



Safety Brief

JCFPD Training Division

2012-January

2012-1



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2012 Safety Resolutions

The beginning of a new year gives all of us at JCFPD an opportunity to think about our safety, and the safety of our families. Although JCFPD firefighters continue to operate with an impressive safety record, there is always room for us to make improvements as an organization, and in our personal lives. Look at your safety habits over the past year, and resolve to start a new habit or activity that will make your life (or someone else's life) better.

Safety Resolutions for Your Home

We can each make our own personal safety resolutions for 2012. But perhaps you can't think of any improvements to make. Here are some safety resolutions for your home:

- **Clean my chimney**—36% of rural fires are caused by heating malfunctions. Get a professional to clean and inspect my fireplace, chimney and/or stovepipe.
- **Practice a fire drill**—Make sure everyone in my family knows how to evacuate the house from every room, the location(s) of fire extinguishers, family emergency contact numbers, and a meeting place outside the home.
- **Update my family emergency preparedness kit**—Every family's needs are different, but I need to make sure my family can survive for 72 hours with our kit. Contact Johnson County Emergency Management Agency for more details.
- **Check our smoke detectors and carbon monoxide detectors**—I should have detectors on every floor of our home, with new batteries. Remind my family to call 9-1-1 if these detectors go off when I am not home.
- **Give our kids a ride home** without asking questions—A safe ride home without guilt



trips will bring them home safely and help them avoid staying in uncomfortable situations.

- **Get to know our neighbors**—A trusted neighbor could be a good defense against criminal activity in our home. Make a new friend!

Safety Resolutions for JCFPD

Although our firefighters have a good safety record, we can stay safe by following some safety resolutions this year.

- **Take advantage of safety training** to learn what I need to know to protect myself from workplace hazards and prevent accidents.
- **Pay attention** while I'm working and avoid distractions.
- **Wear assigned PPE** every time it is required—no exceptions, no excuses.
- **Keep alert for hazards** and correct or report safety and health hazards I see.
- **Report accidents**, near misses, or other safety incidents to my supervisor promptly.
- **Buckle up every time** I get in a vehicle, and make sure everyone in the vehicle is buckled up.
- **Do not use a cell phone while driving**—as both talking and texting is a distraction while driving.
- **Talk with my supervisor** when I have a safety-related question or concern.
- **Take care of my health** so I can respond safely to each call and come to each training session well-rested and ready to work.
- **Encourage co-workers to work safely.**

Protect Yourself

Committing to follow one (or more) of these safety resolutions in 2012 will go a long way towards improving safety in our homes and improving safety during our emergency responses.



Safety Brief

JCFPD Training Division

2012-February

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Search and Rescue Hazards

Entering buildings which are on fire and full of smoke can present numerous hazards. Some of these hazards are expected and we train to polish our skills. We anticipate running out of air, so we practice managing our air supply. We anticipate hidden fire, so we take our thermal imaging camera (TIC) with us. We anticipate having to force doors, so we grab the married pair of irons (a flathead axe and halligan) before conducting our search.

But what about hazards we don't expect? Here are some close calls reported by firefighters at the website FirefighterCloseCalls.com. Are you ready for these?

Hazards for Firefighters

- After finding a man overcome by smoke on an upper floor, the two-firefighter crew split up. One firefighter continued to search for a second reported victim while the second firefighter began to remove the man. On the way down the stairs, the victim collapsed on the stairway, pinning the solo firefighter under the victim's body. The second firefighter found the second victim, and then discovered his partner and the first victim on the stairway. A Mayday was called, and additional firefighters entered the structure to remove both victims and retrieve the pinned firefighter.
- Firefighters responded to a flue fire at 17:30 on a weekday and discovered a locked house with no vehicles visible. The house appeared to be empty. Flames and smoke were visible coming from the attic near the chimney. Some firefighters went to the roof while a second crew forced the front door to enter the structure. As the search crew went down the hallway, they vocally announced themselves by shouting "Fire Department" repeatedly. As the crew entered the master bedroom, they discovered the homeowner on the floor aiming a handgun at the doorway. The homeowner reported that he and his wife had taken medication for a cold and gone to bed, then heard noises on the

roof and the sound of the front door being broken in. Because of the medication and illness, the homeowner interpreted the noise as a home intrusion and was prepared to defend his wife.

