

THE

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CONTACT US:

Publication, editorial, and advertising offices of ACFEI, 2750 E. Sunshine Street, Springfield, MO 65804. Phone: (417) 881-3818, Fax: (417) 881-4702, Email: editor@acfei.com. Subscription changes should be sent to ACFEI, 2750 E. Sunshine, Springfield, MO 65804.

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Publisher: Robert L. O'Block, MDiv, PhD, PsyD, DMin
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Senior Writers: Erica B. Simons, BS (erica@acfei.com), and
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Designed by: Brandon Alms, BFA (brandon@acfei.com)

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Can Trauma Cause or Accelerate the Growth of

CANCER

By **Melvin A. Shiffman**, MD, JD,
DABFE, DABFM, FACFEI

Key Words: trauma, cancer, workers' compensation, physical injury, cause of cancer



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Abstract

The association of trauma (physical injury) with the onset or acceleration of the growth of cancer has been difficult to establish, and the medical community has had a variety of opinions on the topic. An increased rate of cancer growth is easier to logically associate with a traumatic event or continuing trauma because of the prior presence of cancer and the close timing between the trauma and the acceleration. Some specific cancers are discussed where there appears to be an association to some types of trauma, as well as the legal aspects of the problem, with particular emphasis on workers' compensation.

Introduction

The relationship between trauma (external physical injury) and the appearance of a cancer in the area of the trauma is often difficult to establish. There are a variety of opinions that hinge on whether the trauma is single, multiple, or continuing; whether the opinion is in the legal arena rather than purely medical speculation or opinion; and if the trauma caused the cancer or if the growth of the cancer was accelerated by the trauma. The scientific evidence may be sparse, but there are instances where logic may associate the traumatic event with acceleration of the cancerous growth or the spread of an existing cancer.



Medical Scientifically Based Opinions

Basal Cell Carcinoma

Brodtkin and Bleiberg¹ concluded that a causal relationship between trauma and basal cell carcinoma (the most common type of skin cancer) has not been established. Basal cell carcinoma occurs in areas of maximum solar exposure and not in areas of chronic trauma, such as the hands, feet, beard area in males, and the collar and waist areas. It has been stated that the appearance of basal cell carcinoma after a single trauma requires predisposing changes in the skin, such as exposure to sunlight, tar, or petroleum products.^{2,3} There is a report that a solitary scratch might cause basal cell carcinoma.⁴ Treves and Pack⁵ stated that basal cell carcinoma occurred more frequently when a burn was superficial, sparing the

hair follicles and sweat glands, and when the burn was caused by hot solids.

Skin Cancer

Skin cancer can occur from burns, especially if the burns are deep and result in chronic ulceration, and is most frequently observed after a period of 20 to 40 years.⁶ The older the patient at the time of the burn, the shorter the period before the development of the cancer.⁷ Thick, dense scars are the type that usually give rise to squamous cell carcinoma.⁵ Solitary blows or scratches have been reported as causing skin cancer,⁸⁻¹⁰ as well as solitary burns with hot metal chips,¹¹ a bullet wound,¹² and surgical incisions.¹³

Native people living in the tropics may be predisposed to skin cancer, mainly squamous cell carcinoma, from scratches, abrasions, insect bites, and "tropical ulcers."¹⁴⁻¹⁶ Repeated or chronic trauma is more likely to result in the development of skin cancer than a single isolated trauma.¹⁷⁻²¹ In Kashmiri Indians, skin cancer develops in burn scars caused by wearing earthenware pots containing smoldering charcoal under the clothing.^{18,21,22} Some in the Chinese population have been known to develop the so-called "Kang Cancer" by sleeping on a bed of heated bricks.²³ Chronic heat exposure has been reported to cause cancer in areas of Erythema ab Igne.²⁴

A Marjolin's ulcer is ulceration in an old cicatrix (scar) that may degenerate into a squamous cell carcinoma that has a propensity to

metastasize. The cicatrix may be caused by any traumatic event.

Breast Cancer

A history of trauma is frequently obtained in cancer of the breast, but circumstances that establish a strong probability of traumatic origin are rare.²⁵ "Trauma from blows, or from hypodermic injections, may produce cicatricial masses which increase in size, restrict the skin of the breast, and are very difficult to distinguish on physical examination from carcinoma."²⁵

Van Netten et al²⁶ suggested that tissue injury in the area of in-situ carcinoma of the breast could be a factor in the development of invasive





cancer. The theory is that rupture of the ducts filled with in-situ carcinoma cells due to blows or severe compression could result in spillage or dislocation of these cells into the stroma. Tumor cells under these conditions would then be subjected to abnormal regulation, mimicking a continual healing process; it is known that metastases can arise at such sites. Macrophages are present in large numbers in most breast carcinomas, and interaction with the tumor cells could result in invasion and distant spread.²⁷

Compression during mammography can rupture cysts, and it is theorized that dissemination of cancer cells can result from the compression.²⁸ Kopans²⁹ disagrees that mammographic compression can cause dissemination of breast cancer. It has been shown³⁰ that applying 20 pounds of compression (standard mammography uses less) produces a pressure of one pound per square inch of the internal breast tissues. This is one sixth of the amount of focal pressure applied by clinical examination of the breast or

other forms of digital compression of the breast. The pressure from mammography is probably less than that applied to the breast when a woman lies prone.

Severe trauma to the head with brain concussion and skull fracture is a risk factor for prolactinoma³¹ and elevated prolactin levels.^{32,33} There is a relationship between elevated prolactin levels and the development of breast cancer in males.³⁴

Testicular Cancer

Trauma is a difficult variable to assess retrospectively as a potential cause of testicular cancer. Trauma severe enough to cause testicular atrophy is a putative factor for testicular cancer, but epidemiologic evidence is inconclusive.³⁵⁻³⁷ In a study that restricted testis trauma to those who sought medical attention, and with the exclusion of trauma reported within the past 12 months before diagnosis, the conclusion was that testicular trauma is not an important risk factor for testicular cancer.³⁸⁻⁴⁰ Trauma may bring the individual's attention to testicular swelling that was already present.

Bone Sarcoma

Although the general etiology of bone sarcoma is against traumatic origin, the reactions of bone tissue to injury give evidence favoring the theory that trauma may be the essential cause of certain benign and malignant tumors of the bone.⁴¹ Traumatic sarcomas of the bone develop from the periosteum and show a spindle-cell structure.⁴² Medullary sarcomas occur mainly in open wounds, distortions, and fractures, and develop only after a considerable latent period of time.⁴² It is estimated that no more than 4% of bone sarcomas are traumatic in origin.⁴²

Legally Based Opinions

Breast Cancer

In *Daly v. Bergstedt and Nielsen*,⁴³ the plaintiff in the case fell and injured her breast in a store. A bruise was noted and was followed with pain and ultimately

distress and discomfort. These symptoms continued until an examination 14 months later disclosed a lump at the location of the bruise; this lump was diagnosed by biopsy as cancer. The defendant contended that there was no factual basis in the record to establish a causal connection between the injury and the cancer. The Appeals Court held for the plaintiff in the case stating that, "although the absence of exact medical knowledge on the cause of cancer makes it impossible to say with absolute certainty whether a particular injury caused or aggravated a particular cancer, we are hardly compelled to say that a finding of cause and effect in a given case is without support in the evidence because such tenuous certainty exists...it is entirely reasonable to assume that this process that had been going on in the breast from the time of the blow up to the time of the cancer was a continuous course in which these cells were multiplying and gradually a year or 16 months later produced a mass large enough that could be easily palpated and led to the operation which showed it was a scirrhous carcinoma of the breast...it is my opinion that there is a definite causal relationship between the fall and the trauma to the breast to the later development of cancer which metastasized to the bones." "In the case before us, it seems that appellants refuse to recognize that legal determination for responsibility may differ from medical findings as to the cause or source of a disease...The law, however, endeavors to reach an inference of reasonable medical certainty, from a given event or sequence of events, and recognizes more than one cause for a particular injurious result."

The thrust of the plaintiff's case is that there is not only medical authority to the effect that trauma may produce cancer, but also that consideration of the entire chain of events should be taken into consideration. From the time of the trauma, in a woman in good health, to

the time when cancer developed at the exact point of the trauma, she was never healthy thereafter. The proven sequence of events provide a reasonable basis for the jury's verdict. "It is well established that a medical expert's opinion need not be free from doubt or capable of demonstration. It is only necessary that it be in his judgment true...The use of the words 'the most likely diagnosis' does not make the testimony speculative or conjectural but merely indicates the problem of all experts that, although their opinion be based upon tests and methods recognized and prescribed by the medical profession, nevertheless there is always the possibility of error."⁴⁴

Workers' Compensation Cases

There are a number of workers' compensation cases that have determined the association of trauma with acceleration or aggravation of the growth of cancer.⁴⁵ There are cases reported where compensation is awarded and cases where compensation is denied. The cancers addressed in these cases include brain tumors; cancers of the cheeks, lips, and salivary glands; cancer of the eye; cancer of the neck; cancer of the lungs and bronchial tubes; breast cancer; stomach cancer; cancer of the large intestine; cancer of the pancreas; cancer of the kidneys and liver; cancer of the bladder; cancer of the prostate; cancer of the male reproductive organs; cancer of the female reproductive organs; miscellaneous abdominal cancers; bone cancers; myelomas; leukemia; melanomas; lymphatic cancers; sarcomas; cancers of the back; metastatic cancer; cancers of the leg; and exposure to cancer-producing agents such as radiation, particulate irritants, and chemical irritants.

Wound Healing

The whole process of wound healing gives insight into the possible accelerating factors in the presence of a cancer. Wound healing is a sequential, reproducible progression of overlapping processes that requires the coordination

of a variety of cellular activities including phagocytosis, chemotaxis, mitogenesis, collagen synthesis, and synthesis of other matrix components.⁴⁶ Tissue trauma results in microvascular injury with extravasation of blood with activation of the coagulation process. Platelets trapped in the blood contain growth factors, including platelet-derived growth factor (PDGF), transforming growth factor-beta (TGF- β), and platelet-factor IV, which initiates wound healing by attracting and activating fibroblasts, endothelial cells, and macrophages. Platelets also contain vasoactive amines, such as serotonin, that increase microvascular permeability. Coagulation results in fibrin derived from factor I (fibrinogen) that provides the matrix for cell migration. The clot, consisting of fibrin and fibronectin, traps platelets, blood-borne cells, and plasma proteins.

The inflammation phase of healing starts with activation of complement (C5a, formylmethionyl peptide products from bacteria, and TGF- β) and infiltration of the wound with granulocytes (polymorphonuclear cells or PMNs) within 24 to 48 hours. Granulocytes remove bacteria and foreign debris from the wound. Macrophages (monocytes that have passed through the blood vessel wall into the wound) are attracted by chemo attractants, including complement, clotting components, immunoglobulin G (IgG) fragments, collagen and elastin breakdown products, and cytokines (leukotriene B₄, platelet factor IV, PDGF, and TGF- β) appear between 48 and 72 hours after the wound occurs. Lymphocytes appear from 3 to 8 days after wounding and may be involved in collagen and extracellular matrix remodeling. Fibroblasts, stimulated by growth factors, migrate into the wound after 4 to 10 days and synthesize collagen.

Angiogenesis is promoted by TGF- β and PDGF. The macrophages release angiogenic substances, such as tumor necrosis factor-alpha (TNF- α) and basic fibroblast growth factor (FGF).

Collagen synthesis and breakdown equilibrate approximately 21 days after wounding, but the extracellular matrix continues to remodel. There are a variety of other growth factors involved in the healing process. These include interleukins (IL-1), connective tissue growth factor (CTGF), keratinocytes growth factors (KGFs), insulin-like growth factor 1 (IGF-1), human growth hormone (HGH), and interferons (IFNs).⁴⁶

Discussion

A single trauma is unlikely to be the etiology of a cancer except in the case of bone sarcoma or Margolin's ulcer. The appearance of a malignancy shortly after injury is more likely to be due to a pre-existing cancer that has been brought to attention by the trauma.⁴² Chronic irritation or trauma are known to precede some cancers such as epithelioma of the tongue from jagged teeth, indolent ulcers, burns, and chronic sinuses from necrosing bone.⁴² "The clinical impression that normal tissues may react to injury by malignant proliferation is so much at variance with what is known about the origin of most tumors that it is always regarded with skepticism."⁴² It is now known that a cancer arises after multiple genetic chromosomal changes. A somatic genetic variation would have to occur after trauma. Since at least two genetic abnormalities are necessary for a cancer to develop, this would then need years for a cancer to become at least one centimeter in size (30 doublings) in order to be clinically diagnosable in most instances (except for skin cancer).

The association of a single trauma to an area on the body with the timely subsequent appearance of symptoms from an underlying cancer and/or the more rapid growth of the cancer may be indicative of the trauma causing the increased growth rate of the cancer. This requires a short interval of time between the trauma and the increased size and symptoms with a continuity of the two (area of injury the same as the area of the

cancer). Legally, the trauma must have been a reasonable medical probability (more likely than not or over 50%) the cause of the tumor growth. Absolute certainty or medical certainty (over 90%) is not necessary.

Trauma produces certain changes in the tissues that may be a potential bed for metastases.^{47,48} The trauma may act in some way to localize fixation of circulating cancer cells by increasing the circulation in the area. The inflammatory reaction also results in increased vascular permeability, which facilitates passage of the tumor cells into the tissues. Fibrinogen and fibrin formation may increase the fixation of tumor cells in the vessels.⁴⁷ The presence of macrophages may have a growth-promoting role.⁴⁸

Trauma induces growth-factor and immune-suppression mediated tumor progression.^{49,50} This could account for the accelerated growth of a cancer following trauma.

Physical massaging of a tumor, such as a breast tumor, can push cancer cells into the bloodstream and can be a possible source of distant metastases. This includes the habit of nursing personnel scrubbing the area of breast tumor surgery for sterilization of the skin with soap solutions instead of using gently applied betadine gel, or by multiple medical students pressing on a breast tumor for learning purposes.

Conclusions

Single trauma has been associated with the onset of cancer in bone or burn scars years later. In these instances, the physical traumatic event is considered the cause of the cancer. Single trauma to a cancer, resulting in a significant increase in tumor size over a short interval of time (months) compared to the growth rate before the trauma, may logically be considered a causative factor in the accelerated growth. The law does not require that the trauma be the only cause in the increased growth rate for there to be legal liability.

Metastatic cancer following a single trauma to the cancer cannot be proven to a reasonable degree of medical probability to have been caused by the trauma. It remains as only a medical possibility.

Multiple continuing traumas in the same region of the body (skin) is a known cause of cancer. The sun's harmful rays affect the skin cells over many years and can result in basal cell carcinoma, squamous cell carcinoma, or melanoma. Skin subjected to recurring trauma, such as excessive heat or irritation, can form skin cancer.

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About the Author

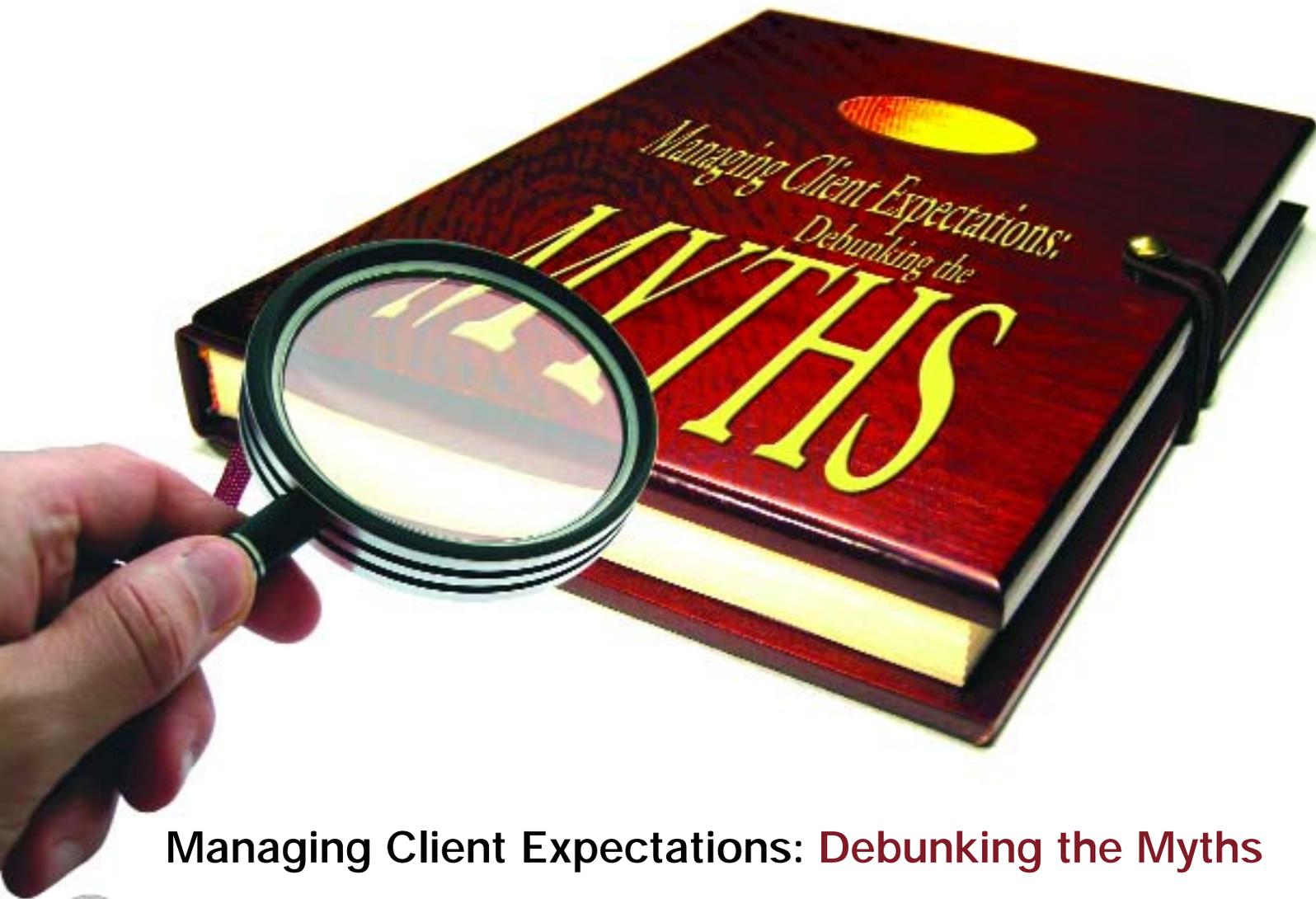
Melvin A. Shiffman, MD, is a Diplomate of the American Board of Forensic Examiners and the American Board of Forensic Medicine. He is also a Fellow of ACFEI and has been a member of the association since 1994. Dr. Shiffman received his MD from Northwestern University School of Medicine in 1957 and his JD from Western State University College of Law in 1976. He has been practicing in the field of general surgery, oncologic surgery, reconstructive, and cosmetic surgery over the past 40 years. He has been a medical-legal consultant in medical malpractice, personal injury, and medical board problems since 1976. He has written over 300 papers on cancer, cosmetic surgery, and medical-legal problems and has been the author or editor of at least six books. He has been editor of several cosmetic surgery journals over the past 10 years. He is presently Chairman of the Department of Surgery, Tustin Hospital and Medical Center.

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Managing Client Expectations: Debunking the Myths



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By **J. Bradley Sargent**, CPA, Cr.FA, CFS

Key Words:

client relationship management, client expectations, communication, myths

Abstract

Potential clients come to forensic engagements carrying unseen expectations. Critical to uncovering these expectations, and subsequently dealing with them, is recognizing that myths exist regarding forensic examiners. Misconceptions and misinformation can create unrealistic expectations and can poison a positive and productive working relationship between the forensic professional and the client. Communication is the vital element in attacking these myths and managing clients' expectations. The forensic professional who continually provides and seeks information is best able to navigate the shifting relationship before, during, and after the engagement.

Stop me if you've heard this one: An undertaker is giving his newest hire a tour of the funeral parlor and offices. As they approach the back room, where the recently departed are embalmed, the funeral director says, "We have a most unusual development in the parlor. It seems that all three of our 'guests' died from the same cause of death. Mr. Smith fell out of a tree onto a utility company power line, Mrs. Johnson's car broke down in a remote area and she spent two days in below-0° temperatures, and poor Mr. Peters, he hired the very best attorneys and forensic experts that money could buy."



"Sir, I'm afraid I don't follow you," the neophyte admits sheepishly.

"Well, my boy, Mr. Peters spent all that money on his legal case, and when the verdict came in against him, he, like the others, died of shock!"

What does this comic tale illustrate? Myths exist in the forensic marketplace. It is up to you, the forensic specialist, to debunk these myths by applying an "identify, understand, and attack" methodology in virtually every client situation you encounter. The first step in this methodology is to recognize that certain factors contribute to the misconceptions that affect client expectations. Being aware of these influences can give the customer-focused forensic professional insight into the mindset of the customers who believe these myths. The next step is to understand that universal tools can be applied by all forensic professionals to successfully manage client relationships and help clients avoid falling prey to the myths that they have likely encountered. Finally, the last step in this method is to be proactive in utilizing these tools, remembering that the client has unique expectations at every point in the forensic engagement process.

The list of myths, misconceptions, bad information, exaggerations, and dramatizations commonly held about forensics is nearly infinite. By identifying three of the more pervasive myths and analyzing their origins, the forensic specialist can start to read the road signs in order to navigate toward better management of client expectations. The myths chosen to be addressed in this article are not to be construed as a comprehensive list, nor is it implied that these myths apply to all

clients. However, an experienced forensic examiner will have encountered at least one of these myths in his or her professional journey. Knowing the commonly held myths in advance and recognizing these myths when you encounter them will ensure that you, the forensic expert, will be confident in providing the most courteous, responsive, thorough, and above all, professional service from the beginning of the engagement to the very end.

Client Myth Number One: *The forensic professional I engage will "solve" my case quickly and cost-effectively, just like I've seen on television.*

Understanding This Myth: The term *forensics* has finally entered mainstream vernacular, thanks primarily to the exposure that forensics has received in various media outlets. Television, in particular, provides fictional and non-fictional portrayals of the forensic expert. The public can now see investigations and subsequent trials, both real and dramatic in nature, 24 hours a day, 7 days a week. Forensic examiners are being featured as hosts and guests on radio talk shows across the country. Print media has seized on the popularity of the forensic sciences as well. Forensic professionals are profiled and quoted on a daily basis in such diverse publications as *The Wall Street Journal*, *The New York Times*, *Time*, *Newsweek*, and *People*. Forensic investigators are also appearing with increasing frequency in fictional works found on bestseller lists.

While this type of media exposure has contributed to heightened public awareness of and interest in the fields of forensics, it has come at a price. Forensic experts are seen as infallible and relentless super-investigators, with technology that can solve any mystery, or divide (and reconstruct) the atom at their fingertips. John Q. Public, your potential client, has been influenced in his perceptions of your abilities long before he has ever met you. Without your knowledge, your services have been over-promised, and now you will be expected to deliver the results your client expects to receive.

Client Myth Number Two: *The more resources I invest in my case, the higher the probability of a favorable outcome.*

Understanding This Myth: The typical forensic professional's statement of services is based on three variables: hourly rates, hours worked, and expenses. Rates are traditionally set according to the relative market, the professional's background and skill set (certification, education, experience, and knowledge), and his or her desired economic profit. Hours worked equitably reflects the time required to complete your work product. Expenses should be directly related to your activities as they relate to the particular case. The statement you tender to the client is a true assessment of your value to the client based on your background, the prevailing market, and the time you provided. However, your clientele may not see your bill in the same light. Why?

Enhanced access to information has created a consumer who, through research and self-education, competitively prices goods and services in all markets. To the public, a service professional's rates symbolize the level of quality of service that he or she provides; therefore, rates at the top of the market scale are believed to be indicative of the highest quality forensic professional available. Arguably, this is a presumption with some merit. The critical point to understand is how the client defines quality. As an expert, you see objective quality in your work product: your reports are airtight, your findings are accurate and highly defensible, and your testimony is succinct and coherent. Your client's interpretation of quality may be more subjective, based on whether or not the end result or verdict was favorable to him or her. The return on investment for the customer may not be seen as the breadth, depth, and veracity of findings, but as the influence a forensic expert has on determining the results of the legal matter. Tragically, the fictional Mr. Peters portrayed in the opening of this article equated dollars spent with favorability of outcome.

Client Myth Number Three: *The forensic professional I engage will be an advocate for my position in the legal matter (and my position is absolutely right).*

Understanding This Myth: This myth is an extension of myth number two. In a forensic matter, a client may bring a perception that his or her position in the matter is the “right one” and will readily expect that you, the service provider, will back this position. A client who is absolutely convinced of the correctness of his or her position may not enjoy hearing that the forensic expert he or she hired has established findings that refute, negate, or render irrelevant the client’s initial position.

Catchphrases for the new millennium are all about the consumer: customer-focused, customer-driven, customer relationship management, client bill of rights. The new consumer-oriented attitude in the marketplace, growing competition, and greater access to information have dovetailed to create an empowered consuming public with a strong sense of entitlement. Potential clients are aware that there are options when it comes to choosing legal counsel and forensic experts. It is not uncommon for clients to “opinion shop” by seeking specialists who will agree with their positions. Again, clients are not investing to ascertain the truth; they are investing in a stronger defense of their positions, which they believe will lead to favorable outcomes.

