (RULE OUT COVID-19)

1) The goal for an MEO response to a Tier 1 case will be to perform all the necessary components of an external examination at the death scene, including taking photographs, undressing the body, examining the body. Once the on-scene investigation is completed, the body will be isolated and secured for transport to the designated morgue/autopsy facility until testing is negative. All components of an examination should be completed prior to transport from the death scene to the morgue so that the body bag does not have

to be opened again. Standard precautions with good hygiene will be observed at all times. Any breeches in protocol should be reported to the Chief Investigator. First responders and other members of the public should be encouraged to have minimal interaction with the death scene; their directives should however come from their overseeing agencies.

2) Specifically trained Medical Examiner Investigators will respond to the death scene. This response may consist of the primary MEI with the possibility of an additional secondary MEI who is approved (ie. trained and supplied) and who is willing to perform the work.

3) The MEI will stock and bring to the scene the following items. Note: it is helpful to have PPE pre-sorted and bagged as a kit prior to arrival at scene. Additionally, a bag containing testing specimens bagged as a kit is also helpful.

a. Personal Protective Equipment Kit (per person):

i. 1 tyvek suits
ii. 1 face shield
iii. 1 set of shoe covers (to be worn as inner most layer before putting on tyvek suits)
iv. 1 respirator mask (N95)
v. 5 sets of gloves in a baggie per person

b. Other items:

i. Digital camera
ii. Waste disposal items
    1. 2 red biohazard bags (Note: one to be kept at staging area, another for inside death scene).
iii. 2 body bags (1 for staging and 1 for within death scene)
iv. 1 plastic shroud to cover potential work surfaces on the death scene (for example, the floor)
v. 2 specimen bags for collection of property found on body at the scene
vi. 2 plastic bags for clothing collection if necessary
vii. 2 pre-labeled identification tags ("toe-tags")

4) Procedure for Death Scene:
    a. Prepping:
        i. Assess supplies and bags prior to leaving for the scene.
        ii. Communicate with the police at scene informing them of the Tier 1 process, and that the response will be slower than they are used to.
        iii. Ask police investigators to collect a list of first responders and community members who may have had contact with decedent, including contact information and what type of contact. This is a courtesy list – it is for the safety and well-being of the scene responders and it is not mandatory for the MEO to collect names of potential exposed people; therefore no one is required to provide their name to the MEO.

iv. Determine how many medical examiner investigators (MEIs) will be required to respond to the scene based on body habitus of decedent (i.e., weight), scene circumstances (for example what floor of a building the decedent is located on), and willingness/ability to help move the body.
v. Designate a primary MEI (who will conduct the examination with the ME). Other responding MEIs will be considered secondary.

b. Upon arrival at scene
    i. Follow usual MEI protocol for arrival at scene, for example appropriate parking, and communication with scene officers.
    ii. Create a staging area outside of the area of death.
    iii. Next of Kin: Interview conducted at least 6 feet away from any person on scene may provide some protection from infectious droplets.
    iv. Open a body bag in staging (considered body bag 2). Place an identification tag on the body bag.
    v. Position two red biohazard waste bags in a convenient location at the staging area.
    vi. Put on full personal protective equipment (PPE) as described above. Always wear 2 sets of gloves keeping the innermost pair of gloves clean.

c. Upon entering the area of death

    i. Spend a few moments orienting to the situation, including position of the body, layout of area, obstacles, etc.
    ii. Photograph the area of death and the body as is.
    iii. Open another body bag (considered body bag 1) near the body.
    iv. Set up a clean working space by laying down the plastic shroud.
    v. Establish a place for the red biohazard bag.
    vi. If safe to do so, undress the body. Leave the clothing at the area of death if it is a residence. If not a residence, collect the clothing in a clear bag and keep with the body in the body bag.
    vii. Collect any property on the body of value or significance (wallet, car keys, cell phone) that would be collected routinely. Photograph this property and put it into a specimen bag and seal. Place the first bag into the second bag, seal and leave with the clothing. Excessive contents of wallets or other items with multiple parts do not need to be separated out and photographed individually at this time due to safety considerations. Any jewelry that is attached to the body (earrings, necklaces, etc.) may be photographed and left as is or removed and placed in the bag as other personal property.
    viii. Maneuver the body into body bag 1.

d. Medical Examiner External Examination
    i. The MEI should perform an examination and photograph all surfaces of the body. Distinguishing features, illness patterns, and injuries should be

photographed. No paper documentation (charts, body diagrams, etc.) should be brought into the area of death and then removed for the purposes of documentation; in other words, all documentation will be done by digital photograph only.

e. Removal of body from the death scene
    i. A toe tag with an MEO case label should be secured on the body.
    ii. The body should be secured in body bag 1 (zippered).
    iii. The body bag should be wiped with disinfectant wipes before moving.
    iv. The body should be moved to and secured in body bag 2 (zippered). Body bag 2 should be staged outside of the actual area where the body was located.
    v. The outside surface of body bag 2 should be wiped with disinfectant wipes before being placed in the transport vehicle.
    vi. All MEO disposable items from the area of death should be collected and placed in the red biohazard bag. This biohazard bag should be tied in the area of death and then double bagged into the biohazard bag established at the staging area.
    vii. Now that the area of death has been cleared of the body (which is now secure for transport) and MEO waste, personal protective gear can now be removed. This should go into the now double-bagged red biohazard waste bag. The biohazard waste bag can now be knotted closed and placed into a third biohazard waste bag for transport.
    viii. The body will be transported to the morgue for holding or designated autopsy facility.
    ix. Collect the list of people who may have contacted the decedent from the lead police investigator.

f. Arrival of body at autopsy facility or morgue
    i. The body will be removed from the vehicle and transferred into the designated cooler in accordance with the receiving facility.

TIER 2 PROTOCOL: UNATTENDED DEATH WITH GENERAL "FLU-LIKE SYMPTOMS" / LOW RISK FOR COVID-19

1) The goal for an MEO response to a Tier 2 COVID-19 (Low Risk) case will be to collect specimens for potential future microbiology testing at CDC. The body will be transported and stored at the morgue or designated autopsy facility. Standard precautions with good hygiene will be observed at all times. Any breeches in protocol should be reported to the Chief Investigator. First responders and other members of the public should be encouraged to use standard precautions when interacting with the death scene, however their directives should however come from their overseeing agencies.

2) Protocol specific for Tier 2 COVID-19 (Low Risk) cases.

a. MEIs should observe standard precautions when handling decedents with minimum personal protective equipment (PPE), N95 respirator face mask, face shield, long sleeve gown (or tyvek suit), shoe covers, and gloves when handling a Tier 2 decedent.
b. MEIs should double bag the body ensuring that the outer surface of the second body bag is free from contamination.
c. The body should be transported to the morgue or designated autopsy facility.
d. MEIs should wear full PPE when processing the body.
e. Examination of the body should be performed with full standard MEO PPE.
f. Only the minimum number of personnel needed to safely handle the body should be present during body-handling procedures (such as processing or examining).
g. External examinations are sufficient if the cause and manner of death are known from viewing the body and reviewing pertinent investigatory and medical records.
h. Cleaning considerations: These are spelled out in the CDC guidance for handling postmortem specimens, and largely reflect what we currently do. https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html

TIER 3: UNATTENDED DEATH WITHOUT INFORMATION ON CAUSE OF DEATH
TIER 4: UNATTENDED DEATH WITH VERY LIMITED OR NO RISK FOR COVID-19 INFECTION

1) MEO will respond following standard MEO protocol to cases that are determined to be Tier 3 or Tier 4 case. No further testing will be conducted. Good hygiene and use of standard precautions are expected.

Guidance for Handling of Deceased Persons with Confirmed or Suspected Coronavirus Disease 2019 (COVID-19)

Medical Examiner Office Personnel

This provides guidance for deceased persons with confirmed or suspected COVID-19, including transfer and postmortem procedures such as specimen collection.

This provides resources and guidance for deceased persons with confirmed or suspected COVID-19. COVID-19 is most often transmitted from a living person with close contact via respiratory droplets produced when an infected person coughs or sneezes, similar to how influenza and other respiratory pathogens spread. This route of transmission is not a concern when handling human remains or performing postmortem procedures. Postmortem activities should be conducted with a focus on avoiding aerosol generating procedures.

Offices should refer to the CDC Interim Guidance for Collection and Submission of Postmortem Specimens from Deceased Persons Under Investigation (PUI) for COVID-19, for specific postmortem guidance.

General Guidelines

- Provide workers with information and training on infectious disease risks, infection control practices, including use of personal protective equipment, respiratory protection, information about symptoms of COVID-19 illness, and how to report illness promptly.
- Implement procedures for storage, disposal, and transportation of clinical and related waste, including sharps.
- Ensure workers avoid actions that may result in forceful expulsion of air from the body.
- Decontaminate surfaces and equipment with appropriate disinfectants. Use any EPA-registered hospital disinfectant. Follow manufacturer's recommendations for use-dilution (i.e., concentration), contact time, and care in handling.

Postmortem Handling of Deceased Persons

-Follow standard precautions.

- When lifting and moving the body, because of the possibility that air may be expelled from the body, the face of the deceased should be covered temporarily with a disposable surgical mask and placed in a body bag. Enclosing the deceased in a body bag also contains body fluids to prevent contact.

- Disinfect First body bag before leaving the original place of removal
- Place original body bag containing the remains inside of a second bag at the transport vehicle
- Disinfect the outer bag following the identification or post mortem procedure

-- If the case has been tested positive to COVID 19, the body bag should be clearly and permanently labelled, such as: “COVID-19 – Handle with care”

Deathcare Workers

The United States Occupational Safety and Health Administration (OSHA), has issued COVID-19 guidance for deathcare workers, such as coroners, medical examiners, autopsy technicians, funeral directors, and other mortuary workers. Refer to the Deathcare Workers and Employers section of the OSHA COVID-19 Control and Prevention webpage for specific OSHA recommendations.