- At a recent structure fire, firefighters entered the living room after flashover had occurred. The fire was suppressed and firefighters then found an LP gas cylinder in the living room. The tank was empty and the valve was found in the open position. Apparently the fuel contributed to the flashover in the living room.

Avoiding Injury

Firefighters need to train for search and rescue situations, using the same skills in training which will be used during fire suppression activities. In the previous cases, here are some lessons learned that we should practice during training.

- Search crews should **NOT** split up. If additional victims are suspected, another crew should be sent to search. Separated crew members can run into trouble.
- Be prepared to call a Mayday if you become trapped, lost, or run out of air.
- Be prepared to rapidly enter a structure to assist firefighters who call a Mayday
- Victims can be found in a house at any time of day. Shift workers, ill people, or elderly confined to bed can be found during day and evening hours. Conduct a search to verify there are no occupants.
- Always announce yourself during interior search and rescue operations. Adult occupants may not realize that firefighters are on the scene. Children may become scared of firefighters and try to hide. Shout "Fire Department!" repeatedly during interior searches.
- Expect to find unusual things in buildings on fire. Pressurized gas containers, ammunition, and heavy fuel loads may not be common, but should not be surprising.

Protect Yourself

Firefighters must train realistically to be ready for unusual situations. Expect the unexpected during search and rescue situations!



Safety Brief

JCFPD Training Division

2012-July

2012-7



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Fireground Risk Management

All active firefighting involves risk. Firefighters expect and accept a degree of risk during emergency operations. Fireground risk management helps determine which risks are acceptable, and which risks are not acceptable. Risk must always be balanced by what can be gained. We should always consider the consequences should something go wrong. And we should always keep the worst-case scenario in mind while considering risk and consequence.

Hazards for Firefighters

Risk management begins before we arrive on scene. Response to the scene can be dangerous for firefighters and apparatus. When arriving at the scene, drivers must position apparatus while thinking about risk management. For roadway incidents, use the apparatus to protect the scene and those responders working on or near the road. For wildland fires, consider where the fire is and where the fire is heading, but be aware of wind and weather changes. For structure fires, assume the building might collapse and provide operational space outside the collapse zone.

When lives of civilians or firefighters are at risk, it is appropriate to take a calculated risk to save lives. But if you are uncomfortable operating inside the structure while wearing PPE, you can probably assume that unprotected civilians cannot survive. If you cannot rescue those who are trapped, you do not need to accept serious risk.



Saving property cannot justify the same risks as lifesaving opportunities. Incident commanders must seriously consider what risks are acceptable for unoccupied buildings on fire. And if an unoccupied building shows signs of collapse, then the risks and the consequences strongly suggest a defensive strategy should be adopted.

Avoiding Injury

Four principles guide fireground risk management:

- Anticipation;
- Recognition;
- Evaluation; and
- Control.

Anticipation suggests that we should know what risks we might face on the typical incident, as well as the unusual incident. We study our previous incidents, and the accidents that have affected other fire departments. Most firefighter injuries and fatalities are a result of hazards that are well-known and should be anticipated.

Recognition means that hazards must be observed at the incident. This could be as simple as seeing the ice on the ground, or as complicated as observing the signs of building collapse. All firefighters need to be alert to hazards that can arise as firefighting conditions change and communicate those changes to the Incident Commander.

Evaluation means that recognized risk must be considered to determine if the benefits to be gained outweigh the risks. Most people would place this burden on the Incident Commander, but all officers should be aware of the current risks and communicate these risks up the chain of command. Firefighters also need to have a duty to keep an eye on fire conditions.

Control means taking positive steps to eliminate risk as much as possible and manage the remaining risks. A strong incident command presence, along with proper supervision by company officers, provides a measure of control. But firefighters must follow safety guidelines, avoid freelancing, and encourage safe behavior in others.

