IN THE COURT OF APPEALS
STATE OF ARIZONA
DIVISION ONE

MARICOPA COUNTY; and KEVIN D. HORN and JANE DOE HORN, husband and wife, Defendant/Appellant, v. THE HONORABLE ROBERT H. OBERBILLIG, Judge of the SUPERIOR COURT OF THE STATE OF ARIZONA, in and for the COUNTY of MARICOPA, Respondent Judge, LISA RANDALL, individually; BRENDA RANDALL, individually; TRACY ALLEN, individually, Real Parties in Interest.	Court of Appeals No. 1 CA-SA13-0021 Maricopa County Superior Court No. CV2011-011867

BRIEF OF *AMICI CURIAE* NATIONAL ASSOCIATION OF MEDICAL EXAMINERS AND COLLEGE OF AMERICAN PATHOLOGISTS

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I. INTEREST OF THE AMICI.

A. NATIONAL ASSOCIATION OF MEDICAL EXAMINERS (NAME).

The National Association of Medical Examiners (NAME) is the national professional organization of physician medical examiners, medicolegal death investigators and death investigation system administrators who perform the official duties of the medicolegal investigation of deaths of public interest in the United States. NAME was founded in 1966 with the dual purposes of fostering the professional growth of physician death investigators and disseminating the professional and technical information vital to the continuing improvement of the medical investigation of violent, suspicious and unusual deaths. NAME has expanded its scope to include physician medical examiners and coroners, medical death investigators and medicolegal system administrators from throughout the United States and other countries.

NAME members provide the expertise to medicolegal death investigation that is essential to the effective functioning of the civil and criminal justice systems. NAME is now the national forum for the interchange of professional and technical information in this important segment of public administration. NAME seeks to promote excellence in the day to day investigation of individual cases as well as to improve the interaction of death investigation systems with other

agencies and political entities that interface with death investigation in each jurisdiction in this country.

Equally important as standards for performance and the technical scientific knowledge that NAME imparts, is a concept for the administrative and operational aspects of death investigation systems. The educational functions of NAME are simultaneously directed towards the development and improvement of administratively efficient, cost effective death investigation systems. The Association serves as the national forum for medical death investigators and system administrators for the discussion and dissemination of such information. NAME further encourages members to participate in the training of law enforcement officers, allied health professionals, paramedical personnel and others who interface with death cases.

B. <u>COLLEGE OF AMERICAN PATHOLOGISTS</u>.

The College of American Pathologists is the leading organization of board-certified pathologists and serves patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine worldwide. The College of American Pathologists (CAP), celebrating 50 years as the gold standard in laboratory accreditation, is a medical society serving more than 18,000 physician members and the global laboratory community. It is the world's largest association composed exclusively of board-certified pathologists

and is the worldwide leader in laboratory quality assurance. The College advocates accountable, high-quality, and cost-effective patient care. The more than 18,000 pathologist members of the College of American Pathologists represent board-certified pathologists and pathologists in training worldwide.

CAP's membership represents a wide array of pathology subspecialties including those with specialized training and experience in the subspecialty of forensic pathology who are actively engaged in medicolegal autopsies and death investigations and skilled in interpreting injuries in both fatal and non-fatal cases, determining disease/injury causation to an appropriate degree of medical certainty and determining cause and manner of death.

II. ARGUMENT

EXPOSURE OF FORENSIC PATHOLOGISTS, MEDICAL EXAMINERS AND CORONERS TO CIVIL LITIGATION CHILLS THEIR PRINCIPLED AND FEARLESS DECISION-MAKING AND IMPAIRS THE FAIR AND EQUAL DISPENSATION OF JUSTICE

Forensic Pathologists perform their legislative duties as Medical Examiners and Coroners' Forensic Pathologists as an integral part of the judicial system. Medical Examiners and Coroners are required to determine and certify the Cause and Manner of Death after completion of their portion of the death investigation. There are myriad forces that attempt to influence the independence of the forensic pathologist's official actions -- not the least of which is the ever-present threat of civil litigation making accusations ranging from negligence, incompetence, bad

faith, evil intent and even conspiracy. Awareness and the threat of numerous lawsuits around the country against forensic pathologist's official actions have had a national "chilling effect" on the principled and fearless decision-making expected of the nation's forensic pathologists. (*See Affidavit of Gregory A. Schmunk*, Exhibit A, generally offered in support of the matters affecting members of the profession). If this chilling effect is permitted to continue and expand, it will impair the fair and equal dispensation of justice.

A. FORENSIC PATHOLOGISTS, MEDICAL EXAMINERS AND CORONERS HAVE A STATUTORY DUTY TO PERFORM DEATH INVESTIGATIONS, TO PERFORM POSTMORTEM EXAMINATIONS (INCLUDING AUTOPSIES), TO DETERMINE CAUSE AND MANNER OF DEATH, AND TO COMMUNICATE AND TESTIFY REGARDING THEIR FINDINGS AND CONCLUSIONS.

Throughout the country, Medical Examiners and Coroners carry out their statutory duties including the official act of certifying the Cause and Manner of Death after completing their death investigations. While various systems operate within our diverse nation, they all have one thing in common. At the root is the forensic pathologist exercising professional judgment and discretion in the death investigation leading to a professional opinion and determination of Cause and Manner of Death. Statutory and Common Law authority mandate the role, authority and duties of those cloaked with this public responsibility. In fulfilling this responsibility, the forensic pathologist is routinely called upon to perform a death investigation that includes various communications, the performance of

postmortem examinations that may include an autopsy and ancillary studies, formulation of opinions and the certification of Cause and Manner of Death; and to provide testimony regarding their findings and conclusions. There is a comprehensive envelope of official actions that are essential to the independent certification of death.

B. IN ORDER TO FULFILL THE STATUTORY DUTIES IMPOSED IN ACCORDANCE WITH NATIONAL STANDARDS OF PRACTICE, FORENSIC PATHOLOGISTS, MEDICAL EXAMINERS AND CORONERS ROUTINELY 1) PARTICIPATE IN INVESTIGATIONS; 2) COMMUNICATE WITH INVESTIGATING AUTHORITIES, FAMILY, EXPERTS, TECHNICIANS AND OTHERS; 3) PERFORM POSTMORTEM EXAMINATIONS INCLUDING AUTOPSIES AND ANCILLARY PROCEDURES AND TESTING; 4) FORMULATE OPINIONS AND ARRIVE AT CONCLUSIONS AS TO THE CAUSE AND MANNER OF DEATH; 5) PARTICIPATE IN IDENTIFICATION OF UNKNOWN BODIES; 6) PREPARE REPORTS; AND 7) TESTIFY.