IF YOU WORK IN A CRITICAL INFRASTRUCTURE INDUSTRY

[According to the Department of Homeland Security, these include] healthcare/public health services and pharmaceutical and food supply [and] you have a special responsibility to maintain your normal work schedule. You should follow CDC guidance to protect your health during work.

References:

https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html

https://www.osha.gov/SLTC/covid-19/controlprevention.html

On-Scene guide for obtaining
Nasopharyngeal Swab for suspected COVID-19 deaths

1. Prior to entering the scene, obtain as much information as possible from all available sources from a safe area.
2. If you have decided that the case has a high probability that the decedent may have COVID-19 as a cause or factor in their death:
    a. Contact the Triage Intake number and review the case.
        i. Address the need for a second investigator
        ii. Address the needs of the funeral home. May require a call prior to starting the investigation to ensure that they have personnel with proper PPE for body handling.
3. Review the items that you will need for the investigation and assemble them before you enter the scene. (referred to on-scene protocol list of equipment)
4. Open and prep the COVID-19 test kit.
    a. Obtain the test-kit packet that will be used within the scene.
    b. Label the VTM label with decedent name, DOB and ME case number and apply to the VTM tube.
    c. Fill out the requested testing form that will go to the state.
    d. The swab, the VTM and the two bags will go with you into the scene.
5. Assemble your PPE from the 'Contagious Disease Kit'.
6. Once you are ready to enter the scene, do so through an established enter point. Leave all unnecessary items and equipment outside.
7. Complete your scene investigation as you normally would with required photos.
8. Prior to moving the body to the body bag, obtain a nasopharyngeal swab.
    a. Open the VTM container and have it ready for use.
    b. Open the swab contained in the plastic tube.
    c. Insert the NP swab into the nostril parallel to the palate up to the 'Red Line' on the stick.
    d. Gently rotate the swab a few times and withdraw.
    e. Immediately place the swab tip into the VTM after withdrawing from the nostril.
    f. The stick will need to be shortened to fit in the VTM container; snap the swab at the 'break point'.
    g. Cap the VTM and place it into the bag with the absorbent pad.
    h. Wipe the outside of the first bag with disinfectant.
    i. Place the first bag into the second bag labeled 95kPa and seal.
    j. Secure the bag in a safe place until ready to exit the scene.
    k. Prepare the body for removal as outlined in the on-scene protocol.

On-Scene guide for obtaining
Nasopharyngeal Swab for suspected COVID-19 deaths

l. During the wiping down of the body bag(s), the 95kPa bag should be wiped down with disinfectant.
m. Once you have completed your scene investigation and you have returned to a location that is safe to remove your PPE, please make sure that you have disinfected all reusable items as needed.
n. Once you are in a safe area and using PPE as needed, finish packing the swab sample for shipment for testing.

COVID-19 Packaging & Shipping Using Kit 51 for Local Health Departments

Updated 3/13/2020

Prevent Disease – Promote Wellness – Improve Quality of Life

MDHHS Bureau of Laboratories

COVID-19 Kit 51 Components

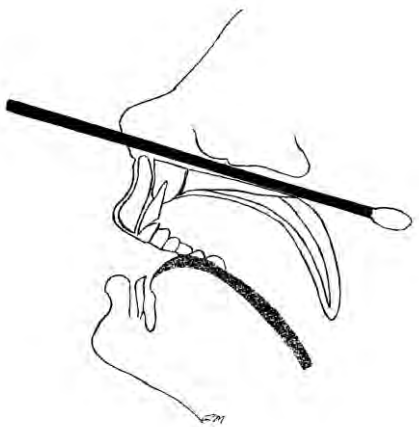
- After kit receipt
  - Take ice pack out and place in freezer
  - Viral transport media can be stored at room temp. or refrigerated

  Note: It's acceptable to keep kit at room temp except ice pack (freezer) until used

Nasopharyngeal Collection Instructions

- Use only synthetic fiber swabs with plastic shafts.
  - Do not use calcium alginate or wooden shaft swabs that may inhibit PCR testing.
- *Nasopharyngeal (NP) swab:* Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions
- After collection, place swab immediately into viral transport media (i.e. VTM, M4).

NP Collection



MDHHS Bureau of Laboratories

Packaging VTM Specimens

- Acceptable Specimens
  - NP Swabs
- Packaging
  - Label tube with: Patient name, Date of Birth, & Source i.e. NP
  - Place VTM tube (tighten cap) in plastic bag with absorbent material square
  - Place sample in 95kPa bag

MDHHS Bureau of Laboratories

Sputum Collection

- Have the patient rinse the mouth with water
- Next have patient expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.
  - Note: Sub-optimal samples will be rejected (if not from deep cough collection)
- Sputum (sputum can be collected in a variety of sterile containers
  - Sterile urine cup or 50ml conical tube
  - Note: Collection containers not provided in kit.

Sterile cup & conical tube

Packaging Sputum Specimens

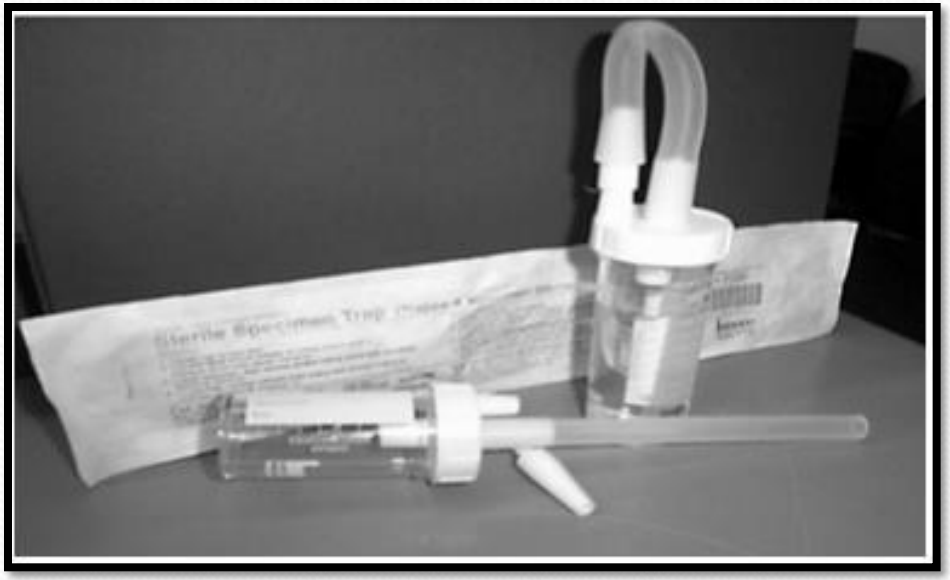
- Acceptable Specimens
  - Sputum
- Packaging
  - Label container with:
    - Patient name, Date of Birth, & Source i.e. Sputum
  - Place sputum container inside the 95kPa bag with absorbent material square & VTM tube.

Sputum & NP swabs in separate bags with absorbent inside 95kPa bag

MDHHS Bureau of Laboratories

Bronchoalveolar Lavage or Tracheal Aspirate

- Collect 2-3 mL of sample into a sterile, leak-proof, screw-cap sterile collection cup or sterile dry container.
- Package the same way as you would a sputum sample