Protect Yourself

Anticipate what can happen during emergency responses. **Recognize** the presence of hazards. **Evaluate** the risks and consequences that are possible, along with the benefits to be gained. And finally, **control** risk through the adoption of safe work practices and personal safety behaviors. Stay safe!



Safety Brief

JCFPD Training Division

2012-September

2012-9



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Common Wildland Fire Mistakes

On August 30, 2012, an Elkland, MO firefighter was overrun by a wildfire and received burn injuries to his face, arm, and back requiring skin grafts. He was operating a hose line from the top of a truck when the fire accelerated. The fire burned 400 acres, and required 130 firefighters from 19 agencies to extinguish. This incident illustrates how wildfires can quickly threaten the safety of firefighters.

Hazards for Firefighters

Wildfire safety hazards have been discussed previously (see March 2006 and July 2011 issues). Firefighter fatality reports from NIOSH report several issues are commonly identified at wildland fires. These issues include:

- Failure to establish incident command;
- Inadequate situational awareness;
- Accountability systems were not established or not enforced;
- Safety zones and escape routes were not established or communicated; and
- Safe operating procedures were not in place or not used.

Avoiding Injury

The 2012 wildfire season has been busy so far. With numerous incidents, firefighters often begin to let down their guard and not treat each separate fire as a threat to personal safety. Think about what YOU can do to improve the safety of all personnel operating at the incident.

First, make sure that the incident command system is established and utilized at every incident. Incident command is more than a radio call sign—the IC must be in control of all units at the scene and all units at the scene must maintain communications with the IC and with each other.

Second, each firefighter on the scene must be aware of current fire behavior and anticipated

changes. Firefighters must consider the types of fuels involved, the weather, and topography. Lighter fuels will burn faster, winds can change the direction of fire advance, and topography can speed or slow a fire. Your location might seem to be safe now, but fire behavior can change quickly to threaten your safety.

Third, the JCFPD accountability system must be used to be effective. ICs must make sure that all firefighters on the scene are identified and their location is known. Firefighters assist by making sure that they check in with the IC upon arrival and pass over their accountability tags. Then, firefighters must again visit with the IC before being released from the scene, and pick up their tags.

Fourth, safety zones and escape routes should be identified and communicated. ICs and officers should constantly update personnel on the current safe areas. JCFPD personnel often use the burned-out area (known as the black) as an area of safety. Fight rapidly-moving grass fires from within the black instead of operating in the green, unburned area outside the perimeter. Be aware of pinch points, such as gate openings or narrow driveways between fences.



Photo from the Texas Forest Service

Finally, follow safe operating procedures. Place hose lines beside or in front of the brush truck so the driver can see the crew and the crew can see the fire. Work in crews of two or more firefighters. Use portable radios to keep crews in contact with the IC. Hydrate frequently to avoid heat stress. Minimize climbing on apparatus to avoid slips, trips, and falls.

Protect Yourself

Wildfires are different from structure fires. But we can understand the hazards of wildfires as well as we understand the hazards of structure fires. Pay attention to the common safety hazards and work to establish the controls which make the fire scene safer for all responders. Look out for each other, and stay safe!



Safety Brief

JCFPD Training Division

2012-October

2012-10



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PPE Inspection

A firefighter's PPE only protects against injury when it is intact and functioning. How can you know whether your gear is intact and functioning? The best way to know your gear is ready to use is for gear is ready to use is for you to inspect it regularly. NOW is a great time to inspect your gear

Hazards for Firefighters

PPE that is worn out or damaged will not protect you under structural firefighting conditions. Periodic inspection of your PPE will remind you why we wear PPE and assure you that entry into structural fire conditions can be safely accomplished.

Avoiding Injury

Grab your PPE and let's inspect it for safe use.

COAT-Answer these questions:

- Shell-Is it clean? Does it have any rips, cuts, or tears? Is there any thermal damage? Is the reflective trim damaged or missing? Does it close securely? Does it overlap the pants by 2 inches?
- Liner-Does it attach to the shell correctly? Are there any rips, cuts, tears or thermal damage? Are the wristlets intact?