Attack

Now that several of the prevailing myths have been identified and may now be understood, it’s time to go on the attack. Communication is the most important factor in developing and managing client expectations. Active communication and the exchange of information is a two-part process: sending data and receiving data. You can manage both sides of the information interchange effectively and maintain the partnership between you, your client, and counsel. It is important to remember that you must first seek to *provide* information and feedback, and then

be receptive to *receiving* information and feedback. This cycle of information and feedback sharing should repeat freely and often during the course of the forensic engagement.

There are three primary phases to every forensic engagement: pre-engagement, mid-engagement, and post-engagement. Each phase has distinct characteristics. The following are descriptions of each of these phases, and the forensic professional’s role in each different stage.

Phase One: Pre-Engagement

This is the time to set the tone for the life-cycle of the forensic engagement. In the pre-engagement phase, you can establish rapport with the potential client and start defining the expectations that client holds, regardless of whether the client is just “window shopping” for the services of a forensic professional or if you are closing a deal for your services. By providing information and soliciting feedback, you can uncover some of the early expectations that your client may have regarding your services and the forensic engagement. The pre-engagement period is the time to define the client’s position, who you are, what you can and cannot do, time expectations and deadlines, and terms of engagement. Each of these issues are explored below.

The Client’s Position. Defining the client’s position can be a difficult experience. It is critical to discover as much as you can about the client and his or her perspective. Most clients will be very eager to tell you their stories. Use this opportunity to listen carefully for information that indicates any unrealistic expectations the client might hold about your services or the forensic engagement. Asking probing questions not only leads to valuable information, it also demonstrates your thoroughness and desire to get to the truth of the matter. And, most importantly, by asking questions you establish a tone of professional behavior that your client can expect if he or she decides to engage your services. Any and all doubts about a client’s position in a legal matter should be met head-on.

Often, a forensic specialist will accept an engagement at face value without further inquiry about the client’s position, only to subsequently discover that he or she is at odds with the client’s conclusions. Do not move forward with a potential client until you have established his or her position and are comfortable with his or her expectations and conclusions.

Who You Are. Next, it is time to tell your story. Clearly spell out your professional background and certifications, your education, and your experience to the client. Take the client through your curriculum vitae. As a forensic specialist, you are the product, so provide a thorough description of yourself and your services for the potential purchaser. Continue to seek feedback from the potential client and be sure to delineate who you *are* and what you *can* do from who you *are not* and what you *cannot* do.

What You Can and Cannot Do. Providing a detailed explanation of what you can and cannot do as a forensic expert can serve as an opportunity to dispel the “super investigator” myth that your clients might hold. While technology has enabled forensic examiners greater access to data and data manipulation, it is not magic, foolproof, or easy. You do both yourself and your client a disservice if you do not emphasize that you may apply labor-intensive (and therefore, costly) methods and procedures to the forensic engagement, and that the results of your work are not guaranteed. As an expert witness, you must have complete confidence in your findings, and your client has to understand that you will not testify to something you cannot support. Remember to constantly seek feedback from the potential client. Many clients will nod along with the most articulated points, only to cling to their initial beliefs. Some clients will not readily volunteer their thoughts and expectations to the forensic specialist. It is your professional obligation as a forensic examiner to perpetually inquire.

Outline the level of communication your client can expect from you during the engagement. Explain how you will

communicate with the client (via e-mail, fax, or telephone) and how often. If you intend to delegate the duty of communicating status reports to an associate during the engagement, inform the client of this in advance. Certain clients may seek constant personal communication with the forensic professional, while some will prefer only to be kept aware of major developments. Still others may wish to only see the final results. You can best serve your clients by asking what they expect and want from you. Know what the client expects by asking.

Time Expectations/Deadlines. In spite of your best efforts to communicate that forensic work can be open-ended in nature and that just one new result can alter all previous findings, your client may still have misconceptions about the time required to complete the task at hand. Be careful to avoid tying yourself, your work product, and your client's expectation to a deadline, unless that deadline is absolutely attainable. It is reasonable, of course, for the client to expect you to meet deadlines that are imposed by third parties, i.e. courts. Detailed knowledge of these and other time constraints will help you effectively manage this aspect of the client relationship.

Terms of Engagement. Fee schedules should be discussed at length before you agree to the forensic engagement. Payment for your services is an issue that may need to be repeatedly discussed during the engagement, so an explicit expectation must be set in advance. Financial matters, such as retainers, invoicing, and expected payments should be covered with the client without reservation.

Once the pre-engagement phase is near conclusion, it is critical to summarize the client's expectations in a thorough engagement letter that outlines the terms of the service you will provide. This will be your vehicle for cementing expectations in a written format for future reference. If you suspect that a client may have an unrealistic expectation that may taint your relationship with him or her, address that issue in the engagement letter. Remember that this

letter will form a legally binding contract, so include all aspects of services to be provided and your fee structure while leaving room for additional, unforeseen circumstances that may arise during the forensic engagement.

Phase Two: Mid-Engagement

The forensic professional can continue to build on the relationship established with the client during the working (mid-engagement) phase. At this point, you are ready to go to work, confident that you have effectively debunked any and all preconceptions that your client may have brought to the relationship. However, this is a mistake! These myths can return quite quickly at any point in the engagement. The following methods will help the forensic professional handle these myths as they arise.

Keep Communicating. The surest way to continue the attack and keep your client's myths at bay is through effective communication. Once you have commenced the forensic engagement, don't leave the client's expectations behind to focus strictly on the work product and results. Your client's expectations should be treated like the results you pursue through dogged research and inquiry. Forensic work can be extremely laborious, detailed, and technical, requiring your complete focus and attention. However, if you fail to communicate with the client, you risk that the client, who is not an active participant in your work, may create (or recreate) expectations. It is the specialist's responsibility to keep providing data to the client and requesting feedback. One common practice is to delegate client relations during the working phase of an engagement to lower-level personnel or an administrative assistant. Allowing less experienced personnel to handle contact with the client while you are working introduces the likelihood that the data exchange process will be diluted, leading to bad data going out to the client and bad or misinterpreted data coming back from the client. Bad data breathes new life into myths. Treat client relations as a

part of your investigation, delegating the work that you can, but always providing direct supervision. Even with the most competent and capable assistants, you will need to have a direct line of communication open to the client. Although you may have informed your customer that your associate will provide regular status reports to him or her, your client may still expect or want continuous status reports directly from you. Many indicators of a client's expectations are verbal, so if you aren't directly receiving the client's signals, you may never have the opportunity to attack the myths that he or she may believe to be true.

Communicate More As You Near Conclusion. As your work nears its completion, the frequency of your customer contact should increase. The client should have a complete and thorough understanding of your work product, whether the work may be a simple analysis, an expert report, or testimony. Any hidden expectations that your client may have harbored will usually manifest at this stage and any or all of the myths that he or she believes may resurrect from the ashes. During a final work-product briefing, a client may express the belief that a quality forensic examiner should have completed the job far more efficiently (i.e. "cheaper") with better (i.e. "more favorable") results. However, throughout the engagement thus far, you and your client should have maintained a reciprocal stream of data inflow and outflow regarding your work, and you should have been consistent and persistent in delivering your message, continually seeking the client's feedback. Now is not the time to deviate from these practices. Use this opportunity to reiterate to your customer that your final product consists of fact, not of predetermined results.

Phase Three: Post-Engagement

Too many forensic professionals see the post-engagement period as the time to collect fees, rather than seeing this time as an opportunity to create new expectations for your clientele. As a result, these professionals fail to seize the chance to

build upon the relationship established with the client. Your professional and customer-centric conduct after the engagement has concluded can be the difference between a client who is satisfied and wants to refer your services to others and a client who is dissatisfied and seeks to impugn your reputation.

Do not let the flow of communication you have created and managed trickle out and end once the forensic engagement has ended. Instead, sustain your attack. The primary weapon in managing client expectations and debunking myths is communication, communication, and more communication. Even after the engagement has ended, you should continue to seek feedback from the client. Prompting a response relating to your performance can lead to a dialogue and the opportunity to correct any misinformation or false perceptions the client may have. Utilize written feedback forms to evaluate your performance and gauge customer satisfaction. Continue to stay in contact with the client to explicitly demonstrate your desire to maintain a relationship with him or her, and reinforce the client's expectation that you are a professional who sees clientele as a source of professional relationships, not just revenue. Persist in being a proactive listener to determine what the client is really telling you about your performance, his or her expectations, and the state of your relationship.

Maintaining active communication after an engagement will also be beneficial in other ways. Should outstanding fees become an issue, an established pattern of communication will facilitate your collections efforts and will provide yet another chance to get an inflow of data from the client. Withholding fees rarely indicates unhappiness with rates. If settling outstanding fees becomes a difficult process, repeated inquiries may be required to get to the true source of the client's dissatisfaction. Forensic professionals who view collections as a part of the customer service continuum, not a necessary evil, will continue to build new, stronger relationships and expand their practices.

Conclusion

Your persistent and professional efforts at effectively maintaining client expectations may fail through no fault of your own. As previously stated, some clients simply will not walk away happy, even if the outcome of the forensic engagement is "favorable" to them. However, by identifying misperceptions, understanding their origins and effects, and seeking to proactively communicate with the client (both sending and receiving data) throughout the forensic engagement, you represent yourself and your chosen profession in the best possible light.

The following anecdote may provide some insight into the mind of a potential client. An attorney had a client in a serious legal predicament. The attorney contacted three well-known forensic experts to request a consultation, assuring the client that he or she (the client) would have the final say in selecting the expert. Expert One arrived, was fully briefed on the case, and stated firmly, "I will need to conduct extensive research to consider if this case has any merit." Expert One immediately departed, never to be heard from again.

Expert Two arrived a short while later and was also fully briefed. "It's a no-brainer. I can deliver an ironclad report in two days. This case is an absolute slam-dunk!" The client was delighted and wanted to hire this expert on the spot. The attorney urged patience and stated that the client should hear what Expert Three might have to say.

On cue, Expert Three arrived and was briefed on the matter. "My experience in matters of this particular type is that there are no shortcuts to the facts. Thorough methodologies will be required, which will certainly take time and impact my fees. I must also inform you that the facts I uncover may not support your position in this matter. The amount of money that you invest will not change the facts in the case. I would urge you to consider whether or not the costs of pursuing this matter will outweigh the benefits. However, should you decide to retain my services, I will provide you with status

updates on a regular basis, either directly or through one of my associates."

After conferring with counsel, who did the client select?

The client hired Expert Two, subsequently fired the attorney, and then fired five succeeding attorneys. After 3 years the client finally hired Expert Three (at the urging of attorney number seven). This is based on a true story.

About the Author

J. Bradley Sargent is a Certified Public Accountant, Certified Forensic Accountant, Certified Fraud Specialist, and is an Executive Advisory Board member of the American Board of Forensic Accounting. Sargent is the Investigations Manager in Meaden & Moore's Investigative Accounting Group, which is based in Chicago. Mr. Sergeant specializes in fraud and embezzlement matters and performing forensic accounting procedures for a diversified client base in several industries, such as automotive, banking, distribution/warehousing, education, finance, food processing, governmental, manufacturing, metals, retail, service, telecommunications, transportation, and wholesale.

Learn more about debunking myths held by clients at ACFEI's National Conference!

J. Bradley Sargent will be presenting on the topic of this article at ACFEI's 2004 National Conference in Chicago, October 14-16, 2004. His presentation is on Saturday morning, October 16. For more information or to register see pages 45-50 in this journal.

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Certain Conceptual Difficulties in Making the Diagnosis of

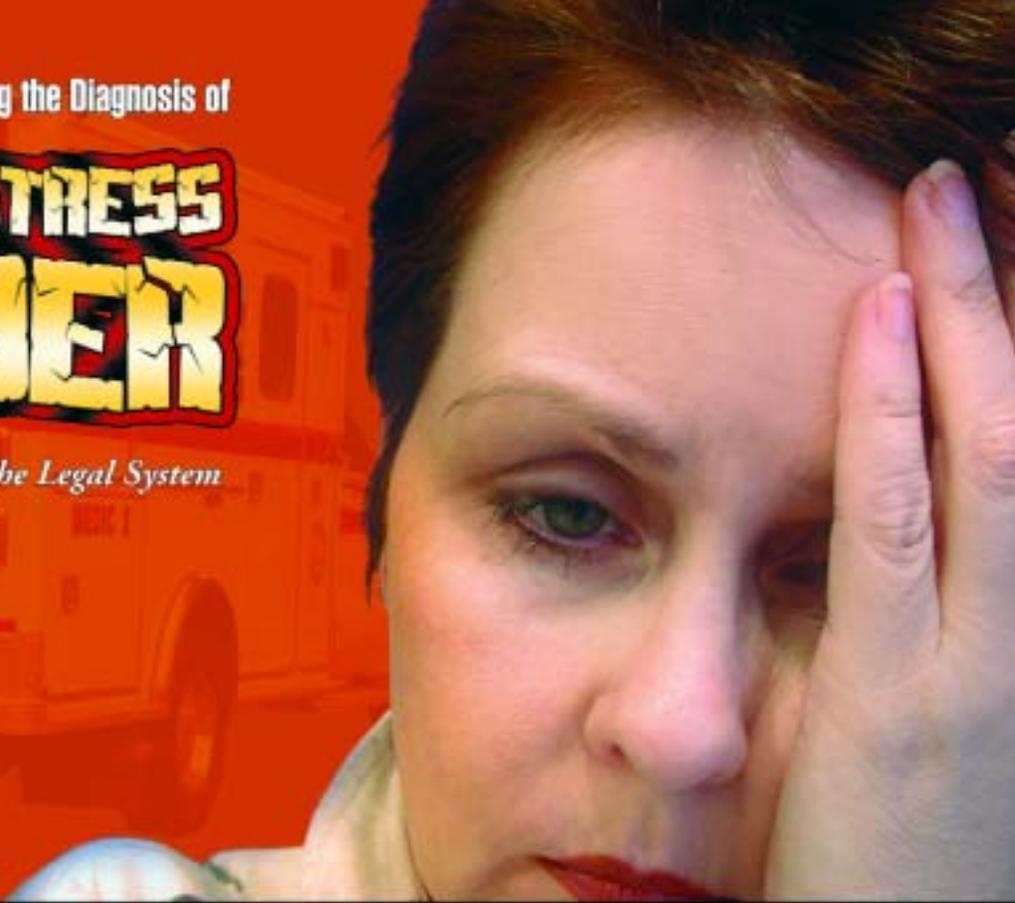
POSTTRAUMATIC STRESS DISORDER

and the Potential Implications for the Legal System

By Edward Kramer, JD, and
Joel S. Steinberg, MD

Key Words:

Posttraumatic Stress Disorder (PTSD)
memory
sleep disorders
workers' compensation



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Abstract

The authors of this article consider some of the potential difficulties involved in making the diagnosis of Posttraumatic Stress Disorder (PTSD). The nature of these difficulties raises very significant questions about the underlying presumptions about the cause or causes of PTSD. Although the criteria set forth in the *Diagnostic and Statistical Manual: DSM-IV-TR* seem clear and complete, this article demonstrates that additional clarity is necessary. The authors explore some of the confusion in the conceptual premises that leads to the disorder being called "Posttraumatic." Further, this article explores the lack of clear legal responsibility for such psychiatric problems under current workers' compensation laws.

Introduction

This article explores the aspects of some of the fundamental premises about how the diagnosis of Posttraumatic Stress Disorder (PTSD) is made and issues about who develops PTSD. Questions are addressed and evaluated about whether or not the condition develops in the work environment, and who is responsible in terms of paying for treatment and for time lost from work due to the condition.

Memories and Known PTSD v. Physiological Reactions to Alleged Alien Abductions

Individuals who reported that they had been abducted by aliens and other individuals with known Posttraumatic Stress Disorder (PTSD) were compared in a study by Dr. McNally and his co-author to determine if memories of alleged abduction by space aliens would provoke the same or similar physiological reactions that occur when other individuals, such as combat veterans and those who have survived deadly car accidents, recall their own traumatic experiences (Cromie, 2003, February 20). The two psychologists who conducted the study interviewed and tape-recorded sessions with each of 10 people who had reported alien abduction. The same procedure was performed on 8 people haunted by traumatic experiences unrelated to abduction by aliens. Later, with suitable physiologic monitoring equipment in place, each of the 18 subjects listened to their own tape-recorded interview.

When the two sets of measurements were compared, the results were striking. Alleged abductees showed surprisingly strong physiological reactions to hearing the tapes of their interviews about alien encounters. Their reactions were as great or greater than those of individuals who could not shake memories of combat, sexual abuse, and other prior traumatic events. Dr. McNally announced these findings on February 16, 2003, at a meeting of the American Association for the Advancement of Science in Denver. The researchers concluded, "The results underscore the power of emotional belief.... Abductees react emotionally like people who have real mem-

ories of combat, abuse, and near-death encounters” (Cromie, 2003, February 20).

One of the conclusions of the researchers’ study was, “People who sincerely believe they have been abducted by aliens show patterns of emotional and physiological response to these ‘memories’ that are strikingly similar to those of people who have been genuinely traumatized by combat or similar events” (Cromie, 2003, February 20). The researchers related their findings to physiologic aspects of sleep.

Literature Reveals Diverse Causes and Conditions Associated with PTSD

Hidalgo and Davidson indicated, “Most people will experience a traumatic event at some point in their life, and up to 25% of them will develop the disorder (PTSD). Demographic and socioeconomic factors also play a role in the risk for exposure to traumatic experiences and subsequent PTSD” (2000, p. 5). These authors believe that it is extremely important to consider why the other 65% to 75% who have experienced a traumatic event do not develop PTSD.

According to Bowles, James, Solursh, Yancey, Epperly, Folen, and Masone, even a spontaneous abortion (a miscarriage) can lead to PTSD: “After spontaneous abortion, as many as 10% of women may have acute stress disorder and up to 1% may have Posttraumatic Stress Disorder” (2000).

Bowman states, “Greater distress arises from individual differences than from event characteristics. Important individual differences that interact with threat

exposures include trait-negative affectivity (neuroticism); beliefs about emotions, the self, the world, and the sources and consequences of danger.... Reasons for the discrepancies between the evidence and the current model of post-traumatic distress are proposed” (1999, p. 21).

Bowman’s conclusions were that: “In accounting for responses to threatening life events, the relatively minor contribution of event qualities compared with individual differences has significant treatment implications. Treatment approaches assuming that toxic event exposure creates a posttraumatic disorder fail to consider individual differences that could improve treatment efficacy” (1999, p. 21).

D’Souza and other authors have recognized that Posttraumatic Stress Disorder symptoms can affect the rest of one’s life (1995).

Finally, in considering what factors are most important in the development of Posttraumatic Stress Disorder in the individual, Breslau & Davis conclude:

There is as yet little empirical research on the validity of the diagnosis. Literature on disasters, civilian and wartime, and on more ordinary stressful life events does not support the view that extreme stressors form a discrete class of stressors in terms of the probability of psychiatric sequelae or the distinctive nature of subsequent psychopathology. Extraordinary stressors are like more ordinary stressful events with respect to their complex differential effects upon individuals. Personal characteristics

and the nature of the social environment modify the likelihood and form of the response of individuals to all types of stressors. (1987, p. 255)

Questions to Be Addressed in this Article

- 1.) Is the issue in the development of PTSD the severity of a particular experience or group of experiences, or is it the re-experiencing of the event?
- 2.) Does everyone have to agree on what the external events were that caused PTSD? Or is the significance of these events evident only in the eyes of the beholder?
- 3.) In the development of PTSD, is the memory of the traumatic event an important factor?
- 4.) In the development of PTSD, does the memory of the traumatic event or events have to be based on actual external events?
- 5.) Is the memory of an experience alone (without a “real” experience actually occurring) enough to cause PTSD? What if there were no external events at all? (That does not necessarily mean that there was not an experience.)
- 6.) What if a minor external event occurred, but this event was greatly distorted by misinterpretation on the part of the person experiencing it?
- 7.) In what proximity to the person experiencing the event must the event take place?
- 8.) Why is it that regardless of the level of trauma (with the possible exceptions of rape and extended torture), only 25% to 35% of people exposed to trauma develop the full-blown PTSD syn-



...it seems necessary to explore how a more expanded view of PTSD might impact the workers’ compensation systems and how it might affect other legal claims or defenses.



drome? Even when a group is exposed to major trauma, why is it that far less than 100% of the group develop the syndrome?

9.) What is the legal precedent recognizing PTSD as a defense or as a compensable injury under the legal system?

10.) Would the existing workers' compensation laws permit an award of benefits if the diagnostic criteria under DSM-IV-TR permitted finding the disorder in employees who were affected by some minor or non-existing external event?

11.) Is the issue in the development of PTSD significantly based on individual susceptibility to succumbing to the disorder?

These are only some of the questions that are emblematic of the difficulties of making a diagnosis of PTSD and awarding benefits for the presence of that condition within the judicial system.

Diagnostic Criteria for PTSD

The American Psychiatric Association first officially recognized PTSD in 1980. According to the DSM-IV-TR, the "A" diagnostic criterion required to make the diagnosis of PTSD is as follows:

A. The person has been exposed to a traumatic event in which both of the following were present:

1.) The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.

2.) The person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior (American Psychiatric Association).

One of the primary focal points of this article is to explore what the word "experienced" might actually mean (in terms of Criterion A1 for PTSD in the DSM-IV-TR). Once the term "experienced" is considered it becomes obvious that we are dealing with subjective issues, and that the nature of the trauma becomes an issue because it is the internal recog-

nition of the perceived event that seems to be the ultimate determining factor. That may help account for why there seems to be such wide variability about who is vulnerable to the development of the disorder (American Psychiatric Association).

As another concern, it seems necessary to explore how a more expanded view of PTSD might impact the workers' compensation systems and how it might affect other legal claims or defenses. Criterion A1 suggests by its wording that *any* of the following can result in PTSD: witnessing, experiencing, *or* being confronted with trauma. "Experiencing" is not necessarily the equivalent of witnessing (American Psychiatric Association).

The Challenge to American Jurisprudence and the Medical Community in Determining if PTSD Is a Compensable Injury

PTSD presents a challenge to the legal system because its diagnosis requires an event-specific trauma, thereby illuminating the potential defendants responsible for the injury. Therefore, PTSD by its very nature gives a plaintiff's lawyer the tool to develop the legal theory to justify the award of damages or benefits to the injured worker.

It should not be surprising that claims based on PTSD should be increasing due to its acceptance by psychiatrists and psychologists as a recognized disorder. For example, in California, the state that has the most open approach to compensation for mental injuries under workers' compensation laws, the number of mental stress cases increased from 1,282 in 1980 to 6,812 in 1986 (Larson, 1996).

At the same time, PTSD faces even more legal challenges than usually raised for any other mental injury, including doubts about its existence, its severity, and the possibility of secondary gain or malingering by the injured worker. "Exaggeration or fabrication of PTSD symptoms is possible and information about diagnostic features of PTSD is

common in the media" (Eldridge, 1991). "Experience with forensic and disability cases where there is a high possibility of secondary gain reveals that Posttraumatic Stress Disorder is a difficult diagnosis to establish" (Sparr & Atkinson, 1986, p. 613). It is in this context that the legal system faces the challenge presented by the injured worker with a diagnosis of PTSD. This challenge must be met not only by lawyers, but also by the mental health professionals who make the diagnosis of PTSD in their patients.

The medical community has an ethical obligation to work with other professionals, including lawyers, to provide assistance to patients. "If a patient who has a legal claim requests a physician's assistance, the physician should furnish medical evidence" (American Medical Association, 2001, para. 9.07). In fact, some courts have found that such assistance is not only ethical, but a legal duty! A doctor can be held jointly liable for the consequences of the denial of insurance coverage (*Murphy v. Godwin*, 1973; *Wilson v. Blue Cross*, 1990). "The question of a doctor's legal duty toward his patients with respect to completing insurance forms is apparently novel. The existence of such a duty may be found, however, by reference to established tort theory and recognized incidents of the doctor-patient relationship" (*The Inter-professional Code*, 1988).

Experience Without Memory

Case One: The following case illustrates an argument about whether or not a person could develop PTSD after experiencing a significant head injury that resulted in profound unconsciousness. An example of this debate occurred in providing an assessment of a young woman who had been involved in a head-on collision. The collision took place when a truck crossed the center line of a highway. The woman was the unrestrained driver of the other vehicle. She had serious facial and head trauma from her encounter with the windshield.

When she arrived at the emergency room (ER), her Glasgow coma score was 3, which is the lowest possible score, meaning she was profoundly unconscious. This would thus prevent the development of long-term memory that can develop in PTSD as a result of that injury.

The woman remained unconscious in the hospital in the intensive care unit (ICU) for 1 week. She had retrograde amnesia (of events that had occurred before the accident) for approximately a 12-hour period. Family members had told her extensively about the accident by the time that she came for evaluation. Litigation became an issue. She met many of the criteria for the diagnosis of PTSD. However, she did not remember the accident and she was not re-experiencing it, hence she could not be given the diagnosis of PTSD. She had developed a phobic response to driving. (Note: if the recalled experience of various treatments at the hospital had been sufficiently traumatic, she might have developed PTSD on that basis alone, but that was not the case, nor is it the issue being addressed.)

Although she could not recall the accident or how she felt at the time, she had clearly “experienced” the accident. She was there when the accident occurred and was alert (presumably) until she was knocked into unconsciousness when her head hit the windshield. Could she have met the criteria for PTSD even with no recollection of experiencing the event and no recollection of her feelings at the time of the event?

