



H99 Jay Dix Memorial Bonus Day

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Learning Overview: After attending this presentation, attendees can expect to understand how and why deaths related to the topics specified below occur. Attendees will learn a systematic approach to the evaluation of such deaths that can easily be implemented in their daily practices.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing attendees with a comprehensive review of what causes and contributes to deaths related to the topics specified below. Attendees will be able to systematically evaluate deaths they encounter in their daily practices in which the topics specified below may have played a role.

A proper medicolegal death investigation is a multidisciplinary process that often involves non-medical personnel as well as medical professionals. This annual lecture series provides non-forensic pathologist forensic scientists a basic review of selected topics in forensic pathology in order to increase familiarity and understanding and enhance inter-discipline communication.

This year's lecturers will discuss the medicolegal investigation of deaths related to environmental conditions, deaths due to asphyxia, deaths due to firearm injuries, deaths involving blunt and sharp force trauma, and deaths temporally associated with law enforcement custody.

Electricity is a ubiquitous entity in our lives. Some of it is intentionally generated to provide power, and some of it originates as a force of nature (lightning). Interaction between humans and electricity is common and typically has no untoward effects. However, under some conditions this interaction may result in morbidity and/or mortality. Multiple causes, mechanisms, and contributory factors play a role in injury and deaths involving electricity. Understanding and evaluating injuries and deaths in which electricity may have played a role requires basic knowledge of electricity and how it affects various biological vital functions. Recognition of injuries and deaths caused by electricity is particularly important because of implications regarding the safety of others. This lecture will provide a comprehensive review of these issues.

Blunt and sharp force injuries encompass the major categories of mechanical injury. Blunt force injuries are among the most common injuries sustained by persons. These injuries include abrasions (scrapes), contusions (bruises), and lacerations (tears). Blunt force is also a substantial component of chop wounds, injuries caused by relatively heavy-edged objects, such as a machete or axe. Sharp force injuries result from the mechanical division of tissues by edged or pointed objects. Sharp force injuries include stab wounds, cuts (incised wounds), and chop wounds. Multiple factors and mechanisms are involved in injuries and deaths involving blunt and sharp forces. Understanding and evaluating injuries and deaths in which these forces may have played a role requires basic knowledge of these injuries and how to distinguish them from other types of trauma, recognition of patterned injuries, and recognition of injury patterns. This lecture will provide a comprehensive review of these issues.

Human life requires the uptake and utilization of oxygen along with the release of metabolic waste. Failure of these processes leads to asphyxia. Proper evaluation of asphyxial deaths requires knowledge of the entities that cause asphyxia, pathophysiologic mechanisms, asphyxia death scenarios, and factors that contribute to death. This lecture provides comprehensive discussion of the investigation of deaths that may involve asphyxia.

Firearm fatalities are a major cause of non-accidental morbidity and mortality in the United States. Multiple factors and mechanisms are involved in producing firearm injuries. Understanding and evaluating firearm injuries requires a basic understanding of how these injuries are produced and how to distinguish them from other types of trauma. This lecture will provide a comprehensive review of these issues.

There are multiple causes, mechanisms, and contributory factors that can play a role in deaths that are temporally related to law enforcement apprehension and custody. The apprehension and custody process can be divided into several stages—pre-apprehension, apprehension, and incarceration. Particular diseases and injuries tend to occur and/or become manifest during each of these stages. This lecture will systematically review what diseases and injuries cause/contribute to death in the apprehension and custody process, how they affect physiology and anatomy, when they are typically operative and how they are manifested. This lecture will review the conceptual and practical aspects of understanding and investigating deaths temporally related to apprehension and custody.

Medicolegal, Death Investigation, Forensic Pathology