

## Smoke

We've all seen the movies where the hero enters a burning building to rescue someone. Flames are everywhere and there's not very much smoke. The hero storms from room to room, standing straight up and looks through the flames for the victim. He finds the victim easily enough, picks her up in his arms and runs out of the house...a hero.

Unfortunately, that is a long shot from the way it really is. Unless an arsonist has set several fires, there is usually only one point of origin for a fire. That one point could smolder for quite some time. Even after flames flare, a tremendous amount of smoke is generated. In a realistic situation, our hero would rush into a burning building and find a room thick with black, toxic smoke. Visibility would be zero. He may not even see any flames because there would be so much smoke. If he was standing straight up as he entered the building, he would probably fall down unconscious in a matter of seconds because he would be inhaling that poisonous smoke. Movie producers would run out of heroes quickly.

### **Smoke Rises**

In a fire, heat rises. Therefore, smoke rises. In the early stages of a structure fire, it is very common for smoke to accumulate near the ceiling. That is why smoke detectors are always placed high on a wall or ceiling. They detect the first signs of smoke, which rises to the top of the room. Firefighters know this and that is why, when they enter a burning building, they are down on their hands and knees. There is far less smoke near the floor and the visibility is much better.

### **Smoke Inhalation can be Fatal**

In most cases, fire fatalities result from victims who have succumbed to smoke inhalation long before burn injuries occur. Eighty percent of those who die in residential fires have first inhaled smoke and other toxic gases.

Fire produces many gases that are highly poisonous. These are found in smoke and include carbon monoxide, sulfur dioxide, hydrogen cyanide and hydrogen sulfide. They displace oxygen in the room, which can cause suffocation.

Fire also consumes oxygen. This reduces the amount of oxygen available for persons to breathe. When a person is exposed to the toxins of smoke, muscle control is lost, judgment is impaired and the ability to reason diminishes. At a time when a fire emergency is present, it is important to be able to make quick decisions. Yet, the toxic gases, superheated air, smoke and limited visibility may cause someone to act in an inappropriate or irrational manner. It is vital to recognize smoke in the home and

be able to quickly escape by crawling low under smoke.

### **Drop and Crawl**

When you are caught in a building with smoke, drop to your hands and knees and begin crawling to the nearest exit.

If you come to a closed door, don't open it before testing it for heat. Place the back of your hand against the door. If it is hot, don't open it. Turn around and seek another exit. If it is not hot, slowly open it but be prepared to slam it closed again if you should encounter flames.

Continue to crawl until you get outside. You may have to use the walls of the building to help you. Just place your shoulder against the wall and keep crawling with your shoulder against the wall. By doing so, you will reduce your chances of getting lost in the smoke.

The best plan is to have a pre-arranged meeting place outside the house where everyone should meet and be accounted for.