The modern forensic pathologist is a physician specially trained and experienced in performing official death investigations leading to the preparation of a Report; certification of the Cause and Manner of Death; and providing testimony in court. Currently, the shorthand term "autopsy" is a colloquialism for the comprehensive panoply of activities engaged in by the forensic pathologist in the performance of their official public duties which by its very definition includes the formulation of opinions on cause and manner of death. The examination of the body includes not only gross dissection but frequently toxicologic analysis of fluids and often microscopic examination of tissues and is put in context of the

medicolegal death investigation in order to generate the autopsy report. In fact, according to the standards governing medical examiners as promulgated by NAME, "performing an autopsy" is inextricably intertwined with rendering conclusions; expressing opinions, and authoring a report. *See Forensic Autopsy Performance Standards, adopted at the Annual Scientific Meeting and endorsed by NAME with October 2012 amendments, see H-31, page 26.* (Exhibit B).

To narrowly interpret immunity so as to extend only to the mechanical act of wielding a scalpel during the postmortem examination, but not to the expression of opinions belies the very nature of the State's purpose in conducting such an examination. The Trial Court's narrow interpretation of the immunity afforded by A.R.S. §11-597(H) to extend to only the act of "participating in the autopsy" ignores the fact that subsection E mandates that, "If an autopsy is performed, a full record or report of the facts developed by the autopsy in the findings of the person performing the autopsy shall be properly made ..." (emphasis supplied). The act of performing an autopsy, and therefore immunity accorded for that, necessarily includes the act of making findings and rendering a report. In other words, there is no legitimate State purpose served by having a physical examination performed unless it is accompanied by the free expression of opinions, conclusions and a report that can be utilized by the State for medicolegal purposes; disease

intervention; quality assurance for healthcare; and accuracy in terms of medical diagnosis.

In the article *The Autopsy Report*, Koponen notes:

> "The autopsy examination culminates in the generation of an autopsy report. This report may be relatively simple and straightforward or may be voluminous and exceedingly complex. Ultimately, the autopsy report is not only a written description of the autopsy findings but also assembles and correlates these findings with the clinical setting, laboratory results, and imaging studies. **Thus, the autopsy report is the product of the postmortem anatomic examination and a complete assessment and integration of the patient's clinical data brought together to provide a purposeful accounting of this information. The value of the autopsy, no matter how thorough and skillfully performed, is greatly diminished if the findings and correlations cannot be adequately communicated to end users of this information. ...**" *See* Mark A. Koponen, M.D., *The Autopsy Report, April 8, 2010, Medscape.* Exhibit C.

In order to fulfill the statutory duties imposed upon the forensic pathologist in accordance with the National Standards of Practice, as reflected in *Forensic Autopsy Performance Standards*, a comprehensive approach is expected. The forensic pathologist routinely communicates with professionals of various types (e.g. law enforcement investigators, fire marshals, clinical physicians, forensic scientists, etc.). In addition, investigative communications may include family, friends, witnesses, experts, technicians, etc. The scene may be viewed or re-enactments may be performed. Postmortem examinations and ancillary studies are performed. These range from external examination to extensive internal

examination and may require gathering of trace evidence, biological samples for further testing, specialized examinations (e.g. anthropologist, odontologist, neuropathologist, radiologist, etc.), photography, recovery of projectiles or other objects of death, just to mention a few. The information is reviewed and analyzed, an opinion is formulated based upon all of the facts of the case, and ultimately a report is generated and the death is certified as to Cause and Manner of Death in the official death certificate.

In furtherance of the forensic pathologist's duties there is continued communication with families, public health officials, government agencies, civil and criminal attorneys, insurance adjustors, safety specialists, etc. Providing testimony in both criminal and civil matters is a routine and expected part of fulfilling the forensic pathologist's legally mandated responsibilities and inextricably intertwined with performing an autopsy.

C. EXPOSURE OF FORENSIC PATHOLOGISTS, MEDICAL EXAMINERS AND CORONERS TO CIVIL LITIGATION BASED UPON CRITICISMS OF THE PERFORMANCE OF THEIR STATUTORY DUTIES CREATES A COSTLY CHILLING EFFECT ON THEIR PRINCIPLED AND FEARLESS DECISION-MAKING AND INTERFERES WITH THE FREE EXCHANGE OF OBSERVATIONS, INVESTIGATION, ANALYSIS AND TESTIMONY THAT IS ESSENTIAL TO THE FAIR AND EQUAL DISPENSATION OF JUSTICE.

There are many societal benefits of a professionally determined Cause and Manner of Death. From a public health perspective, the Medical Examiner/Coroner System has historically provided critical information on health

trends, epidemics, institutional quality control and iatrogenic problems. It is critical to the criminal justice system, providing essential evidence and expert opinion necessary to the fair and equal dispensation of justice. Public safety is dependent upon the recognition of injuries in the home, workplace, roadways and public spaces and correlating them with the cause – so that preventive measures can be taken.

Principled and fearless decision-making is essential for forensic pathologists to be able to fulfill their duties. Exposing the dangers of unrestrained vehicle passengers faced strong pushback from the anti-seatbelt and anti-airbag factions. These safety features are now firmly established as life saving necessities. Deaths in police, prison or institutional custody frequently stimulate high emotion and public pressure. Linking consumer products to death can lead to intense pressure from corporate interests. Determinations that the death of a child is a homicide incite public fury. The Medical Examiner/Coroner frequently is in the maelstrom of controversy, whether it be regarding the Cause of Death, Manner of Death, or offering professional opinions, based upon the evidence, regarding circumstances surrounding death.

Threats of retaliation and lawsuits cannot help but have a chilling effect on the principled and fearless decision-making by the forensic pathologist where there is no legal protection from civil litigation that is based upon criticisms of the

performance of their statutory duties, which is precisely why the Arizona legislature extended immunity to those "participating in" an autopsy, which must be broadly construed to carry with it protection for the commensurate statutory obligation to render findings; make conclusions; and issue a report. See, A.R.S. §11-597(E) and (H); accord, *Forensic Autopsy Performance Standards*, Ex. A at p.26. The report is an integral part of performing the autopsy, not a separate act, and as such falls within the protection of this statutory immunity.

The medical examiner/coroner is frequently in a position similar to the judiciary, because there is a determination that frequently leaves a disgruntled party. Families are often upset by determinations of suicide as a manner of death. Determinations of homicide lead to prosecutions and, regardless of outcome, the accused may seek recompense from the Medical Examiner/Coroner. Similar situations arise from police and in custody deaths where the forensic pathologist's certification will be considered to "favor" either the police or the victim. If a forensic pathologist implicates a device or product in the causation of a death there may be legal action taken. There are civil claims for negligence against forensic pathologists based upon criticisms relating to the performance of the postmortem examination and certification; opinions rendered and testimony given; failure to perform procedures; performing unnecessary procedures; damaging the body; emotional distress; retention of tissues and disposal of retained tissues. Litigation

directed at the Medical Examiner/Coroner is limited only by the imagination of a talented expert in legal pleading. Without appropriate protections and immunity, this type of litigation is costly and time consuming, as it would otherwise require extensive discovery before dismissing even the most baseless claims.

