

Keeping Kids Alive in Wisconsin

Child Death Review Autopsy Guidelines

Background

Keeping Kids Alive in Wisconsin, a program of the Department of Health Services, establishes local child death review (CDR) and fetal infant mortality review (FIMR) teams who work to understand the risk factors and circumstances surrounding unexpected child deaths. The ultimate goal of Keeping Kids Alive in Wisconsin is to prevent future deaths by applying a public health approach to prevention. A comprehensive death scene investigation is the first step in understanding the circumstances surrounding the death and provides critical information to the pathologist conducting the autopsy. The following components should be included in each death scene investigation:

1. Caregiver interviews
 - a. Documentation of all caregivers who have been legally responsible for the child and/or individuals providing direct supervision for the child, with interviews of all individuals that have been in direct contact with the child within the final days or weeks of the child's life, as appropriate
 - b. Documentation of any traumatic events witnessed by or reported to the caregivers and contacts interviewed.
 - c. Documentation of any substances provided to or available to the child, including over-the-counter medications, prescription medications, herbal type supplements, and unsecured chemical substances.
2. Scene investigation, with photo documentation. A doll reenactment should be conducted for all infant deaths (up to age 1 year) and older children's deaths where applicable. For older children, where a doll-re-enactment is not applicable, a scene re-enactment by witnesses would be appropriate.
3. Medical, family, and social history

An effective and thorough autopsy plays a critical role in understanding the circumstances surrounding the death, specifically the cause and manner of death. There are multiple death scene investigation training opportunities available to investigators in Wisconsin. The National Center for Fatality Review and Prevention (NCFRP) developed a [virtual learning series](#) designed to provide interdisciplinary professionals an understanding of best practices in child death scene investigation. The training is free, and can also be taken for continuing education credits. In-person trainings are also available, led by Amy Michalak of Milwaukee County Medical Examiner's Office, and Jim Holmes of the Wisconsin Department of Justice. The training consists of key elements of a child or infant death scene investigation, including doll re-enactments and the importance of a forensic autopsy. If interested in scheduling a training, please contact [Amy Michalak](#) or [Jim Holmes](#). When investigating sudden unexpected infant deaths (SUIDs), the Centers for Disease Control and Prevention's (CDC) [SUIDI Reporting Form \(SUIDIRF\)](#) is an

excellent resource to use to guide the investigators through the steps involved in an investigation. For more information about the form, visit the CDC's [website](#).

To best serve families and to avoid certain culturally based difficulties it is recommended medical examiners and coroners become aware of the specific cultural attitudes, beliefs and practices surrounding death (i.e., ceremonial washing of the body), suicide, autopsy, organ donation, burial, religion and delivery of news of the members of their community. This can be accomplished by meeting with community members to discuss potential conflicts and avoiding them before they occur. In addition, it is important the community understands the role of the medical examiner and coroner. It would be very helpful to have readily accessible information about diverse communities' practices and beliefs concerning death.

Purpose

These autopsy guidelines provide pathologists, coroners and medical examiners with a description of the components that should be included in the autopsy of a child (ages 0–18) who dies unexpectedly in order to ensure the cause and manner of death are understood as completely as possible. These guidelines constitute the recommended minimum components of a child autopsy. Depending on clinical judgment, more components could be included.

Guidelines for a complete postmortem examination

The following elements of examination should be performed in each case in order to collect the necessary information to allow for a complete review of sudden and unexpected deaths in children.

1. Complete external examination, with photo-documentation, and including measurements of weight and length, as well as head circumference, crown-rump length, and foot length in all infant examinations.
2. Complete skeletal (X-ray) series in deaths of all children ages 0-2 (note: other imaging may also be included, i.e., MRI/CT). Clinical judgment and case facts may merit skeletal survey in children beyond age 2.
3. Complete internal examination, including
 - a. Detailed intra-oral examination that includes examination of the three frenula (two labial and one lingual), especially in young infants who have not started to walk.
 - b. Gross examination of all organs and tissues (chest, abdomen, neck and head), including spinal cord.
 - c. Measurement of weights for all organs.
 - d. Internal eye exam if any unexpected extra-axial hemorrhage is diagnosed on imaging or at autopsy (children ages 0-5). Internal eye examination should be strongly considered in children up to or beyond age 7, based upon clinical judgment and case facts.
4. Microscopic examination of major organs, to include special staining where appropriate.
5. A complete toxicological analysis of blood, urine, and vitreous fluid (as available), with testing of tissues if blood specimens are not available. Toxicology testing ideally should include a broad array

of profiles for prescribed, illicit and over-the-counter chemicals at thresholds that are well-below those typically used in workplace drug testing.

6. Microbiological testing for infectious diseases (bacterial and viral) to include cultures and/or polymerase chain reaction testing as available and appropriate.
7. Additional testing (as available and appropriate).
 - Postmortem metabolic screen
 - Vitreous electrolyte testing
 - Genetic testing
 - Performance of a sexual assault exam recommended when case facts dictate
8. Collect and store a DNA card. Frozen blood and liver should be considered for future genetic testing.

For additional assistance surrounding death scene investigations or pediatric autopsies, Milwaukee County Medical Examiner's Office and Waukesha County Medical Examiner's Office are available for consultations, to assess your needs, and to answer questions.

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