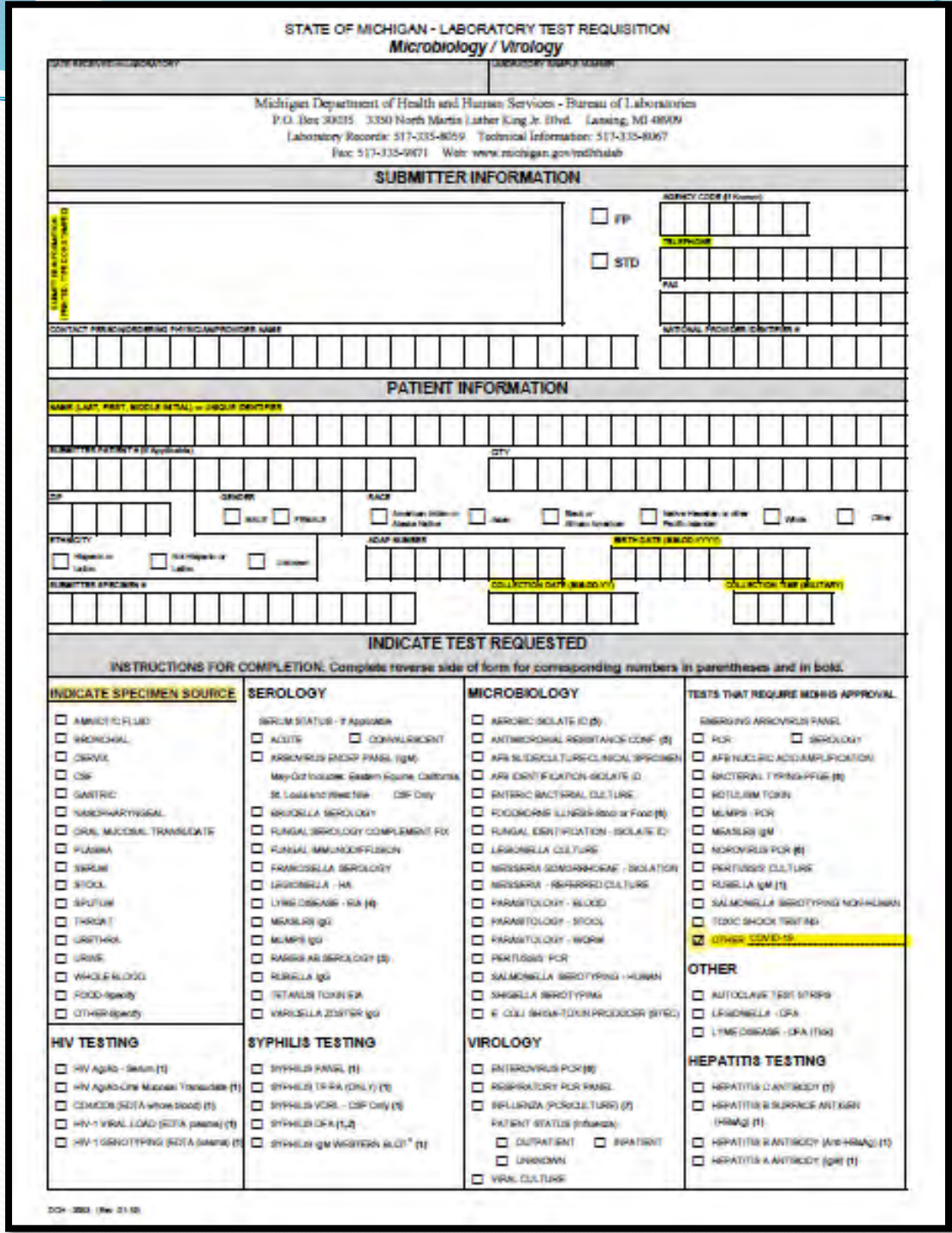


MDHHS Bureau of Laboratories

- Complete State of Michigan Test Req Form DCH-0583
- Select "Other" in the "Tests that require MDHHS approval" section of the form and write in COVID-19
- Include case ID number, if available from completed MDHHS PUI form

(8) ADDITIONAL INFORMATION

Case ID # if known



STATE OF MICHIGAN - LABORATORY TEST REQUISITION

Microbiology / Virology

Michigan Department of Health and Human Services - Bureau of Laboratories

P.O. Box 30035 3350 North Martin Luther King Jr. Blvd. Lansing, MI 48909

Laboratory Records: 517-335-8059 Technical Information: 517-335-8067

Fax: 517-335-9971 Web: www.michigan.gov/mdhhslab

SUBMITTER INFORMATION

FP

STD

PATIENT INFORMATION

INDICATE TEST REQUESTED

INSTRUCTIONS FOR COMPLETION: Complete reverse side of form for corresponding numbers in parentheses and in bold.

INDICATE SPECIMEN SOURCE

SEROLOGY

MICROBIOLOGY

TESTS THAT REQUIRE MDHHS APPROVAL

- OTHER: COVID-19

OTHER

HIV TESTING

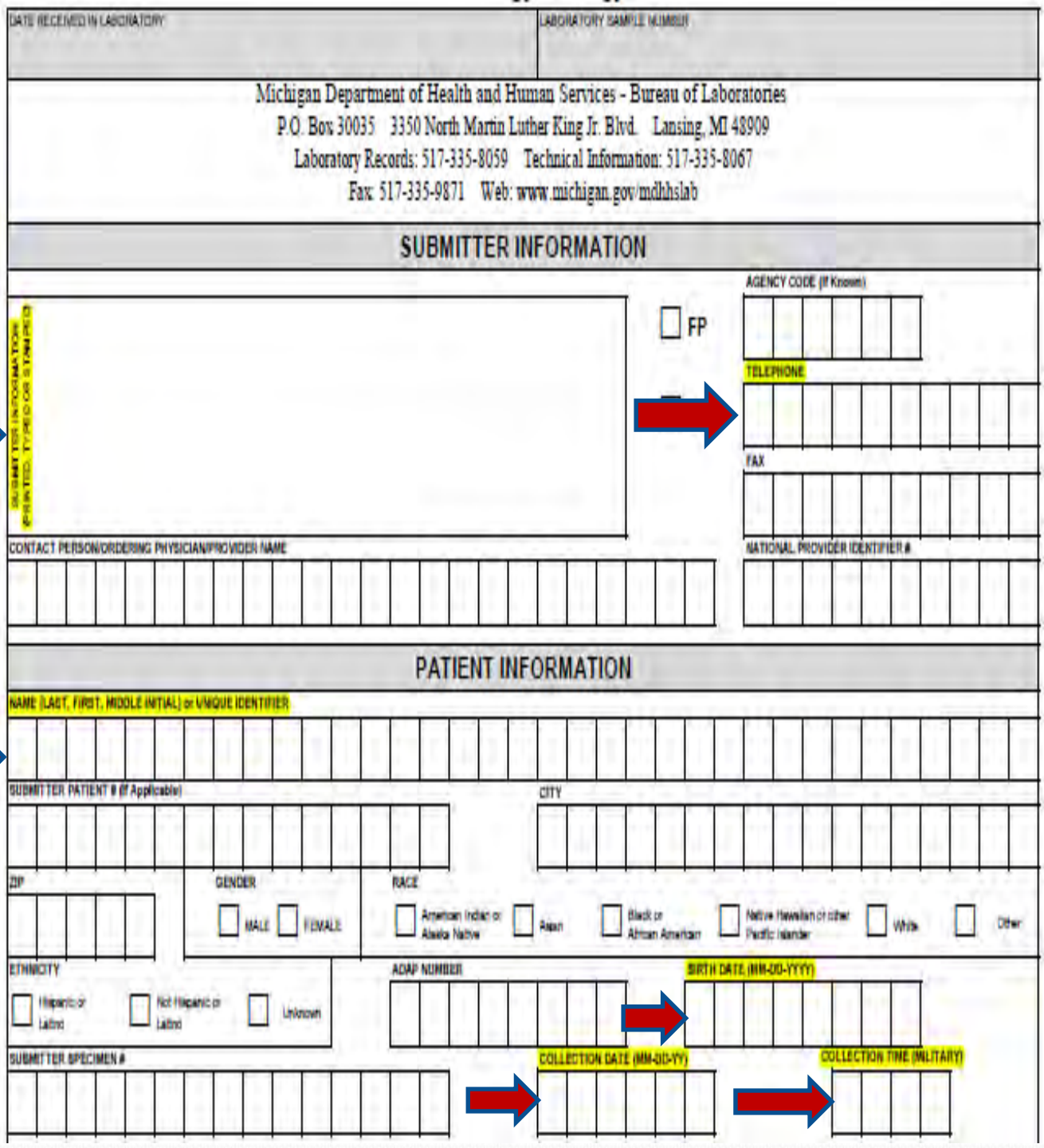
SYPHILIS TESTING

VIROLOGY

HEPATITIS TESTING

DCH-0583 (Rev. 01/18)

Complete all areas highlighted on the top portion of the form



DATE RECEIVED IN LABORATORY

LABORATORY SAMPLE NUMBER

Michigan Department of Health and Human Services - Bureau of Laboratories
P.O. Box 30035 3350 North Martin Luther King Jr. Blvd. Lansing, MI 48909
Laboratory Records: 517-335-8059 Technical Information: 517-335-8067
Fax: 517-335-9871 Web: www.michigan.gov/mdhhslab

SUBMITTER INFORMATION

SUBMITTER INFORMATION (PRINTED, TYPED OR STAMPED)

FP

AGENCY CODE (If Known)

TELEPHONE

FAX

CONTACT PERSON/ORDERING PHYSICIAN/PROVIDER NAME

NATIONAL PROVIDER IDENTIFIER #

PATIENT INFORMATION

NAME (LAST, FIRST, MIDDLE INITIAL) or UNIQUE IDENTIFIER

SUBMITTER PATIENT # (If Applicable)

CITY

ZIP

GENDER

MALE FEMALE

RACE

American Indian or Alaska Native Asian Black or African American Native Hawaiian or other Pacific Islander White Other

ETHNICITY

Hispanic or Latino Not Hispanic or Latino Unknown

ADAP NUMBER

BIRTH DATE (MM-DD-YYYY)