In addition to the chilling effect on the principled and fearless decision-making of the forensic pathologist, failure to recognize immunity for civil claims relating to the performance of their statutory duties will lead to costly and time-consuming litigation, drawing limited resources away from the purpose of protecting the public. For example, in any homicide prosecution the defendant may sue the forensic pathologist for participating in a wrongful conviction or for wrongful prosecution if found not guilty or the charges are dismissed. A similar situation exists in the civil context where cause of death is an issue.

III. CONCLUSION

The National Association of Medical Examiners (NAME) and College of American Pathologists (CAP) support immunity from civil actions against Medical Examiners and Coroners relating to the performance of their official actions pursuant to their statutory duties, including the function of generating opinions of cause and manner of death and promulgating them in autopsy reports, death certificates, and testimony in court. To suggest that a medical examiner would have immunity for performing the autopsy but not issuing a report would be

analogous to suggesting that this Court enjoys judicial immunity for reviewing briefs and analyzing the authorities but not for making a decision and issuing a written opinion; much like this Court, the process of analyzing without reaching and sharing an ultimate opinion in writing renders the process incomplete. In the absence of such protection, there is a chilling effect on the independent, principled and fearless decision-making that is an essential component of the death investigation; certification of Cause and Manner of Death; and ultimate testimony.

RESPECTFULLY submitted this 30th day of January, 2013.

GARREY, WONER, HOFFMASTER & PESHEK, P.C.

By *__/s/ Shawna Murphy Woner__*

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EXHIBIT A

AFFIDAVIT OF GREGORY A. SCHMUNK, M.D.

STATE OF IOWA)
) ss.
COUNTY OF POLK)

I, Gregory A. Schmunk, M.D., being duly sworn, depose and state:

1. I serve as the President of the National Association of Medical Examiners (NAME).

2. In this capacity, I have reviewed and participated in the preparation of the Amicus Brief on behalf of the National Association of Medical Examiners relating to the matter styled as *Maricopa County and Kevin D. Horn vs. The Honorable Robert H. Oberbillig, Respondent Judge (Lisa Randall, et al., Real Parties in Interest)* bearing Maricopa County Superior Court No. CV2011-011867 and Arizona Court of Appeals No. 1CA-SA13-0021.

3. The public policy matters set forth within the Amicus Brief truly and accurately represent the concerns, considerations and factors affecting members of the National Association of Medical Examiners.

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. . .

. . .

4. The matters set forth within this Affidavit and the accompanying Brief are true and accurate to the best of my knowledge, information and belief.

FURTHER AFFIANT SAYETH NAUGHT.

DATED this 29th day of January, 2013.

Gregory A. Schmunk, M.D.

SUBSCRIBED AND SWORN TO before me this 29th day of January, 2013, by Gregory A. Schmunk.

Notary Public

My commission expires:

Commission # 744021

Expires - 11-17-15

11-17-15

EXHIBIT B

Forensic Autopsy Performance Standards

Prepared by:
Garry F. Peterson, M.D. (Committee Chair, 2005)
Steven C. Clark, Ph.D. (NAME Consultant)

Approved by General Membership
October 17, 2005 NAME Annual Meeting, Los Angeles, California
October 4, 2010 NAME Annual Meeting, Cleveland, Ohio

Amendments Approved by General Membership
October 16, 2006 NAME Annual Meeting, San Antonio, Texas
August 11, 2011 NAME Annual Meeting, Ketchikan, Alaska
October 8, 2012 NAME Annual Meeting, Baltimore, MD

(Sunset date August 11, 2016)

The National Association of Medical Examiners

Inspection, Accreditation and Standards Committee

David Fowler, M.D.
Chairperson

Jeffrey Jentzen, MD
Chairperson, Standards Subcommittee

Officers

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Preface

Efforts by the National Association of Medical Examiners (NAME) to promulgate practice standards began in the 1970s. These early efforts subsequently became focused on the operational aspects of medical examiner offices, resulting in the well-known NAME Office *Accreditation Checklist.* More recently, some members suggested that the time was ripe for standards that address the professional aspects of individual death investigations. Then-president Michael Bell appointed this committee to draft such standards.

The principal objective of these standards is to provide a constructive framework that defines the fundamental services rendered by a professional forensic pathologist practicing his or her art. Many forensic pathologists will exceed these minimal performance levels and are encouraged to do so.

NAME recognized that certain standards may not be applicable where they conflict with federal, state, and local laws. Deviation from these performance standards is expected only in unusual cases when justified by considered professional judgment.

National Association of Medical Examiners
Standards Committee
August 12, 2005

Committee and Panel Membership

NAME Standards Committee (2005)

Vernard I. Adams, M.D.
Michael D. Bell, M.D.
Vincent J. M. Di Maio, M.D.
Mary H. Dudley, M.D.
Karen L. Gunson, M.D.**
Charles M. Harvey, M.D.
Mary I. Jumbelic, M.D.*
Yvonne I. Milewski, M.D.
Joe A. Prahlow, M.D.
Victor W. Weedn, M.D., J.D.
Garry F. Peterson, M.D., J.D. (chair)
Tom A. Andrew, M.D.
Stephen J. Cina, M.D.*
Edmund R. Donoghue, M.D.
Marcella F. Fierro, M.D.
Randy L. Hanzlick, M.D.
John C. Hunsaker, M.D., J.D.
Bruce P. Levy, M.D.
Robert R. Pfalzgraf, M.D.
Gregory A. Schmunk, M.D.

* Completed initial survey instruments - unable to attend meetings.
** Nominated to the committee - unable to attend meetings.

Steven C. Clark, Ph.D. served as project director and Denise McNally, NAME Executive Director, provided administrative support.

External Review Panel (2005)

Mary E. S. Case, M.D.
Tracy S. Corey, M.D.
Michael A. Graham, M.D.
Jeffery M. Jentzen, M.D.
Stephen D. Cohle, M.D.
Joseph H. Davis, M.D.
Amy P. Hart, M.D.
Patricia J. McFeeley, M.D.

Section A: Medicolegal Death Investigation

The purpose of this section is to define responsibility for medicolegal death investigation and to outline the types of cases that are to be investigated by such systems. Investigations can be conducted by inquiry with or without examination. Inquiries are typically conducted via telephone interview, personal interview, or review of records. Examination may include scene investigation, external inspection, and forensic autopsy.

Standard A1 Responsibilities

Medicolegal death investigation officers, be they appointed or elected, are charged by statute to investigate deaths deemed to be in the public interest--serving both the criminal justice, civil justice and public health systems. These officials must investigate cooperatively with, but independent from, law enforcement and prosecutors. The parallel investigation promotes neutral and objective medical assessment of the cause and manner of death.

To promote competent and objective death investigations:

A1.1 Medicolegal death investigation officers should operate without any undue influence from law enforcement agencies and prosecutors.

A1.2 A forensic pathologist or representative shall evaluate the circumstances surrounding all reported deaths.

