

Guidance for Laboratories Regarding Influenza-Related Pediatric Mortality

Bureau of Epidemiology, Michigan Department of Community Health (MDCH)
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An influenza-associated pediatric mortality is defined as death in a patient less than 18 years of age resulting from laboratory-confirmed influenza infection. Please contact your local health department or the MDCH Bureau of Epidemiology (517-335-8165; after hours 517-335-9030) for any questions, case consultation or investigation coordination.

Specimen Collection/Submission

1. **All shipping must be done in consultation with the MDCH Bureau of Epidemiology (517-335-8165; after hours 517-335-9030).**
2. Viral antigens may be focal and sparsely distributed in patients with influenza. Larger airways have the highest yield for detection of influenza viruses by the IHC method performed by the CDC.

Ideal samples to be collected are:

1. Central (hilar) lung with segmental bronchi
2. Right and left primary bronchi
3. Trachea (proximal and distal)
4. Representative pulmonary parenchyma from the right and left lung

A minimum of 8 tissue blocks or fixed tissue samples representing a sample of the above sites should be submitted if available.

3. Additional samples from representative organs, especially those showing significant gross or microscopic pathology that may be related to influenza infection (such as myocarditis, encephalitis, rhabdomyolysis), should be submitted as well. Examples include:
 1. Myocardium from the right and left ventricle
 2. CNS including cerebral cortex, basal ganglia, pons, medulla, and cerebellum
 3. Skeletal muscle
4. If available, influenza test specimens such as rapid test samples or viral cultures should be sent to MDCH Bureau of Laboratories for viral culture confirmation. Shipping for these specimens requires different conditions and will be arranged separately.
5. Unexplained pediatric deaths with no evidence of influenza infection may require different samples, which will be decided on a case-by-case basis.
6. Acceptable specimens (any or all of the following):
 1. Fixed, unprocessed tissues in 10% neutral buffered formalin
 2. Tissue blocks containing formalin-fixed, paraffin-embedded specimens
 3. Unstained sections cut at 3 microns, placed on charged glass slides (10 slides/specimen)

THE ABOVE SAMPLES SHOULD BE SHIPPED AT ROOM TEMPERATURE

7. Additional materials to include with specimen shipment:
 1. Autopsy report (preliminary or final if available)
 2. Cover letter – include the following items:
 - A. Brief patient clinical history
 - B. Patient lab results (all), influenza vaccination status, and travel history
 - C. Your name, title, mailing address, phone and fax numbers, and email address