Experience Without True Memory, but with a False Memory

What if, in the situation described above, a false memory were constructed about the nature of the traumatic event based on information offered or suggested by people who witnessed or who read about how the event happened? (These people could include family members, health care providers, etc.)

Case Two: A second case involved a

person who was crushed by a heavy table he was constructing. This man also suffered severe head injuries. On arrival to the emergency room, his Glasgow coma score was 3, the lowest possible score, meaning he was in a profound coma. This man remained profoundly unconscious for several hours after his arrival at the ER. He required an emergency neurosurgical intervention and then remained in the ICU for 4 days. His first memory following the event began 7 to 14 days later. He required extensive rehabilitation services for his organic brain damage.

The evaluating physician in this case, concluded that this patient had developed a false memory about the events that took place at the time of his injury. The basis for this opinion was that a retrograde amnesia of at least of 30 to 60 minutes would typically be expected in a case such as this. (It was believed that, based on the severity of the brain injury, it was unlikely that the man would ever recall the incident.) During the first year after the injury, the man repeatedly reported that he did not recall the events of his injury. However, during the second year, he gradually developed increasing “memories” of the event.

The patient subsequently reported that he recalled being under the heavy table that crushed him. Still later, he reported that he recalled being unable to move any part of his body while being trapped beneath the table. He then began to report that he recalled gradually “fading out” over a short period of time while trapped beneath the table. Finally, he began to report that he recalled being intensely frightened at the time. (Realize that it is impossible to know whether his memories were false memories or not, but for the purposes of the hypothetical framework/thought experiment, we ask that the reader accept that these memories of the injury are/were false memories.)

In the re-education/restructuring process of rehabilitating the patient’s substantial organic brain deficits, the

events leading to his brain damage were repeatedly discussed with him. Eventually he was given materials to read about PTSD. It is quite possible that he learned about the manifestations of PTSD through this source rather than by his own experiences. He seemed to gradually develop more and more of the symptoms of PTSD over a 1- to 2-year period, beginning approximately 1 year after his injury.

When this man’s workers’ compensation income based on his physical injuries stopped, he applied for an additional allowance based on PTSD. On the forced-choice testing (symptom-validity testing) and other tests designed to measure test-taking attitude, motivation, and effort (that were carried out as a routine part of his evaluation), the man showed clear evidence of falsification, exaggeration, and lack of full, complete effort. One explanation for these results might be that the patient reported having (false) memories and also seemed to have substantial symptom exaggeration based on issues of financial and other gain(s). Unfortunately, this patient’s Minnesota Multiphasic Personality Inventory-2 (MMPI-2) F scale is no longer available.

False Memories

It is necessary to have some awareness of the vagaries of memory. One of the implications of the word “experienced” in the description of PTSD is that the experience must be remembered. But what if the remembered memory is unrelated to the events that took place, as in the aforementioned case?

Loftus and Pickrell described the formation of false memories in a groundbreaking experiment carried out on willing adults. The issue was whether or not a false memory of having been lost at a mall as a 5-year-old child could be created. Each subject was told three stories about his or her childhood that were known to be true and one story that was known to be a false event. After being interviewed on several different occa-

sions, each time being required to recall the four different events of his or her childhood, between 25% and 29% of the subjects "recalled" the false event as having occurred. Those who recalled false events generally reported that their memories were less clear for the false event than they were for the events that actually happened.

After being debriefed, when these subjects were asked which event was the false event, 5 of 24 subjects selected and identified a true event as the false one. One subject, after being told that her memory was false, "continued to struggle mildly with her persisting memory" (Loftus & Pickrell, 1995, December, p. 275). The authors of the study concluded, "These findings reveal that people can be led to believe that entire events happened to them after suggestions to that effect" (Loftus & Pickrell, 1995, December, p. 275).

Experience Without External Event

Can a person "experience" a traumatic event without the event really occurring? Reconsider the initial study described about alien abduction.

Sleep Disorders and PTSD

Narcolepsy is a disorder of rapid eye movement (REM) sleep. During REM sleep the large muscles of the body are paralyzed, the preponderance of dreaming sleep takes place, and the eyes move rapidly, apparently scanning the environment (but the eyelids are closed). In narcolepsy, these elements are no longer limited to the period of REM sleep. Paralysis can occur while awake (cata-

plexy) and when awakening from sleep (sleep paralysis). At times, dreaming no longer is limited to sleep times. Sometimes dreams occur immediately as one goes to sleep or while one is still awake (hypnagogic hallucinations). Dreams can also occur immediately on awakening (hypnopompic hallucinations). Considering the scope of paralysis and dreaming, reconsider the study of PTSD and alleged alien abductions.

Case Three: Let us explore a case of a woman who reported that she had fallen asleep upstairs, on the second floor of her home. Her husband was away on a business trip, and nobody else was present inside the home. It was winter. All the doors to the outside were locked with deadbolts, and the windows were closed and locked. She reported that at precisely 3 a.m., she was awakened by a disturbance in her bedroom and was assaulted by an intruder. She was severely beaten, raped, and choked into unconsciousness. During the struggle, many items in the room were broken, and the room was in complete disarray.

At 7 a.m., the woman awakened in her bed. Nothing in the room was disturbed. Nothing was broken or in disarray, and everything was in order. She had no bruises. All the deadbolts were still bolted, and the windows had not been opened. As she glanced around the perimeter of the house, it was clear that there were no footsteps in the newly fallen snow. She realized that the 3 a.m. event could not have taken place as she recalled; however, her memories of the events were quite real. She had "experienced" a series of events that did not take place. She had a clear-cut memory

of the events. This particular person did not go on to develop PTSD, but it is not difficult to imagine that some other person could very well develop PTSD following a similar set of circumstances or experiences, just as described in the article on alien abduction.

Now, suppose that instead of being at her home, the woman had been in a locked hotel room on the 15th floor. Imagine further that she was in the hotel room on a business trip for her employer. There was no way into the room except through the dead-bolted and locked door to the room. Let us also assume that this hypothetical person went on to develop PTSD.

Would such an experience and any subsequent psychiatric disorder be compensable under existing workers' compensation law and rules? The answer would probably be no, but not because the PTSD would not be recognized by the law. The claim would fail for not meeting one or more of the other statutory requirements. In some states, "mental-mental" conditions cannot be allowed under the law (*Baker v. City of Sanford*, 1996; *City of Aurora v. Industrial Comm'n*, 1985; *Davis v. Dynacorp*, 1994; Larson, A. 1996; *Martinez v. University of California*, 1979). Under most workers' compensation laws, not only would the employee need to prove that the PTSD had been contracted as the result of and in the course of employment, but he or she would also have to prove that it was due to the nature of an employment in which the hazards of the occupational disease exist. This condition would not be met in this hypothetical case because the woman depicted



Can a person 'experience' a traumatic event without the event really occurring?



was simply sleeping.

This hypothetical case would *not* prevent the injured worker from requesting a reasonable accommodation from the employer to continue working under the Americans with Disabilities Act (ADA) of 1990 or the Rehabilitation Act of 1973. One such accommodation might be part-time work or a longer than usual medical leave of absence. Many courts have recognized that PTSD is a disability under the ADA or Rehabilitation Act if it substantially limits a major life activity (*Coaker v. Home Nursing Servs., Inc.*, 1996; *Felix v. New York City Transit Authority*, 2001; *Hamilton v. Southwestern Bell Tel. Co.*, 1998; *Hetreed v. Allstate Ins. Co.*, 2001; *Johnston v. Henderson*, 2001; *Sherback v. Wright Auto Group*, 1997; *Zale v. Sikorsky Aircraft Corp.*, 2000).

False Experience

The ambiguities of making a diagnosis such as PTSD involve other situations in which misinterpretation or misperception of external events may be the cause of the “experienced” event. For example, consider a hypothetical situation in which a hostage is told that he is going to be executed. He is blindfolded. An unloaded gun is put to his temple. The hammer of the gun is cocked and the trigger is pulled. The hostage understood his circumstances. He heard the trigger being pulled and he heard the hammer of the gun fall. This was not an intrinsically dangerous situation from the viewpoint of an outsider who knew that the gun was not loaded. For the blindfolded person experiencing the event, however, the situation would certainly seem dangerous and would lead to great fear, helplessness, and horror. Most of us would agree that such an event could reasonably result in PTSD. Would such a circumstance, if this individual had been on a business trip, lead to a compensable claim for PTSD, if PTSD had developed?

Using the same scenario described above, suppose that the object that was put against the man’s temple was merely

a hollow pipe that felt like the barrel of a gun and a child’s cricket toy made the noise of the trigger/hammer. Would such a circumstance, if the man had been on a business trip, lead to a compensable claim for PTSD, if PTSD developed?

This hypothetical scenario presents an additional and more problematic legal issue on compensability. If this man’s work required him to go to a country that had a history of such kidnappings, such as Colombia or Saudi Arabia, the employee could argue that the PTSD he was suffering from was due to the hazards of the occupation and therefore should be covered by workers’ compensation laws (*Bedini v. Frost*, 1996; *Borden, Inc. v. Eskridge*, 1991; *Consolidated Freightways v. Drake*, 1984; *Dunlavey v. Economy Fire & Casualty Co.*, 1995; *Owens v. National Health Labs*, 1983; *Wilson v. WCAB*, 1996).

What if there were an instance with no external threat, but the man was merely blindfolded and his vivid imagination allowed him to picture such a scenario? Would that be compensable if he developed PTSD as a result? Could PTSD occur under such circumstances?

Suppose the described event experienced by our hypothetical man took place when he was simply dozing off in a chair while at work and, as he was falling asleep, he had a hypnogogic hallucination encompassing the exact experiences described above? If this man developed PTSD, would such a case be compensable? Could PTSD occur under such circumstances? The alien abduction information presented at the beginning of this article suggests that the answer is “yes.”

This previous hypothetical scenario falls again closer to the situation described earlier, of the woman in the hotel room. Again, this claim would probably be denied on the lack of causal connection between the type of job and the resulting PTSD.

Experience Without Memory

Does “experiencing” an event also require that the event be remembered? What if a given person experienced the event, but for one reason or another could recall nothing about that event? The first two cases described in this article are such cases. Some of the more common agents used for anesthesia (conscious sedation) do not lead to unconsciousness at the time of the procedure. The agents simply lead to the absence of any memory about the procedure. We are not aware of any cases of PTSD attributed to this kind of surgical anesthesia and have not seen any reports of cases of PTSD that have followed such events.

Failure to recall any of the details of an event is not a meaningless issue, because, for example, before there were general anesthetics, surgery took place without anesthesia. Of course, PTSD had not yet been defined at that time. Surgical procedures performed today can be assumed to be the same or similar, at least in terms of the potential to produce pain, fear, and feelings of helplessness. We assume that a patient is unconscious while undergoing surgery, and there is no real issue of experiencing pain or of being confronted with, experiencing, or witnessing the event. The body “experiences” these surgical events, but the mind does not. Surgery is not one of the recognized causes of PTSD. Could it ever be?

Workers’ Compensation and PTSD

The compensability of work-related mental disabilities unaccompanied by physical illness has been a controversial topic in the workers’ compensation area. Workers’ compensation claims based on mental injuries caused by mental stimuli have only been coined “mental-mental” claims (Larson, 1996).

A majority of the U.S. states have found mental-mental claims to be compensable under some circumstances based either on judicial opinions or explicitly by statute, but in other cases

State Law/Court Cases on the Compensibility of Mental-Mental Claims

Alaska	Alaska Stat. § 23.30.395(17) (1996).
Ariz.	Fireman's Fund Ins. Co. v. Industrial Comm'n, 119 Ariz. 51, 579 P.2d 555 (Ariz. 1978).
Ark.	Owens v. National Health Labs., 8 Ark. App. 92, 648 S.W.2d 829 (Ark. Ct. App. 1983).
Calif.	Cal. Lab. Code § 3208.3 (Deering 1996).
Colo.	Colo. Rev. Stat. § 8_41_302(1) (1996).
Del.	State v. Cephas, 637 A.2d 20, 27 (Del. 1994).
D.C.	Sturgis v. District of Columbia Dept. of Employment Servs., 629 A.2d 547, 551 (D.C. 1993).
Hawaii	Royal State Nat'l Ins. Co. v. Labor & Indus. Relations Appeals Bd., 53 Haw. 32, 487 P.2d 278 (Haw. 1971).
Idaho	O'Loughlin v. Circle A Constr., 112 Idaho 1048, 739 P.2d 347 (Idaho 1987).
Ill.	Pathfinder Co. v. Industrial Comm'n, 62 Ill. 2d 556, 343 N.E.2d 913 (Ill. 1976).
Ind.	Hansen v. Von Duprin, Inc., 496 N.E.2d 1348 (Ind. Ct. App. 1986), rev'd on other grounds, 507 N.E.2d 573 (Ind. 1987).
Iowa	Dunlavey v. Economy Fire & Casualty Co., 526 N.W.2d 845 (Iowa 1995).
Ky.	Yocom v. Pierce, 534 S.W.2d 796 (Ky. 1976).
La.	La. Rev. Stat. § 23:1021 (1996), Moore v. Pitt Grill, 871 So.2d 1128 (La.App. 3 Cir., 2004).
Maine	Me. Rev. Stat. tit. 39A, § 201 (1995).
Md.	Belcher v. T. Rowe Price, 329 Md. 709, 621 A.2d 872 (1993).
Mass.	Albanese's Case, 378 Mass. 14, 389 N.E.2d 83 (Mass. 1979).
Mich.	Dunlavey v. Economy Fire & Casualty Co., 526 N.W.2d 845 (Iowa 1995).
Miss.	Borden, Inc. v. Eskridge, 604 So. 2d 1071 (Miss. 1991).
Mo.	Fogelson v. Banquet Foods Corp., 526 S.W.2d 886 (Mo. Ct. App. 1975).
N.J.	Goyden v. State Judiciary, 256 N.J. Super. 438, 607 A.2d 651, 655 (N.J. Super. Ct. App. Div. 1991), aff'd per curiam, 128 N.J. 54, 607 A.2d 622 (N.J. 1992).
N.M.	N.M. STAT. ANN. § 52_1_24 (1996).
N.Y.	Wolfe v. Sibley, Lindsay & Curr Co., 36 N.Y.2d 505, 330 N.E.2d 603, 369 N.Y.S.2d 637 (N.Y. 1975).
N.C.	Jordan v. Central Piedmont Community College, 124 N.C. App. 112, 476 S.E.2d 410 (N.C. Ct. App. 1996).
N.D.	N.D. Cent Code § 65_01_02(9)(a)(3) (1995).
Ore.	Or. Rev. Stat. § 656.802 (1995).
Pa.	Wilson v. Workmen's Compensation Appeal Bd., 542 Pa. 614, 669 A.2d 338, 344 (Pa. 1996).
R.I.	R.I. Gen. Laws § 28_34_2(36) (1996).
S.C.	South Carolina, Stokes v. First Nat'l Bank, 298 S.C. 13, 377S.E.2d 922 (S.C. Ct. App. 1988).
Tenn.	Jose v. Equifax, Inc., 556 S.W.2d 82 (Tenn. 1977).
Texas	Bailey v. American Gen. Ins. Co., 154 Tex. 430, 279 S.W.2d 315 (Tex. 1955).
Utah	Utah Code Ann. § 35_1_45.1 (1996).
Vt.	Bedini v. Frost, 678 A.2d 893, 894 (Vt. 1996).
Va.	Burlington Mills Corp. v. Hagood, 177 Va. 204, 13 S.E.2d 291 (Va. 1941).
Wash.	Department of Labor & Indus. v. Kinville, 35 Wash. App. 80, 664 P.2d 1311 (Wash. Ct. App. 1983).
Wis.	JWis. Stat. § 102.01© (1995-96).
Wyo.	Consolidated Freightways v. Drake, 678 P.2d 874 (Wyo. 1984).

these claims were categorically denied.

PTSD claims have increased dramatically over the past decade. Courts have recognized that PTSD may be compensable as an occupational disease under workers' compensation laws if the claimant can present sufficient evidence to meet the other statutory requirements (*Banks v. LTV Steel Co.*, 1995; *Daniel Constr. Co. v. Tolley*, 1997; *In re Sutton*, 1996; *Pulley v. City of Durham*, 1996; *Schottenfeld & Cullen*, 1986; *Southwire Co. v. George*, 1996; *Wood v. Laidlaw Transit, Inc.*, 1990).

Likelihood of Expanding Compensation for Employees Suffering from PTSD

There are competing philosophies regarding compensation for mental-mental claims. The broad intent of workers' compensation laws is to provide compensation for employees who sustain an injury arising out of, and in the course of, their employment. As such, the laws are to be liberally construed, and no technical or strained construction should be given to defeat this purpose (*Abels v. Renfro Corp.*, 1993).

Also, courts have expanded coverage based on the recognition of particular mental disorders by the medical community. "There is almost no limit to the variety of disabling 'psychic' conditions that have already been recognized as legitimately compensable conditions which, not many years ago, would have received little understanding or recognition on the part of courts" (Larson, 1996, § 42.22(a); see also Cook, 1987; Lawrence, 1993).

As one Judge observed:

"We have come to appreciate that a mind may be injured as well as a body maimed. A person's psychic trauma does not vary depending upon the type of legal action in which the harm is scrutinized. . . . The inability to work and the loss of earning power are the same" (Belcher v. T. Rowe Price, 1993).

On the other hand, there has been a

severe reaction in the courts to alleged “junk science.”

“The advent of a large volume and variety of occupational—and particularly respiratory—diseases whose etiology ranges from the imperfectly understood to the downright mysterious has begun to precipitate questions on the extent to which awards can be based on incomplete medical evidence as to the nature and causation of the disease” (Larson, 1996; see also Hansen, 1986; Schwartz, 1993).

As a result of these concerns, the courts have adopted a stricter and more narrow view of the expert evidence that can be admitted as in a trilogy of cases: *Kumho Tire Co. v. Carmichael*, 1999; *General Elec. Co. v. Joiner*, 1997; *Daubert v. Merrell Dow Pharms., Inc.*, 1993). These decisions mandate that the court evaluate the scientific validity and relevance of any expert testimony before admitting it. These three cases transformed the way courts must approach scientific evidence (Slobogin, 2000).

Now, judges act as gatekeepers and must strictly evaluate the reliability of the proffered expert testimony before admitting it into trial. These decisions require the judge to look at a number of factors: error rate and the existence of protocols, peer review and publication, and general acceptance of theories being espoused by the expert. This could potentially seriously limit any attempts to expand the definition of PTSD in the legal system. “Mental disorders that are not specifically described in the DSM-IV generally will not meet the Daubert scientific validity test....” (*United States v. Scholl*, 1997). “ConEd has cited no cases in which a qualified psychiatrist was excluded from testifying because s/he did not follow the DSM-IV” (*Mancuso v. Consolidated Edison Co. of N.Y., Inc.*, 1997; see also Edgar Garcia-Rill & Beecher-Monas, 2001, Fall).

Current Climate of PTSD and Workers’ Compensation

According to the present status of the law, employees trying to obtain compensation under a broader definition of PTSD will not be treated very sympathetically. For change to take place the medical community must conduct more research on PTSD. Also, amendments to workers’ compensation laws may be needed to bring injured workers under its coverage. The limitations on “occupational disease” under the current laws in most jurisdictions are too narrow, and can result in injured workers being denied benefits that they need and should be awarded. Better delineation of the criteria for PTSD and of the law regarding “mental-mental” cases is overdue.

Conclusion

A variety of new ways to review and view the conceptual basis of Posttraumatic Stress Disorder have been evaluated. The traditional belief has been that PTSD developed when a person witnessed/experienced a devastating, threatening event that led to a sense of horror, helplessness, or fear. This definition implied that the person needed to be present when the event occurred or very nearby. The response throughout the United States to the attack on the World Trade Center and other international terrorist events has led to concerns and consideration of other ways of experiencing traumatic events that might conceivably be thought of as possibly leading to the development of PTSD.

As stated above, the classical conceptual framework within which PTSD develops involves (implied) presence, real external world events, experience (which could be thought of as internal recognition of the external world events), and memory of the experienced event. This article has raised questions about the validity of applying this classical requirement to make a diagnosis of PTSD by posing the following questions:

1.) Is actual presence at a real-world event necessary for the development of PTSD?

2.) Must the internal experience of the external event and the event itself correspond to any significant degree?

3.) What could the hypothetical circumstances be if there were internal events but no corresponding external events?

4.) What if there were only false memories of an external event that actually took place?

5.) What if there were only false memories and no external event had actually taken place?

6.) How does individual susceptibility factor into the development of PTSD? Far less than 100% of people exposed to the same traumatic event (even an extreme trauma) develop the syndrome. Estimates range, indicating that only 25% to 35% of the population are susceptible to developing the syndrome, regardless of the level of trauma.

We urge our colleagues, both in the psychiatric and legal fields, to collect and disseminate evidence of persons exhibiting PTSD who have “experienced” events outside of the traditional sense of the word. For example, there must be forthcoming a number of cases of PTSD from people who merely witnessed on television the bombing of the World Trade Center. Such cases would need to be evaluated within the framework of the ideas presented in this paper, particularly regarding the concept of “witnessing” an event to help elucidate and further delineate these issues. There needs to be a re-examination and clarification of this aspect of the diagnostic criteria for PTSD.

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About the Authors

Edward Kramer, JD, obtained a bachelor's degree from Kent State University in 1972 and his juris doctorate from Case Western Reserve University School of Law in 1975. Mr. Kramer is an adjunct professor of Law at Cleveland-Marshall College of Law and actively litigates employment and other civil rights cases and consults on such cases throughout the country. He is the Chair of the Civil Rights Section and past Chair of the Employment Rights Section of the American Trial Lawyers Association. He is senior partner and trial attorney with Kramer and Associates, L.P.A. of Cleveland, Ohio

Joel S. Steinberg, MD, obtained his bachelor's degree from the University of Florida in 1954 and his doctorate of medicine from Emory University School of Medicine in 1958. He is a fully trained, board-certified internist and a fully trained board-certified psychiatrist. He is also certified in forensic psychiatry. He is an assistant clinical professor in the Department of Psychiatry at Case Western Reserve University School of Medicine. He has major interests in disability evaluations and the use of symbols in cognition. Dr. Steinberg has been a member of ACFEI since 1999.

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By Kathleen M. Sweet, MA, JD, Lt Col (ret) USAF, CHS-III

Key Words: airport, security, cargo and passenger screening, Athens International Airport (AIA), terrorist threat

ABSTRACT

This article summarizes a security evaluation of the Athens International Airport (AIA) made by Dr. Kathleen Sweet during an official visit in December 2003. This article contains her observations regarding access control, cargo security, passenger and carry-on baggage screening, facility security, and a short threat assessment. Sweet had the opportunity to see the airport's security operation firsthand due to cooperation from Wackenhut, the world's largest security provider, and the head of airport-security planning for the Athens airport. The article dispels any questions regarding the dedication and efforts of the airport security staff; Dr. Sweet found the facility to be utilizing appropriate risk assessment and physical/procedural controls in its attempt to thwart or prevent a terrorist attack.

INTRODUCTION

The Panathinaikon Stadium in Athens, Greece, was originally built in the 4th Century B.C. to host the Great Panathinia (ancient Greek festivities). In 2004, more than 2,700 years after the first Olympic Games, history will repeat itself, as Athens hosts the Summer Olympic Games. Many experts have submitted evaluations of the security that has been established in preparation for the upcoming Olympics. These evaluations vary depending on the particular agency's perspective. Opinions have ranged from those published by the State Department to accusations made by the Federal Bureau of Investigation (FBI) expressing some serious concerns. The Athens International Airport (AIA) facilities, located several miles outside the city and adjacent to the Saronic Gulf, have undergone extensive refurbishment. Plans to improve security during the last few years have included input from officials and employees dedicated to improving the airport's security operations.

It is my opinion that security operations at Athens International Airport are appropriate, and the airport security staff deserves credit for their efforts. No security plan is 100% complete, and such a standard is not a reasonable expectation. What is reasonable is a competent program based on accepted risk-assessment methods and protocols, and the appropriate officials and policymakers in Greece have certainly reached that goal.

Since the Athens airport opened in March 2001, the security-building process has not necessarily been a smooth one. Construction took 51 months, plus a 5-month trial period. The runways are approximately 4 kilometers long, and there are approximately 65 landings and take-offs per hour totaling 600 flights per day. During the winter season of 2003–2004, the airport expected to add 137 additional weekly flights connecting Athens with over 100

destinations in 47 countries. Additionally, the airport's cargo area is designed to process 220,000 tons a year. Hence, the job of ensuring security at this facility is a constant challenge.

AIRPORT MANAGEMENT

The government of the Hellenic Republic and the private consortium led by Hochtief Aktiengesellschaft entered into an Airport Development Agreement (ADA) with the joint aim of developing a new international airport at Spata, Greece, by means of a public-private partnership. The ADA established a 30-year concession, ratified by Greek Law 2338/95, granting the airport company the exclusive right to occupy and use the site for the purpose of the "design, financing, construction, completion, commissioning, maintenance, operation, management, and development of the airport." The concession period was initiated in 1996 upon the establishment of "Diethnis Aerolimenas Athinon A.E.," a private legal entity formed under Greek company law as a *societe anonyme* that trades as Athens International Airport S.A. (AIA) and is "managed and operated as a private sector company."