Standard A2 Initial Inquiry

Medicolegal death investigators assess each death reported to the office to determine whether it falls under their jurisdiction as outlined by statutes, rules, and regulations. The categories below are those which should receive further investigations to protect the public safety and health, and determine the cause and manner of death.

The forensic pathologist or representative shall investigate all:

A2.1 deaths due to violence.
A2.2 known or suspected non-natural deaths.
A2.3 unexpected or unexplained deaths when in apparent good health.
A2.4 unexpected or unexplained deaths of infants and children.
A2.5 deaths occurring under unusual or suspicious circumstances.
A2.6 deaths of persons in custody.
A2.7 deaths known or suspected to be caused by diseases constituting a threat to public health.
A2.8 deaths of persons not under the care of a physician.

Section B: Forensic Autopsies

The purpose of this section is to establish minimum standards for the selection of cases requiring forensic autopsy, who should perform the autopsies, need for special dissection or testing, and who is responsible for interpretations and formation of opinions.

Standard B3 Selecting Deaths Requiring Forensic Autopsies

Medicolegal death investigation officers are appointed or elected to safeguard the public interest. Deaths by criminal violence, deaths of infants and children, and deaths in the custody of law enforcement agencies or governmental institutions-- can arouse public interest, raise questions, or engender mistrust of authority. Further, there are specific types of circumstances in which a forensic autopsy provides the best opportunity for competent investigation, including those needing identification of the deceased and cases involving bodies in water, charred or skeletonized bodies, intoxicants or poisonings, electrocutions, and fatal workplace injuries. Performing autopsies protects the public interest and provides the information necessary to address legal, public health, and public safety issues in each case. For categories other than those listed below, the decision to perform an autopsy involves professional discretion or is dictated by local guidelines. For the categories listed below, the public interest is so compelling that one must always assume that questions will arise that require information obtainable only by forensic autopsy.

The forensic pathologist shall perform a forensic autopsy when:

B3.1 the death is known or suspected to have been caused by apparent criminal violence.
B3.2 the death is unexpected and unexplained in an infant or child.
B3.3 the death is associated with police action.
B3.4 the death is apparently non-natural and in custody of a local, state, or federal institution.
B3.5 the death is due to acute workplace injury.
B3.6 the death is caused by apparent electrocution.
B3.7 the death is by apparent intoxication by alcohol, drugs, or poison.
B3.8 the death is caused by unwitnessed or suspected drowning.
B3.9 the body is unidentified and the autopsy may aid in identification.
B3.10 the body is skeletonized.
B3.11 the body is charred.
B3.12 the forensic pathologist deems a forensic autopsy is necessary to determine cause or manner of death, or document injuries/disease, or collect evidence.
B3.13 the deceased is involved in a motor vehicle incident and an autopsy is necessary to document injuries and/or determine the cause of death.

Standard B4 Forensic Autopsy Performance

Performance of a forensic autopsy is the practice of medicine. Forensic autopsy performance includes the discretion to determine the need for additional dissection and laboratory tests. A forensic autopsy must be conducted by a licensed physician who is a forensic pathologist or by a physician who is a forensic pathologist-in-training (resident/fellow).* Responsibility for forensic autopsy quality must rest with the forensic pathologist, who must directly supervise support staff. Allowing non-forensic pathologists to conduct forensic autopsy procedures without direct supervision and guidance is fraught with the potential for serious errors and omissions.

Autopsies shall be performed as follows:

B4.1 the forensic pathologist or residents in pathology perform all autopsies.
B4.2 the forensic pathologist directly supervises all assistance rendered during postmortem examinations.
B4.3 the forensic pathologist or residents in pathology performs all dissections of removed organs.
B4.4 the forensic pathologist determines need for special dissections or additional testing.
B4.5 the forensic pathologist shall not perform more than 325 autopsies in a year. Recommended maximum number of autopsies is 250 per year.

Standard B5 Interpretation and Opinions

Interpretations and opinions must be formulated only after consideration of available information and only after all necessary information has been obtained. As the person directing the investigation, the forensic pathologist must be responsible for these activities, as well as the determination of cause of death and manner of death (for the death certificate).

Autopsies shall be performed as follows:

B5.1 the forensic pathologist reviews and interprets all laboratory results the forensic pathologist requested.
B5.2 the forensic pathologist reviews all ancillary and consultative reports the forensic pathologist requested.
B5.3 the forensic pathologist determines cause of death.
B5.4 the forensic pathologist determines manner of death.

* Elsewhere in these standards, where the word "pathologist" appears, it means a physician who is a pathologist or a pathologist-in-training (resident/fellow), as defined by the ACGME.

Section C: Identification

The purpose of this section is to establish procedures for sufficient identification of the deceased, to document information needed to answer questions that may later arise, and to archive information needed for putative identification before burial of unidentified remains.

Standard C7 Standard Identification Procedures

Methods of identification are determined on an individual case basis, but can include viewing of the remains, either directly or by photograph, and comparison of dentition, fingerprints, or radiographs. A photograph of the face, labeled with the case number, documents and preserves the appearance at the time of identification. The same photograph can also be used to minimize and prevent potential errors when multiple fatality incidents occur. When more traditional methods fail in the determination of identification, a routinely-obtained DNA sample may be used to link the remains either to a known antemortem or kindred sample. In addition, a DNA specimen is particularly important for later questions of identity as well as for potential familial genetic analysis and criminalistic comparisons. Preservation of all data used to determine identification is necessary to address future questions and can provide the opportunity for a second objective determination of identification.

In support of identification of the body:

C7.1 the forensic pathologist assesses the sufficiency of presumptive identification.
C7.2 the forensic pathologist or representative takes identification photographs with case number in photograph.
C7.3 the forensic pathologist or representative obtains and archives specimen for DNA on all autopsied cases.

Standard C8 Procedures Prior to Disposition of Unidentified Bodies

Prior to disposition of the unidentified remains, inventory and archiving of potentially useful objective data are required. A forensic autopsy can disclose medical conditions useful for identification. Full-body radiographs document skeletal characteristics and radio-opaque foreign bodies such as bullets, pacemakers, and artificial joints. Dental charting and radiography preserve unique dental characteristics. The documentation of a decedent's clothing and personal effects archives details that are familiar to the next-of-kin. Careful preservation and archiving provide an objective basis for future identification and thereby avoid the need for exhumation.

Prior to disposition of an unidentified body the forensic pathologist shall:

C8.1 perform a forensic autopsy.
C8.2 take or cause to be taken radiographs of head, neck, chest, extremities, and torso in their entirety.
C8.3 cause the dentition to be charted and x-rayed.
C8.4 document or cause to be documented decedent's clothing and personal effects.

Section D: External Examinations: General Procedures

The purpose of this section is to establish minimum standards for the external examination of all bodies.