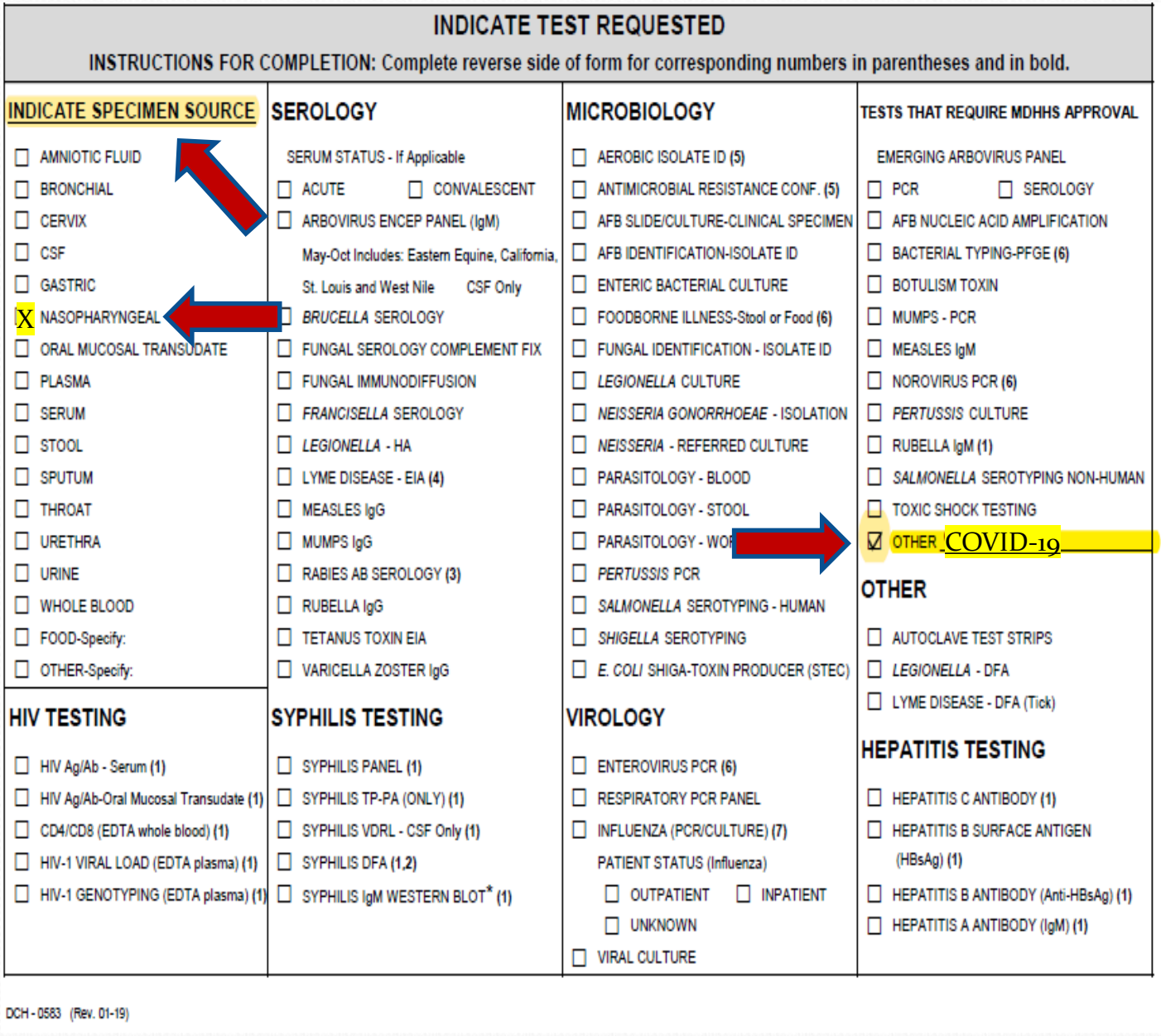
SUBMITTER SPECIMEN #

COLLECTION DATE (MM-DD-YY)

COLLECTION TIME (MILITARY)

Indicate source in highlighted area

Check "Other" Box and write in: COVID-19



INDICATE TEST REQUESTED

INSTRUCTIONS FOR COMPLETION: Complete reverse side of form for corresponding numbers in parentheses and in bold.

INDICATE SPECIMEN SOURCE

- ☐ AMNIOTIC FLUID
- ☐ BRONCHIAL
- ☐ CERVIX
- ☐ CSF
- ☐ GASTRIC
- X NASOPHARYNGEAL
- ☐ ORAL MUCOSAL TRANSUDATE
- ☐ PLASMA
- ☐ SERUM
- ☐ STOOL
- ☐ SPUTUM
- ☐ THROAT
- ☐ URETHRA
- ☐ URINE
- ☐ WHOLE BLOOD
- ☐ FOOD-Specify:
- ☐ OTHER-Specify:

HIV TESTING

- ☐ HIV Ag/Ab - Serum **(1)**
- ☐ HIV Ag/Ab-Oral Mucosal Transudate **(1)**
- ☐ CD4/CD8 (EDTA whole blood) **(1)**
- ☐ HIV-1 VIRAL LOAD (EDTA plasma) **(1)**
- ☐ HIV-1 GENOTYPING (EDTA plasma) **(1)**

SEROLOGY

SERUM STATUS - If Applicable

☐ ACUTE ☐ CONVALESCENT

- ☐ ARBOVIRUS ENCEP PANEL (IgM)

May-Oct Includes: Eastern Equine, California, St. Louis and West Nile CSF Only

- ☐ *BRUCELLA* SEROLOGY
- ☐ FUNGAL SEROLOGY COMPLEMENT FIX
- ☐ FUNGAL IMMUNODIFFUSION
- ☐ *FRANCISELLA* SEROLOGY
- ☐ *LEGIONELLA* - HA
- ☐ LYME DISEASE - EIA **(4)**
- ☐ MEASLES IgG
- ☐ MUMPS IgG
- ☐ RABIES AB SEROLOGY **(3)**
- ☐ RUBELLA IgG
- ☐ TETANUS TOXIN EIA
- ☐ VARICELLA ZOSTER IgG

SYPHILIS TESTING

- ☐ SYPHILIS PANEL **(1)**
- ☐ SYPHILIS TP-PA (ONLY) **(1)**
- ☐ SYPHILIS VDRL - CSF Only **(1)**
- ☐ SYPHILIS DFA **(1,2)**
- ☐ SYPHILIS IgM WESTERN BLOT* **(1)**

MICROBIOLOGY

- ☐ AEROBIC ISOLATE ID **(5)**
- ☐ ANTIMICROBIAL RESISTANCE CONF. **(5)**
- ☐ AFB SLIDE/CULTURE-CLINICAL SPECIMEN
- ☐ AFB IDENTIFICATION-ISOLATE ID
- ☐ ENTERIC BACTERIAL CULTURE
- ☐ FOODBORNE ILLNESS-Stool or Food **(6)**
- ☐ FUNGAL IDENTIFICATION - ISOLATE ID
- ☐ *LEGIONELLA* CULTURE
- ☐ *NEISSERIA GONORRHOEAE* - ISOLATION
- ☐ *NEISSERIA* - REFERRED CULTURE
- ☐ PARASITOLOGY - BLOOD
- ☐ PARASITOLOGY - STOOL
- ☐ PARASITOLOGY - WOR
- ☐ *PERTUSSIS* PCR
- ☐ *SALMONELLA* SEROTYPING - HUMAN
- ☐ *SHIGELLA* SEROTYPING
- ☐ *E. COLI* SHIGA-TOXIN PRODUCER (STEC)

VIROLOGY

- ☐ ENTEROVIRUS PCR **(6)**
- ☐ RESPIRATORY PCR PANEL
- ☐ INFLUENZA (PCR/CULTURE) **(7)**

PATIENT STATUS (Influenza)

☐ OUTPATIENT ☐ INPATIENT ☐ UNKNOWN

- ☐ VIRAL CULTURE

TESTS THAT REQUIRE MDHHS APPROVAL

EMERGING ARBOVIRUS PANEL

☐ PCR ☐ SEROLOGY

- ☐ AFB NUCLEIC ACID AMPLIFICATION
- ☐ BACTERIAL TYPING-PFGE **(6)**
- ☐ BOTULISM TOXIN
- ☐ MUMPS - PCR
- ☐ MEASLES IgM
- ☐ NOROVIRUS PCR **(6)**
- ☐ *PERTUSSIS* CULTURE
- ☐ RUBELLA IgM **(1)**
- ☐ *SALMONELLA* SEROTYPING NON-HUMAN
- ☐ TOXIC SHOCK TESTING
- ☑ OTHER COVID-19

OTHER

- ☐ AUTOCLAVE TEST STRIPS
- ☐ *LEGIONELLA* - DFA
- ☐ LYME DISEASE - DFA (Tick)

HEPATITIS TESTING

- ☐ HEPATITIS C ANTIBODY **(1)**
- ☐ HEPATITIS B SURFACE ANTIGEN (HBsAg) **(1)**
- ☐ HEPATITIS B ANTIBODY (Anti-HBsAg) **(1)**
- ☐ HEPATITIS A ANTIBODY (IgM) **(1)**

DCH - 0583 (Rev. 01-19)

Packaging samples cont.

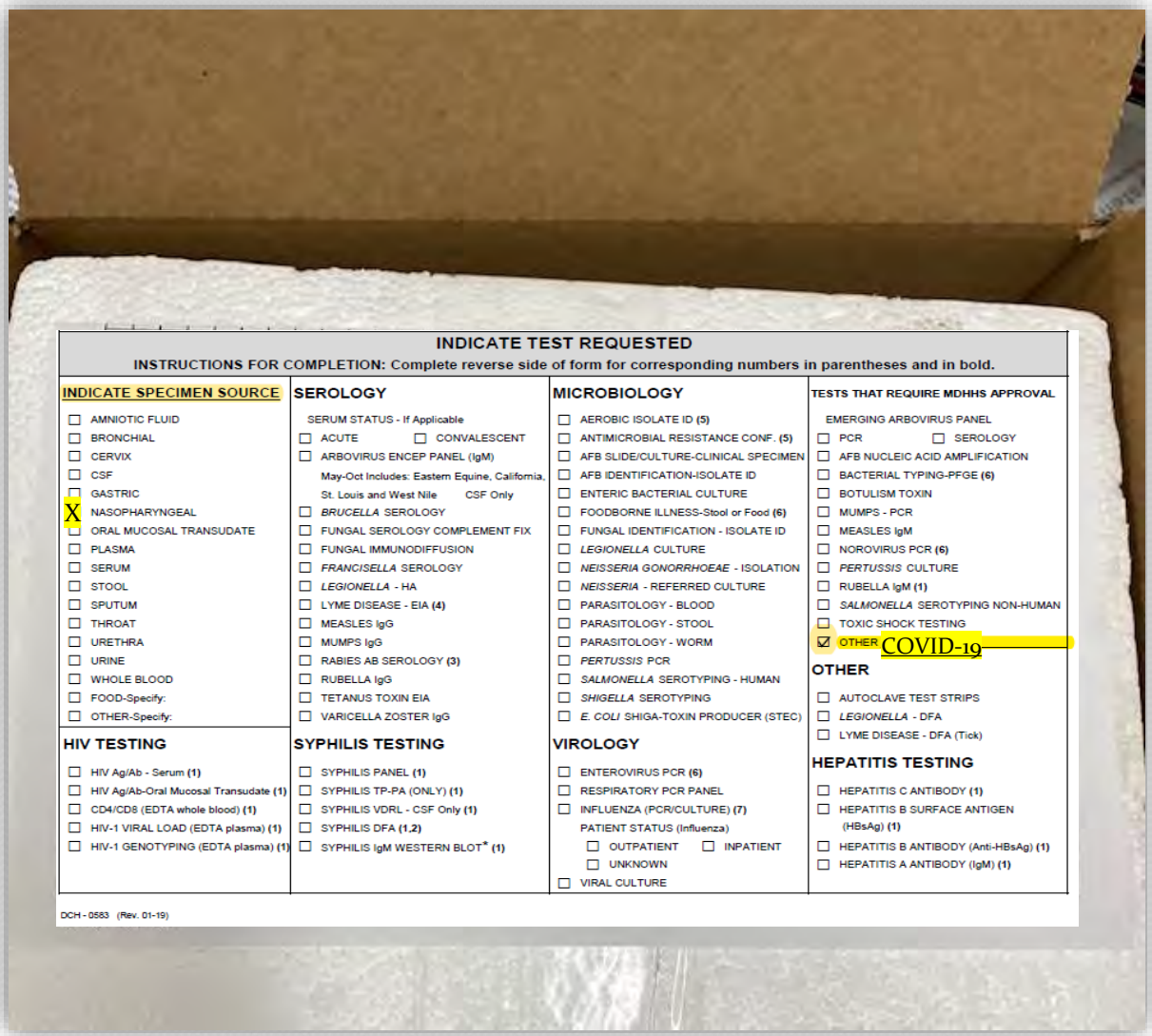
Place frozen ice pack inside styrofoam insert within the box