AIA is considered a pioneer international public-private partnership and is one of the first of its type in the world, being one of the first major airports constructed with the participation of the private sector. The Greek State holds 55% of AIA's shares. The state's interests are jointly represented by the Ministers of Economy and Transport and Communications. The private sector partner is comprised of three private shareholders, under the leadership of Hochtief Airport GmbH, who collectively hold 45% of the airport company shares.

PUBLICITY

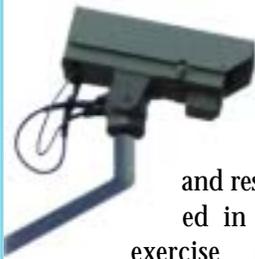
The news media reported in September 2003 that "Intelligence reports circulating within the US Government describe a number of Greek security lapses,

including one that allowed a test agent disguised as a pregnant woman to carry a mock bomb through a checkpoint and another to plant a fake device on a ferry" (The Arizona Republic, 27 September 2003, Pg. 21A Briefs). The allegations expressed concern over the slow pace of counter-terrorist planning, and further claimed the Greek police were disorganized and that there were breakdowns in maritime patrols. One month later, FBI Director Robert Mueller confronted Olympic security chiefs with the following message from Washington: "Improve security now." Mueller had visited Greece for less than a full day and had only toured the Olympic sites by helicopter.

Meuller's visit highlighted a difficult partnership between the Greeks and the United States. To this day, anti-American sentiment remains strong in Greece. Within hours of Mueller's visit, a series of firebombs damaged three banks in Central Athens. The FBI has claimed that Greek security planning has failed to fully assess risks from snipers and nuclear, biological, and chemical (NBC) attacks. In reality, the FBI is apprehensive about the security of the 800-member U.S. delegation that will attend the Olympic Games; Greek rules will prevent foreign security services, including U.S. security services, from carrying weapons.

Rainbow 2002 was the first anti-terrorist exercise conducted in preparation for the Greek Olympic Games. More

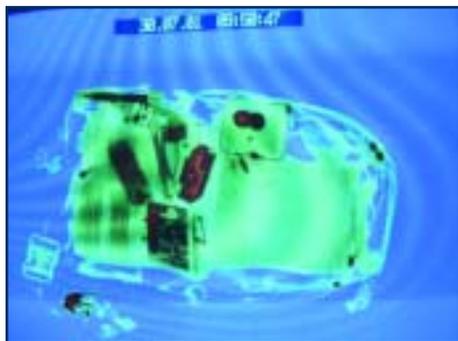




than 1,800 people, including anti-terrorism, security, and rescue forces, participated in a crisis management exercise organized by the Olympic Games Security Division. Greek Police Chief Fotis Nassiakos stated that the exercise showed the coordinated efforts of all the bodies and services involved in security measures for the Summer Olympics. In addition to the staged hijacking and bomb attack at the airport, the exercise included a mock explosion at Piraeus, where a dozen cruise ships will serve as floating hotels during the Olympics.

PASSENGER AND CARRY-ON BAGGAGE SCREENING

Wackenhut Security Hellas S.A. has carried out passenger and carry-on baggage screening at the airport since 2000. The operation appeared to be conducted in a professional manner. When individual employees were queried about operational issues involving the equipment, procedures, and proper techniques of passenger and carry-on baggage screening, they answered correctly and in a proficient and practiced manner. Even after long shifts, employees were being cycled through different tasks and remained alert and dedicated to the task at hand. Training was being offered in a consistent manner, and supervisors were aware of the proper use of state-of-the-art equipment. Records were being maintained that documented employee



Airport baggage X-ray screen

training and work performance, and background checks had been completed on all employees.

FACILITIES

There are four independent "frontline" cargo terminals at the Athens airport. The airport contains 45 Greek and international shops, 11 dining areas, numerous services, and the Children's Creative Entertainment Area. Total operational floor area consists of 30,000 m, and the mezzanine office area has 7000 m of floor space. There is one second-line cargo administration building, one frontline station for veterinary and phyto-sanitary inspections, and one frontline mail building. All have access to the ramp and are therefore considered airside facilities requiring specific security procedures. The cargo representatives of the airlines served by the freight handlers are accommodated in the mezzanine areas of the individual cargo terminals. An office building supports the cargo terminals. The cargo administration building accommodates the Customs Authority, the General Chemistry of the State, Customs brokers, freight forwarders, an outlet of the Bank for Greece for payment of duties for non-European Union cargo, and one commercial bank. The closed circuit television (CCTV) system, which is used to monitor the facility, is a modern integrated system. It includes multiple cameras and monitoring screens that are controlled by a single operator but are linked to other interconnected systems. It provides the perception that a single system is performing all the functions. A senior security official operates the overall system from a control room in the main terminal.

CLOSED CIRCUIT TELEVISION (CCTV)

The airport boasts three separate CCTV systems that combine conventional analogue video with digital software in the form of Pletta GmbH open security

architecture. Each system has a different role in the operation of the airport, but all were designed by the German firm that supplied the equipment and supervised its installation. The largest system is used by security staff to monitor and guard the entire airport complex, including public and non-public areas within the departure and arrival terminals, as well as the airport access roads. Achieving complete coverage of the whole facility necessitated the installation of 145 Pletta electronic-fed head-color cameras, 79 speed-vision domes, and 36 pan, tilt, zoom (PTZ) cameras. Glass fibre and conventional video cable carry the pictures to the four sub-centers, which are responsible for monitoring particular buildings, operational areas, and then the main control room.

The extensive analogue system is controlled via a dedicated local area network (LAN) using software that runs on conventional PCs; it is uniquely able to provide the high level of flexibility and control required for efficient operation of such a large and complex installation. The network link between individual CCTV control centers provides capacity for 80 video transmission channels; the control system for these channels was specially developed to ensure that all camera pictures can be accessed even if a local control computer fails.

Staff members located in the main control center have access to pictures from the entire system. Those they select are recorded on eight digital recorders and are routinely retained for 6 days. The second system is smaller and solves a visibility problem for the air traffic control staff. They use it for guiding aircraft movements on the ground in an area that cannot be seen directly from the tower. This system has 17 FAC 830 PTZ cameras and is also controlled





using company software. It has a guaranteed power supply, 21-inch flat-screen monitors, and its own recorders. The third system is dedicated to monitoring and controlling the airport's baggage handling system. It includes 124 fixed-color cameras and is complete with its own recorders and printing facility.

CARGO SECURITY

The cargo terminal is open 24 hours-a-day. The four freight and mail handlers have the responsibility for the physical handling, storage, and delivery of the shipments, as well as their safety and security. All four terminals are considered bonded areas and are in line with international practices; each building is considered as the physical boundary of the respective bonded area. Because the Customs Authority does not own or operate a cargo terminal, it does not physically handle freight and mail. Customs representatives concentrate primarily on the execution of spot checks and clearance of the freight. The new procedures have led to a more controlled and safe flow of cargo.

The airport complies with the International Civil Aviation Organization's security plan as contained in Annex 17, which addresses all aspects of aviation security, but Chapter 4 (4.5.1 through 4.5.4) directly relates to cargo, mail, and other goods transported on international passenger flights. Chapter 4 of Annex 17 specifically requires that each contracting state ensure that appropriate measures are taken to protect cargo, baggage, mail stores, and operators' supplies being moved within an airport and intended for carriage on an aircraft. The cargo must also be subjected to appropriate security controls.

"In contrast to U.S. regulations, however, each contracting state must establish

measures to ensure that operators do not accept consignments of cargo, courier, and express parcels or mail for carriage on passenger flights, unless the security of each consignment has been reviewed by a designated agent" (Annex 17, 4.5.3).

ARRIVALS AND DEPARTURES

The departures level of the Athens Airport contains most of the shops and a few fast food providers. There are five public entrances to the departure area and 144 check-in counters. This area is accessible to all users of the airport facility. There is a second departures area from which passengers may freely enter and exit upon the display of their boarding passes. This area contains the airline business lounges, duty-free shops, an information desk, and specialty shops. Two ATMs, five public restrooms, and a money exchange are also located there. A third departure area permits only passengers traveling to extra-Schengen destinations and is connected to Gates A1 through A39. Also situated in this area are the Olympic, British Airways, and Swissport business lounges; some duty-free shops and specialty shops; two ATMs; a currency exchange; three public restrooms; an American Express Office; an information desk; and two cafés. During this evaluation, all areas were constantly patrolled, and officers were visible and working in pairs.

The arrivals area of the airport has two main exits, car rentals desks, a currency exchange, Alpha Bank and Empoiki Bank offices, a post office, a business center, several shops, an information desk, a travel agency, and the baggage reclaim area. Access to intercity and city buses are located at one end of the terminal. Six public bus routes serve the airport exclusively, connecting it with the greater area of Athens and Pireaus. Buses depart from the arrivals level between doors 4 and 5 every 10 to 15 minutes. Guards also patrol this area, and passengers must pass a security officer to leave the area, after which they may not return

through the ground level.

ACCESS CONTROL

Access controls regulate employee movement into and out of the facility's restricted areas, which are well marked. During this evaluation, employees were observed not permitting other people to piggyback on the use of their access cards. Access Control Document Reference No. SAS-SO-SOP-312, the airport's Standard Operating Procedure manual, clearly states that its purpose is to clearly define the entrance permit issuance procedures for individuals and vehicles at the airport. The issuance of entrance permits is performed in the Identification Cards and Permits Office, which is fully equipped and authorized on the ground floor of Building 17. Access into controlled areas is permitted only for persons and vehicles in possession of a valid identifying card or vehicle sticker.

BAGGAGE HANDLING AND PARKING

WSW Skycap provides 24-hour passenger transportation and baggage hauling to and from the airport. It was unclear during this evaluation whether or not the employees were being properly vetted; this is an issue deserving of some attention. These employees move freely about the terminal and have access to sufficient amounts of baggage. In cooperation with travel agencies, the company also coordinates the transportation of group passengers and offers the supplemental services of hauling oversized or overweight items. Employees can arrange for baggage collection and storage directly from a resident, hotel, or office at the AIA-authorized service located within the terminal. They will also deliver the baggage before departure at the check-in counter area and arrange for delivery of baggage not collected upon arrival to any place in Greece. These individuals' ability to add some-





thing to baggage requires that some procedural controls be considered.

Parking is controlled by Central Parking Systems Athens, which is the Greek branch of a multinational parking management company that also operates parking lots at 20 other major airport locations, including London and Los Angeles. Illegally parked vehicles are to be issued tickets, and their license plates are to be removed. In certain cases, the cars are to be clamped and towed. CCTV and patrol officers monitor all entrances and exits to the parking lots. Lots P1 and P2 are located immediately outside the arrivals level, where 1,360 parking spaces are available. An additional 3,360 spaces are available across the Attika Highway in Lot P3. A shuttle bus connects the lot with the terminal at six separate bus stops.

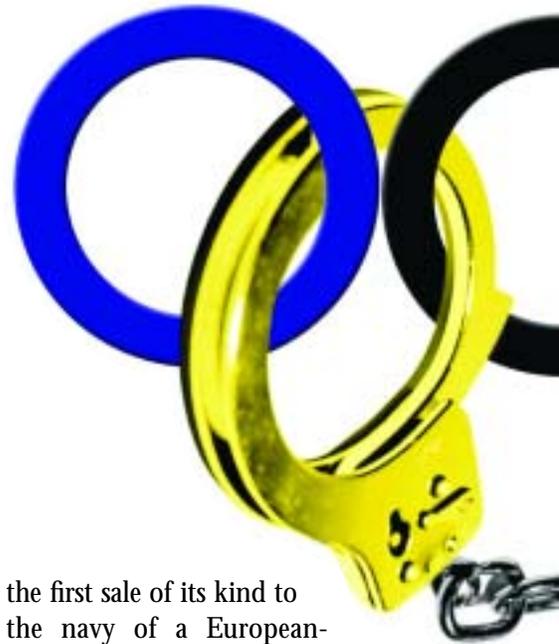
GREEK GOVERNMENT SUPPORT

As an additional security measure, the Greek government has introduced legislation to allow Greek soldiers to carry weapons on urban patrols during the Olympics. The legislation is likely to pass, and the military will supplement

security at the airport. In recent elections the Greek electorate returned the Opposition Conservatives, led by Kostas Karamanlis, to power for the first time in a decade. The Opposition Conservatives argued that the Socialists had mismanaged preparations for the Olympic Games, which resulted in years of delays in upgrading security. They denied George Papandreou's Socialists an unprecedented fourth consecutive term in office. The parties ran a close race, but Prime Minister Karamanlis prevailed, promising smaller government, less bureaucracy, and fewer taxes. Compromising, he also supported expanded social welfare programs and higher pensions. The Socialists had governed Greece since 1981, except for a 3-year break from 1990 to 1993, when the New Democracy party was in power.

Greece's military is due to play a vital role in the security of the Olympics and will contribute 10,000 personnel to work alongside 40,000 police officers. A special 200-member military team will also be formed to face biological, chemical, and nuclear attacks, and Athens' approximately \$750 million security plan will also use NATO's Airborne Warning and Control Systems (AWACs) surveillance planes. Police have been quoted as saying that heightened security measures will go into effect at the airport on July 1, 2004. A mock scenario carried out in February 2004 code-named *Blue Odyssey* tested personnel's response to a chemical, biological, or nuclear attack.

The Greek government has also purchased three Israeli Saar-4 patrol boats at an estimated cost of \$100 million. It is



the first sale of its kind to the navy of a European-Union country. The boats will be used, in part, to patrol the coastal areas adjacent to the airport. The Greek Defense Ministry has also announced that a contract was signed with Raytheon Corporation for five missile systems designed to protect naval vessels.

ACCESS TO THE AIRPORT

Access to Athens can be accomplished by combining the Athens metro (Attiko Metro) with the public bus express services to the airport. The main car corridor providing access to AIA is Attiki Odos, a high-speed six-lane toll motorway with several parts still under construction. Currently, the operational junctions of Attiki Odos, which provide links to major city avenues, are the Metamorphosi, Irakleiou, Kimis, Kifissias, Pentapolis, D. Plakentias, Geraka, and Pallini junctions. Toll-free access to the airport can also be obtained through Lavriou Avenue and other primary roads. From

“THE TERRORIST GROUP 17 NOVEMBER HAS BEEN TERRORIZING GREECE FOR 25 YEARS. THE U.S. STATE DEPARTMENT LABELS THE GROUP RADICAL LEFTIST, ANTI-UNITED STATES, AND ANTI-CAPITALIST. ALTHOUGH THERE HAVE BEEN 100-PLUS ATTACKS ATTRIBUTED TO THIS GROUP, UNTIL RECENTLY THERE HAD NOT BEEN ONE ARREST.”



the southern suburbs and Pireaus, toll-free access can be obtained via Possidonos Avenue or Vouliagmenis Avenue, Varis Koropiou Avenue, and Attiki Odos through the airport junction. Local law enforcement, in conjunction with the Greek military, will have jurisdiction over these areas.

Taxis are available upon arrival at door 3, by the inner curb. Travelers may also use an executive valet service by driving their cars directly to the Main Terminal's Departures Level, Entrance 3. Here the driver delivers the keys to one of the executive valet parking personnel, specifies the date and time of his or her return flight, and receives a ticket. The car is returned on the specified date and time at the same point at the departures level where it was initially delivered. These procedures also need to be more closely monitored.

TERRORIST THREAT

The terrorist group 17 November has been terrorizing Greece for 25 years. The U.S. State Department labels the group radical leftist, anti-United States, and anti-capitalist. Although there have been 100-plus attacks attributed to this group, until recently there had not been one arrest.

In Greece, terrorists usually follow assassinations with rhetoric, and this group is fanatical about informing the *Eleftherotipia*, an Athens daily newspa-

per, of its actions and the location of its decrees. On the night of June 8, 2000, after killing Brig. Stephen Saunders, Britain's Defense Attaché to Greece, the group called a cell phone of one of the newspaper's reporters instead of the newspaper's land line. Apparently they were aware in advance that the paper's phone line had been tapped. This particular event seemingly confirmed the theory, accepted by many, that there is significant collusion between the Greek state authorities and the members of 17 November.

The terrorist group 17 November has been active since 1975 with very little intrusion from the Greek government. Some intelligence officials have alleged that past high-ranking socialists have had direct links with the terrorist group. Since 1975, the group has killed 22 Greek and foreign nationals, including four Americans. Saunders, 53, was the first British envoy to be slain by these terrorists, who are sometimes portrayed in the Greek media as Robin Hood types who are battling the West overlords and NATO in pursuit of Greek interests. When NATO launched its 1999 military campaign in former Yugoslavia, the group retaliated in Greece in support of the Serbs. At the time, the State Department ranked Greece second only to Columbia in worldwide incidents against U.S. interest. There was even a congressionally mandated commission that followed, recommending that the United States consider sanctions against Athens for its "disturbingly passive response to terrorism."

At the time, George Tenet, the Director of the CIA, commented that as long as 17 November is still potentially a "greeting committee" for Americans and others, people should at least begin to rethink the location of the Olympics. (Carassave, p. 44). The Greek government finally achieved some success in its domestic terrorism program after authorities began arresting suspected members of the 17 November group following a failed bombing attempt at

the port of Pireaus in June 2002. Adding Al-Qaeda to the terrorist mix only aggravates the situation.



CONCLUSION

Overall, the AIA appeared to be protected by appropriate security measures. Hard-working, dedicated security personnel made this review possible. They provided access and the ability to view firsthand the improvements in security made at the airport in preparation for the Olympics. However, their efforts would likely have been manifested without the impending Olympic Games simply due to the need to implement security measures.

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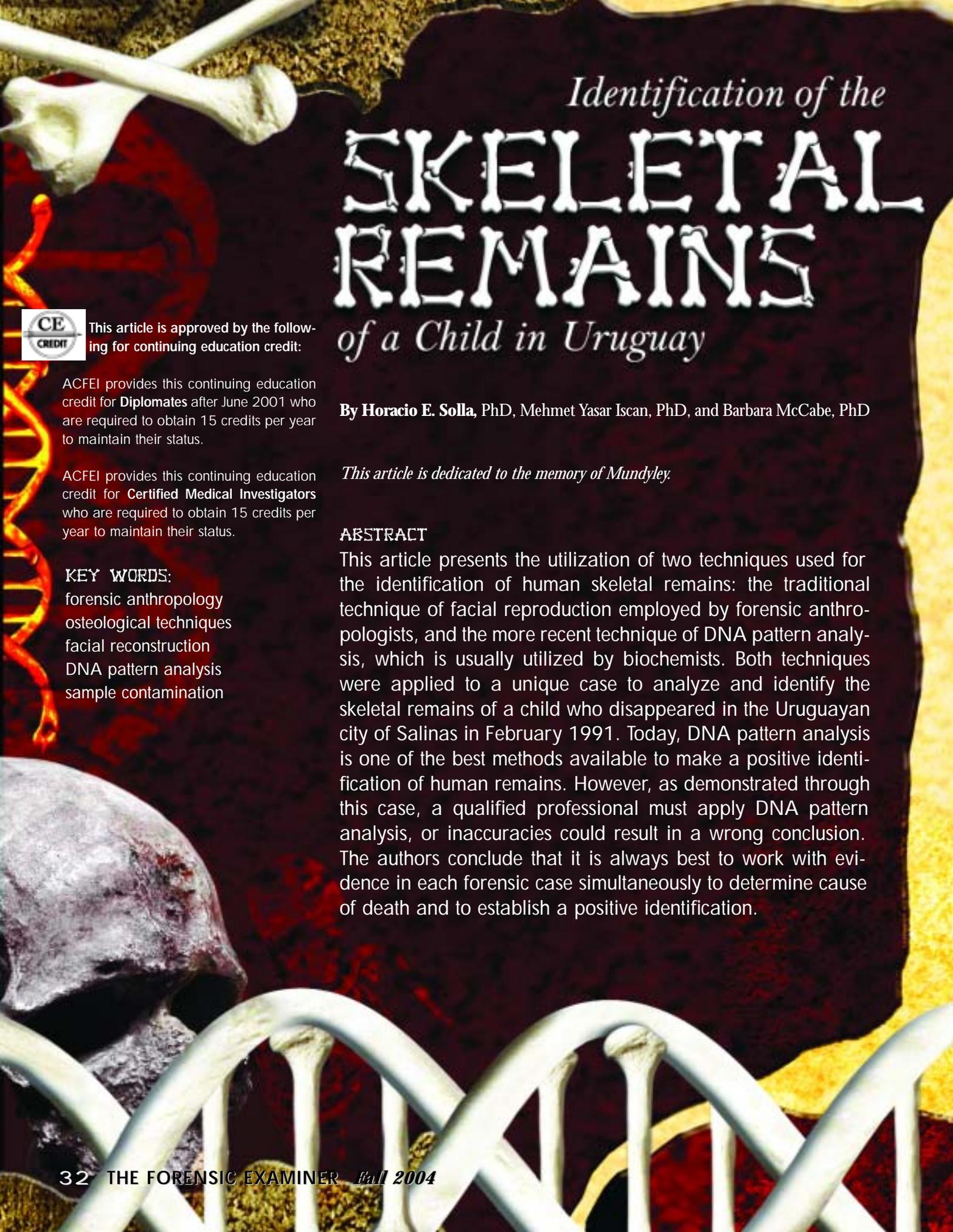
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ABOUT THE AUTHOR

Kathleen M. Sweet, MA, JD, Lt Col (ret) USAF, CHS-III, is a retired U.S. Air Force officer who has published two books on airport security: *Aviation and Airport Security: Terrorism and Safety Concerns* published in November 2003 and *Terrorism and Airport Security* published in March 2002. During active duty service, she was an Assistant Air Attaché to the Russian Federation and an instructor at the Air War College. She is currently President and CEO of Risk Management Security Group, a security consulting firm. She also serves on the Executive Advisory Board for The American Board for Certification in Homeland Security, CHSSM.

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Identification of the
**SKELETAL
REMAINS**
of a Child in Uruguay



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KEY WORDS:

forensic anthropology
osteological techniques
facial reconstruction
DNA pattern analysis
sample contamination

By **Horacio E. Solla**, PhD, Mehmet Yasar Iscan, PhD, and Barbara McCabe, PhD

This article is dedicated to the memory of Mundyley.

ABSTRACT

This article presents the utilization of two techniques used for the identification of human skeletal remains: the traditional technique of facial reproduction employed by forensic anthropologists, and the more recent technique of DNA pattern analysis, which is usually utilized by biochemists. Both techniques were applied to a unique case to analyze and identify the skeletal remains of a child who disappeared in the Uruguayan city of Salinas in February 1991. Today, DNA pattern analysis is one of the best methods available to make a positive identification of human remains. However, as demonstrated through this case, a qualified professional must apply DNA pattern analysis, or inaccuracies could result in a wrong conclusion. The authors conclude that it is always best to work with evidence in each forensic case simultaneously to determine cause of death and to establish a positive identification.

INTRODUCTION

A growing number of forensic scientists, especially biochemists, rely on DNA evidence as the most reliable evidence for positive identification in cases where a human body or human skeletal remains are found. Individual genetic structure is so unique that reliance on DNA is a valid method. Yet, as in many scientific disciplines, the validity of evidence can only be accepted if the results agree with other analyses, such as analysis of skeletal remains, photo-skull comparisons, or facial reconstruction in anthropology; comparison of dental charts or radiographic records in odontology; and DNA sequencing in biochemistry. Application of these techniques is especially important when the human remains are in an advanced stage of decomposition or are skeletonized, and there is non-visible evidence that can lead investigators to make a positive identification.

This article demonstrates the use of multidisciplinary methods to identify the skeletal remains of a child using anthropological and biochemical evidence. It is essential to use a multidisciplinary approach to solve a forensic problem; in many murder cases, one discipline may not give all the details of a murder by itself. In other cases, accidental laboratory or methodological errors can be corrected before a wrong conclusion is reached. Positive identification is a very important matter to clarify before anyone is accused or arrested for a particular crime. It also brings closure to the families of victims.

PRESERVATION OF THE BODY AND AUTOPSY FINDINGS

In March of 1991, the badly decomposed body of a child was found half buried in a swamp at Salinas Beach, Department of Canelones, Uruguay. The body remains were carried to the Judicial Morgue of Montevideo, the largest morgue in Uruguay, to be autopsied. There was differential decomposition, and soft tissue (adipocere) had been preserved on the parts of the body (especially the arms, legs, and feet) that were submerged in the swampy lake where the humidity was high. Decomposition of the remaining portions of the body, which were exposed to the sun and air, was more advanced, showing several skeletal structures. Based on the level of decomposition, the amount of time that had passed since the time of death was estimated to be about one month. The child's entire body and all of the child's bones were present with the exception of several anterior teeth and hand and foot bones.

Because of the advanced state of decomposition in which the body was found, the local pathologists were not able to determine the cause of death. However, the manner of death was assumed to be homicide due to the circumstances and evidence found at the crime scene. There were two possible injuries to the liver near the fifth rib and one on the anal region observed at autopsy. Injuries to the bones could not be assessed because there was not an x-ray device available at the Judicial Morgue of Montevideo City in 1991. The victim's trousers and underpants were

pulled down to his knees.

Although the police thought that it was a possible rape and homicide, these injuries were not fully confirmed.