Standard D9 Preliminary Procedures

These standards underscore the need for assessment of all available information prior to the forensic autopsy to (1) direct the performance of the forensic autopsy, (2) answer specific questions unique to the circumstances of the case, (3) document evidence, the initial external appearance of the body, and its clothing and property items, and (4) correlate alterations in these items with injury patterns on the body. Just as a surgeon does not operate without first preparing a history and physical examination, so must the forensic pathologist ascertain enough history and circumstances and may need to inspect the body to decide whether a forensic autopsy is indicated and to direct the forensic autopsy toward relevant case questions.

Preliminary procedures are as follows:

D9.1 forensic pathologist reviews the circumstances of death prior to forensic autopsy.
D9.2 forensic pathologist or representative measures and records body length.
D9.3 forensic pathologist or representative measures and records body weight.
D9.4 forensic pathologist examines the external aspects of the body before internal examination.
D9.5 forensic pathologist or representative photographs, or forensic pathologist describes decedent as presented.
D9.6 forensic pathologist documents and correlates clothing findings with injuries of the body in criminal cases.
D9.7 forensic pathologist or representative identifies and collects trace evidence on clothing in criminal cases.
D9.8 forensic pathologist or representative removes clothing.
D9.9 forensic pathologist or representative photographs or lists clothing and personal effects.

Standard D10 Physical Characteristics

The external examination documents identifying features, signs of or absence of disease and trauma, and signs of death. Recording identifying features provides evidence for or against a putative identification. Recording signs of disease and trauma is a primary purpose of the forensic autopsy.

The forensic pathologist shall:

D10.1 document apparent age.
D10.2 establish sex.
D10.3 describe apparent race or racial characteristics.
D10.4 describe hair.
D10.5 describe eyes.
D10.6 describe abnormal body habitus.
D10.7 document prominent scars, tattoos, skin lesions, and amputations.
D10.8 document presence or absence of dentition.
D10.9 inspect and describe head, neck, thorax, abdomen, extremities, and hands.
D10.10 inspect and describe posterior body surface and genitals.
D10.11 document evidence of medical or surgical intervention.

Standard D11 Postmortem Changes

Recording *livor mortis* helps to answer later questions about bruises and body position. Notation of postmortem artifacts is useful for interpretation of subsequent forensic autopsy findings. Each of these may be useful in estimation of the postmortem interval.
The forensic pathologist shall:

D11.1 describe *livor mortis*.
D11.2 describe postmortem changes.
D11.3 describe evidence of embalming.
D11.4 describe decompositional changes.
D11.5 describe rigor mortis.

Section E: External Examinations: Specific Procedures

The purpose of this section is to establish minimum standards for external examination of bodies with documentation of injuries or suspected sexual assault.

Standard E12 Suspected Sexual Assault

Collection of swabs, combings, clippings, and trace evidence may be necessary to 1) determine if sexual assault occurred; 2) link multiple, apparently unrelated deaths; or 3) link the death to an assailant. DNA analysis is now the test of choice on swabs, hair, and fingernail clippings. These collections shall be performed in accordance with the requirements of the crime laboratory procedures.

The forensic pathologist or representative shall, prior to cleaning the body:

E12.1 collect swabs of oral, vaginal, and rectal cavities.
E12.2 collect pubic hair combings or tape lifts.
E12.3 collect fingernail scrapings or clippings.
E12.4 collect pubic and head hair exemplars.
E12.5 identify and preserve foreign hairs, fibers, and biological stains.

Standard E13 Injuries: General

Documentation of injuries may be necessary to determine the nature of the object used to inflict the wounds, how the injuries were incurred, and whether the injuries were a result of an accident, homicide, or suicide. Written, diagrammatic, and photographic documentation of the injuries may be used in court. Observations and findings are documented to support or refute interpretations, to provide evidence for court, and to serve as a record.

The forensic pathologist shall:

E13.1 describe injuries.
E13.2 describe injury by type.
E13.3 describe injury by location.
E13.4 describe injury by size.
E13.5 describe injury by shape.
E13.6 describe injury by pattern.

Standard E14 Photographic Documentation

Photographic documentation complements written documentation of wounds and creates a permanent record of forensic autopsy details. Photographic documentation of major wounds and injury shall include a reference scale in at least one photograph of the wound or injury to allow for 1:1 reproduction.

The forensic pathologist or representative shall:

E14.1 photograph injuries unobstructed by blood, foreign matter, or clothing.
E14.2 photograph major injuries with a scale.

Standard E15 Firearm Injuries

Documentation of firearm wounds as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation.

The forensic pathologist shall:

E15.1 describe injuries.
E15.2 measure wound size.
E15.3 locate cutaneous wounds of the head, neck, torso, or lower extremities by measuring from either the top of head or sole of foot.
E15.4 locate cutaneous wounds of the head, neck, torso, or lower extremities by measuring from either the anterior or posterior midline.
E15.5 locate cutaneous wounds of the upper extremities by measuring from anatomic landmarks.
E15.6 descriptively locate cutaneous wounds in an anatomic region.
E15.7 describe presence or absence of soot and stippling.
E15.8 describe presence of abrasion ring, searing, muzzle imprint, lacerations.

Standard E16 Sharp Force Injuries

Documentation of sharp force injuries as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation.

The forensic pathologist shall:

E16.1 describe wound.
E16.2 measure wound size.
E16.3 locate wound in anatomic region.
E16.4 estimate depth of wound
E16.5 determine organs and structures involved
E16.6 estimate direction of stab wound tracks

Standard E17 Burn Injuries

Documentation of burn injuries as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation.

The forensic pathologist shall:

E17.1 describe appearance of burn.
E17.2 describe distribution of burn.

Standard E18 Patterned Injuries

Documentation of patterned injuries as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation. Bite marks should be swabbed to collect specimens to use for DNA comparison with putative assailants.

The forensic pathologist shall:

E18.1 measure injury size.
E18.2 describe location of injury.
E18.3 describe injury pattern.
E18.4 swab recent or fresh bite mark.

Section F: Internal Examination

The purpose of this section is to establish minimum standards for internal examinations.*

Standard F19 Thoracic and Abdominal Cavities

Because some findings are only ascertained by *in situ* inspection, the thoracic and abdominal cavities must be examined before and after the removal of organs so as to identify signs of disease, injury, and therapy.

The forensic pathologist shall:

F19.1 examine internal organs *in situ.*
F19.2 describe adhesions and abnormal fluids.
F19.3 document abnormal position of medical devices.
F19.4 describe evidence of surgery.

Standard F20 Internal Organs and Viscera

The major internal organs and viscera must be examined after their removal from the body so as to identify signs of disease, injury, and therapy.

Procedures are as follows:

F20.1 the forensic pathologist or representative removes organs from cranial, thoracic, abdominal, and pelvic cavities.
F20.2 the forensic pathologist or representative records measured weights of brain, heart, lungs, liver, spleen, and kidneys.
F20.3 the forensic pathologist dissects and describes organs.