Place 95kPa bag with sample on top of frozen ice pack in box

MDHHS Bureau of Laboratories

Packaging samples cont.

- Place styrofoam lid on top
- Place completed State of Michigan-Laboratory Test Requisition on top of styrofoam lid



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- ☐ RESPIRATORY PCR PANEL
- ☐ INFLUENZA (PCR/CULTURE) **(7)**

PATIENT STATUS (Influenza)

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- ☐ UNKNOWN
- ☐ VIRAL CULTURE

TESTS THAT REQUIRE MDHHS APPROVAL

EMERGING ARBOVIRUS PANEL

- ☐ PCR ☐ SEROLOGY
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- ☐ MEASLES IgM
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- ☐ HEPATITIS B ANTIBODY (Anti-HBsAg) **(1)**
- ☐ HEPATITIS A ANTIBODY (IgM) **(1)**

DCH - 0583 (Rev. 01-19)

Shipping Options

- Courier transport to BOL
  - Use Address label in kit # 51 with address:
    3350 North Martin Luther King Jr. Blvd., Lansing
- UPS (if courier is unavailable) Monday-Thursday only
  - Use UPS label included in kit # 51 with address:
    927 Terminal Rd (our warehouse address)
- UPS (if courier is unavailable) Friday only
  - Call the lab to have Friday overnight UPS label faxed to you. Contact (517) 335-8059
- Weekend Delivery: Use your facility courier or refrigerate sample for Monday delivery
- For Urgent Requests contact: (517) 335-9030

MDHHS Bureau of Laboratories

Shipping with Courier-Outer Box

- Close box and tape with packing tape.
- Place address label on top of sealed box
  - Fill in your name and facility address on label
- Place UN3373 Category B label on side of outer box
- Write full name and phone number with area code of Responsible Person from your facility on Top of box
- Place "refrigerate" yellow label on box

MDHHS Bureau of Laboratories

UPS Shipping-Monday-Friday ONLY

- Close box and tape with packing tape.
- Place UPS label on top of sealed box
- Place UN3373 Category B label on side of outer box
- Write full name and phone number with area code of Responsible Person from your facility on top of box
- Place "refrigerate" yellow label on box

For Testing Questions Contact:

Dr. Diana Riner Virology Section Manager	(517) 335-8099	rinerd@michigan.gov
Bruce Robeson Viral Isolation & Molecular Testing Unit Manager	(517) 335-8098	robesonb@michigan.gov
Kris Smith Unit Manager/Bacterial & Viral Serology	(517) 335-8100	SmithK8@michigan.gov

For Packaging and Shipping Questions Contact:

Shannon Sharp Bioterrorism Training Coordinator	Office: (517) 335-9653 cell (517) 331-7356	SharpS1@michigan.gov
Matt Bashore Supervisor DASH Unit	Office:(517) 335-8059 Cell: (517) 648-9804	bashorem@michigan.gov

Transportation of Human Remains

Follow standard routine procedures when transporting the body after specimens have been collected and the body has been bagged. Disinfect the outside of the bag with a product with EPA-approved emerging viral pathogens claims external icon (0.5% hypochlorite solution.)

EPA approved solution is expected to be effective against COVID-19 when applied according to the manufacturer's recommendations. Wear disposable nitrile gloves when handling the body bag.

https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html#SpecimenCollection

Guidance for the Transportation of Human Remains

The CDC recommends following standard routine procedures when transporting the body of a person with confirmed or suspected COVID-19.

After the body has been bagged:

- Disinfect the outside of the bag with an Environmental Protection Agency (EPA) registered hospital disinfectant applied according to the manufacturer's recommendations.
- Wear disposable nitrile gloves when handling the body bag.

Cleaning Transport Vehicles after Transporting a Decedent with Confirmed or Suspected COVID-19

The following are general guidelines for cleaning or maintaining MEI transport vehicles and equipment after transporting:

- After transporting the decedent, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
    - The time to complete transfer of the decedent to the receiving facility and complete all documentation should provide sufficient air changes.
- When cleaning the vehicle, MEI should wear a disposable gown and gloves. A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated.
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle.
- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for severe acute respiratory syndrome coronavirus (COVID-19) (SARS-CoV-2) in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
- Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. Refer to List N
- on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.
- Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have come in contact with the decedent or materials contaminated (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using

an EPA-registered hospital grade disinfectant in accordance with the product label.

- Clean and disinfect reusable equipment before use with another decedent, according to manufacturer's instructions.
- Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste.

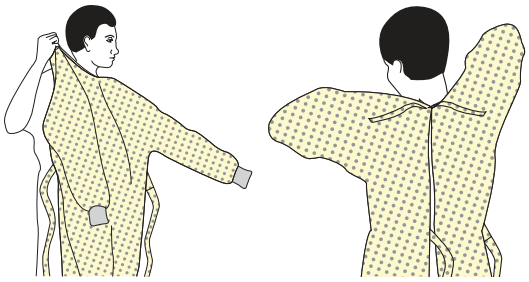
https://www.cdc.gov/coronavirus/2019-ncov/infection-control/infection-prevention-control-faq.html

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

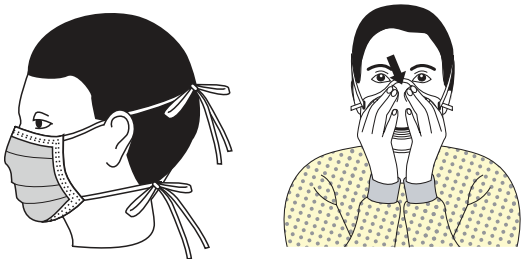
1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

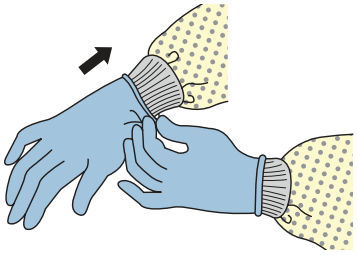


3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

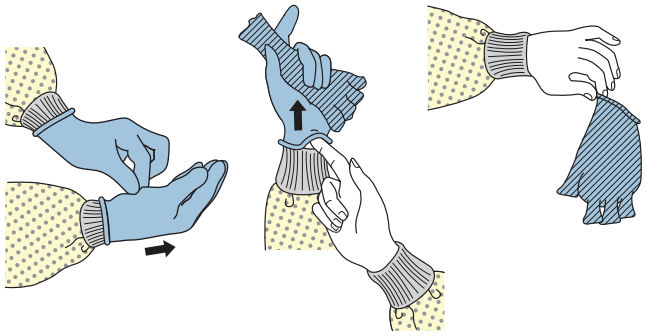
CS250672-E

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

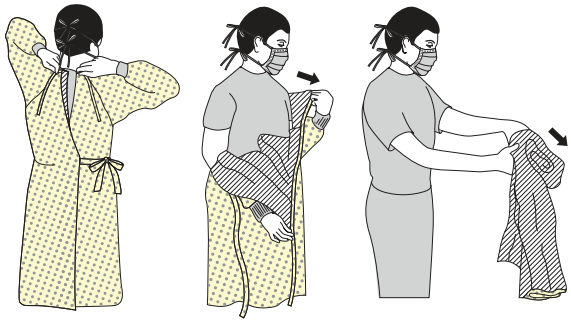


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

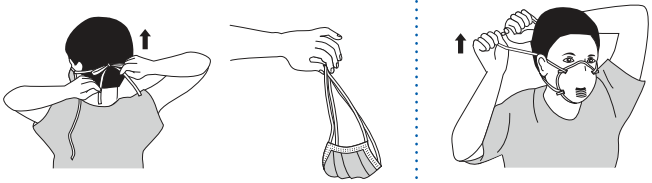
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