After the autopsy, it was determined that the remains were those of a missing child named Jonnathan Viera who disappeared in February 1991, one month before the remains were found. This identification was based primarily on the clothes and sport shoes found on the body. Jonnathan's father identified the clothes, but the child's mother would not accept that it was her child only from the personal effects found. The biological evidence was reliable in terms of age and body size. A few months later, the mother requested DNA testing. Parietal and femoral fragments from the remains and blood samples from the alleged parents were sent to a laboratory in Germany for a nuclear DNA test. The test results from the lab in Germany indicated that the child's DNA did not match those of the parents. Based on these findings, the remains were buried as an unknown person (Jon Doe) in the Cemetery of Soca, about 30 km from Montevideo City.

ANTHROPOLOGICAL ANALYSIS AND IDENTIFICATION OF CHILD SKELETAL REMAINS

Three years later, in April 1994, the unknown remains were exhumed by a judicial order. The judge contacted Dr. Solla to perform an anthropological analysis of the skeletal remains and the

possible identification of the remains so the case could be closed.

The body, which was totally skeletonized, was delivered to the Judicial Morgue of Montevideo City. There were several insect pupae inside the skull and on several postcranial bones. A comparison of the insects found inside the skull with those of Balthazard's work¹ allowed for their identification. The examiners on the case also had some experience with Uruguayan insect remains, fly eggs, larvae, maggots, and pupae.

The skeleton was examined to see if there was any evidence of pathology and fractures, healed or otherwise. There were none. The absence of any fresh trauma suggested that death might have occurred as a result of asphyxiation or other factors.

Then, skeletal characteristics of the remains were analyzed to determine sex and age at time of death. Attempts to determine the sex of the victim were made using Hunt and Gleiser's formulae² for dental and skeletal ages. This method provided a dental age of 5.7 years and a skeletal age of 5.5 years. In an attempt to differentiate between the sexes of pre-adolescent children, Hunt and Gleiser² have scored dental development based on Hurme's method³ and skeletal maturation using the radiographic work by Greulich and Pyle.⁴ To determine dental age, the formula $Y = 0.95x$ was used and for skeletal age, the formula $Y = 0.80x$ was used, where Y is the age

Bone	Measurement
Humerus	18.6 cm
Radius	14.4 cm
Ulna	16.1 cm
Tibia	22.1 cm
Fibula	21.9 cm

Table 1. Diaphyseal length of bones and estimation of stature.

$$\begin{aligned} \text{Stature} &= 38.4\text{cm} + 3.43 \text{ cm} \\ &(\text{tibia} = 22.1 \text{ cm}) \\ &= 114.2 \text{ cm} \pm 3.3 \text{ cm for boys} \\ &\text{age 1 to 9 years} \end{aligned}$$

$$\begin{aligned} \text{Stature} &= 39.1 \text{ cm} + 3.42 \text{ cm} \\ &(\text{fibula} = 21.9 \text{ cm}) \\ &= 114.0 \text{ cm} = \pm 3.1 \text{ cm for boys} \\ &\text{age 1 to 9 years}^6 \end{aligned}$$

of girls and X is the age of boys. Hunt and Gleiser concluded this sex determination approach as follows: "... on the basis of these questions, concurrent estimates of bones and dental age by male standards should agree closely if the remains are those of a boy, but should be more divergent if female standards are applied. The opposite is usually true if the remains belong to a girl. If the bone and dental ages are assessed for the remains by the standards of both sexes, the sex for which the standards agree best is considered the correct one."² We estimated an age at time of death based on the dental development, which was close to age 6, so the formula $6 \times 0.95x = 5.7$ was used. The skeletal age was estimated, based on the development of the skeleton, to be close to age 7, so we applied $6.9 \times 0.80x = 5.6$, as 5.7 and 5.6 are so close to the standards of a boy as stated by Hunt and Gleiser.² Application of these ages to their formulae resulted in a determination of male sex. It should be noted that



Figure 1. Latest photograph of Jonnathan Viera.

to date there has not been any reliable sex determination technique for this age group.

Age at death was estimated from the level of dental development and diaphyseal lengths of long bones.⁵ All deciduous teeth were present at death, although not all were recovered. The first molars were partially erupted, suggesting an age of about 5 to 6 years. Diaphyseal lengths of long bones provided a similar age range. Age range for the long bones was obtained by measuring them, or more exactly measuring the diaphyseal length, and no epiphysis of any long bone was found. No dental chart or radiographies were available. The stature was calculated using the diaphyseal measurements of the tibia and fibula.⁶ The results indicated that the victim was about 114 cm tall at the time of death.

The anthropological analysis performed on the skeletal remains indicated that the victim was a child, possibly a boy, between age 5 and 6 years at the time of death, about 114 cm in stature.

There were not any dental or medical records available to compare with those of the victim. Yet the demographic characteristics of age, sex, and stature seemed to match those of the missing boy.



Figure 2. Facial reproduction created by anthropological methods.

Therefore, a facial reconstruction from the skull was deemed necessary. The cranial bones were restored from the autopsy damage, and the reconstruction was carried out according to the method described by Krogman and Iscan.⁷

The soft tissue thickness used in the reconstruction was the same as that of white children.⁸ A series of small wooden pegs were trimmed to the tissue thickness of each landmark in adult specimens. The pegs were glued to the skull in the proper locations, and strips of clay were applied around the pegs, gradually joining them to cover the entire surface of the skull. After the work was completed, considerable similarities were observed between the reconstructed face and the photograph submitted by Jonnathan's relatives. But when the reconstruction was shown to Jonnathan's relatives, they did not believe that there was any resemblance.

Although this was not the first time that a facial reproduction was made in Uruguay, the judge handling the case decided that there was a need for a second DNA analysis to confirm the identity. This time the samples were sent to a laboratory in France. A mitochondrial

DNA analysis was made by comparing the blood sample from the alleged mother with bones of the unknown boy. The German test had been a nuclear DNA analysis comparing the blood sample of both Jonnathan's father and mother with bones of the unknown child.

In January 1996, the French mitochondrial DNA analysis corroborated the earlier claim made by the forensic anthropologist in April 1994. After reviewing these results, the judge accepted the identification of the remains as being those of Jonnathan Viera, who was 5.5 years old at the time of his disappearance. At present, the perpetrator has not been found, nor has the cause of death been established.

DISCUSSION AND CONCLUSIONS

Forensic anthropology in Uruguay and in many parts of Latin America has made considerable progress in this decade.⁹ In Uruguay alone, more decomposed and skeletonized remains have been identified with higher frequency as a result of an active role of Dr. Solla, the local resident forensic anthropologist in the Uruguay medical examining system. For example, prior to the 1990s, skeletonized remains were not carefully analyzed and victims' identities were rarely established. It is very well known that many internationally recognized forensic cases and many historical cases have been analyzed by joint efforts of many forensic scientists.¹⁰

Recently Dr. Solla and Dr. Iscan¹¹ identified the skeletal remains of Dr. Berrios, who was murdered in Uruguay. Dr. Berrios was a chemist allegedly working toward developing sarin gas during the regime of Augusto Pinochet. As with the previously described case, Berrios' identification required a joint effort by a team of forensic scientists led by an anthropologist.

The case of Jonnathan Viera provides

an interesting example of how the use of anthropological and biochemical evidence for identification methods can create—as well as solve—new problems. Indeed, there was a serious judicial problem of not being able to determine the victim's identity, as well as false hope for the victim's family.

Corroboration between identification methods derived from human skeletal remains, such as facial reproductions, superimpositions, dental chart comparisons with biochemical methods, and especially DNA analysis, has been extremely important for the identification of Jonnathan Viera.

The first DNA analysis was made by a German laboratory, but the bone and blood sample were extracted in Uruguay. The first DNA analysis sample was extracted in Soca's local cemetery by an assistant of the physician in charge of sending the sample to the German laboratory; this was the same physician who sent the second sample to France after the anthropological analysis. In fact, it was the first time that the assistant extracted a DNA sample and the first time that the physician had attempted to perform DNA analysis. Additionally, it was the first time that a forensic anthropologist made a facial reproduction on a child's skull in Uruguay, although several facial reconstructions had been made before on adult skulls.

The German test was made using the nuclear DNA based on a blood sample of both parents, while the French DNA test used mitochondrial DNA present only in the boy's mother; the blood and bone samples were extract-

ed within the judicial morgue for the last test.

DNA samples can be contaminated by several means, but the most common is by another biological source and usually occurs during extraction. In this case, an untrained person extracted the bone samples without supervision. The first sample was extracted within the cemetery, where there are many biological sources for contamination, such as necrophagus insects. In this case, the problems arose when a contaminated sample was taken from the remains; therefore, DNA samples should not be taken by untrained personnel.

The results of the second sample that had been sent to France corroborated the anthropological conclusions that indeed the remains were those of Jonnathan Viera.

In this case it is very important to remark that although DNA evidence was later obtained, the primary identification of Jonnathan Viera's skeletal remains was made by anthropological means, such as determination of age at death, estimation of sex, stature, body size, and trauma, and facial reproduction methods.

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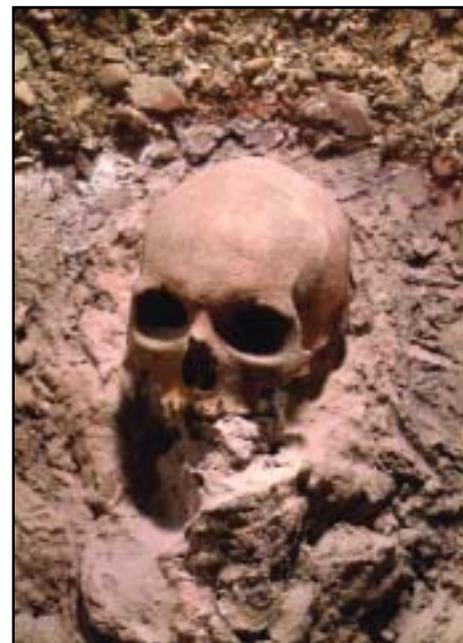
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ABOUT THE AUTHORS

Horacio E. Solla, PhD, received his master's degree in anthropological sciences in 1991 and his doctorate in forensic anthropology in 1995 from the Republic University in Uruguay. He received a Certificate of Inclusion in the *2000 Outstanding Scholars of the 21st Century* (first edition) in honor of an outstanding contribution to the field of forensic anthropology in Uruguay as founder of forensic anthropology in that country. He also received a doctorate degree of merit from the International Biographical Institute at Cambridge, England in 2001. He has published more than 50 scientific papers and three books. He is a member of the American College of Forensic Examiners Institute, the Uruguayan Society of Forensic Sciences, the Uruguayan Society of the History of Medicine, the American Academy of Forensic Sciences, and the Spanish College of Forensic Experts. He was curator at the National Museum of Anthropology from 1990 to 1992, assistant of physical anthropology at the University of the Republic, Montevideo from 1989 to 1995, and served as a forensic anthropologist at the National Institute of Criminology from 1992 to 1995. Presently, Solla has a full-time position as a forensic anthropologist at the Judicial Morgue of Montevideo City (Secretary of Justice) where he has solved more than 430 forensic anthropology cases and has identified the skeletal remains of more than 100 missing persons.

Mehmet Yasar Iscan, PhD, received his doctorate from Cornell University. He is a Diplomate of the American Board of Forensic Anthropology, was a professor at Florida Atlantic University, and served as consultant to the Palm Beach Broward County Medical Examiners' Offices. Dr. Iscan is a member of numerous scientific organizations, including the American Association of Physical Anthropologists, the American Anthropological Association, and the American Academy of Forensic Sciences. His work has appeared in many specialized journals. One of Dr. Iscan's most noteworthy books is *The Human Skeleton in Forensic Medicine*, which he co-authored with Wilton Marion Krogman.

Barbara McCabe, PhD, graduated from the University of South Florida with a bachelor's degree in anthropology, and attended Florida Atlantic University as a graduate student under Dr. Mehmet Yasar Iscan. McCabe has published papers on the effects of animals on human remains and the human skeletal system. She is interested in human dentition, occupational stress, and skeletal trauma caused by animal attacks.



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An Invitation to Attend the Certified Medical Investigator, CMISM, Course From Instructor Michael Karagiozis, DO, MBA, CMI-V

As instructor of the Certified Medical Investigator (CMI) program, I would like to welcome you all to attend the exciting updated CMI course at ACFEI's National Conference in Chicago on October 15-16, 2004. The updated CMI course is dynamic, interactive, and designed to create a consciousness in participants that every incident that is not immediately self-explanatory is a forensic incident, even if the final assessment shows that the event was caused by an accident or natural phenomenon. Forensics is the science of explaining what happened, not of proving guilt or innocence. Many high-profile cases in the last decade have been lost, not because the prosecution didn't have a good case or because the police arrested the wrong person, but because critical evidence was judged inadmissible. Our goal is to train forensic specialists in every discipline to immediately recognize evidence, secure it properly, process it scrupulously, and present it to the police or district attorney in an assessment that is bulletproof.

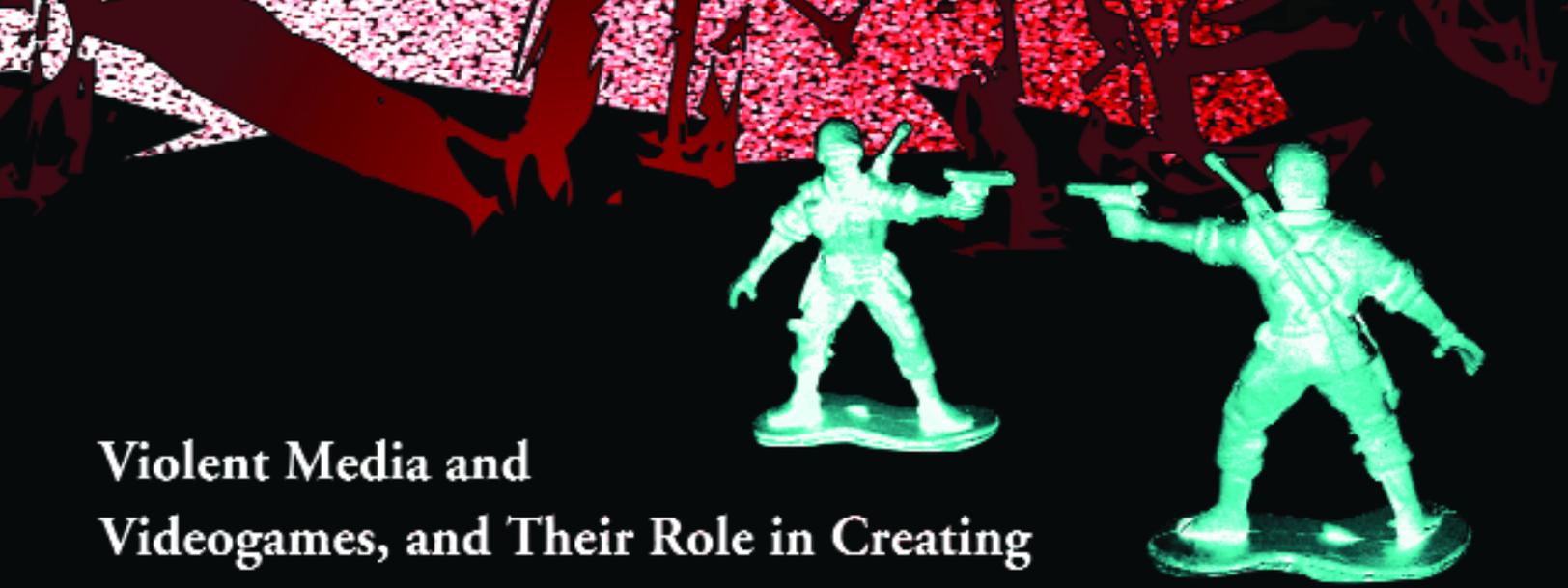
As former Medical Director for the Nevada Department of Prisons, I have used my background of experience and knowledge to identify the skills and comprehension necessary to be successful in the field of forensics in the 21st Century, and have incorporated these elements into the CMI course. I believe the CMI course—and the forensic consciousness that it teaches—will be of great personal and professional benefit to a diverse array of specialists and the agencies that utilize their skills. Although the CMI course will benefit all professionals involved in forensics, I would like to take this opportunity to explain how the CMI course and designation directly relate to three specific types of professionals: police and law enforcement officials, forensic technicians, and medical personnel.

If I've sparked your interest in the CMI program, please call ACFEI headquarters toll free at (800) 423-9737 to find out how you can take part in this exciting course. I hope to see you in Chicago!

Police Officers: Law enforcement officers are often the first officials on the scene of a crime or homicide. Unfortunately, many of these police officers do not receive adequate training and instruction in forensic and medical science. The CMI course will be especially helpful to these law enforcement officers, as it reinforces the basics of evidence gathering and also teaches basic anatomy and physiology, providing a strong understanding and skill base that can prove critical in crime scene evaluation.

Forensic Technicians: My experience has been that forensic technicians of many types are often trained by law enforcement agencies. As a result of this training, these forensic technicians develop a law enforcement-type drive in the fulfillment of their duties. The problem with this is that forensic technicians are not police officers, *nor should they be*. As forensic personnel develop a law enforcement-type mentality, their work becomes influenced by an interest in *finding and arresting suspects*. The duty of forensic personnel, from administrative technicians to coroners' aids, is not to find or arrest a suspect, but to *secure and process evidence*. Police officers make arrests, and district attorneys prosecute crimes. Good forensic examiners are focused on establishing what is evidence, preserving that evidence, and maintaining the evidence in such a manner that when the time comes for warrants to be served or prosecutions to be made, the evidence is unimpeachable. They also need to be comfortable on the witness stand and must understand the technical side of presenting evidence in court. I have based the CMI course on this philosophy, and have received excellent feedback thus far on the concepts and methods presented to the participants.

Medical Personnel: From the time suspects are first evaluated by paramedics, cared for in the emergency department, put in jail, and finally sentenced to prison, there is ongoing critical contact between the suspect and health care personnel who, often without adequate forensic training, may overlook evidence, violate a suspect's Fifth Amendment rights, or allow evidence that has been recognized to become criminologically invalid by mishandling it. The CMI course addresses the forensic process from the time a forensic incident is reported to its conclusion. Our concept, which has evolved over the last decade, is that crime scenes, natural disasters, and accident sites are all forensic scenes, and the same strict protocols for evidence gathering apply to all of these scenarios. There are many cases on record across the country where an apparent "accident" later manifested itself as a crime scene. Our belief is that treating every forensic incident with the same initial protocols prevents loss of evidence that, had a crime been suspected initially, could have pointed to the perpetrators of that crime.



Violent Media and Videogames, and Their Role in Creating

VIOLENT YOUTH



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By **Monique A. Levermore, PhD, DABPS, FACFEI**

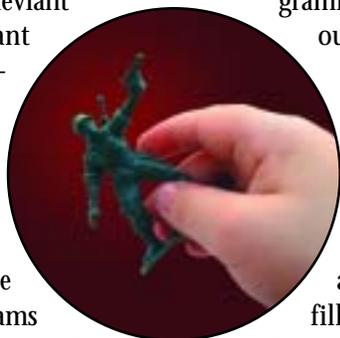
Key Words: violence, children, media, etiology, prevention

ABSTRACT

Violence has been described as a public health epidemic in the United States. Thus, it becomes the responsibility of forensic psychologists to conduct thoughtful examinations of the etiology, course, and treatment of violent behavior. Emphasis must be placed on prevention, and professionals must intervene at an early age. This article documents theories that may be used to explain the phenomenon of violent individuals and outlines efforts that may be attempted to promote positive changes.

A

s crime rates continue to rise and more and more children are finding themselves categorized as delinquent youth, we as a society continue to focus our efforts on punishment for these crimes, rather than prevention. To prevent these crimes we must first understand how and why violent behavior occurs. How do violent criminals learn their trade? Criminals learn their skills through observation and practice, and by adopting a criminal code of ethics that glorifies and supports the behaviors they choose. When does deviant behavior begin? Deviant behavior begins in childhood. How can we stop the constant stream of delinquent youth? We stop the stream by addressing delinquent behavior at an early age through prevention programs and by promoting pro-social observational learning.



Beginning in the 1990s, the United States declared violence a public health epidemic (Fingerhut, Ingram, & Feldman, 1992; Osofsky, 1995; Osofsky, Wewers, Hann, & Fick, 1993; Prothow-Stith, 1991; Rosenberg & Fenley, 1991; Rosenberg, O'Carroll, & Powell, 1992). However, to date we have accomplished very little to address this nationwide crisis that has paralyzed us. We must address deviant behavior in the way we robustly address medical ailments like cancer and heart disease. The need for a positive psychology and a return to teaching values, integrity, and good character for children and adults is apparent.

We must research the etiology of deviance, we must treat its victims, and most importantly, we must develop empirically validated

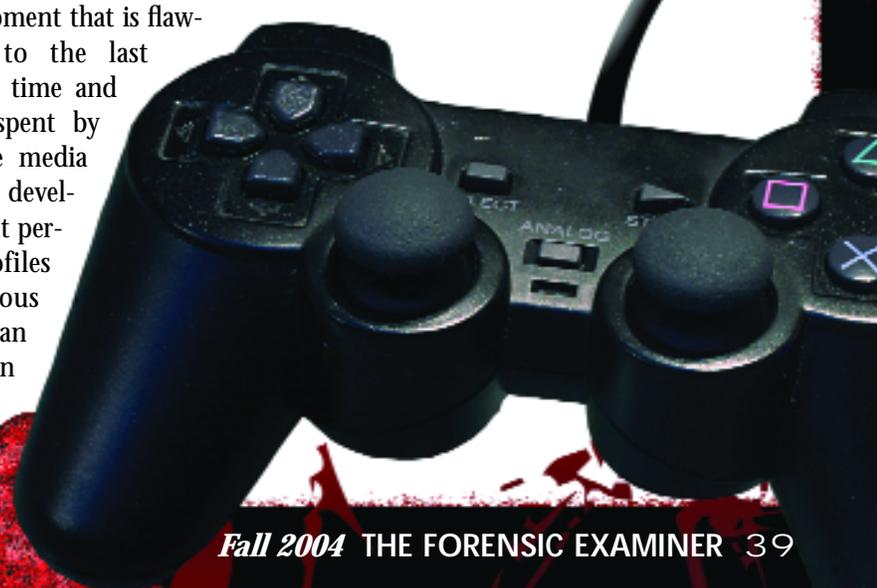
prevention programs and intervene at a very early age. How do we heal from tragedy? Most want to make the angst created by violence disappear by killing the perpetrators of this violence. Our goal must be to prevent violent behavior instead of just punishing those who commit violent acts.

We all must take some responsibility for preventing violent acts and heinous crimes, and we can accomplish this in part by analyzing the ingredients for disaster. Society has planted the seed for violent behavior by exposing children at a young age to violent television programming. Media both reflects our violent society and stimulates it to become even more violent. The result is a vicious—not virtuous—psychosocial cycle.

Many children in the United States view hours and hours of television filled with violent acts, deviant behaviors, warped reasoning, and a criminal code of ethics. Children are encouraged by our society, through television viewing, to glorify violent behavior, identify with the aggressor, and develop clever ways of engaging in deviant behavior without getting caught. They are exposed to violent cartoons, violent videogames, and a violent genre of action/adventure and horror films that are marked by gruesome murders. They glimpse into the psyche of killers and revel in character development that is flawless down to the last detail. More time and research is spent by those in the media industry on developing deviant personality profiles for villainous characters than is spent on developing

personality profiles of altruistic, positive characters.

Children learn through observation. At a very young age, children mimic behaviors and absorb new ways of accomplishing tasks. Through practice, children optimize their competence and mastery of behaviors. Through reinforcement, these behaviors become a part of these children's style of interacting with others. Parents teach children to let go of behaviors that are unacceptable through punishment and selective ignoring, and use reinforcement to teach children to hold on to acceptable behaviors. If children are left to be reared by the television, they may observe countless hours of violent, aggressive, and salacious acts that appear to be acceptable. Instead of viewing violent acts with apprehension, they begin to feel a sense of excited anticipation. They become desensitized to a normal feeling of apprehension and fear, and instead are drawn to voyeuristically view violent acts. They become desensitized to the horror. Our society then allows children to become engaged in violent videogames like "Mortal Combat" and "Grand Theft Auto: Vice City," where the goal is murder and theft, and the player's skill level is based on his or her level of deviant critical thinking. As children practice these violent videogames for hours on end, they are playing

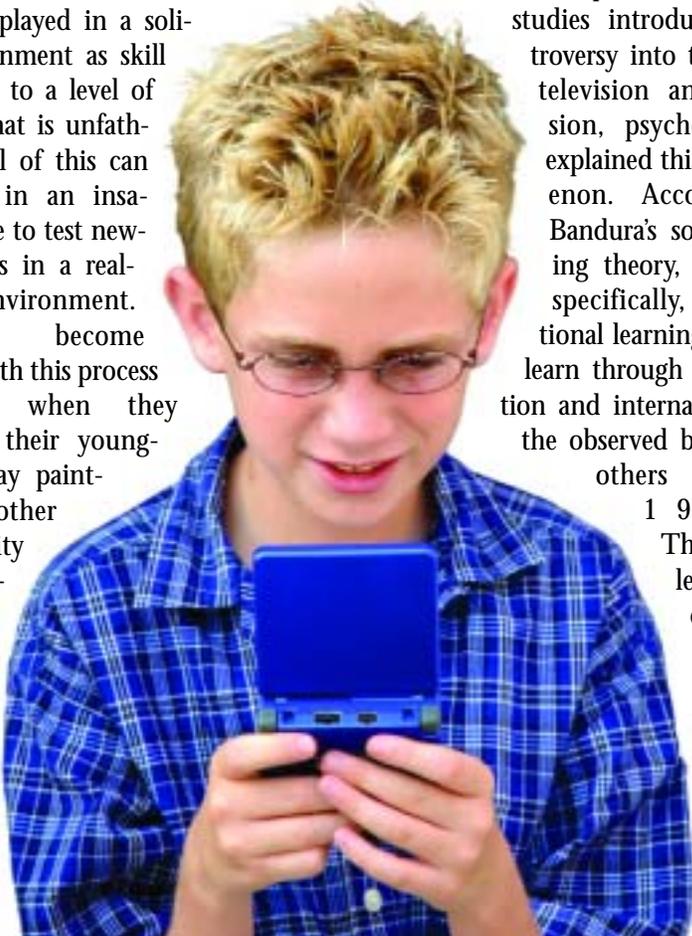


and learning about critical thinking using a criminal code of ethics that purports specific rules and norms.