Standard F21 Head

Because some findings are only ascertained by *in situ* inspection, the scalp and cranial contents must be examined before and after the removal of the brain so as to identify signs of disease, injury, and therapy.

Procedures are as follows:

F21.1 the forensic pathologist shall inspect and describe scalp, skull, and meninges.
F21.2 the forensic pathologist shall document any epidural, subdural, or subarachnoid hemorrhage.
F21.3 the forensic pathologist shall inspect the brain *in situ* prior to removal and sectioning.
F21.4 the forensic pathologist shall document purulent material and abnormal fluids.
F21.5 the forensic pathologist or representative removes the dura mater and the forensic pathologist inspects the skull.

Standard F22 Neck

The muscles, soft tissues, airways, and vascular structures of the anterior neck must be examined to identify signs of disease, injury, and therapy. A layer-by-layer dissection is necessary for proper evaluation of trauma to the anterior neck. Removal and *ex situ* dissection of the upper airway, pharynx, and upper esophagus is a necessary component of this evaluation. A dissection of the posterior neck is necessary when occult neck injury is suspected.

The forensic pathologist shall:

F22.1 examine *in situ* muscles and soft tissues of the anterior neck.
F22.2 ensure proper removal of neck organs and airways.
F22.3 examine neck organs and airways.
F22.4 dissect the posterior neck in cases of suspected occult neck injury.
F22.5 perform anterior neck dissection in neck trauma cases.

Standard F23 Penetrating Injuries, Including Gunshot and Sharp Force Injuries

Documentation of penetrating injuries as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation. The recovery and documentation of foreign bodies is important for evidentiary purposes. Internal wound pathway(s) shall be described according to organs and tissues and size of defects of these organs and tissues.

The forensic pathologist shall:

F23.1 correlate internal injury to external injury
F23.2 describe and document the track of wound
F23.3 describe and document the direction of wound
F23.4 recover foreign bodies of evidentiary value
F23.5 describe and document recovered foreign body

Standard F24 Blunt Impact Injuries

Documentation of blunt impact injuries as listed below should include detail sufficient to provide meaningful information to users of the forensic autopsy report, and to permit another forensic pathologist to draw independent conclusions based on the documentation.

The forensic pathologist shall:

F24.1 describe internal and external injuries with appropriate correlations.
F24.2 describe and document injuries to skeletal system.
F24.3 describe and document injuries to internal organs, structures, and soft tissue.

Section G: Ancillary Tests and Support Services

The purpose of this section is to establish minimum standards for the use of scientific tests, procedures, and support services. This section also addresses the need for certain equipment and access to consultants. For toxicology reports, it also specifies the report content needed by the forensic pathologist for interpretation and establishes minimum standards for handling and documenting evidence.

Standard G25 Radiography

Radiographs of infants are required to detect occult fractures which may be the only physical evidence of abuse. Radiographs detect and locate foreign bodies and projectiles. Charred remains have lost external evidence of penetrating injury and identifying features.

The forensic pathologist or representative shall:

G25.1 X-ray all infants.
G25.2 X-ray explosion victims.
G25.3 X-ray gunshot victims.
G25.4 X-ray charred remains.

Standard G26 Specimens for Laboratory Testing

Specimens must be routinely collected, labeled, and preserved to be available for needed laboratory tests, and so that results of any testing will be valid. The blood specimen source should be documented for proper interpretation of results.

The forensic pathologist or representative shall:

G26.1 collect blood, urine, and vitreous.
G26.2 collect, package, label, and preserve biological samples.
G26.3 document whether blood is central, peripheral, or from cavity.

Standard G27 Histological Examination

Histological examination may reveal pathologic changes related to the cause of death.

The forensic pathologist shall:

G27.1 perform histological examination in cases having no reasonable explanation of the cause of death following gross autopsy performance, scene/circumstance evaluation, and toxicology examination, unless the remains are skeletonized or severely decomposed.

Standard G28 Forensic Pathologists' Access to Scientific Services and Equipment

The forensic pathologist requires access to special scientific services, equipment, and expertise. Radiographs, body weights, and organ weights are needed for evaluation of pathologic processes. These procedures need to be available during the forensic autopsy. Also, it is not reasonable, practical, or safe to carry bodies or organs to other locations for weighing or imaging.

The forensic pathologist shall have access to:

G28.1 a histology laboratory.
G28.2 a radiologist.
G28.3 a forensic anthropologist.
G28.4 a forensic odontologist.
G28.5 toxicology testing.
G28.6 on-site radiographic equipment.
G28.7 on-site body and organ scales.
G28.8 a clinical chemistry lab.
G28.9 a microbiology lab.

Standard G29 Content of Toxicology Lab Report

For correct interpretation, understanding, and follow-up of toxicology reports, the forensic pathologist requires specific knowledge of the items listed below.

The forensic pathologist shall require the toxicologist or the toxicology report to provide the:

G29.1 source of sample.
G29.2 type of screen.
G29.3 test results.
G29.4 method of analysis.

Standard G30 Evidence Processing

Custodial maintenance and chain of custody are legally required elements for documenting the handling of evidence.

The forensic pathologist or representative shall:

G30.1 collect, package, label, and preserve all evidentiary items.
G30.2 document chain of custody of all evidentiary items.

Section H: Documentation and Reports

The purpose of this section includes standards for the content and format of the postmortem record.

Standard H31 Postmortem Examination Report

Postmortem inspection and forensic autopsy reports must be readable, descriptive of findings, and include interpretations and opinions to make them informative. The report typically includes two separate parts of the forensic pathologist's work product, (1) the objective forensic autopsy with its findings including toxicological tests, special tests, microscopic examination, etc., and (2) the interpretations of the forensic pathologist including cause and manner of death.

The forensic pathologist shall:

H31.1 prepare a written narrative report for each postmortem examination.
H31.2 include the date, place, and time of examination.
H31.3 include the name of deceased, if known.
H31.4 include the case number.
H31.5 include observations of the external examination, and when performed, the internal examination.
H31.6 include a separate section on injuries.
H31.7 include a description of internal and external injuries.
H31.8 include descriptions of findings in sufficient detail to support diagnoses, opinions, and conclusions.
H31.9 include a list of the diagnoses and interpretations in forensic autopsy reports.
H31.10include cause of death.
H31.11include manner of death (where permitted or required by statute).
H31.12include the name and title of each forensic pathologist.
H31.13sign and date each postmortem examination report.

Terms and Definitions

1. Autopsy

An examination and dissection of a dead body by a physician for the purpose of determining the cause, mechanism, or manner of death, or the seat of disease, confirming the clinical diagnosis, obtaining specimens for specialized testing, retrieving physical evidence, identifying the deceased or educating medical professionals and students.

2. Cause of Death

The underlying disease or injury responsible for setting in motion a series of physiologic events culminating in death.

3. Direct Supervision

Supervision of personnel performing actions in the immediate presence of the supervisor.

4. Forensic Autopsy

An autopsy performed pursuant to statute, by or under the order of a medical examiner or coroner.

