PROTOCOL FOR EVALUATING AN INFECTIOUS CAUSE OF DEATH

This job aid is intended for medical examiners, coroners, and forensic pathologists. It serves as a reminder to consider infectious causes of death in certain situations, and it provides a practical guide to specimen collection and testing.

1.0 CASE IDENTIFICATION

Antemortem and/or postmortem signs/symptoms indicating a possible infectious disease related death are determined by investigator and/or ME. (See Tables 1 & 2).

1.1 If applicable, request available lab results from antemortem sampling.

1.2 Decide to conduct an autopsy or not based on the report from the death scene investigator and resources available.

If no autopsy done, skip to "**4.0 Case Reporting**".

Table 1: ANTEMORTEM SIGNS & SYMPTOMS

1. Fever
2. Acute encephalopathy or new onset seizures
3. Acute flaccid paralysis or polyneuropathy
4. New-onset jaundice
5. Acute diarrhea
6. New rash or soft tissue lesion
7. Unexplained death
   - Death of an individual <50 years of age where:
     - the past medical history, circumstances, and scene investigation provide inadequate diagnostic insight to establish the cause of death, *and*
     - investigators have been unable to identify one of the signs/symptoms listed above in the absence of a specific etiology.
   - This category includes infants with a SIDS-like presentation.
8. Other

2.0 LAB SPECIMENS & TESTING

2.1 If an autopsy is done, collect specimens and submit them for appropriate testing (See Table 3).

2.2 Collect additional specimens based on antemortem signs and symptoms, and pathologic syndromes (See Table 4).

Table 2: PATHOLOGIC SYNDROMES

1. Neurologic
   - Encephalitis
   - Meningitis (including hemorrhagic)
2. Respiratory
   - Pharyngitis, epiglottitis or other upper airway infection
   - Bronchitis or bronchiolitis, acute
   - Pneumonia
   - Diffuse alveolar damage
   - Mediastinitis, hemorrhagic
3. Cardiac
   - Myocarditis
   - Endocarditis
4. Gastrointestinal
   - Acute hepatitis or fulminant hepatic necrosis
   - Colitis
5. Dermatologic
   - Diffuse rash
   - Soft tissue lesion
6. Multi-system
   - Lymphadenitis
   - Sepsis syndrome
7. None of the above pathologic syndromes

3.0 REVIEW FINDINGS

3.1 Review lab results from the local testing laboratories.

3.2 Based on the lab results, decide if further testing is needed at MDH and/or CDC.
- For cases with no organism-specific etiology, MDH may follow-up with the case as a part of the Unexplained Death Program.

Table 3: SPECIMENS & TESTING

Specimen	Possible Testing	Description	Container
Blood	Bacterial culture	5ml aerobic & anaerobic	Use local lab
Serum	Serologic assays/Tox	10ml	Marble top vacutainer
NP Swab	Viral Culture	1 swab	Viral transport
Urine	Culture/ Antigen tests	20ml	Orange top, sterile
Fresh or frozen tissue from affected organs	Viral culture or PCR	1cm cubes (can keep refrigerated up to 4 days)	Clean vials
Formalin-fixed tissues	Histo-pathology, IHC, In situ hybridization PCR	All organs	Orange top, sterile
Paraffin-embedded tissues	Histo-pathology, IHC, ISH, PCR	Affected organs	

4.0 Case Reporting

4.1 Notify MDH of cases meeting criteria from "**1.0 Case Identification**" on at least a monthly basis and report any helpful follow-up findings.

4.2 Methods of Reporting:
- ME site fills out Case Report Form and sends to MDH
- ME site notifies MDH of cases and MDH will fill out Case Report Form
- MDH conducts case identification at ME site

Case Reporting Contact Information:
Minnesota Department of Health-IDEPC
PO Box 64975
St. Paul, MN 55164-0975
651-201-5414 or 1-877-676-5414

Table 4: ADDITIONALSPECIMENS & TESTING

Syndrome	Specimen	Description	Container
Respiratory	Deep Lung Swab	1 swab each lung	Bacterial & Viral transport
Neurologic	CSF	10ml	Purple top or sterile container
Gastro-intestinal	Stool		Clean vial
Dermato-logic	Skin/Soft tissue swab or tissue sample		Bacterial & Viral transport or clean vial

Infectious Disease Epidemiology, Prevention and Control
651-201-5414
www.health.state.mn.us
11/06

MINNESOTA MDH DEPARTMENT OF HEALTH

See guidelines for "Medical examiner/coroner-based surveillance for fatal infectious diseases and bioterrorism" for additional information regarding this protocol.