

AUTOPSY PROCEDURES

Standard precautions, contact precautions and airborne precautions with eye protection (e.g., goggles or a face shield) should be followed during autopsy for someone with COVID-19. Many of the procedures are consistent with existing guidelines for safe work practices in the autopsy setting; see Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories (<https://www.cdc.gov/mmwr/preview/mmwrhtml/su6101a1.htm>).

CDC Interim Guidance for Collection and Submission of Postmortem Specimens from Deceased Persons Under Investigation (PUI) for COVID-19, February 2020: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-postmortem-specimens.html>.

ENGINEERING CONTROL AND PPE RECOMMENDATIONS

Engineering Control Recommendations: Autopsies on decedents with known or suspected COVID-19 should be conducted in Airborne Infection Isolation Rooms (AIIRs).

PPE Recommendations: Double surgical gloves interposed with a layer of cut-proof synthetic mesh gloves, fluid-resistant or impermeable gown, waterproof apron, goggles or face shield, and NIOSH-certified disposable N-95 respirator or higher. Surgical scrubs, shoe covers, and surgical cap should be used per routine protocols.

COLLECTION OF POSTMORTEM CLINICAL PATHOLOGIC SPECIMENS

The following factors should be considered when determining if an autopsy will be performed for a deceased PUI: medicolegal jurisdiction, facility environmental controls, availability of recommended personal protective equipment (PPE), and family and cultural wishes.

If an autopsy is performed, collection of the following postmortem specimens is recommended:

- Postmortem clinical specimens for testing for SARS-CoV-2, the virus that causes COVID-19:
 - Upper respiratory tract swabs: In general **CDC is now recommending collecting only the NP swab**. If both swabs are used, NP and OP specimens should be combined at collection into a single vial.
 - Lower respiratory tract swab: Lung swab from each lung
- Separate clinical specimens for testing of other respiratory pathogens and other postmortem testing as indicated
- Formalin-fixed autopsy tissues from lung, upper airway, and other major organs

If an autopsy is NOT performed, collection of the following postmortem specimens is recommended:

- Postmortem clinical specimens for testing for SARS-CoV-2, the virus that causes COVID-19, to include only upper respiratory tract swabs: Nasopharyngeal Swab and Oropharyngeal Swab (NP swab and OP swab)
- Separate NP swab and OP swab specimens for testing of other respiratory pathogens

SAFELY PREPARING THE SPECIMENS FOR SHIPMENT

After collecting and properly securing and labeling specimens in primary containers with the appropriate media/solution, they must be transferred from the autopsy suite in a safe manner to laboratory staff who can process them for shipping.

1. Within the autopsy suite, primary containers should be placed into a larger secondary container.
2. If possible, the secondary container should then be placed into a resealable plastic bag that was not in the autopsy suite when the specimens were collected.
3. The resealable plastic bag should then be placed into a biological specimen bag with absorbent material; and then can be transferred outside of the autopsy suite.
 - a. Workers receiving the biological specimen bag outside the autopsy suite or anteroom should wear disposable nitrile gloves.

SUBMISSION OF SPECIMENS TO CDC

State and local health departments who have identified a PUI should immediately notify **CDC's Emergency Operations Center (EOC) at 770-488-7100** to report a deceased PUI and determine whether SARS-CoV-2, the virus that causes COVID-19, testing at CDC is indicated. The EOC will assist local/state health departments to collect, store, and ship specimens appropriately to CDC, including during afterhours or on weekends/holidays.

CLEANING AND WASTE DISPOSAL RECOMMENDATIONS

Follow the general guidelines for cleaning and waste disposal following an autopsy of a decedent with confirmed or suspected COVID-19. The surface persistence of SARS-CoV-2 is uncertain at this time. Other coronaviruses such as those that cause MERS and SARS can persist on nonporous surfaces for 24 hours or more.

Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an Environmental Protection Agency (EPA)-registered, hospital-grade disinfectant for appropriate contact times as indicated on the product's label) are appropriate for COVID-19 in these settings.

After an autopsy of a decedent with confirmed or suspected COVID-19, follow [CDC recommendations](#) when cleaning the autopsy room (and anteroom, if applicable).

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 an EPA-registered hospital disinfectant applied according to the manufacturer's recommendations. Wear disposable nitrile gloves when handling the body bag.

CAN TOXICOLOGY LABS TEST FOR COVID-19?

Toxicology labs, AXIS and NMS do not have COVID testing capabilities at this time.

ON SCENE GUIDANCE

On the scene, wear usual PPE (gloves, masks) and practice social distancing. Double bag decedent until test results are known. Eye protection not yet necessary.

AUTOPSY

Wait to do autopsy until you COVID-19 test results. Wear visor shields in autopsy.

FREQUENTLY ASKED QUESTIONS

How do I access LIMSNET?

Visit limsnet.isdh.in.gov, which has links for both phone and email support. Email signups are preferred. Please include the name of your organization and the names and email addresses of the individual who should be granted access.

How can I get testing kits?

A. If you have swabs, you can test the deceased and submit that through LIMSNET. The sample should go to ISDH labs for processing.

B. If you do not have swabs, contact your local hospital. Email ISDHdepl logistics@isdh.in.gov to request swabs.

Do I test every body I receive in the coroner's office?

To determine if you test for COVID:

- During a coroner investigation, ask their close family and friends, over the last two weeks:
 - Fever
 - Cough
 - Difficulty breathing
 - Respiratory problems
- Medications they were taking.

What would ISDH like listed on the death certificates for people who have died from COVID-19?

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.

For more general guidance and training on cause-of-death reporting, certifiers can be referred to the Cause of Death mobile app available through <https://www.cdc.gov/nchs/nvss/mobile-app.htm> and the Improving Cause of Death Reporting online training module, which can be found at:

https://www.cdc.gov/nchs/nvss/improving_cause_of_death_reporting.htm.

Are COVID-19 cases coroner's cases or will an attending physician or county health officer sign the death certificate?

IC 36-2-14-6

Investigation of death of person; certificate of death; autopsy

Sec. 6. (a) Whenever the coroner is notified that a person in the county:

- (1) has died from violence;
- (2) has died by casualty;
- (3) has died when apparently in good health;
- (4) has died in an apparently suspicious, unusual, or unnatural manner; or
- (5) has been found dead;

he shall, before the scene of the death is disturbed, notify a law enforcement agency having jurisdiction in that area. The agency shall assist the coroner in conducting an investigation of how the person died and a medical investigation of the cause of death.

ADDITIONAL INFORMATION

Additional information and resources for COVID-19 are available at the ISDH COVID-19 webpage:

<https://www.in.gov/isdh/28470.htm>.

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