5. Forensic Pathologist

A physician who is certified in forensic pathology by the American Board of Pathology or who, prior to 2006, has completed a training program in forensic pathology that is accredited by the Accreditation Council on Graduate Medical Education or its international equivalent or has been officially "qualified for examination" in forensic pathology by the ABP.

6. Manner of Death

A simple system for classifying deaths based in large part on the presence or absence of intent to harm, and the presence or absence of violence, the purpose of which is to guide vital statistics nosologists to the correct external causation code in the International Classification of Diseases. The choices are natural, accident, homicide, suicide, undetermined, and in some registration districts for vital statistics, unclassified.

7. Medicolegal Death Investigator

An individual who is employed by a medicolegal death investigation system to conduct investigations into the circumstances of deaths in a jurisdiction.

8. Forensic Pathologist's "Representative"

Any individual who carries out duties under the direction or authority of the forensic pathologist. Individuals performing these various duties may range from technicians to licensed physician medical examiners, and may be law enforcement or crime laboratory technicians.

EXHIBIT C

The Autopsy Report

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Overview

The reasons for performing hospital autopsy examinations are varied, ranging from simple to complex. To the family, the reason may simply be to find out the cause of the death. To the physicians, the reason may be to uncover the progression and interactions of multiple disease processes and the effects of therapy. Ultimately, the autopsy examination provides a clinicopathologic correlation to be used by both the family and the patient's physicians.

The hospital autopsy pathologist is confronted with a wide variety of unique cases requiring specialized problem solving and autopsy procedures. These autopsy findings are correlated with the medical history (some of which is known before the autopsy and some becomes known after the examination), premortem imaging studies, premortem and postmortem laboratory studies, microscopic findings of tissues, toxicology, and other associated medical procedures and documents. Thus, often the real labor involved in a modern autopsy examination begins and ends outside of the morgue.

The autopsy examination culminates in the generation of an autopsy report. This report may be relatively simple and straightforward or may be voluminous and exceedingly complex. Ultimately, the autopsy report is not only a written description of the autopsy findings but also assembles and correlates these findings with the clinical setting, laboratory results, and imaging studies. Thus, the autopsy report is the product of the postmortem anatomic examination and a complete assessment and integration of the patient's clinical data brought together to provide a purposeful accounting of this information. The value of the autopsy, no matter how thorough and skillfully performed, is greatly diminished if the findings and correlations cannot be adequately communicated to end users of this information. (Autopsy communications will be discussed in a separate article.)

Various formats exist for autopsy reports. Reports may be exceedingly lengthy and detailed, as in a teaching institution, to an abbreviated and focused report, as is sometimes seen in community hospitals and medical examiners' offices. Several national medical organizations (National Association of Medical Examiners, College of American Pathologists) and textbooks on autopsy pathology have recommended specific guidelines for organizing and reporting the autopsy findings.[1, 2, 3, 4, 5]

A relatively standardized approach to assembling autopsy reports is seen largely as facilitating the review of reports by third parties and to facilitate data retrieval and analysis. In addition, such recommendations are seen as a move to standardization of policies and procedures, particularly in medical examiner offices. Although these recommendations vary slightly, the general format provides for a series of standardized headings to logically report autopsy findings. The use of "checklist" autopsy reports is discouraged.

Suggested Autopsy Report Headings

The various autopsy report headings provide some degree of flexibility. Sections may be combined or placed in a different order to facilitate the flow of information and to accommodate various individual or institutional styles. It is most important that the autopsy report contain all the information necessary to "stand alone" to support the cause of death statement.

Suggested headings for autopsy reports are as follows[2]:

- Autopsy Face Sheet
- Historical Summary
- Examination Type, Date, Time, Place, Assistants, Attendees
- Presentation, Clothing, Personal Effects, Associated Items
- Evidence of Medical Intervention

- Postmortem Changes
- Postmortem Imaging Studies
- Identification
- Evidence of Injury
- External Examination
- Internal Examination
- Histology Cassette Listing
- Microscopic Descriptions
- Toxicology Results, Laboratory Results, Ancillary Procedure Results
- Pathologic Diagnoses
- Summary and Comments
- Cause of Death Statement

An Overview of the Autopsy Report

Autopsy face sheet

The autopsy face sheet or the final anatomic diagnosis (FAD) is the first portion of the report that lists the autopsy diagnoses as well as all of the pertinent patient demographic data. This portion of the report is highly variable and institutionally dependent, but it should contain the autopsy results in an outline form. The College of American Pathologists has developed a recommended autopsy face sheet, which can easily be modified for use in any setting. [5]

Historical summary

This portion of the report is used to place the autopsy in context with perhaps a listing of the goals of the examination. A statement of the patient's medical history, laboratory and imaging studies, and historical circumstances may be included to give the reader of the report a sense of perspective of the events leading to the individual's death and postmortem examination.

Examination type, date, time, place, assistants, and attendees

This section reports the nature of the examination (complete autopsy, partial autopsy) and under what authority the examination is performed. The date, time, and place of the examination provides the when and where of the performance of the examination. This listing of time and place may give insight to the availability of ancillary studies or other limitations to the examination, which may prove important at a later date. The listing of attendees and assistants provides a manner in which to document the witnesses to the autopsy.

Presentation, clothing, personal effects, and associated items

The documentation of how the body was received and the state of the remains before the examination is highly important. The clothing, jewelry, and personal effects are to be painstakingly documented (and perhaps photographed). These items may have evidentiary value or at least very important emotional value to families, who always require an exacting accounting of such items. In addition, the state of the body upon receipt may help explain findings and artifacts not related to the autopsy examination and which occurred before receipt of the remains. Again, photographic documentation of the body as it was received may prove invaluable in addressing questions posed at a later date.

Evidence of medical intervention

This portion of the report is for a listing of all medical devices, no matter how routine, that were placed in the course of medical therapy. All tubes, catheters, puncture sites, bandages and other appliances that were placed in the patient are important and places iatrogenic artifacts into context. An example is soft-tissue hemorrhage associated with catheter placement within the neck. Without the description of the catheter in this section and yet the description of soft-tissue hemorrhage in the internal portion of the examination raises questions about the origin of the hemorrhage and may bring into question the completeness and accuracy of the autopsy report.

Also, it is prudent to leave certain medical appliances in place to check their proper placement during the internal portion of the autopsy examination. Endotracheal tubes, nasogastric tubes and central vascular catheters may not be properly placed and may be highly important in the final formulation of the cause of death.

Postmortem changes

Documentation of routine postmortem changes aids in interpretation of other autopsy findings. Rigor mortis, livor mortis, skin slippage, discoloration, malodor, etc, aid in establishing or confirming the postmortem interval as well as aid in interpretation of autopsy findings. Postmortem changes often complicate autopsy findings, in particular the microscopic examination of organs and tissues obtained at the postmortem examination.