The Criminal Code of Ethics

- 1.) Kill for pleasure
- 2.) Trust no one, and show loyalty to no one
- 3.) Be a loner
- 4.) Critically think through and plan deviant acts
- 5.) Value instant gratification
- 6.) Show no empathy
- 7.) Show no remorse
- 8.) Operate from an internal locus of control
- 9.) Buy into the "life is a game" fantasy
- 10.) Take what you want

This list is not complete. It is imperative that as researchers we specifically identify the themes inherent in violent videogames and media. These games are played in a solitary environment as skill levels grow to a level of expertise that is unfathomable. All of this can culminate in an insatiable desire to test newfound skills in a real-world environment. Parents become involved with this process intimately when they encourage their youngsters to play paintball and other virtual-reality adventure-based games with weapons. Actual murder is only steps away.



Finally, most parents are only casually aware of the content of the violent media to which their children are exposed. Parents must become fully aware of the carnage that their children are exposed to in the media, and of the violence that these children actually cause in virtual videogames. Much effort can be made in the mediation of violent images through discussion with youngsters and through the prevention of exposure to these types of media.

If filmmakers had to follow every act of violence with a funeral, if producers were held liable for every violent act mimicked, or if violent criminals were sentenced to time spent getting to know in detail the lives of their victims, we would only begin to reverse the many hours spent watching violent media. We must make every effort to make changes now, before it is too late.

Despite the countless studies introducing controversy into the role of television and aggression, psychology has explained this phenomenon. According to Bandura's social learning theory, and more specifically, observational learning, children learn through the imitation and internalization of the observed behavior of others (Bandura, 1973). Through violent media, children learn to imitate and

internalize the capacity to engage in violent acts (Widom, 1989). They practice these skills over and over by engaging in countless hours of violent videogames, and then they ruminate on aggressive thoughts and behaviors (Anderson & Dill, 2000).

Action for children's television was founded on the belief that children have the capacity to learn from their television viewing (Charren, 1968). That visionary concept is the rubric of children's programming found on public television today. "Sesame Street" and other children's television shows are designed to impart pro-social knowledge and model pro-social behavior. If we believe these programs are effective, then we must also believe that violent programming is being modeled for children in ways they can imitate. Is it accidental that violent criminals are being born in this age of top-rated shows focused on the criminal mind, realistic violent games that encourage fantasy and creativity focused on deviance, and adventure games such as laser tag (Anderson & Dill, 2000)? It seems like a logical conclusion that these considerations are related.

How does a child make the leap from fantasy to reality? Developmental psychologists would posit that for young children fantasy and reality are indistinguishable. Children grow to appreciate the difference between fantasy and reality as they mature and are assisted by adult explanation (Singer et al., 1988). Early exposure to violence contributes to desensitization to criminal acts and normalizes violence in ways that are abnormal. Physiological theories of adaptation to stress suggest that an adrenaline rush is associated with viewing violent acts and, at the critical stage of development in childhood, pairs excitement with engaging in violence

Early exposure to violence contributes to desensitization to criminal acts and normalizes violence in ways that are abnormal.

(Linz, Donnerstein, & Adams, 1989). This excitement gained from an insatiable appetite to view, in a voyeuristic way, violent subject matter, coupled with a genre of violent videogames that encourage hours of practice engaging in violent acts—however distanced—leads to further desensitization.

Again, how do some children leap from fantasy to reality? After many hours logged on violent videogames, many school-aged children have also become enthralled by the advent of laser tag and paintball. These games bring children one step closer to engaging in violent acts. Children have the opportunity to act out on a team or as individuals with a goal of neutralizing (killing) their opponents with toy guns that mirror automatic weapons.

Since it is so exhaustive to cope with the aftermath of violent behavior and the toll it takes on our society and our collective emotional well being, it is necessary to expend our efforts on preventative measures that include character building, altruistic attitudes and behaviors, mentoring, and empathy. We must develop programs that promote observational learning and model pro-social behavior to youngsters at early ages to combat the bombardment of violent television programming and violent videogames. We must target youngsters early and often with pro-social behavior in the manner that deviant behavior has

been demonstrated to them. Despite the many controversial studies about the relationship between television violence and aggressive behavior, logic dictates that we examine this area more vigorously. Even if a small percentage of children experience what is posited in this study, it is in society's best interest to attempt to shield children from this dangerous and influential material.

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About the Author

Monique A. Levermore, PhD, DABPS, FACFEI, is a forensic clinical psychologist in private practice in Melbourne, Fla. She is also a co-founder of the Adolescent Behavior Institute, a consulting group that provides seminars and certification for social service professionals.

Dr. Levermore earned a BA and MED degree in psychology from the University of Miami in 1998 and 1990, respectively. She also holds an MS (1990) and PhD (1995) in clinical psychology from Howard University in Washington, D.C. Prior to establishing a private practice in Florida, Dr. Levermore was an Assistant Professor at Florida Tech, the Director of the Palm Beach Atlantic College Counseling Center, and the Resident Clinical Psychologist for the Eckerd Youth Development Center (EYDC), a level-8 treatment center for adjudicated boys. The EYDC program was selected as Program of the Year.

Recently, Dr. Levermore created and facilitated a prevention program for adjudicated youth, G.I.R.L.S. (Growing Into Responsible Young Ladies Successfully). Dr. Levermore has published research in the area of the effect of community violence on African-American children, and consults internationally on a variety of topics.

Dr. Levermore is a Diplomate of the American Board of Psychological Specialties, is a Fellow in ACFEI, and has been a member of the association since 1998. She has been awarded the distinction of being listed in *Who's Who Among African Americans*. She has also been honored as an Outstanding Young Woman of America.

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The New CERTIFIED FORENSIC NURSE, CFNSM, PROGRAM

To Be Offered at ACEFI's Natinal Conference, Oct. 15-16, 2004

ACEFI is excited to announce its new Certified Forensic Nurse, CFN, program. The CFN program was created to provide a credential to enhance the credibility, competency, knowledge, and advanced skill levels of nurses working in various roles within the field of forensic nursing. The CFN designation can help demonstrate to a nursing professional's colleagues, patients, clients, employers, and the health care community that he or she has an extensive base of knowledge, skills, and education; direct professional experience; and a total commitment to continuing education and excellence within the forensic nursing profession. The CFN designation can also contribute to the weight and relevance of the Certified Forensic Nurse's testimony and the applicability of the evidence that he or she presents in a court of law.

The CFN course and examination were developed by the CFN Development Committee, a subgroup of the American Board of Forensic Nursing (ABFN), which is made up of highly skilled nursing professionals with years of experience in diverse forensic fields. The CFN course and exam are stringent and thorough, and address the common core of knowledge and skill that all forensic nurses must possess.

Successful CFN candidates should possess strong backgrounds of experience, education, and skill in their specific areas of nursing practice. The CFN course builds on this foundation and can expand the candidate's capability and credibility as a forensic nurse and expert witness in the medical and legal arenas. The CFN program is unique from other forensic nurse training programs, because rather than teaching only one specific area of nursing or forensics, it teaches and tests the overall capabilities required of a competent forensic nurse. As a result, the CFN designation helps verify that the Certified Forensic Nurse can conduct a sound forensic engagement, examination, or case that will stand up under the rigorous standards of the U.S. judicial system.

How can the CFN designation benefit a nurse's career?

The skills and abilities of Certified Forensic Nurses are vital to the forensic nursing profession, the forensic science community, and the judicial system. The CFN credential will help support one's competency as a Certified Forensic Nurse examiner, inviting new career options, creating more prospects for forensic nursing engagements, and leading to exciting new professional opportunities. The CFN designation can also add credibility to the Certified Forensic Nurse's courtroom testimony, as it helps assure court officials and counsel that the Certified Forensic Nurse has demonstrated his or her competency and expertise in the forensic nursing process.

For More Information

For more information on how you can become a Certified Forensic Nurse (CFN) call (800) 423-9737, e-mail cao@acefi.com, or log on to www.acefi.com. Also, for more details about the CFN program and the forensic nursing field, please read the following interviews with members of the CFN Development Committee.



Examiner: How does forensic nursing differ from traditional nursing practice? How do you expect the field of forensic nursing to change in the future?

Ferrell: Traditional nursing is solely rooted in health science issues and how to restore individuals to an optimum health status. Forensic nursing is an opportunity to restore dignity, protect innocence, and have an active role in humanitarian issues that impact society by practicing what we love, which is nursing.

Ferguson: Forensic nursing interfaces with the law and the judicial system in a number of ways. A forensic nurse's education and experience includes a comprehensive knowledge about the legal system, courtroom testimony, autopsy, death investigation, domestic violence and sexual assault. The forensic nurse incorporates this expertise and knowledge with nursing knowledge and practice skill to serve victims of crime and to investigate deaths due to homicide, suicide, or other types of circumstances.

Rooms: Nursing practice is based on the holistic care of patients. Nurses are known for the biological, psychosocial, and spiritual care that they provide. Forensic nurses additionally care for the criminal, civil, and human rights of the

Examining the Dynamic Field of Forensic Nursing:

An Interview with Members of the CFN Development Committee: Rusty Rooms, Jamie Ferrell, and Cynthia Ferguson

patient or population that they serve. In the future, the standard of care will be to have forensic nurses available to all trauma patients who enter tertiary care facilities. Attorneys and law enforcement agencies will utilize the skill of forensic nurses to evaluate records and case information at a greater rate. Nurses skilled in the forensic sciences have endless possibilities where their nursing experience can be used.

Examiner: What led the American Board of Forensic Nursing (ABFN) to develop the CFN program? Was there a need in the nursing community for this type of certification program?

Rooms: There has been an overwhelming need in the forensic nursing community for a credential that covers all of the common characteristics of forensic nurses who work with very diversified patient and non-patient populations.

Ferrell: Since the ABFN was formed, there has been a desire to establish this certification opportunity. We all felt the need for this program ourselves, and we also heard requests for a certification program like this one from our colleagues in the forensic nursing field.

Ferguson: Many of our fellow forensic nurses desired forensic nursing certification in an area other than sexual assault.

The CFN is comprehensive and covers an overall knowledge base in the area of forensic nursing, making it unique from other certification programs of this type.

Examiner: What types of nursing professionals will benefit from earning the CFN designation?

Ferrell: All nursing professionals will benefit from this program, including those at the bedside providing direct patient care, those at administrative levels, educators, and nurses working in community-based programs. Every nurse who takes part in the CFN program will benefit and improve his or her practice!

Ferguson: Any nurse interested in forensics and desiring to work in the field of sexual assault, death investigation, legal nurse consulting, or correctional nursing will benefit from the CFN designation. The CFN demonstrates background training specific to forensic nursing and the issues in forensic nursing.

Examiner: How do you anticipate that a forensic nurse's career will be affected after he or she earns the CFN designation?

Ferguson: The CFN designation will stand up as a statement that the forensic nurse has education and experience in forensics, and has been tested and evalu-

ated by his or her peers in the basic knowledge of forensic nursing. This designation will serve forensic nurses well when they are looking for a beginning job in forensic nursing, as well as experienced forensic nurses who are looking to be recognized for their comprehensive knowledge of forensic nursing, other than only the isolated areas of sexual assault or death investigation.

Examiner: What types of cases do forensic nurses typically work on?

Rooms: Forensic nurses may treat patients who have experienced adult or adolescent sexual assault, child physical and sexual abuse, intimate partner violence, or elder abuse. They can also be involved in accident reconstruction, cases of civil or criminal liability as legal nurse consultants, death investigations, or psychological competency determinations for court, and may treat patients in law enforcement custody.

Examiner: What is the typical role of the forensic nurse working on a case?

Ferguson: The forensic nurse plays many roles in a forensic case. When serving as a sexual assault examiner or death investigator, a forensic nurse frequently collects evidence and documents the history behind the event. Once that evidence is collected (from swabs, photographs, clothing, or trace evidence)

and the case is thoroughly documented, the evidence and documentation are handed over to law enforcement. When the case goes to court, the forensic nurse may also be called to testify as an expert witness.

Examiner: Please describe the CFN training course. Why is the course beneficial for those hoping to earn the CFN designation?

Ferguson: Those who attend the course will gain a wide understanding of what the current practice of forensic nursing entails. It will introduce areas of forensic nursing that many professionals have yet to explore. For others, it will be a current update and in-depth review. The added benefit of the CFN training course is the opportunity for networking with many other forensic nurses of different forensic specialties and backgrounds.

In addition, the ACFEI conference itself offers the forensic nurse the ability to network with other forensic specialists, such as forensic accountants, forensic dentists, and forensic audio/video technicians, to name a few. By meeting people from different forensic specialties, the forensic nurse can broaden his or her vision concerning the possibilities of their future practice. There is so much to be learned by meeting others who work in different areas of the forensic profession.

Examiner: In closing, what would you like to say to our readers about the CFN program?

Ferguson: The CFN program was created to assist forensic nurses who had prior education, training, and some experience in forensic nursing, but needed something more to verify their knowledge and training. It is a program developed by practicing forensic nurses who have a background knowledge in the specialty of forensic nursing and have experience in the application of the forensic nursing profession. The CFN should serve as a recognized certification that shows competency in understand-

ing the multiple aspects of forensic nursing, ethics in forensic nursing practice, and familiarity with courtroom testimony and the legal system.

Ferrell: This program will improve and strengthen any forensic nurse's practice and knowledge base. We must develop a balanced strength in the forensic sciences and legal arena to incorporate with our nursing knowledge. It is with this commitment that the field of forensic nursing will continue to grow with integrity.

About Rusty Rooms

Rusty Rooms, BSN, RN, Chair of the CFN Development Committee, has been a paramedic since 1992 and a registered nurse since 1999. He has worked in the field of forensic nursing since 1994. Rooms designed and implemented the first sexual assault nurse examiner program in Oklahoma County in 1995. His nursing career has primarily focused on pediatric emergency and forensic nursing. In 2001, Rooms was named Coordinator of Forensic Nursing Services for Memorial Hermann Hospital, where he implements and coordinates forensic nursing practice throughout the Memorial Hermann System, which includes nine hospitals, one of which is a level-one trauma center. Mr. Rooms recently completed a master's degree in nursing at the University of Texas-Houston School of Nursing as an emergency clinical nurse specialist and emergency nurse practitioner. Rooms participates locally and nationally in the education of nurses and emergency care providers in the areas of trauma care and forensic nursing, and has recently accepted the position of Chief Operations Officer for the National Institute of Forensic Nursing. He also serves as program director for the post-master's program in forensic nursing at the University of Rochester in New York.

About Jamie Ferrell

Jamie Ferrell, BSN, RN, DABFN, CA/CP-SAME, SANE-A, CMI-III, former president of the International Association of Forensic Nurses, is a forensic nurse consultant/examiner who provides education, protocol, and process analysis for professionals and com-

munities committed to improving their response for victims of interpersonal violence. She has 26 years of experience as a registered nurse, with extensive practice in emergency/trauma care, flight nursing, pediatric care, and maternal-infant health. For the past 18 years, Ferrell's practice as a sexual assault nurse examiner for adults and children has given her the expertise to consult and instruct numerous individuals and groups in the field, both in the United States and internationally. She has received national recognition for her outstanding work in the area of sexual assault.

About Cynthia Ferguson

Lieutenant Cynthia T. Ferguson, CNM, MSN, CMI-III, serves in the U.S. Navy as a nurse corps officer and as a certified nurse midwife at the National Naval Medical Center in Bethesda, Md. She holds a master's degree in nursing from Case Western Reserve University and is working toward her second master's degree in criminal justice. Lt. Ferguson has served numerous volunteer hours assisting with autopsies at such facilities as Dover Air Force Base and the Office of the Medical Examiner in Richmond, Virginia. She also serves as a part-time sexual assault nurse examiner in Montgomery County, Md. Lt. Ferguson has worked to promote the utilization of sexual assault forensic nurse examiners at all major military medical facilities, and serves as one of the leading advocates for a higher standard of forensic education for medical personnel. Lt. Ferguson has given several lectures to professional and educational communities concerning sexual assault, forensic nursing, and forensic nursing in the military.

About Michelle Groff

(Michelle Groff, a member of the CFN Development Committee, was unable to participate in this interview.)

Michelle Groff, PhN, MSN, DABFN, CMI-III, earned a master's degree in nursing from CSU Dominguez Hills, and also holds a post-graduate certificate in quality assurance. Groff is vice president of clinical operations for LTC Alliance, a risk management firm based in Albuquerque, N.M., and is co-founder of SHARE™, a non-profit organization that helps families of dying children to stay at home with their children instead of hospitalizing them when death is immanent.

ACFEI's 2004 NATIONAL CONFERENCE

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Certification registrants, please see "II" below.

	Regular (6/16-9/15)	Late (After 9/15)	Total
<input type="checkbox"/> Member	\$400	\$450	\$ _____
<input type="checkbox"/> Life Member (10% discount)	\$360	\$405	\$ _____
<input type="checkbox"/> Non-Member	\$425	\$475	\$ _____
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*Guests are ineligible for CE credits and must submit a separate registration form.

II. CERTIFICATION REGISTRATION:

(Tuesday-Wednesday, October 12-13, 2004)

Certified Forensic Accountant, Cr.FASM, includes registration, 2-day class, exam
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Certified Forensic Consultant, CFCSM, includes registration, 2-day class, exam
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(Friday-Saturday, October 15-16, 2004)

Certified Medical Investigator, CMI[®], includes registration, 2-day class, exam
CMI Exam Levels: (Circle one) Level I, Level II, Level III, Level IV, Level V
(15 CME/CE credits available.) \$495 \$ _____

Certified Forensic Nurse, CFNSM, includes registration, 2-day class, exam
(15 CE/CBRN credits available.) \$495 \$ _____

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Certification registrants may attend the general presentations on Thursday (includes
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<input type="checkbox"/> Core Course: Ethics (Friday, Oct. 15, 2004, 8 a.m.-5 p.m.)	\$100	\$ _____
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ACFEI members have an excellent opportunity to earn the Certified Forensic Consultant, CFC, certification at our 2004 National Conference. This interactive course will be offered at the pre-conference on October 12–13, 2004, in Chicago.

What Is the CFC Course?

The CFC course is intended to train forensic professionals in the law, both generally and specifically. It educates individuals in the fine points of being competent and knowledgeable forensic consultants in the unique environment of the American judicial system. The purpose of this course and examination is to teach forensic professionals both ethics and jurisprudence and to test their knowledge of the field of law. It is presumed that ACFEI members are already knowledgeable in their primary specialties, but will experience a profound paradigm shift when they are dropped into the legal arena. The intensive study and examination prepares attendees to be successful in court as they take part in the adversarial system of American jurisprudence.

About the Certified Forensic Consultant Course

The CFC certification course consists of classroom instruction, interactive role-playing scenarios (including a mock trial) and adversarial confrontations related to such issues as giving deposition testimony, testifying at trial, and assisting counsel and clients during the opposing expert's testimony.

The course also covers:

- * Adhering to professional ethics
- * Following proper documentation procedures
- * Writing error-proof reports

- * Preparing interrogatories and deposition testimony; assisting counsel in the same
- * Presenting testimonial evidence and opinions
- * Providing courtroom testimony
- * Comporting with jurisdictional rules, including the Federal Rules of Evidence (FRE) and the Federal Rules of Civil Procedure and Evidence (FRCPE)
- * Preparing a professional resume/ curriculum vitae, retainer agreements, contracts and other documents necessary for your protection

The certification candidate is challenged in the areas the course addresses, so that when confronted with real litigation, the individual will be comfortable and competent in his or her role as a forensic consultant. At the end of the two-day course, candidates sit for a comprehensive written examination.

Recognition as a Credentialed Professional in Forensic Consulting

Upon successful completion of the CFC examination, applicants will be conferred with the designation Certified Forensic Consultant, CFC. The CFC designation can contribute to the weight of the professional's testimony relating to his or her qualification, knowledge of the scope of the issues, validity of the evidence presented, and application of specialized knowledge to the facts in a case.

How to Register

See page 45 to register for ACFEI's 2004 National Conference, or the Certified Forensic Consultant, CFC, program. For more information visit www.acfei.com or call toll free (800) 423-9737.

Complete All Course Requirements for Diplomate Status at the 2004 National Conference in Chicago!

Attention ACFEI members: You can complete all course requirements to become a Diplomate of the American College of Forensic Examiners Institute at the 2004 National Conference. First, you can take part in the Certified Forensic Consultant, CFC, course on October 12–13. Then, take the three core courses in Evidence, Law, and Ethics on October 15–16. Successfully complete the examinations for each course, and you've met all the course requirements for Diplomate status!

About Diplomate Status

Qualified ACFEI members may apply for Diplomate status under any of ACFEI's 12 advisory boards. The Diplomate distinction is a prestigious credential that recognizes excellence and achievement and identifies competence at the highest level. Not only does it establish the Diplomate as a distinguished top professional in his or her field, it also encourages continuous professional development and promotes visibility in the field of forensic science. Plus, Diplomate status provides a way for the public to recognize that an individual is a reliable, educated, and competent forensic professional.

There are general professional requirements for all members applying for Diplomate status. For more information on these requirements please contact ACFEI's certification department toll free at (800) 423-9737 or go online to www.acfei.com (click "Diplomate"). It is recommended that you submit your application for Diplomate status and supporting documentation to ACFEI prior to attending the conference.

National Conference

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The **Wyndham Northwest Chicago** is holding a block of rooms specially priced for the 2004 National Conference. **For reservations call (630) 773-4000 and mention the group code: ACFEI 2004 Meeting.** Don't delay! Reserve your room early for the great rate! The cut-off for the guaranteed group rate is September 13, 2004.

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EZ Trip, LLC has been selected as the official travel agency for the 2004 National Conference, featuring special conference discounts. **Call Evie Daughtrey toll free at (877) 239-8747** or e-mail **edaughtrey@eztrip.com**. Please mention the ACFEI National Conference for the best rates.



ACFEI NATIONAL CONFERENCE

OCTOBER 14-16, 2004 • CHICAGO, Illinois



ACFEI's National Conference, themed "**Uniting Forensic Professionals in the 21st Century**," will be held October 14-16, 2004 in Chicago. The conference will offer over **35 presentations**, as well as certification program courses, receptions and a conference banquet, and many fantastic networking opportunities.

In addition to these great conference events, **featured speaker Dr. Cyril Wecht** will deliver a riveting special presentation titled "**Some of My Most Interesting Cases**" and an interactive workshop titled "**Forensic Science Investigations**." A total of over **70 continuing education credits (CEs)** will be offered, and conference attendees can **earn up to 17 CE**s at the conference by attending the variety of presentations, interactive workshops, and other activities specially tailored to meet the diverse professional interests of ACFEI members.

ACFEI members: You can **complete all the requirements for Diplomat status at this conference** by attending the **Certified Forensic Consultant, CFC**, program and the **Law, Evidence, and Ethics** core courses!

CHS members: You can expand your knowledge and earn continuing education credit (which is required to maintain your Certification in Homeland Security) by attending the **11 Homeland Security-related presentations** that will be offered at the conference.

Plus, more than **50 CME credits** and over **24 CPE credits** will be available at the ACFEI National Conference!

Read on for details about the conference events, presentations, courses, and workshops, as well as travel and accommodation information. **For a complete list of presentation abstracts and the most up-to-date conference schedule and announcements, log on to www.acfei.com.** To register for the conference call **(800) 423-9737**, fax the registration form on page 45 of this journal to **(417) 881-4702**, send an e-mail to **cao@acfei.com**, or register quickly and easily online at **www.acfei.com**.

Featured Presenter Dr. Cyril Wecht



Cyril Wecht, MD, JD, CMI-V, is one of the most identifiable names in forensic pathology today. He is known for his professional involvement in such noteworthy cases as

the assassinations of President John F. Kennedy, Senator Robert F. Kennedy, and Dr. Martin Luther King, Jr.; the deaths of Elvis Presley, JonBenet Ramsey, and Lacy Peterson; and cases involving Mary Jo Kopechne, Sunny Von Bulow, Jean Harris, Dr. Jeffrey McDonald, and others.

"Forensic Science Investigations: An Interactive Workshop" Thursday, October 14, 2004 10:30 a.m. to 5:00 p.m.

"Some of My Most Interesting Cases"

(Thurs., Oct. 14, 8 a.m. to 10 a.m.)

This presentation will apprise forensic scientists of their professional roles and responsibilities, and will illustrate the need for the involvement of appropriate forensic scientists in various stages and facets of a possible or known criminal investigation. It will stress the importance of ethical conduct and objectivity for forensic scientists and will emphasize the need for careful scrutiny and analysis of evidence in preparation for providing expert testimony in a court of law. Dr. Wecht's presentation will provide advice for forensic scientists in dealing with police, attorneys, and ultimately in the presentation of trial testimony.