PANTS-Answer these questions:

- Shell-Is it clean? Does it have any rips, cuts, or tears? Is there any thermal damage? Is the reflective trim damaged or missing? Do they close securely?
- Liner-Does it attach to the shell correctly? Are there any rips, cuts, tears or thermal damage?
- Suspenders-Do they attach to the pants correctly? Are they stretched out? Other damage?

BOOTS-Answer these questions:

- Are they clean? Do they fit? Are there rips, cuts, holes, or thermal damage? Is the heel or tread worn? Are they water resistant?



GLOVES-Answer these questions:

- Are they clean? Do they fit? Are the liners pulled out of the fingers? Are there rips, cuts, holes, or thermal damage? Does the gauntlet extend up over the coat wristlet?

HELMET-Answer these questions:

- Shell-Is it clean? Are there screws missing on the eagle? Are there screws missing at the chinstrap? Are there cracks at the screws for the chinstrap? Is there thermal damage? Is the reflective trim intact?
- Liner-Is it clean? Are there rips, tears, or thermal damage?
- Suspension-Is the suspension attached to the helmet?
- Faceshield-Is it clean? Are there cracks or thermal damage?

HOOD-Answer these questions:

- Does it fit? Is it clean? Are there rips, tears, cuts, or thermal damage? Does the face opening still have elastic? Does it extend down under the coat?

Protect Yourself

Now that you have inspected your gear, what should you do about what you found? If your gear is dirty, you should wash it! Remember that the District provides a gear washer and dryer at Station 1 for any firefighter to use. Directions for use are on the washer and dryer.

If your gear is damaged or worn out, you should show your damaged gear to your station officers. They will assist you in contacting the Administrative Office to make arrangements for replacing or repairing damaged PPE. Missing screws for helmets may be available from your station officer or from the Administrative Office.

Some firefighters may have to wear PPE that is not a perfect fit. The District may not have every size available. However, your safety should not be compromised because of poor fit. Contact your station officers if you have a question about fit.

Look out for each other, and stay safe!



Safety Brief

JCFPD Training Division

2012-November

2012-11



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Water Rescue Safety

JCFPD personnel should be aware of the hazards associated with water rescue. We have many ponds and lakes, as well as the possibility of river flooding. JCFPD has a Water Rescue Division consisting of operations-level and technician-level personnel who are trained and equipped to conduct water rescue activities. These personnel are capable of conducting rescues on the surface of water, ice, and underneath the surface of water.

Hazards for Firefighters

Human nature pushes us to take action when faced with trouble. However, firefighters who attempt a water rescue without proper training or equipment can become part of the problem. An average of seven public safety responders die each year in water-related incidents. Why? The temptation to act overwhelmed the need for sound judgment, good reasoning, and a disciplined plan of action. Don't become part of the problem!

Avoiding Injury

Firefighters must recognize that environmental hazards can place responders at risk. Some environmental hazards present at water rescue incidents include:

- Cold-Can cause hypothermia or frostbite and affects the ability to think clearly and perform fine motor skills. Cold can also cause equipment malfunctions.
- Heat-Can mask hypothermia because high air temperatures cause us to forget the dangers associated with the water temperature. In still water, body heat is lost at a rate 25 times greater than in air at the same temperature.
- Weather-Rain, snow, fog, and high winds can accelerate hypothermia.
- Aquatic environment-Animal life, fish, and insects can present hazards to rescuers. Plant life in the water can reduce vision and create tripping or entrapment hazards. Water can also harbor bacteria, viruses, and possibly biohazards.

- Utilities-Electricity, gas, sewer outlets, and communication wires can present problems for responders. Hazardous materials can also be present.
- Personnel hazards-The water's edge can contain tripping and falling hazards. Steep slopes can be slippery. Hidden obstructions can present problems during the dark hours. There can also be holes and drop-offs at the edge of the water, or just under the surface of the water.

Protect Yourself

Firefighting PPE is dangerous in a water rescue incident. Firefighters operating at or near the water's edge should be wearing the personal flotation devices (PFDs) provided on JCFPD engines.