Postmortem imaging studies

This section is for listing any postmortem imaging performed and the results of such studies.

Features of identification

Identification is rarely questioned in a hospital autopsy. Rarely, questions arise and usually occur long after the body is left the morgue. A listing of identifying marks and scars (including detailed descriptions of tattoos and healed surgical incisions), body weight and length, hair color, condition of dentition, etc, are features that are commonly recorded.

External examination

The external portion of the examination, like all other sections of the report, requires detailed observations organized in a logical manner. This portion of the exam is especially important in a forensic examination; however, it can also be highly relevant in a hospital autopsy.

The condition of the body externally is often a major concern of the funeral home personnel and, ultimately, the families. Depending on the nature of the case, pertinent negatives can be included throughout the report. Descriptions to include body height, weight, nutrition, body symmetry, eyes (iridies, sclera, conjunctiva), nose, ears, mouth, teeth, neck, chest, abdomen, genitalia, and extremities give the reader of the report a sense of the condition of the body at the time of the examination, and the quality of the detail gives credence to the overall accuracy and thoroughness of the report.

Fetal and perinatal autopsies should include a detailed gross and microscopic examination of the placenta. In addition, pediatric autopsies require additional measurements to be taken (ie, head circumference, abdominal circumference, etc), which should be tabulated in the report. This information places the autopsy findings within a developmental context.[5] (The fetal, perinatal, and pediatric autopsy will be discussed in a separate article.)

Internal examination

The internal portion of the examination is the central portion of the examination and deserves a thoroughness and attention to detail that justifies the autopsy and the original goals of the examination. Obviously, all internal organs should be inspected, weighed, and described. All positive findings should have qualifiers (measurements, color, or degree [eg, mild, moderate, severe]) to give the reader a sense of the magnitude of the abnormality. Pertinent negatives should also be listed based on the peculiarities of the case. A possible outline for the internal examination section of the report follows:

- Body cavities
    - Organ arrangement
    - Presence or absence of fluids and adhesions
    - General appearance of viscera (degree of decomposition, color, malodor)
    - Adipose layer of anterior abdominal body wall
- Central nervous system
    - Weight
    - Configuration
    - Meninges
    - Abnormalities evident externally (hemorrhage, herniations, infection, etc)
    - Blood vessels
    - Internal abnormalities
    - Ventricular system
    - Pituitary
    - Scalp and skull
- Neck
    - General appearance

    - Thyroid gland
    - Lymph nodes
    - Airway
    - Blood vessels
- Cardiovascular system
    - Weight
    - Configuration
    - Coronary arteries
    - Valves (including circumferences, if abnormal)
    - Myocardium (including left and right ventricular wall thickness)
    - Aorta and vena cava
- Respiratory system
    - Lung weights
    - General appearance
    - Tracheobronchial tree
    - Parenchyma appearance, with details of diffuse or focal lesions
- Liver and biliary system
    - Weight
    - Color
    - Consistency
    - Gall bladder and contents
- Gastrointestinal tract
    - Esophagus
    - Stomach
    - Pancreas
    - Small intestine
    - Large intestine
    - Rectum
- Genitourinary tract
    - Kidney weights
    - Kidney appearance
    - Ureters
    - Bladder
    - Male pelvic organs
    - Female pelvic organs
- Reticuloendothelial system
    - Spleen weight
    - Appearance of lymph nodes
    - Thymus (if present)
- Musculoskeletal system
    - General appearance of bones, musculature, and soft tissues

Histology cassette listing and microscopic descriptions

Any number of tissues may be submitted for examination, which is dictated by the nature of the case. In addition, at the discretion of the autopsy pathologists, tissues may be retained and preserved in formalin to serve as a source of additional tissue for microscopic examination. Tissues may also be retained and fixed in formalin, resulting in a firmer consistency, which aids in the ability to obtain quality sections.

Toxicology, laboratory, and ancillary procedure results

The results for all tests (including toxicology, microbiology, chemistry, etc) should be listed in a logical sequence. Occasionally, such testing provides important information that is highly important to the final formulation of the cause of death. Listing these results in the autopsy report allow the report to "stand alone," without the addition of pages of supporting documents that can be lost or difficult to place into context.

Pathologic diagnosis

In this section, the final anatomic diagnoses are listed in an organized and systematic manner. This can be done in one of several manners, but in general, the diagnoses should be listed in a hierarchical manner, starting with the most relevant pathologic processes that culminated in the patient's death, then those of lesser importance, and finally those of incidental consequence.

One organizational scheme lists the diagnoses by major pathologic entities, followed by subheadings that list the related pathologies or consequences of the major pathologic entity. An example would be the following:

I. Pericardial tamponade.

A. Rupture of acute myocardial infarction of the anterior left ventricular myocardium.

B. Atherosclerotic coronary vascular disease.

C. Thrombosis of the left anterior descending coronary artery.

This manner of listing the autopsy diagnoses connects multiple consequences of the major pathologic entity and provides a series of cause-and-effect relationships for the reader of the report. A drawback of this method is that there may be some redundancy in the listing of diagnoses, as some interrelationship between closely related pathologic entities. An example of this would be hypertensive heart disease and atherosclerotic coronary vascular disease, both of which may result in myocardial ischemia and arteriolonephrosclerosis.

A second method that is utilized lists all diagnoses by organ system, either in a prescribed order or by importance in the overall context of the death. However, this approach does not readily link associated disease processes, particularly processes that involve more than one organ system, such as sepsis or lupus erythematosus. Thus, the various causes and effects can end up linked by long connecting phrases, such as "due to" or "as a consequence of," which may be satisfactory but awkward.

A third approach is to list the cause of death, followed by a list of the "Intervening Cause(s) of Death," a listing of "Other Significant Contributing Conditions to the Death," and finally "Miscellaneous Findings."

Pediatric autopsy reports are often best written in the context of development. Wherever organ weights are listed, normal ranges for the gestational age are also given. Body heights and weights are listed along with the "Percentile for Age."

Summary and comment

This section of the autopsy report is for summarizing the gross and microscopic autopsy findings, along with history and pertinent imaging and laboratory test results. This summary relates the clinical findings with the autopsy findings in a concise fashion and attempts to answers the major questions that were hopefully well defined at the beginning of the examination.

Cause of death statement

The cause of death statement, which is also included on the face sheet, correlates the autopsy report to the cause of death in a standard format.

The summary and comment, along with the cause of death statement, are often combined in a section often called "Opinion." In this section the cause of death statement is the first or last sentence, with the remainder of the paragraph(s) supporting or leading up to the cause of death.

CONCLUSION

Autopsy reports are medicolegal documents that not only report the anatomic findings of the postmortem examination but which also provide detailed clinicopathologic correlations. Anything less greatly diminishes the value and utility of the autopsy examination. The performance of an autopsy has barely changed in the past 100 years, but it is precisely this clinicopathologic correlation -- and the questions that only an autopsy can answer -- which ensures the procedure its place in the practice of medicine.