Certification Courses at the Conference

Tuesday, Oct. 12 - Wednesday, Oct. 13, 2004

8:00 a.m. to 5:00 p.m. (Testing will be held on Wed. from 1:00 p.m. to 5:00 p.m.)

Certified Forensic Accountant, Cr.FA (15 CPE)

Instructor: Larry Crumbley, PhD, CPA, Cr.FA

"The Cr.FA designation can be used as a tremendous opportunity to explain what differentiates you from the competition. I can look a potential client in the eye and say, 'I have certified experience and knowledge.'"—J. Bradley Sargent, CPA, Cr.FA, CFS, DABFA

Certified Forensic Consultant, CFC (15 CE) Required for Diplomate status.

Instructor: E. Charles Eckstein, DMD, CFC

"The ACFEI CFC designation is a great new professional opportunity for all forensic experts...because it provides the first clear peer-reviewed program, exam and continuing education program anywhere. This certification and continuing education keeps the forensic expert fully abreast of the latest issues in testifying, rendering reports, and ethical behavior, which provides the legal system with the...most respected, professional work...in the litigation process." —Marc Rabinoff, EdD, DABFE, FACFEI

Crisis Intervener Certification Levels I and II(15 CE)

Instructor: James Greenstone, EdD, JD, DABECI, FAPA

To register for this certification course please call (800) 423-9737.

"The Certified Crisis Intervener designation is an advanced credential that recognizes additional training and expertise in crisis intervention and management. As author of the course material for this certification, I firmly believe that it will be the premiere designation for individuals involved in Crisis Intervention."

—James L. Greenstone, EdD, JD, DABECI, FAPA

Friday, Oct. 15 - Saturday, Oct. 16

8:00 a.m. to 5:00 p.m. (Testing will be held on Sat. from 1:00 p.m. to 5:00 p.m.)

Certified Medical Investigator, CMI (15 CME)

Instructor: Michael Karagiozis, DO, MBA, CMI-V

"The CMI course, which I registered for as a part of my continuing education, allows for a broader view of medical investigation."—John Brick, PhD, MA, FACFE, DABFM, Certified Medical Investigator, Level-V (CMI-V), FAPA

Certified Forensic Nurse, CFN (15 CBRN)

Instructors: Rusty Rooms, BSN, RN; Michele Groff, PhN, MSN; Tara Ferguson, LT, RN, NP; Jamie Ferrell, BSN, RN

"This program will improve and strengthen any forensic nurse's practice and knowledge base. We must develop a balanced strength in the forensic sciences and legal arena to incorporate with our nursing knowledge. It is with this commitment that the field of forensic nursing will continue to grow with integrity." —Jamie Ferrell, BSN, RN, DABFN, CA/CP-SAME, SANE-A, CMI-III, CFN Development Committee

General Continuing Education Sessions at the Conference

Wednesday, October 13, 2004

11:30 a.m. to 4:30 p.m.

ACFEI Board Meetings

5:30 p.m. to 7:30 p.m.

Welcome Reception (enjoy networking with all conference attendees)

Thursday, October 14, 2004

8:00 a.m. to 10:00 a.m.

"Some of My Most Interesting Cases"

(CE for CME, CMI) Presented by Featured Speaker Dr. Cyril Wecht

10:30 a.m. to 5:00 p.m.

"Forensic Science Investigations" An Interactive Workshop

(CE for CME, CMI) Presented by Featured Speaker Dr. Cyril Wecht

5:30 p.m. to 7:30 p.m.

"Forensic Nursing Now and In the Future" (CE for CBRN, CMI) Presented by Tara Ferguson

Friday, October 15, 2004

8:00 a.m. to 5:00 p.m.

(Testing: 3:00 p.m. to 5:00 p.m.)

Ethics Core Course (Required for ACFEI Diplomate Status; separate registration required) Instructor: Dr. Marc Rabinoff

8:30 a.m. to 9:30 a.m.

"Using Attorneys' Trust Funds to Launder Money" (CE for CPE, Cr.FA)

Instructor: Linda Walden

"Evidence Collection from Bodies and Crime Scenes" (CE for CBRN, CMI)

Instructors: Renae Diegel and Gail

Lippert

"When the Feds Come Knocking"

(CE for CHS) Instructor: Dr. Gere Unger

"Airport Terrorism Prevention" (CE for CHS) Instructor: Kevin Gorringer

10:00 a.m. to 12:00 p.m.

"Investigating Corporate Fraud in Today's Dynamic Business Environment" (CE for CPE, Cr.FA) Instructor:

Paul Zikmund

"Post Mortem Toxicology" (CE for CME, CMI) Instructor: Peter Anderson

"Assessing Malingering in Brain Injured Litigants" (CE for CME, CMI, APA) Instructor: Dr. Douglas Gibson

1:00 p.m. to 2:30 p.m.

"Asset Misappropriations and Fraudulent Disbursements" (CE for CPE, Cr.FA) Instructor: Andrew Clark

"Current Issues in Forensic Clinical Practice" (CE for APA, NBCC, ASWB) Instructor: Dr. Jay Adams

"Pattern Theory & the Prediction of Violence" (CE for APA, NBCC, ASWB, CBBS) Instructor: Richard Bennett

"Terrorism, Trauma, and the Effect of the Media: Is it Real or Is it Memoirex?" (CE for CHS, APA, NBCC, ASWB) Instructor: Dr. Alicen McGowan

2:45 p.m. to 3:45 p.m.

"Log It or Lose It: Using Network and Event Logs for Security" (CE for Cr.FA, CPE, CHS) Instructor: Pamela

Fusco

2:45 p.m. to 4:45 p.m.

"Forensic Examination of Sex-Offender Risk: Review of the Actuarial Approach" (CE for APA, NBCC, ASWB, CBBS, CBRN) Instructors: Michael Fogel, Laurie Trachtenbroit

"Overview of Physical Abuse & Neglect in Children" (CE for CME, CMI, CBRN, APA, NBCC, ASWB, CBBS) Instructors: Dr. Edgar Cortes and Sonja Eddleman

"Money Laundering and Terrorist Financing" (CE for CHS, CPE, Cr.FA) Instructor: Joseph Wheeler

4:00 p.m. to 6:00 p.m.

"On the Qui Vie: Sophisticated Interviewing and Interrogating" (CE for APA, NBCC, ASWB, CBBS, CHS) Instructor: Dr. Karen Gold

5:15 p.m. to 6:15 p.m.

"Incident Response Planning: A Methodology" (CE for CHS) Instructor: Edward Farkas

5:15 p.m. to 7:15 p.m.

"Forensic Nursing" (CE for CMI, CBRN) Instructors: Rusty Rooms, Jaime Ferrell, Sonja Eddleman, Renae Diegel

"Defending Your Expert Opinion: The Creation of Legally Defensible Reports in Child Sexual Abuse Cases" (CE for CME, CMI, APA, NBCC, ASWB, CBBS, CBRN) Instructor: Dr. Robin Tener

7:30 p.m. to 11:00 p.m.

ACFEI Conference Banquet (separate registration required)

Key to CE Approval Abbreviations

Use this key to determine what CE credits can be earned at each presentation at the 2004 National Conference.

APA = American Psychological Association

ASWB = Association of Social Work Boards

CBBS = California Board of Behavioral Sciences

CBRN = California Board of Registered Nursing

CHS = Certified in Homeland Security

CME = Accreditation Council for Continuing Medical Education

CMI = Certified Medical Investigators

CPE = National Association of State Boards of Accountancy

Cr.FA = Certified Forensic Accountants

NBCC = National Board of Certified Counselors

Continuing Education at ACFEI's National Conference

There will be more than 70 continuing education (CE) credits available at the 2004 National Conference. CE credits are provided based on the following accreditations held:

- Accreditation Council for Continuing Medical Education (CME)
- American Psychological Association (APA)
- Association of Social Work Boards (ASWB)
- California Board of Behavioral Sciences (CBBS)
- California Board of Registered Nursing (CBRN)
- National Board of Certified Counselors (NBCC)
- National Association of State Boards of Accountancy (CPE)

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CMI = Certified Medical Investigators

CPE = National Association of State Boards of Accountancy

Cr.FA = Certified Forensic Accountants

NBCC = National Board of Certified Counselors

Saturday, October 16, 2004

7:00 a.m. to 12:00 p.m.

(Testing: 11:00 a.m. to 12:00 p.m.)

Law Core Course (Required for ACFEI Diplomate Status; separate registration required) Instructor: Dr. Carl Edwards

8:30 a.m. to 9:30 a.m.

"Managing Client Expectations: Debunking the Myths" (CE for Cr.FA, CPE, APA, NBCC, CBBS, ASWB) Instructor: Bradley Sargent

"Detection of Invisible Medical Information from Photographs" (CE for CME, CMI) Instructor: Dr. Yoshiaki Omura

"Social Work's Role in Forensics from Micro to Macro Levels" (CE for ASWB) Instructor: Michael Meachem

10:00 a.m. to 12:00 p.m.

"The Forensic Examiner as an Effective Expert Witness" (CE for CME, CMI, CBRN, NBCC, ASWB, APA, CBBS) Instructor: Dr. Rose Constantino

"Advances in the Study of Intelligence in Forensic Science" (CE for APA) Instructor: Dr. Ronna Dillon

"Resource Management & Communications at Major Incidents" (CE for CHS) Instructor: John Muldown

1:00 p.m. to 3:00 p.m.

"How to Be the Best Expert Witness" (CE for CME, CMI, CBRN, NBCC, ASWB, APA, CBBS) Instructor: Jesse Dines

"Forensic Psychiatry and Drug Abuse Laws" (CE for CME, CMI, APA) Instructor: Dr. Manijeh Nikakhtar

1:00 p.m. to 4:00 p.m.

"Introduction to Forensic Optometry: Detection of Impairment Due to Drug Abuse by Means of Testing the Eyes and Pupils" (CE for CMI, CME, CHS) Instructor: Dr. E. Robert Bertolli

1:00 p.m. to 6:00 p.m.

(Testing: 5:00 p.m. to 6:00 p.m.)

Evidence Core Course (Required for ACFEI Diplomate Status; separate registration required) Instructor: Dr. Carl Edwards

3:30 p.m. to 5:30 p.m.

"Premium Security Officers: There's a New Sheriff in Town" (CE for CHS) Instructor: Wade Pinell

"Treatments of Selected Forensic Accounting Cases" (CE for CPE, Cr.FA) Instructor: Janet Reynolds

3:30 p.m. to 6:30 p.m.

"The Role of Attachment in Parenting and Custody Evaluations" (CE for APA, CBBS, NBCC, ASWB) Instructor: Dr. Margaret Nickels



The Increasing Demand for Forensic Accountants

..... An Interview with Certified Forensic Accountant Joseph Siget, Jr.

Joseph Siget, Jr., Cr.FA, CPA, CMA, CIA, is an internal audit manager at NiSource Inc., a Fortune 500 Company. Siget has over 20 years of experience in public accounting and private industry. His detection and investigation of numerous fraud cases has allowed him to work closely with legal counsel, law enforcement, and prosecutors. In 2002, Siget authored a book titled *Preventing and Detecting Small Business Fraud*. He earned his bachelor's degree in business from Ohio State University in 1983.

Siget is a member of the American College of Forensic Examiners Institute, the American Institute of Certified Public Accountants, the Ohio Society of Certified Public Accountants, the Institute of Management Accountants, and the Institute of Internal Auditors.

Examiner: What are your primary responsibilities as an internal audit manager for NiSource Inc.?

My primary responsibilities include supervising special investigations and internal audits, the process of implementing the requirements of the Sarbanes-Oxley Act of 2002, and investigations related to potential ethics violations.

Examiner: In what area of your work as an internal audit manager do you most see your Cr.FA designation serving you?

The Cr.FA designation distinguishes me from other auditors who do not have the knowledge or experience in forensic accounting. The designation gives me the confidence, knowledge, and ability

to "think outside of the box" when conducting fraud investigations.

Examiner: What impact will the Sarbanes-Oxley Act of 2002 have on preventing future corporate scandals?

The Sarbanes-Oxley Act of 2002 makes corporate executives more accountable for their actions. Companies are investing a tremendous amount of resources, time, and effort in order to comply with the new requirements. However, I do not believe the requirements of this act will prevent future corporate scandals. Corporate greed will not go away, and good internal controls will not prevent fraud when collusion is involved. Collusion makes internal controls ineffective. Collusion was involved in all of the recent corporate scandals.

Examiner: How has the role of the internal auditor changed over the years?

Today, the internal auditor wears two hats. Over the last decade, the internal auditor's role was more of a "consultative role," but with the recent corporate scandals, internal auditors are re-assuming the role of the "corporate police" as in the past.

Examiner: What prompted you to become a Certified Forensic Accountant?

I wanted a designation that would set me apart from the other professionals with accounting designations. The Certified Forensic Accountant designation demonstrates that I have knowledge, skill, and experience in forensic accounting. In the future, I plan on creating a forensic accounting practice, and this certification will be very helpful in soliciting business clients.

Examiner: What are the highlights of the Certified Forensic Accountant course?

I thought the course was rigorous and intense, and prepared me for the Cr.FA exam, which I took immediately after completing the course. Dr. Larry Crumbley is an excellent instructor and communicator, and is also very knowledgeable in the subject matter. I strongly recommend this course to anybody who is serious about becoming a Certified Forensic Accountant.

Examiner: How do you see the role of the forensic accountant continuing to evolve with changes in technology, Homeland Security efforts, and post-Enron concerns?

I think the forensic accountant's role will continue to evolve over time. Computer technology is changing, and more fraud is being committed and concealed through the use of the computer. As such, individuals specializing in computer forensics will be needed in order to trace the fraudulent activity back to the perpetrators.

Terrorist groups will continue to fund their terrorist acts through organizations and banks operating within the United States. It will be important for Homeland Security officials to hire forensic accountants who can trace the funds to and from these terrorist organizations.

The post-Enron era has created a lot of job opportunities for auditors and forensic accountants because of the recent corporate scandals and the Sarbanes-Oxley Act. If the Securities and Exchange Commission also requires annual forensic audits, the demand for qualified forensic accountants will be significant.

FORENSIC CASE

By Shelley Reuben King

The Troublesome “Red Flags” of Arson: A Tool of Limited Use in a Fire Investigation

When I investigated my first fire, two factors collided to make it one of the most intriguing cases I would encounter in my career as a fire investigator. The first factor was my incredible good luck in having married and been trained by Charlie King, a man considered by many to be one of the best fire investigators on the continent. The second factor was one homeowner’s incredibly bad luck in that the initial investigation of the fire that destroyed his home was performed by insurance representatives, claims adjusters, fire-fighters, and police officers, whose training had pretty much started and ended with a checklist, the purpose of which was to alert them to the “red flags” of arson.

My first investigation occurred in a bungalow in a beach community. The owner of the small house, whom I’ll call Gary, lived there with his wife, two children, and their family dog. Gary and his wife had purchased the house two years earlier, and the previous owner still held the mortgage. Although Gary had been employed as a tractor-trailer driver, he was unemployed when the fire occurred. He was also an ex-con. He was also a nervous wreck after the fire. These factors had raised the initial investigators’ suspicions, as they closely matched the “red flags” of arson they had been trained to identify.

My investigation of this fire occurred on a mild April day. The insurance provider’s claims adjuster insisted that the fire had been deliberately set. This insurer had always called in our company to investigate suspicious fires, and consequently they sent us to the Jersey shore to look at this one.

The “red flags” that had alerted the previous investigators to the possibility

of arson, included the following:

- The owner of the insured property (Gary) was overly distraught after the fire.
 - Some of the family’s furniture had been removed from the house prior to the fire.
 - The homeowner’s vehicle was missing from his driveway or garage.
 - Clothing had been removed from the closets in the home.
 - His pets had been removed from the house before the fire.
 - The homeowner’s wife and children were not home at the time of the fire.
 - The homeowner had a poor credit history.
 - The homeowner was unemployed at the time of the fire.
 - The homeowner had a criminal record.
- Unfortunately, omitted from this list of “red flags” was the most important sentence of all:

If the burn patterns indicate that a fire was accidental, none of the red flags are relevant, nor do they apply.

During my preliminary inspection of the exterior of the house, I noted that the fire had burned through the wall a few feet above ground level. I went inside the house, moving from the area of least burning to the area with the heaviest amount of fire damage, which



Exterior of bungalow. Fire burned through wall of bedroom and vented through windows over area of origin.

CASE PROFILE



- 1 Note melted plastic sheathing exposing electrical wires opposite protruding nails.
- 2 There is heavy burning in bays above and below Romex cable in children's bedroom.

was in the children's bedroom. One of the twin beds in this room had been moved away from the wall, and as soon as I stepped forward to look at this area more closely, I found what I was looking for. I discovered the origin of the fire, and I determined the cause.

The fire had started in one of the two "bays" between the studs in the wall, at a point where non-metallic "Romex" cable had melted. One of the copper wires strung across this section of the wall had turned blue, indicating that a heavy short had occurred. The area where this Romex was melted matched perfectly with the charred section of the exposed clapboard, and a classic "V" burn pattern extended from this point of origin on the wall.

From this evidence, I was able to determine that one possible cause of this fire had been an internal short circuit. A more likely explanation, however, was a simple nail. The walls of this bungalow were positively peppered with nails. Nails had been driven through the original exterior clapboard of the house, and

even more nails had been added when a layer of asbestos shingles was applied over the clapboard. The interior of that same wall had originally been covered with beaverboard. A decorative paneling had been affixed on top of that.

The bottom line was that this was an accidental fire caused by a short circuit. It was not a case of arson, as the initial investigators had insisted. After a little more digging, it became clear that there was an innocent explanation for almost all of the "red flags" of arson found in this particular fire:

- The sofa had been moved to the garage because the family's new dog was tearing up the furniture.
- Gary's car was at his parent's house with his wife and children, who were visiting their grandparents.
- The family's clothing, which was missing from the closets at the time of the fire, had been taken to the Laundromat, since the family was preparing to go on vacation.
- The family dog was out of the house because he was at the vet.
- The homeowner, Gary, was only a few days behind in his mortgage payment, if that.
- Gary was expecting to be rehired at his old job, from which he had been laid off, not fired.
- And yes, the homeowner was an ex-con, a circumstance about which my husband had one important bit of wisdom to convey: ***Even criminals have accidental fires***

At that first investigation, I learned

that a list of the red flags of arson can be a valuable learning tool in evaluating the circumstances surrounding a fire. However, the list should probably be safely locked away in the glove compartment of an investigator's car until he or she has finished doing the inspection of the fire scene itself.

Unlike burn patterns, red flags are indicators, and indicators, like wind socks and weather vanes, can blow this way or that. A burn pattern, however, is solid and incontrovertible evidence of what occurred at a fire scene. When we have enough of them, these burn patterns can tell us where a fire started, how it started, and why. And with this vital information, not only can we detect arson, we can also vindicate a homeowner who has been wrongfully accused of committing such a crime.

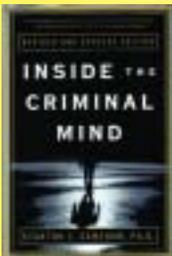


About the Author

Shelly Reuben King, a Diplomate of the American Board of Forensic Examiners, is an author and licensed private detective who has been investigating fire and arson cases for over 20 years. Writing under the name Shelly Reuben, she has used her fire investigation experience as the basis for her novels, *Weeping; Origin and Cause*; and *Spent Matches*. She was nominated for an Edgar award for her mystery *Julian Solo*.

Recent Publications By ACFEI Members

Inside the Criminal Mind Revised and Updated Edition by Stanton E. Samenow, PhD, DABFE, DABFM, DABPS, FACFEI



Defying the myths of what we have been taught to accept and believe about the criminal, clinical psychologist Stanton E. Samenow explores the criminal mind in the fully updated and revised *Inside the Criminal Mind* to reveal the changes and insights that have occurred over the past 20 years. By analyzing the criminal's mentality rather than the criminal's circumstances, the reader is taken on a "no-excuses" journey into criminal behavior. Addressing school shootings, domestic violence, political terrorism, and other crimes that are often partnered with "excuses" or explanations for human behavior, Samenow directs the reader to consider the criminal's element of choice, an often de-emphasized culprit for crime. We have been conditioned to accept that society's ills are responsible for criminal actions, and as a result we seek rehabilitation programs to "fix" the problem. Yet we are still faced with repeat offenders and overcrowded prisons and jails, leading society to re-examine the true cause of criminal behavior.

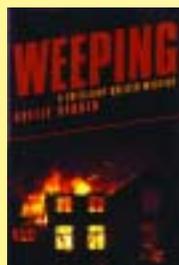
Samenow contends that by understanding how the criminal thinks, we can rehabilitate him or her to not seek out crime. The reader is guided to no longer point solely to society or weapons as the source of criminal behavior, but to the workings of the criminal mind. The reader will also learn that a criminal's preoccupation with crime does not necessarily end when he or she is removed from society and incarcerated, as a busy mind, television, and even conversations with other inmates can all fuel ideas for crime. The criminal mind is constantly at work, and to fight those tendencies the criminal must understand what makes his or her thinking opposed to that of society.

Crime is an action of choice. By understanding the criminal mind and realigning with responsible patterns of thought, effective change can take place. Samenow's original classic with updates and revisions is sure to transform the reader's understanding of how the criminal mind works, and can serve as a vehicle for change by mental health professionals, law enforcement, legal scholars, educators, and criminal justice students. *Inside the Criminal Mind* is a fascinating piece based on sound research and experience. The reader is sure to gain a fresh perspective on why many current rehabilitation programs have been ineffective.

Stanton E. Samenow, PhD, DABFE, DABFM, DABPS, FACFEI, a clinical psychologist, has dedicated 20 years to research, clinical work, consultations, and serving as an expert witness on criminal behavior. In October 2003, he was appointed an expert witness for the prosecution in the trial against accused "Washington Sniper" Lee Boyd Malvo, aka John Lee Malvo.

To order *Inside the Criminal Mind Revised and Updated Edition* by Stanton E. Samenow, contact Crown Publishers, 299 Park Avenue, New York, NY 10171; www.randomhouse.com; (212) 572-2537; ISBN 1-4000-4619-X.

Weeping: A Fritillary Quilter Mystery by Shelly Reuben (Shelly King), DABFE



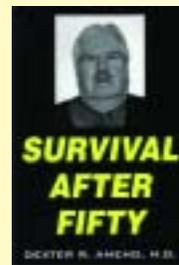
Based on real-life forensic investigations, Shelly Reuben creates a captivating tale of fictional character Fritillary Quilter's search for truth in an unusual arson investigation in her novel *Weeping: A Fritillary Quilter Mystery*. The reader is sure to enjoy the intricately woven plot and lively characters driven by the technical fortitude of forensic examination. As the character Fritillary Quilter unravels the mystery of

the origin and cause of fire, the reader experiences the dark side of fire investigation that cannot go overlooked.

Shelly Reuben (Shelly King), DABFE, is a licensed private detective and has been investigating fires and arson in New York for over 20 years. She is also the author of *Origin and Cause*, *Spent Matches*, and the Edgar-nominated *Julian Solo*.

To order *Weeping: A Fritillary Quilter Mystery* by Shelly Reuben (Shelly King), contact Justin, Charles & Co. Publishers, 20 Park Plaza, Boston, MA 02116; www.justincharlesbooks.com; ISBN 1-932112-20-0.

Survival After Fifty by Dexter R. Amend, MD, DABFE, DABFM



Dr. Dexter Amend cleverly addresses the prime issues of mature adults with wisdom and wit in his new book *Survival After Fifty*. With a practical approach to 22 hot topics for adults over 50, Dr. Amend welcomes the reader to examine all sides in decision-making with practicality, considering the medical implications and a spiritual application. From "Cholesterol and LDL-HDL Triglycerides" to "Sex After Fifty," readers of all ages are sure to be enlightened.

Dexter R. Amend, MD, DABFE, DABFM, is retired after 40 years of private urological practice and after serving many years as a county coroner.

To order *Survival After Fifty* by Dexter R. Amend, contact Vantage Press, Inc., 516 West 34 Street, New York, NY 10001; ISBN 0-533-14496-5.

ACFEI members can have their books reviewed in *The Forensic Examiner* by sending a review copy to: Editor, 2750 E. Sunshine, Springfield MO, 65804



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• Driellak, Steven C.—**HOT ZONE FORENSICS: Chemical, Biological, and Radiological Evidence Collection.** '04, 436 pp. (7 x 10), 119 il., (1 in color), 22 tables, \$95.95, hard, \$65.95, paper.



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CURRENT ISSUES IN THE FIELD OF FORENSICS

Civil Rights Tax Relief Act S-557

By Ed Turner, PE, LS

"We as engineers must continue to protect the public and encourage all engineers and their state and national engineering societies to write and call their legislators to support the Civil Rights Tax Relief Act S-557." Louis Albano, *Engineering Times*

"The bill [Civil Rights Tax Relief Act S-557] is necessary, because the present tax code has the habit of punishing the whistle-blowers and victims of discrimination by taxing their recoveries of lost income only in the year in which they make their recovery." Idaho Senator Mike Crapo

"Engineers are dedicated to protect the public, and should not be penalized financially after a jury rules in their favor." Attorney Jeff Strother, *Engineering Times*

All engineers should be aware that if they prevail in court and win a large financial settlement, they could lose the compensation they receive to legal expenses, attorney fees, and state and federal taxes, such as the *Alternative Minimum Tax* (AMT). The AMT was created in 1969 to close what many viewed as loopholes that allowed the wealthy to avoid paying federal taxes. Unfortunately, these tax codes can also create unfair taxation for individuals who win a financial settlement in a court of law. A new bill, Civil Rights Tax Relief Act S-557, could help solve this problem.

