

Let's Be Careful Out There

by Kevin Reilly, CFEI, CVFI

In upstate New York, a city fire investigator and an insurance company investigator were examining the scene of a complete burn down. The only part of the house remaining was the center chimney, now standing alone above the rubble. While digging out the remains, a weather front passes through the town. The increasing winds place a stress on the free standing chimney, causing it to fall, killing the city fire investigator...

On a basement fire in New Hampshire, a fire investigator was working his way from the least burned portion of the house on the first floor. When he stepped into a bedroom, he did not realize there was no floor material under the carpet he was standing on. In a split second, he went from the first floor straight to the basement. Because he was alone, he had no help and had to limp back to his car to call for assistance. Luckily, his injuries were minor, and he was back to work after several days...

These are just two instances where people on the scene of a fire were not fully watching their surroundings. I know because I was the second story. When I was in the structure, the floor looked OK. I didn't look in the basement first, "I knew what I was doing". When the floor gave way, the trip to the basement took about half a second. I landed on the concrete floor with my backside and my pride bruised, but not broken. The chiropractor was able to put everything back into place and after a couple of days, my headache went away.

I learned a valuable lesson that day - NEVER take a fire scene for granted. Adjusters, investigators and anyone visiting a fire scene need to be prepared for the hazards that may be there. On a recent scene, I met with an adjuster who was walking through the remains wearing high heels. When I advised her she may want to change her shoes, she came back with a pair of running shoes. Neither were very good in deterring a nail from entering her foot.

So let's start there... Do you have the proper gear to walk through a fire scene? Your on scene attire should include:

- Boots with a steel toe and steel shank
- Coveralls
- Hard Hat
- Leather gloves
- Safety glasses
- Dust mask

With these on, you can reasonably protect yourself from the more common hazards on many fire scenes. Sometimes, the scene hazards may dictate an increased level of protection, like Tyvek suits when asbestos is present. So what exactly are the hazards you may need to deal with? Generally, we can break them down in these categories:

- ▶ Structural Hazards
- ▶ Respiratory and Environmental Hazards
- ▶ Other Hazards

Structural Hazards:

One of the main hazards to watch for: Will the structure stay where it is now? Even something like the removal of fire debris or furniture can change the load-bearing aspect of the structure to allow for a part (or all) of the structure to come down. If you have any doubts of how stable your environment is, get a professional engineer to evaluate the building and make recommendations as to your ability to work inside.

A second area of concern is the presence of energized electrical wiring and components. Many of the appliances we use today store electrical energy in the event of a power failure. Many of these items will stay charged for hours and maybe days after the power has been disconnected.

A fire investigator in a major city was moving a microwave oven in a kitchen fire. His hand came in contact with the open circuit in the back. The stored electrical energy was sufficient to kill him. Appliances with possible stored electrical energy include televisions, audio equipment, and computers, generally anything you don't have to re-program when the power goes off.

Other hazards include the presence of broken glass, exposed nails and other sharp objects. One investigator stepped on a nail which went into his boot. Lucky for him, he was wearing a boot with a steel shank. Unlucky for him, the nail bent in the boot and he was now "attached" to the floor. He had to have a co-worker use a hack saw to cut the nail so he could go home.

Respiratory and Environmental Hazards:

When we burn our household items, the types of gasses released vary widely and none of them are good for us. We all know about Carbon Monoxide, but did you know that people who are exposed to CO repeatedly can build a tolerance to it, and can actually have levels in their body that are considered dangerous without showing any symptoms of CO poisoning? Signs like a headache may be pushed off as "having a long day in the field", but it may be from exposure to CO.

Many times when we disturb a scene, like moving fire debris and furniture, we release pockets of toxic gasses that we now breathe in. Other gasses that may be on your scene include:

- Formaldehyde and Formic Acid from burning cotton and wood
- Hydrogen Chloride and Nitrogen Oxide from burning plastics and PVC
- Ammonia, Hydrogen Sulfide and Hydrocyanic Acid from burning wool, silks and rubber

The best way to make sure your air is OK to breath is to open up the windows in the area where you are working. If the windows have been boarded up, remove the boards as soon as possible to get the flow of clean air into your work space. If the windows cannot be opened, you may need to wear a filtered respirator while in the hazard area.

Other ways we introduce these chemical hazards into our systems is when we eat. Think about it, you are helping a homeowner on a fire scene. You take stock of the burned items, take photos, maybe touch a few items to move things, etc. If you are not wearing gloves to protect yourself, you now may have these chemicals being absorbed into your skin. And if you decide to eat that sandwich you brought, without washing your hands first, you are now introducing those chemicals into your digestive tract to be absorbed into your body. Let's pay attention to what we expose ourselves to; we really want to be here for our loved ones long after the job is done.

Other Hazards:

Generally speaking, most dogs do not appreciate having their homes burned down around them. And if you are the only person on scene he does not recognize, he may try to take this event out on you. No matter how friendly the homeowner says Kujo is, have them lock the puppy up until your inspection is completed.

Also, be aware of the animals that may live in the area naturally. Snakes, spiders and other lovely creatures live in our areas, and many still survive after fires. Be watchful when you are walking around structures in rural areas. Black Widow spiders and the Brown Recluse spider can leave a nasty bite and a long reminder of their visit. Attic spaces and basements can hide the presence of bats, rats and mice. Hanta Virus and rabies are just a couple reasons to wear a protective mask and watch yourself when working in these areas.

One of the biggest animal hazards you may face are the human kind. If the investigation is heading in the direction that the fire was incendiary, and you think the owner may be involved, he (or she) may not like the idea they may be going to jail, and may lash out at the person who is talking to them. If that person is you, your day just got real bad.

Learn how to read a person when you are conducting your interviews. If you feel the person may be heading in an emotional direction that doesn't work favorably for you, quietly give them a reason for you to leave. You can always continue your conversation in a location where you have someone watching your back.

Hopefully, you will take into consideration some of these topics when working your next fire scene. Phoenix Investigations is always here to help out wherever you need, whether it's a class on safety issues for your employees, an engineer to evaluate a structure or just to talk to about how to handle a safety issue.

Remember, the number one consideration on any fire scene evaluation is: *Am I Going Home Today???* Let's make sure that question is always answered - Yes!!!