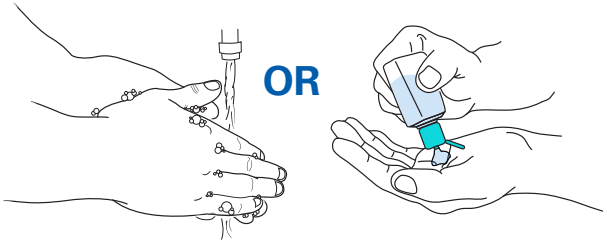


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

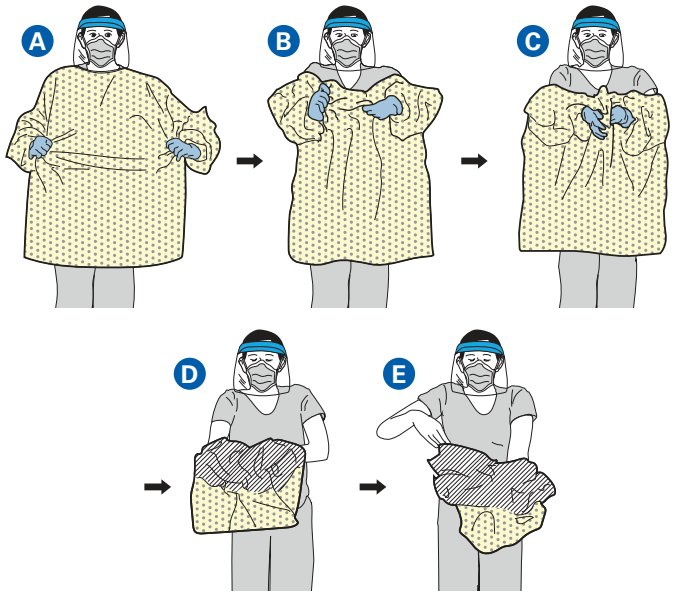
CS250672-E

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container

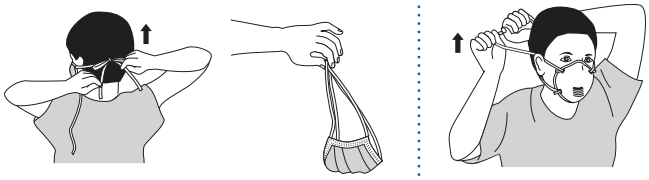


2. GOGGLES OR FACE SHIELD

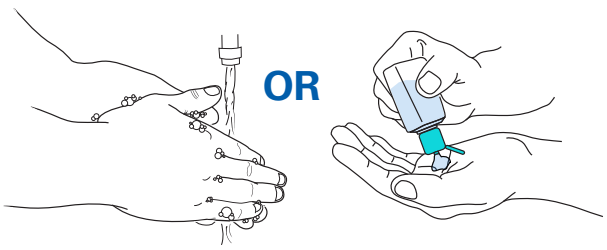
- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

CS250672-E

10a. **Personal Protective Equipment**

Donning PPE

1. Remove all jewelry/valuables and stow elsewhere.
2. Wash hands with hand sanitizer prior to donning any PPE.
3. Inspect PPE prior to donning for damage. DO NOT use if damaged.
4. Put on shoe covers under coveralls.
5. Put on tyvek coveralls and zip up to waist.
6. Put on one pair of nitrile gloves and finish zipping up tyvek coveralls.
7. Apply respiratory protection (N95 or full face) This is to be applied prior to putting hood or other facial/eye protection into place.
8. Put on an additional pair(s) of nitrile gloves, as needed.
9. Check to ensure that all PPE is secure and in proper order prior to entering scene.

Doffing PPE

1. Remember to work from top down. Never cross the clean line.
2. Remove all outer gloves placing them into trash bag (biohazard)
3. Remove hood.
4. Leave respiratory protection in place.
5. Remove tyvek coveralls working from top down and being careful to roll so outside of tyvek does not contaminate clothing.
6. Continue to roll down tyvek coveralls (you may need assistance in steadying yourself but be mindful of contamination control).
7. Allow foot to be monitored and step onto clean side.
8. Remove other foot leaving tyvek on dirty site. Allow remaining foot to be monitored before placing on clean side.
9. Wash gloves with hand sanitizer prior to removing further PPE.
10. Remove face/eye protection and decontaminate with wipes.
11. Remove shoe covers.
12. Wash gloves with hand sanitizer prior to removing further PPE.
13. Remove respiratory protection.
14. Remove final pair of gloves and dispose of in biohazard bag.
15. Wash hands with hand sanitizer.

Death Certificate Completion

CDC Guidance for Certifying COVID-19 Deaths

It is expected that most persons dying from COVID-19 will die in a hospital or other health care facility (e.g. nursing home or hospice facility). There may be some deaths outside of a health care setting (i.e. “outpatient” deaths). The processes for these two groups of fatalities are as follows.

Death Certification Deaths related solely to COVID-19 should be certified as such, and whether the diagnosis was laboratory confirmed or presumed based on clinical history and/or circumstances should be indicated[1]. Indicating the causal pathway (mechanism) leading to death in Part I of the certificate is encouraged. For example, in cases when COVID-19 infection causes acute respiratory distress syndrome due to pneumonia, these can be included on lines A and B followed by Coronavirus Disease 2019 (COVID-19) on line C in Part I (See Example 1 below). If the decedent had other chronic conditions such as COPD or asthma that may have also contributed, these conditions can be reported in Part II (Contributory conditions).

Scenarios and recommended certification examples follow.

1. An otherwise healthy person presents with flu-like and respiratory symptoms and has laboratory confirmation of COVID-19. They develop pneumonia which progresses to acute respiratory distress syndrome and they subsequently die:

> **Part I. Cause of Death:** A. Acute respiratory distress syndrome B. Pneumonia C. Coronavirus Disease 2019 (COVID-19), laboratory confirmed

2. An otherwise healthy person, presents with flu-like or respiratory symptoms and is suspected of having COVID-19 based on clinical evaluation and circumstances, but has NO laboratory confirmation of COVID-19, subsequently dies:

> **Part I. Cause of Death:** Coronavirus Disease 2019 (COVID-19), presumed

3. Patient with a chronic underlying condition (e.g., diabetes, atherosclerotic cardiovascular disease, emphysema) who may be more susceptible to dying as a

result of being infected with COVID-19, presents with flu-like and respiratory symptoms and has laboratory confirmation of COVID-19, subsequently dies:

> **Part I. Cause of Death:** Coronavirus Disease 2019 (COVID-19), laboratory confirmed
>
> **Part II. Contributory conditions**: List all relevant underlying diseases.

4. Patient with a chronic underlying condition (e.g., diabetes, atherosclerotic cardiovascular disease, emphysema) who may be more susceptible to dying as a result of being infected with COVID-19, presents with flu-like or respiratory symptoms and is suspected of having COVID-19 based on clinical evaluation and circumstances, but has NO laboratory confirmation of COVID-19:

> **Part I. Cause of Death:** Coronavirus Disease 2019 (COVID-19), presumed
>
> **Part II. Contributory conditions**: List all relevant underlying diseases.

COVID-19 Alert No. 2 : National Center for Health Statistics

March 24, 2020

New ICD code introduced for COVID-19 deaths

This email is to alert you that a newly-introduced ICD code has been implemented to accurately capture mortality data for Coronavirus Disease 2019 (COVID-19) on death certificates.

Please read carefully and forward this email to the state statistical staff in your office who are involved in the preparation of mortality data, as well as others who may receive questions when the data are released.

What is the new code?

The new ICD code for Coronavirus Disease 2019 (COVID-19) is U07.1, and below is how it will appear in formal tabular list format.

U07.1 COVID-19

Excludes: Coronavirus infection, unspecified site (B34.2)

Severe acute respiratory syndrome [SARS], unspecified (U04.9)

The WHO has provided a second code, U07.2, for clinical or epidemiological diagnosis of COVID-19 where a laboratory confirmation is inconclusive or not available. Because laboratory test results are not typically reported on death certificates in the U.S., NCHS is not planning to implement U07.2 for mortality statistics.

When will it be implemented? Immediately.

Will COVID-19 be the underlying cause?

The underlying cause depends upon what and where conditions are reported on the death certificate.

However, the rules for coding and selection of the underlying cause of death are expected to result in COVID19 being the underlying cause more often than not.

What happens if certifier's report terms other than the suggested terms?

If a death certificate reports coronavirus without identifying a specific strain or explicitly specifying that it is not COVID-19, NCHS will ask the states to follow up to verify whether or not the coronavirus was COVID-19.

As long as the phrase used indicates the 2019 coronavirus strain, NCHS expects to assign the new code.

However, it is preferable and more straightforward for certifiers to use the standard terminology (COVID-19).

What happens if the terms reported on the death certificate indicate uncertainty?

If the death certificate reports terms such as "probable COVID-19" or "likely COVID-19," these terms would be assigned the new ICD code. It Is not likely that NCHS will follow up on these cases.

If "pending COVID-19 testing" is reported on the death certificate, this would be considered a pending record.

In this scenario, NCHS would expect to receive an updated record, since the code will likely result in R99. In this case, NCHS will ask the states to follow up to verify if test results confirmed that the decedent had COVID19.

Do I need to make any changes at the jurisdictional level to accommodate the new ICD code?

Not necessarily, but you will want to confirm that your systems and programs do not behave as if U07.1 is an unknown code.

Should "COVID-19" be reported on the death certificate only with a confirmed test?