My story of how I stood up to protect the public illustrates the injustice that the current tax codes can create. I was employed as an engineer by the city of Idaho Falls for 27 years. In July of 1996, I was forced by the city to resign because I refused to endorse engineering plans that ignored safety standards. In June of 2000, after four years of convoluted liti-

gation, a jury awarded me approximately \$290,000 to compensate me for the pay that I lost as a result of the city's misconduct. Although that award was intended to compensate me for earnings lost from 1996 to 2000, under current tax codes it was taxable in its entirety in the fiscal year 2000.

As a result, I paid about \$41,000 more in taxes than I would have paid under normal taxation of my yearly earnings. This is 73% more than I would have paid if the city hadn't wrongfully terminated my employment. I can tell you from firsthand experience that it was difficult enough to vindicate public safety and my rights as a whistleblower without having the federal government profit by way of increased tax revenues from the city's misconduct, which created the problem in the first place. The Civil Rights Tax Relief Act S-557 would change the current code to better achieve this neutrality.

Several organizations supported my case, including the American Engineering Association (AEA), the National Society of Professional Engineers (NSPE), the International Society of Professional Engineers (ISPE), the American Society of Mechanical Engineers (ASME), the American Society of Civil Engineers (ASCE), and the *Engineering News Record*. Several individuals also supported my case, including expert witness Michael Rabins, PhD, PE, faculty member of Texas A & M University and coauthor of *Engineering Ethics: Concepts and Cases*; NSPE Legal Counsel Arthur Schwartz, who wrote IRS Commissioner Mark W. Everson and the Idaho Attorney General in support of my litigation; and Keith Thayer, PE, president of the ASME, who also wrote a letter to the court in support of my efforts. My wife Debra also helped tremendously by reviewing depositions, writing letters, keeping notes, organizing

documents, and conducting research. Since Idaho is a Community Property State, the financial loss after the trial was also her loss.

The engineering community will benefit if the Civil Rights Tax Relief Act S-557 passes. More importantly, the public will benefit because engineers will not have to fear a financial loss if they prevail in court for doing the right thing: protecting the public, not only in Idaho but nationwide.

For more information about this issue, go online to www.aeworld.org or www.responsiblecharge.com.

About the Author

Ed Turner graduated from Santa Monica College in 1961 and received his professional engineering and land-surveying license in 1978. He became city engineer of Idaho Falls in 1980. Throughout his career he has been involved in numerous engineering organizations, and has been recognized through several professional awards, such as the "Volunteer Tutor of the Year 2002-2003" award from Eastern Idaho Technical College, where he's served as a math tutor for almost 20 years. Turner also received the Vanguard Award in 1999 "For Extraordinary Courage, Dedication, Initiative, and Perseverance Demonstrating at Great Personal Risk a Path Toward Elevating the Engineering Profession and Safeguarding the Public Interest" from the American Engineering Alliance, the 1998 "News Maker Award," and the "Bovoy Endowment for Ethics and Professionalism in Engineering."

Turner conducts lecture tours speaking to university students about ethics, responsible charge, and public safety. The case described in this article was featured in the recently published *Engineering Ethics: Concepts and Cases* (3rd ed.), by C.E. Harris, M.J. Pritchard, and M.J. Rabins.



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CHS NEWS:

2004 CHS National Conference and Exposition a Groundbreaking Success!



The 2004 Certified in Homeland Security National Conference and Exposition, held in Washington, D.C., on May 19-21, was a tremendous success. Conference attendees enjoyed a diverse range of Homeland Security-related presentations, workshops, and activities, and benefited from exceptional networking opportunities with fellow Homeland Security professionals and decision-makers from across the nation.

Homeland Security professionals from the public and private sectors served as guest panelists for the 14 interactive panel discussions, leading in-depth deliberations and debate on the issues that directly affect the security of our nation.

Two special one-day workshops provided conference attendees with an in-depth and comprehensive look into two serious issues in Homeland Security today: **"Weapons of Mass Destruction 101,"** and **"Physical and Electronic Building Security."**

Several outstanding individuals were recognized for their contributions to the CHS program during an awards ceremony featured at the conference banquet. Those honored included **Nick Bacon**, Chair of ABCHS, Congressional Medal of Honor recipient and Civilian Aide to the Secretary of the Army, who was awarded the **CHS Distinguished Executive Advisory Board Member Award**; **Lt. Colonel Xavier Stewart** and **Don L. Rondeau**, who were awarded the **CHS Distinguished Member Award**; **Don Alcorn** and **Mark Withrow**, who were awarded the **CHS Member Referral Award**; and **Brig. Gen. Richard Wilmot** and **Dr. Donna Barbisch**, recipients of the **CHS Distinguished Speaker**

Award. **Ken Palmquist**, CHS P&R Team State Coordinator for Texas; **Ricco Ches**, P&R Team State Coordinator for California; **John Gidduck**, P&R Team State Coordinator for Colorado; and **Mark Garver**, P&R Team State Coordinator for Minnesota were all honored with the **CHS Preparation & Response Team (CHS P&R Team) Achievement Award**. Additionally, **Dr. Stephen Doeren**, President of ACFEI and Director of the CHS program was awarded the inaugural **Pat Tillman Memorial Award** for his service to the Certified in Homeland Security program.

Due to the excellent response and positive feedback we received from those who attended the CHS conference, Homeland Security-related presentations will be offered at future ACFEI conferences. Those who attended the CHS conference would agree that these upcoming Homeland Security presentations should not be missed! **For information on how you can take part in a future Homeland Security presentation at an ACFEI conference, call (800) 423-9737.**



Lt. Col. Xavier Stewart, holding his "CHS Distinguished Member Award," with Dr. Stephen Doeren, CHS Director.



Keynote speaker Asa Hutchinson, Undersecretary with the Dept. of Homeland Security.



Dr. Robert O'Block, founder of ACFEI, with featured presenter Dr. Donna Barbisch and Dr. Stephen Doeren, CHS Director.

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Policy examples for a 45 year old male, non-smoker*

Length of Policy Term:	<u>10 year</u>	<u>15 year</u>	<u>20 year</u>	<u>30 year</u>
Amount of Coverage:	Monthly Cost of Policy:			
\$ 100,000	\$ 195	\$ 242	\$ 307	\$ 437
\$ 250,000	\$ 273	\$ 350	\$ 445	\$ 843
\$ 500,000	\$ 485	\$ 640	\$ 830	\$ 1,625
\$ 1,000,000	\$ 910	\$ 1,200	\$ 1,500	\$ 2,840

Policy examples for a 45 year old female, non-smoker*

Length of Policy Term:	<u>10 year</u>	<u>15 year</u>	<u>20 year</u>	<u>30 year</u>
Amount of Coverage	Monthly Cost of Policy			
\$100,000	\$ 172	\$ 201	\$ 254	\$ 358
\$250,000	\$ 228	\$ 285	\$ 345	\$ 555
\$500,000	\$ 395	\$ 510	\$ 630	\$ 1,050
\$1,000,000	\$ 730	\$ 940	\$ 1,120	\$ 1,970

* Monthly rates based on non-smoker preferred rates

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Life Insurance Needs Analysis



A simple review of your financial status and future requirements can help determine how much life insurance you and your spouse may need to protect your family properly. Use the following guidelines to complete the Life Insurance Needs Analysis Worksheet.

Current cash requirements

A. Final Expenses: This estimated cost includes medical expenses not covered by your healthcare policy (deductible plus any coinsurance), funeral expenses (estimate \$5,000 to \$10,000) and probate costs.

B. Emergency Fund: Financial experts recommend that you save up to six months salary for any household or personal emergency that may arise. The emergency fund might be larger or smaller, depending on your family's circumstances.

C. Mortgage Balance: It's often desirable to select a life insurance benefit large enough to pay off the mortgage balance.

D. Outstanding Loans: Determine total outstanding debts (principal), such as auto loans, personal loans, credit card balances and so forth.

E. Education Costs: Calculate future college expenses for your children. The current average costs are \$27,677 per year for a four-year private school education and \$12,841 per year per child for a four-year public school education. This includes tuition, fees books, supplies, room and board, transportation, and other personal expenses. The college education can increase by 5 percent or more annually (Trends in College Pricing, 2002).

F. Total Cash Required: Add the total amounts for lines A through E.

Long-term cash requirements

G. Monthly Income Requirement: Take the annual gross income your family will need to supplement income receivable from existing sources. Generally, it is estimated that a family will require 60-80 percent of prior total income following the death of one spouse. Existing sources of income could include the surviving spouse's earnings, Social Security survivor benefits, rental income and employer-provided benefits. Determine only the additional amount needed after considering all available sources of income, then divide by 12 months. *For example:* $\$40,000 \times .70/12 = \$2,333$ (monthly income replacement amount).

H. Cash Reserve Factor:

To complete line H, multiply the total monthly income (G) by the factor from the chart below, located to the right of the number of years your family will require monthly income. *For example:* You determine your family's need for the next 20 years at $\$2,500 \times 218.6748 = \$546,687$.

# of Years	Factor
10	114.3641
15	167.6727
20	218.6748
25	266.8802
30	312.9890

This formula is based on a time value analysis for determining future cash needs, assuming a 3 percent annual increase in inflation and a 4 percent return on the lump-sum death benefit.

Assets

Determine your estimated assets as indicated on the worksheet.

How much will life insurance cost?

Ask your representative to prepare a personalized proposal for you and your family.

Life Insurance Needs Analysis Worksheet

Current cash requirements

A. Final expense	\$ _____
B. Emergency fund	\$ _____
C. Mortgage balance	\$ _____
D. Outstanding loans	\$ _____
E. Education	\$ _____
F. Total current cash requirements (A + B + C + D + E)	\$ _____

Long-term cash needs

G. Monthly income requirement	\$ _____
H. Cash reserve factor	\$ _____
I. Total cash reserve required (g x h)	\$ _____
J. Total current and long-term cash needs (F + J)	\$ _____

Assets

K. Cash and savings	\$ _____
L. Securities	\$ _____
M. IRA, KEOGH, 401(k), and pension	\$ _____
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Q. Life insurance needed (J - P)	\$ _____

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Child's name _____ Date of birth _____ Smoker Non-smoker

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Learning Objectives for "Can Trauma Cause or Accelerate Cancer?"



After reading this article, the participant should be able to:

- 1.) Understand the association between physical trauma and cancer.
- 2.) Explain the effects of trauma in the causation of cancer.
- 3.) List possible causes of acceleration of the growth of cancer.
- 4.) Identify the legal problems in evaluating trauma as a cause or as an accelerating factor in cancer.

Learning Objectives for "Managing Client Expectations"



After studying this article, the participant should be able to:

1. Understand existing conditions that skew perceptions of forensic examiners.
2. Identify myths, misconceptions, and misinformation that exist regarding forensics.
3. Understand the forensic professional's role in managing client expectations.
4. Explain the importance of communication in the management of client expectations.

Article 1: CE Test for "Can Trauma Cause or Accelerate Cancer?" (See page 6 for article.)

- 1.) What type of cancer can be caused by a single trauma?
A. Brain cancer
B. Breast cancer
C. Leukemia
D. Bone cancer
- 2.) True or False. Trauma can cause dissemination of cancer cells.
A. True
B. False
- 3.) True or False. Multiple continuous physical traumas can cause skin cancer.
A. True
B. False
- 4.) True or False. Cancer can occur in a burn scar after many years.
A. True
B. False
- 5.) True or False. A single physical trauma to a cancer can cause acceleration of the cancer's growth.
A. True
B. False

Article 2: CE Test for "Managing Client Expectations" (See page 12 for article.)

- 1.) Which of the following is NOT a common myth held by the public about retaining the services of a forensic examiner?
A. He or she can solve cases quickly thanks to technology advances.
B. The forensic professional is an advocate for the client's position.
C. Forensic examiners conduct their work in secret laboratories.
- 2.) A client who does not agree with the findings of the forensic examiner he or she hired may:
A. Discharge the forensic examiner.
B. Discharge the attorney.
C. Shop for a forensic examiner who will agree with the client.
D. All of the above.
- 3.) Good communication with a client involves:
A. Providing a business card with your address and telephone number.
B. Exchanging data regularly through inflows and outflows of communication.
C. Sending an "I'm finished" card at the completion of your work.
- 4.) The article discussed how some clients define the quality of a forensic examiner's work product by:
A. The final outcome of the case.
B. The number of associates who contributed to the work.
C. The examiner's knowledge of the terminology of the field.
- 5.) Prior to tendering a letter of engagement, a forensic examiner should communicate to the potential client about:
A. His or her schedule of fees.
B. The forensic examiner's credentials, education, and experience.
C. Dates and deadlines.
D. All of the above.

Evaluation for Article 1: (1-3 rating section)

Please circle one (1=Poor 2=Satisfactory 3=Excellent)

1. The author presented material clearly. 1 2 3
2. The stated learning objectives were met. 1 2 3
3. New knowledge or technique was gained. 1 2 3
4. Additional comments: _____

Evaluation for Article 2: (1-3 rating section)

Please circle one (1=Poor 2=Satisfactory 3=Excellent)

1. The author presented material clearly. 1 2 3
2. The stated learning objectives were met. 1 2 3
3. New knowledge or technique was gained. 1 2 3
4. Additional comments: _____

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**Learning Objectives for
"Certain Conceptual Difficulties...PTSD"**



- After studying this article, the participant should be able to:
- 1.) Understand some of the potential difficulties involved in making the diagnosis of posttraumatic stress disorder.
 - 2.) Realize that the nature of these difficulties raises very significant questions about the underlying presumptions about the cause or causes of PTSD.
 - 3.) Recognize some of the confusion in the conceptual premises that lead to the disorder being called "posttraumatic."
 - 4.) Explain the lack of clear legal responsibility for such a psychiatric problem in our legal system.

Article 3: CE Test for "Certain Conceptual Difficulties in Making the Diagnosis of PTSD..." (See page 17 for article.)

- 1.) A person who experienced a false memory of being threatened and being shot who went on to develop PTSD would:
 - A. Be able to receive compensation under existing workers' compensation law because it is a mental-mental disability.
 - B. Be able to receive compensation under existing workers' compensation laws so long as the medical opinion is based on the DSM-IV-TR.
 - C. Not be able to receive workers' compensation under existing laws because the PTSD was not contracted as the result of and in the course of employment.
 - D. Not be able to receive workers' compensation under existing laws because the medical opinion could not be based on the DSM-IV-TR.
- 2.) True or False. Extreme stressors form a discrete class of stressors in terms of the probability of psychiatric sequelae and in the distinctive nature of subsequent psychopathology.
 - A. True
 - B. False
- 3.) True or False. In general, event qualities are a relatively minor contribution to the PTSD picture compared to pre-existing individual differences.
 - A. True
 - B. False
- 4.) True or False. Demographic and socioeconomic factors play a significant role in the risk for exposure to traumatic experiences and in the determination of who subsequently develops PTSD.
 - A. True
 - B. False
- 5.) True or False. People who report having experienced alien abduction have similar physiologic responses when their story is retold to them as those responses in people who have well-defined PTSD when their stories are retold to them.
 - A. True
 - B. False

**Learning Objectives for
"Airport Security in Athens Airport..."**



- After studying this article, the participant should be able to:
- 1.) Understand the physical and procedural controls in place at the Athens International Airport.
 - 2.) Discuss the Greek government's efforts to support security at the airport in lieu of the upcoming 2004 Olympic Games.
 - 3.) Recognize the caliber of the cargo and passenger screening operation at the Athens International Airport (AIA).
 - 4.) Explain the terrorist group 17 November and its history.

Article 4: CE Test for "Airport Security in Athens Airport, Greece..." (See page 26 for article.)

- 1.) Cargo security operations in Athens are primarily governed by:
 - A. The Transportation Security Administration (TSA).
 - B. ICAO Annex 17.
 - C. European Union rules.
 - D. ECAC amendments.
- 2.) CCTV operations within the Athens International Airport environment are:
 - A. Analogue.
 - B. Digital.
 - C. Analogue and digital combined.
 - D. Black and white.
- 3.) The airport parking facility is controlled by:
 - A. A private corporation that also services Los Angeles and London international airports.
 - B. The airport authorities.
 - C. Local law enforcement alone.
 - D. Private security officers alone.
- 4.) Security at the 2004 Olympic Games will be supplemented by:
 - A. Greek police officers.
 - B. Greek military personnel.
 - C. NATO's Airborne Warning and Control Systems (AWACs) aircraft.
 - D. All of the above.
- 5.) The greatest terrorist threat is likely to emanate from which terrorist group or groups?
 - A. The IRA
 - B. 17 November and Al-Qaeda
 - C. Al-Qaeda
 - D. 17 November

Evaluation for Article 3: (1-3 rating section)
Please circle one (1=Poor 2=Satisfactory 3=Excellent)

1. The author presented material clearly. 1 2 3
2. The stated learning objectives were met. 1 2 3
3. New knowledge or technique was gained. 1 2 3
4. Additional comments: _____

Evaluation for Article 4: (1-3 rating section)
Please circle one (1=Poor 2=Satisfactory 3=Excellent)

1. The author presented material clearly. 1 2 3
2. The stated learning objectives were met. 1 2 3
3. New knowledge or technique was gained. 1 2 3
4. Additional comments: _____

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Learning Objectives for "Identification of the Skeletal Remains of a Child in Uruguay"



- After studying this article, the participant should be able to:
- 1.) Understand how a multidisciplinary approach to solving a forensic problem is essential.
 - 2.) Understand when and how to use two different methods of human identification: the traditional anthropological method of facial reproduction and DNA fingerprint analysis.
 - 3.) Identify the importance of collecting all evidence found at the site of a crime and carefully preserving the intact chain of evidence to avoid contamination of samples.

Article 5: CE Test for "Identification of the Skeletal Remains of a Child" (See page 32 for article.)

- 1.) Hunt and Gleiser's formulae for dental and skeletal ages assists in determining the _____ of the victim.
 - A. DNA
 - B. Sex and age at time of death
 - C. Cause of death
 - D. Attire
- 2.) Why was the soft tissue of the feet and legs found almost intact when the rest of the body was almost reduced to bone?
 - A. Because wild animals could not find the feet and legs.
 - B. By hazard.
 - C. Because those preserved parts of the body were submerged in the swampy lake where the humidity was high.
 - D. Because the remains were found in winter, and the extreme cold protected the preserved areas of the body from animal attacks.
- 3.) A DNA sample is most likely to become contaminated:
 - A. If the source of the DNA is already contaminated.
 - B. By another biological source, usually during extraction.
 - C. During transport from the extraction location to the laboratory.
 - D. When it is stored next to other samples at a laboratory.
- 4.) The child's age at death was estimated by:
 - A. The level of dental development and diaphyseal lengths of long bones.
 - B. The study of the cranial closure suture pattern.
 - C. The DNA fingerprints analysis.
 - D. The study of the hyoid bone development.
- 5.) The remains of Jonnathan Viera were eventually identified using:
 - A. Hunt and Gleiser's formulae.
 - B. Anthropological facial reproduction methods.
 - C. DNA analysis.
 - D. All of the above

Learning Objectives for "Violent Media and Videogames, and Their Role in Creating Violent Youth..."



- After studying this article, the participant should be able to:
- 1.) Understand that children learn through observing the actions of others.
 - 2.) Recognize that society must intervene early in children's lives to prevent them from learning and mimicking violent behaviors.
 - 3.) Identify some of the sources of violent behavior that children are commonly exposed to.

Article 6: CE Test for "Violent Media and Videogames, and Their Role in Creating Violent Youth..." (See page 38 for article.)

- 1.) True or False. Children have difficulty differentiating fantasy from reality.
 - A. True
 - B. False
- 2.) Which item has not been identified as a seed for violent behavior?
 - A. Violent television
 - B. Spiteful behavior
 - C. A criminal code of ethics
 - D. Violent videogames
- 3.) True or False. Children can learn through observation to mimic any behavior.
 - A. True
 - B. False
- 4.) True or False. Violent and sexually laced media is stimulating to children and adults.
 - A. True
 - B. False
- 5.) What is the best way for society to combat learned aggressive behavior in children?
 - A. Develop programs that promote pro-social observational learning.
 - B. Shield children from violent media.
 - C. Facilitate character building, altruistic behaviors, mentoring, and empathy.
 - D. All of the above.

- Evaluation for Article 5: (1-3 rating section)
Please circle one (1=Poor 2=Satisfactory 3=Excellent)
1. The author presented material clearly. 1 2 3
 2. The stated learning objectives were met. 1 2 3
 3. New knowledge or technique was gained. 1 2 3
 4. Additional comments: _____

- Evaluation for Article 6: (1-3 rating section)
Please circle one (1=Poor 2=Satisfactory 3=Excellent)
1. The author presented material clearly. 1 2 3
 2. The stated learning objectives were met. 1 2 3
 3. New knowledge or technique was gained. 1 2 3
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Falsely Accused

Can Fingerprints Make You Older and Taller?



"The general rule is the prints don't lie," Judge Alan L. Page said during a hearing to defendant Rene Ramon Sanchez. "If you got the same prints that Leo Rosario has, you're Leo Rosario.

And there's nothing I can do about it." Sanchez's fingerprints revealed a drug dealer 12 years older and a half-foot shorter.

Standing before the immigration judge with the threat of deportation, Sanchez broke his calm weeping with cries in Spanish, "Why don't you get his photo then? And compare my fingerprints with his?" He was referring to Leo Rosario, whose fingerprints had mistakenly been placed in Sanchez's records.

Blocked by mistaken fingerprints and a language barrier, Sanchez was returned to a detention center in Lower Manhattan. Sanchez was not new to this routine. He had been arrested previously for Rosario's crimes, had spent a total of two months in custody, and had been threatened with deportation.

Sanchez, a legal immigrant from the Dominican Republic, was fingerprinted in July 1995 after he was pulled over and charged with driving while intoxicated. His fingerprints were incorrectly placed on a card with Leo Rosario's name, Social

Security number, and other identifying information. Rosario had been arrested the night before when he sold a bag of cocaine to a police informer.

In 1998, Sanchez was again charged with a DWI; he was fingerprinted, and his prints matched those on the card that had been filed under Rosario's name with the state Division of Criminal Justice, beginning a nightmare for Sanchez. Rosario had violated probation following his cocaine arrest, and a warrant had been issued for his arrest. "Get my prints," Sanchez pleaded through the interpreter. "Maybe there was a mistake with my hands." The court reporter recognized that the mug shot on the fingerprint card did not match Sanchez, and he was released. But this did not solve Sanchez's problems for long.

One year later, Sanchez was pulled over for a defective taillight, and by this time, his name was naturally linked to Rosario's warrant. After being detained for several hours, Sanchez was released, only to be arrested again in October 2000 in the Kennedy International Airport when returning from a visit to the Dominican Republic. His name had been identified with Rosario's as he passed through a security checkpoint.

At this point, Sanchez faced possible deportation charges under Rosario's name. The judge, who was not an immigration judge, refused to hear Sanchez's pleas, and he was held in a jail in Lower Manhattan. After multiple hearings that reiterated Judge Page's statement, "Nobody has ever been able to prove that there are two people out there with the same exact set of prints," Sanchez remained in jail. He was finally released two months later, after someone from the Immigration and Naturalization Service had gone to the police, seen Rosario's photo, and recognized that it was not Sanchez.

No attempt was made to correct Sanchez's files between his painful arrests for the crimes of Rosario. A recent affidavit by the state official who investigated the case stated that the two men's fingerprints have been corrected. Sanchez currently has a lawsuit filed against the police and immigration authorities charging

false arrest and imprisonment, and deprivation of his constitutional rights.

Can You Say "Death Row Inmate Exonerated" 114 Times?

Gordon "Randy" Steidl was freed in May 2004 after 17 years in an Illinois prison with a wrongful conviction and death sentence. Steidl is the 114th exonerated death row inmate in the United States and the 18th in Illinois. Steidl was granted a second hearing in 1999 after being represented by an ineffective attorney when he was found guilty in the murders of Dyke and Karen Rhoads.

In 2003, a federal judge ordered a new trial, stating that it was "reasonably probable" that a jury would find Steidl not guilty if all the evidence that should have been investigated had been presented at the trial. The state reinvestigated the case and tested DNA evidence, and since that time, no evidence has been found of Steidl's involvement in the murders.

You're Going to Do What with the Samples?

A seven-year search in North Carolina for a serial rapist that had led to the collection of more than 200 DNA samples from Black men has continued to raise questions about that state's DNA testing policy. While Charlottesville, Va., Police Chief Timothy J. Longo remains adamant that widespread testing is necessary, he has agreed to stricter guidelines when determining who to approach and test.

A new policy to protect suspects was established and took effect July 2004. More than 200 DNA samples collected during the serial-rapist investigation have been destroyed. To destroy evidence, DNA samples are placed in an incinerator for 30 minutes at 1,300 degrees. Men may have their samples returned if they so choose. Potential suspects now may refuse to provide a sample, and men are no longer being tested if it is simply reported that they resemble the composite drawing of the serial rapist. "We really do desire to reach a common ground with the community and not impede our investigation," the chief said.

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