Request the Water Rescue Division early in the incident. Upon arrival at the incident, COMMAND should be established by the first arriving unit. A quick size-up should be conducted to determine the type of water rescue incident involved. Is it a surface rescue? Is it an ice rescue? Is it a subsurface rescue? What is the scope of the incident? Is it one location with no water flow, or have the floodwaters stretched the scene out?



Assess the hazards of the scene quickly and report the information by radio so other responders receive updates while en route. Identify the location and number of victims. Provide the Water Rescue Division of the best way to access the scene—consider providing guides for arriving responders.

If victims are close to the shoreline, consider using the rescue ropes or throw ring provided on apparatus. Maintain voice contact with victims if they cannot be recovered from the shore.

Remember to operate within the limitations of your training and equipment. Wait for the Water Rescue Division to conduct technical rescues. Stay safe, watch out for each other, and return home safely!



Safety Brief

JCFPD Training Division

2012-December

2012-12



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Fire Safety in Rural Communities

Many JCFPD firefighters live in rural communities. Most of us have family members who live in rural areas. Fire safety issues in rural communities are very different from larger communities. Let's take a few moments to learn how to protect ourselves and our families from fires and their related injuries and deaths.

Hazards for Firefighters

Rural communities account for 20% of the U.S. population, but 80% of the land mass. But rural living doesn't mean farm living. Only one rural American in 20 lives on a farm! But rural communities have a lower population density than average, and a higher percentage of low-income people. People in rural communities live farther from a fire station, and have less ability to buy safer products and fire protection equipment.

The rate of fire deaths per million population in rural communities is roughly twice the rate in the rest of the U.S. Rural communities in every region of the U.S. have the highest fire death rates. Of the 15 states with the largest rural percentage of population, 9 are also among the states with the highest fire death rates. The national fire death rate in 2009 was 11.0 deaths per million population. However, Missouri was 6th highest, with a fire death rate of 20.2 per million population in 2009.

Avoiding Injury

The three leading causes of fire deaths in rural communities are:

- Heating-Heating equipment is the #1 cause of rural home fire deaths, causing 25% of rural home fire deaths. There is a higher use of space heating in rural housing, which has a much higher fire risk than central heating.
- Smoking-Smoking is the #1 cause of U.S. fire deaths, but not in rural communities. Smoking accounts for 25% of home fire deaths in rural America. And a quarter of fatal victims in cigarette fires are not the smokers themselves. Children, other family

members, neighbors, and friends are also at risk.

- Electrical Distribution Equipment-Electrical equipment causes 1/6 of rural home fire deaths. This includes wiring, cords and plugs, outlets and switches, fuses and circuit breakers, light fixtures, and light bulbs. Rural housing is often older and older systems have higher risk than newer electrical systems.

Protect Yourself

Heating. Central heating or additional bedclothes to stay warm at night are safer than portable space heaters. Keep a 3-foot clearance between any heating equipment and burnable materials. Use power cords that are properly sized for the current needed in portable space heaters. Never use an extension cord with a heater's power cord.



Smoking. Smoke outdoors if possible. There is less material to catch fire outdoors and won't endanger people inside. Use deep, sturdy ashtrays, and place them on a sturdy surface. Make sure butts and ashes are out, and look for fallen butts before leaving a room.

Electrical Systems. Watch for signs of electrical problems. Acrid odor near an outlet, switch, or light fixture can indicate a problem. Flickering lights and tripped circuit breakers or blown fuses should be checked by an electrician.

Install smoke detectors and make sure they work! Three out of four homes have working smoke detectors, but most fire deaths occur in the 25% with no working detector. One smoke detector usually isn't enough—make sure each sleeping area has a detector outside the door. A smoke detector in each bedroom will save lives. Test your smoke detectors every month, and use hard-wire detectors of 10-year batteries. Ordinary batteries should be changed at least once a year.

Protect your family from rural fires! Install a smoke detector this holiday season. Check your heating and electrical systems, and be careful where you smoke.