COVID-19 should be reported on the death certificate for all decedents where the disease caused or is assumed to have caused or contributed to death. Certifiers should include as much detail as possible based on their knowledge of the case, medical records, laboratory testing, etc. If the decedent had other chronic

conditions such as COPD or asthma that may have also contributed, these conditions can be reported in Part II. (See attached Guidance for Certifying COVID-19 Deaths)

Steven Schwartz, PhD Director – Division of Vital Statistics National Center for Health Statistics

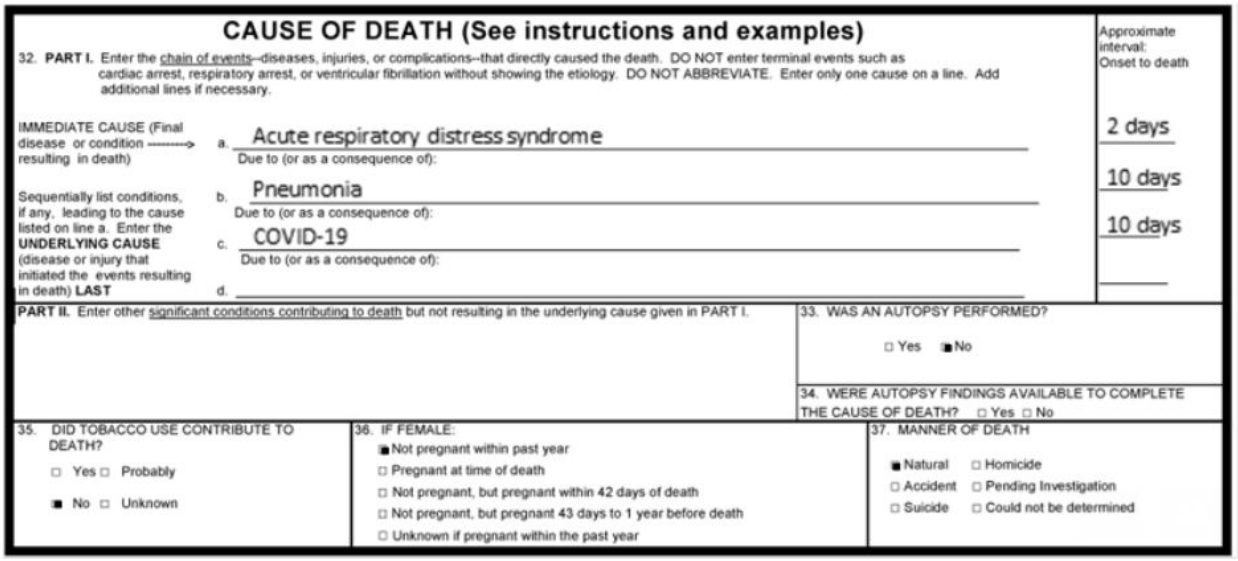
3311 Toledo Rd | Hyattsville, MD 20782

COVID-19 Alert No. 2: National Center for Health Statistics

March 4, 2020

NCHS is receiving questions about how deaths involving the new coronavirus strain should be reported on death certificates.

It is important to emphasize that Coronavirus Disease 2019 or COVID-19 should be reported on the death certificate for all decedents where the disease caused or is assumed to have caused or contributed to death. Other terminology, e.g., SARS-CoV-2, can be used as long as it is clear that it indicates the 2019 coronavirus strain, but we would prefer use of WHO's standard terminology, e.g., COVID-19. Specification of the causal pathway leading to death in Part I of the certificate is also important. For example, in cases when COVID-19 causes pneumonia and fatal respiratory distress, both pneumonia and respiratory distress should be included along with COVID-19 in Part I. Certifiers should include as much detail as possible based on their knowledge of the case, medical records, laboratory testing, etc. If the decedent had other chronic conditions such as COPD or asthma that may have also contributed, these conditions can be reported in Part II. Here is an example:



CAUSE OF DEATH (See instructions and examples)

32. **PART I.** Enter the chain of events--diseases, injuries, or complications--that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary.

Approximate interval: Onset to death

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Acute respiratory distress syndrome — 2 days
Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the **UNDERLYING CAUSE** (disease or injury that initiated the events resulting in death) **LAST**
b. Pneumonia — 10 days
Due to (or as a consequence of):
c. COVID-19 — 10 days
Due to (or as a consequence of):
d.

PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I.

33. WAS AN AUTOPSY PERFORMED? ☐ Yes ■ No

34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? ☐ Yes ☐ No

35. DID TOBACCO USE CONTRIBUTE TO DEATH? ☐ Yes ☐ Probably ■ No ☐ Unknown

36. IF FEMALE: ■ Not pregnant within past year ☐ Pregnant at time of death ☐ Not pregnant, but pregnant within 42 days of death ☐ Not pregnant, but pregnant 43 days to 1 year before death ☐ Unknown if pregnant within the past year

37. MANNER OF DEATH ■ Natural ☐ Homicide ☐ Accident ☐ Pending Investigation ☐ Suicide ☐ Could not be determined

EXAMPLES ME OFFICE:

These are the 4 types of COVID-19 cases that we have been seeing and how they are being certified:

1. Deaths primarily due to COVID-19 infection with a confirmed test, certified as:
Complications of novel coronavirus (COVID-19) respiratory infection
Part 2 may be used for contributing conditions such as: Pulmonary Emphysema, Asthma, Obesity, etc.
These are the typical ARDS/secondary bronchopneumonia patients on ventilators, etc.

2. Deaths suspected to be due to COVID-19 with testing pending, certified as:
Complications of respiratory infection (suspect COVID-19)
Part 2 may be used for contributing conditions such as: Pulmonary Emphysema, Asthma, Obesity, etc.

These deaths are similar to group 1 but without a confirmed infection. They will need follow-up and an amended DC once the testing is complete. We do not want to delay the release of the body while waiting for a test result and we want to flag this death as a potential COVID-19 death. A "pending" DC could be issued for ME/C cases, but it is very difficult for hospitals to issue amended DCs. The ME would likely step in later to amend these once the results are back. Without including this "suspect" caveat, these deaths may not get further scrutiny.

3. Deaths primarily related to cardiac, liver, kidney, pulmonary disease, etc., in which a recent respiratory infection was considered enough of a physiologic stressor to contribute to death, are certified with the primary disease in Part 1 and the respiratory infection in Part 2.

For example:

Congestive heart failure due to atherosclerotic cardiovascular disease
Part 2: Recent novel coronavirus (COVID-19) respiratory infection

4. Deaths purely due to trauma (whether COVID positive or not) are certified due to the trauma. We do not include infections to try and explain why a person may or may not have fallen. We usually do not try to explain on the DC why an injury happened.

https://michiganedrs.org/wp-content/uploads/COVID-19-Guidance-ME-and-Funeral-Dir.pdf

Reporting to Local Health Departments

When death or impending death from COVID-19 occurs, facilities must immediately call the local health department and local district office.

Mandated Reporting of Deaths Associated with COVID-19 Infection

Effective Tuesday, March 17, 2020, the reportable conditions list for the State of Michigan has been expanded to include mandated reporting of Deaths Associated with Novel Coronavirus Infection (COVID-19, SARS, MERS). Physicians are required to report patients with deaths for which COVID-19 infection is a contributing factor. This mandated reporting to public health must occur within 24 hours of identification.

Michigan's communicable disease rules are promulgated under the authority conferred on the Department of Community Health by section 5111 of Act No. 368 of the Public Acts of 1978, as amended, being 333.5111 of the Michigan Compiled Laws.

Limiting the impact of COVID-19 on the health and well being of Michiganders requires collaboration and response in all sectors. We appreciate your support of these efforts. For the latest information on Michigan's response to COVID-19, please visit www.michigan.gov/coronavirus. You may also email our Community Health Emergency Coordination Center at checcdeptcoor@michigan.gov.

You may respond by doing one of the following:

- Click the appropriate response in the following list of response options,
- Or, reply via email with your response option. Please note that you must include the number of your response option, such as **1**, in the body of your email in order for your response to be recorded.

Thank you, Michigan Health Alert Network

Mid-Michigan District Health Department		District Health Department #10	
Serving	**Montcalm #1**	**Serving**	**2-Crawford, 3-Lake, 4-Mecosta, 5-Newaygo, 6-Oceana, and 7-Wexford**
Health Officer	**Marcus Cheatham, PhD, MA** **Email: mcheatham@mmdhd.org** **Ph: 989-831-3614**	**Health Officer**	**Kevin Hughes, MA** **Email: khughes@dhd10.org** **Ph: 231-876-3839**
Medical Director	**Jennifer Morse, MD** **Email: jmorse@cmdhd.org** **Ph: 989-802-2590**	**Medical Director (Provisional)**	**Jennifer Morse, MD** **Email: jmorse@cmdhd.org** **Ph: 989-773-5921, ext. 1427**
District Health Department #4		**Central Michigan District Health Department**	
Serving	**8-Alpena,**	**Serving**	**Clare**
Health Officer	**Denise Bryan, MPA** **Email: dbryan@dhd4.org** **Ph: 989-358-7957**	**Health Officer**	**Steven C. Hall, RS, MS** **Email: shall@cmdhd.org** **Ph: 989-773-5921, ext. 1421**
Medical Director	**Joshua Meyerson, MD, MPH** **Email: j.meyerson@nwhealth.org** **Ph: 231-547-7679**	**Medical Director**	**Jennifer Morse, MD** **Email: jmorse@cmdhd.org** **Ph: 989-773-5921, ext. 1427**
Health Department of Northwest Michigan			
Serving	**Otsego**		
Health Officer	**Lisa Peacock, MSN, RN, WHNP-BC** **Email: lpeacock@bldhd.org** **Ph: 231-547-7627**		
Medical Director	**Joshua Myerson, MD, MPH** **Email: j.meyerson@nwhealth.org** **Ph: 231-547-7679**		

