

## MC.012—Forensic Investigation and Analysis for Fire Related Deaths

### **Scientific Merit for Achievement:**

The cadaveric specimens provide an opportunity for learners to have hands-on practice and testing with human anatomy. The learners may receive training via three or more ways such as simulation, live animal and NAM. Each of these training modalities provides a different perspective to the overall procedure. Overall, the NAM portion of the training is pivotal for the completeness of the learning process.

### **Objective:**

To illustrate and learn from how the human body burns for arson and death investigators. Lectures will cover topics of accidental fires and normal burn patterns as it applies to forensic casework, and features of homicide, particularly identification of traumatic injury for differentiating manner of death between accidental or criminal attempts to destroy evidence of the body with fire. Frequently evidence can be misinterpreted and an innocent person is wrongfully charged with a crime. The best way to minimize these problems is through scientific education and training for officers of the law who investigate difficult cases of fatal fires.

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### **Methodology to Achieve Objective:**

By utilizing fresh-frozen cadaver specimens, the sponsor will perform, teach, and/or perfect various methods to investigate fire related deaths in a variety of settings. The utmost care will be taken in handling the donors with the most atraumatic approach possible to preserve the utmost respect and honor for the donor, and to maintain the aforementioned consistency with true to life forensic cases. These procedures, analyses, and investigations include, but are not limited to, survey of different types of normal heat damage to tissues of the body, victim charting and burn patterns associated with accidental house and car fire cases, introduction to normal burn patterns of the body and the pugilistic posture, normal burn patterns of the arms and legs that show the process before, during, and after the fire, features of the pugilistic posture, fat, muscle, and burn patterns to bone as permanent evidence of how the body burned, the effects of traumatic injury to the body prior to the fire, and how trauma produces deviations in how the body burns, examples of penetrating injury of deep wounds, broken bones and evidence of injury in burned human remains (as obtained from procedures performed at MERI prior to this study), normal burn patterns of the head, followed by the effects of gunshot wounds, blunt force injury, and sharp force injury and what survives the fire for forensic analysis, myths of the skull changes and burn patterns of the teeth for recovery and personal identification, postmortem interval- when was the body burned and the effects of decomposition, and accelerants on the body and their burn patterns. During the practice or perfection of many of the aforementioned techniques the presence of MERI staff will be imperative to maintain strict adherence to this curriculum. Additionally, due to the variant nature of this course from the majority of the MERI curriculums, notification will be made to the family and/or legal authorizing party of any donors participating in this course, prior to the course.

**Equipment, Supplies, and/or Instrumentation Potentially Required for Methodology:**

- General Instrumentation (MERI provided)
  - PPEs (Gloves, Gowns, Masks with Shields, Caps, and Shoe Covers)
  - Other specialty items specified by sponsor.
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**Qualified Learners/Participants:**

These individuals shall include board certified physicians, resident physicians, physician assistants, nurses, and other medical and non-medical learners/participants. Typically, the students are of the same specialties and of the same position in the medical/surgical field, field of study or the medical device industry.

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**Sponsors Approved in Utilization of Curriculum:**

- Category “A”-Sponsors shall mean medical device companies, professional societies, and federal, state or local government agencies.
  - Category “B”-Independent board-certified physicians, healthcare professionals and others shall be subject to MERI’s Sponsor Application process.
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**Faculty Approved for Instruction of Curriculum:**

## 1) Client Sponsored Event:

Credentials review of Sponsor’s faculty and other teaching specialists is exempt from MERI’S Academic Review Board review. However, MERI expects that normally maintained faculty, teaching specialists, and Sponsor representatives are educated and trained in the content outlined in the curriculum and have other demonstrated competencies within the specific discipline or field of study to instruct learners so they maintain and improve the quality of medical care by enhancing professional skills. A fully executed “Sponsor Agreement” between MERI and outside organizations shall serve as assurance of faculty competency.

## 2) MERI Sponsored Event

a) None at this time.

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**Escorted by MERI Personnel or Non-Escorted:**

- Category “A”-Sponsors as listed in “Sponsor Approved for Utilization of Curriculum” are approved to utilize MERI services both escorted and non-escorted.
- Category “B”-Sponsors as listed in “Sponsors Approved for Utilization of Curriculum” are subject to utilization of escorted and/or non-escorted services through MERI’s “Sponsor Application” process.