STATE OF MICHIGAN - LABORATORY TEST REQUISITION

Microbiology / Virology

DATE RECEIVED IN LABORATORY	LABORATORY SAMPLE NUMBER

Michigan Department of Health and Human Services - Bureau of Laboratories

P.O. Box 30035 3350 North Martin Luther King Jr. Blvd. Lansing, MI 48909

Laboratory Records: 517-335-8059 Technical Information: 517-335-8067

Fax: 517-335-9871 Web: www.michigan.gov/mdhhslab

SUBMITTER INFORMATION

SUBMITTER INFORMATION (PRINTED, TYPED OR STAMPED)

☐ FP

☐ STD

AGENCY CODE (If Known)

TELEPHONE

FAX

CONTACT PERSON/ORDERING PHYSICIAN/PROVIDER NAME

NATIONAL PROVIDER IDENTIFIER #

PATIENT INFORMATION

NAME (LAST, FIRST, MIDDLE INITIAL) or UNIQUE IDENTIFIER

SUBMITTER PATIENT # (If Applicable)

CITY

ZIP

GENDER ☐ MALE ☐ FEMALE

RACE ☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American ☐ Native Hawaiian or other Pacific Islander ☐ White ☐ Other

ETHNICITY ☐ Hispanic or Latino ☐ Not Hispanic or Latino ☐ Unknown

ADAP NUMBER

BIRTH DATE (MM-DD-YYYY)

SUBMITTER SPECIMEN #

COLLECTION DATE (MM-DD-YY)

COLLECTION TIME (MILITARY)

INDICATE TEST REQUESTED

INSTRUCTIONS FOR COMPLETION: Complete reverse side of form for corresponding numbers in parentheses and in bold.

INDICATE SPECIMEN SOURCE

- ☐ AMNIOTIC FLUID
- ☐ BRONCHIAL
- ☐ CERVIX
- ☐ CSF
- ☐ GASTRIC
- ☐ NASOPHARYNGEAL
- ☐ ORAL MUCOSAL TRANSUDATE
- ☐ PLASMA
- ☐ SERUM
- ☐ STOOL
- ☐ SPUTUM
- ☐ THROAT
- ☐ URETHRA
- ☐ URINE
- ☐ WHOLE BLOOD
- ☐ FOOD-Specify:
- ☐ OTHER-Specify:

HIV TESTING

- ☐ HIV Ag/Ab - Serum **(1)**
- ☐ HIV Ag/Ab-Oral Mucosal Transudate **(1)**
- ☐ CD4/CD8 (EDTA whole blood) **(1)**
- ☐ HIV-1 VIRAL LOAD (EDTA plasma) **(1)**
- ☐ HIV-1 GENOTYPING (EDTA plasma) **(1)**

SEROLOGY

SERUM STATUS - If Applicable

- ☐ ACUTE ☐ CONVALESCENT
- ☐ ARBOVIRUS ENCEP PANEL (IgM)

May-Oct Includes: Eastern Equine, California, St. Louis and West Nile CSF Only

- ☐ *BRUCELLA* SEROLOGY
- ☐ FUNGAL SEROLOGY COMPLEMENT FIX
- ☐ FUNGAL IMMUNODIFFUSION
- ☐ *FRANCISELLA* SEROLOGY
- ☐ *LEGIONELLA* - HA
- ☐ LYME DISEASE - EIA **(4)**
- ☐ MEASLES IgG
- ☐ MUMPS IgG
- ☐ RABIES AB SEROLOGY **(3)**
- ☐ RUBELLA IgG
- ☐ TETANUS TOXIN EIA
- ☐ VARICELLA ZOSTER IgG

SYPHILIS TESTING

- ☐ SYPHILIS PANEL **(1)**
- ☐ SYPHILIS TP-PA (ONLY) **(1)**
- ☐ SYPHILIS VDRL - CSF Only **(1)**
- ☐ SYPHILIS DFA **(1,2)**
- ☐ SYPHILIS IgM WESTERN BLOT* **(1)**

MICROBIOLOGY

- ☐ AEROBIC ISOLATE ID **(5)**
- ☐ ANTIMICROBIAL RESISTANCE CONF. **(5)**
- ☐ AFB SLIDE/CULTURE-CLINICAL SPECIMEN
- ☐ AFB IDENTIFICATION-ISOLATE ID
- ☐ ENTERIC BACTERIAL CULTURE
- ☐ FOODBORNE ILLNESS-Stool or Food **(6)**
- ☐ FUNGAL IDENTIFICATION - ISOLATE ID
- ☐ *LEGIONELLA* CULTURE
- ☐ *NEISSERIA GONORRHOEAE* - ISOLATION
- ☐ *NEISSERIA* - REFERRED CULTURE
- ☐ PARASITOLOGY - BLOOD
- ☐ PARASITOLOGY - STOOL
- ☐ PARASITOLOGY - WORM
- ☐ *PERTUSSIS* PCR
- ☐ *SALMONELLA* SEROTYPING - HUMAN
- ☐ *SHIGELLA* SEROTYPING
- ☐ *E. COLI* SHIGA-TOXIN PRODUCER (STEC)

VIROLOGY

- ☐ ENTEROVIRUS PCR **(6)**
- ☐ RESPIRATORY PCR PANEL
- ☐ INFLUENZA (PCR/CULTURE) **(7)**

PATIENT STATUS (Influenza)

- ☐ OUTPATIENT ☐ INPATIENT
- ☐ UNKNOWN
- ☐ VIRAL CULTURE

TESTS THAT REQUIRE MDHHS APPROVAL

EMERGING ARBOVIRUS PANEL

- ☐ PCR ☐ SEROLOGY
- ☐ AFB NUCLEIC ACID AMPLIFICATION
- ☐ BACTERIAL TYPING-PFGE **(6)**
- ☐ BOTULISM TOXIN
- ☐ MUMPS - PCR
- ☐ MEASLES IgM
- ☐ NOROVIRUS PCR **(6)**
- ☐ *PERTUSSIS* CULTURE
- ☐ RUBELLA IgM **(1)**
- ☐ *SALMONELLA* SEROTYPING NON-HUMAN
- ☐ TOXIC SHOCK TESTING
- ☐ OTHER _____

OTHER

- ☐ AUTOCLAVE TEST STRIPS
- ☐ *LEGIONELLA* - DFA
- ☐ LYME DISEASE - DFA (Tick)

HEPATITIS TESTING

- ☐ HEPATITIS C ANTIBODY **(1)**
- ☐ HEPATITIS B SURFACE ANTIGEN (HBsAg) **(1)**
- ☐ HEPATITIS B ANTIBODY (Anti-HBsAg) **(1)**
- ☐ HEPATITIS A ANTIBODY (IgM) **(1)**

STATE OF MICHIGAN - LABORATORY TEST REQUISITION

Microbiology / Virology

INDICATE TEST REASON

☐ Diagnosis ☐ Surveillance ☐ Outbreak **(Complete Section 6)** ☐ Other (Specify) _____

(1) COMPLETE THIS SECTION FOR: HIV, SYPHILIS, HEPATITIS, RUBELLA IgM REQUESTS

PREGNANT?

☐ YES ☐ NO

FOR HEPATITIS B SURFACE ANTIGEN (HBsAg) ONLY

☐ Exposure to someone with Hepatitis B?

(2) COMPLETE THIS SECTION FOR: SYPHILIS DFA REQUESTS

DURATION OF LESION

☐☐ ☐ Days ☐ Months ☐ Years

SPECIFIC SITE: _____

(3) COMPLETE THIS SECTION FOR: RABIES ANTIBODY SEROLOGY REQUESTS

DATE OF LAST RABIES VACCINATION **DATE (MM-DD-YY)** ☐☐☐☐☐☐

(4) COMPLETE THIS SECTION FOR: LYME BORRELIOSIS REQUESTS

ONSET DATE (MM-DD-YY) ☐☐☐☐☐☐

State/County/Country of Exposure: _____

EARLY DISEASE

☐ Erythema Migrans (5 cm at least in diameter) ☐ Symptoms (Example- Rash, Fever, Headache, Joint Pain)

LATE DISEASE

☐ Neurologic ☐ Cardiologic ☐ Rheumatologic

(5) COMPLETE THIS SECTION FOR: AEROBIC CULTURE REQUESTS AND ANTIMICROBIAL RESISTANCE CONFIRMATION*

☐ Aerobe ☐ Microaerophile

GRAM ☐ Positive ☐ Negative ☐ Variable ☐ Rod ☐ Coccus ☐ Diplococcus

BACTERIAL GROWTH CHARACTERISTICS:

MacConkey ☐ Positive ☐ Negative

Oxidase ☐ Positive ☐ Negative

Catalase ☐ Positive ☐ Negative

Dextrose ☐ Oxidation ☐ Fermentation

* SUBMIT COPY OF ANTIMICROBIAL SUSCEPTIBILITY TEST RESULTS

OTHER: _____

(6) COMPLETE THIS SECTION FOR: OUTBREAK INVESTIGATION

ONSET DATE (MM-DD-YY) ☐☐☐☐☐☐

OUTBREAK IDENTIFIER _____

ORGANISM SUSPECTED (If Applicable) _____

MDHHS PRIOR APPROVAL: Name, Date _____

(7) COMPLETE THIS SECTION FOR: INFLUENZA TESTING (PCR / CULTURE) REQUESTS

LAST INFLUENZA VACCINATION: **DATE (MM-DD-YY)** ☐☐☐☐☐☐

TYPE ☐ Flu Mist ☐ Trivalent (Shot) ☐ Other _____

(8) ADDITIONAL INFORMATION

The Michigan Department of Health and Human Services (MDHHS) does not discriminate against any individual or group because of race, religion, age, national origin, color, height, weight, marital status, genetic information, sex, sexual orientation, gender identity or expression, political beliefs or disability.

By Authority of Act 368, P.A. 1978