



It was extremely painful.... Things that were going through my head were, “I’m going to die, this is going to kill me.”... Afterwards, I remember thinking that because my legs were burned on the back of both calves and the backs of my thighs and it was so painful and it had gone on for such a long period of time that they’re probably going to have to amputate my legs.

You believe that you’re being burned to death or that you’re being burned to the point that you’d never be able to use those limbs again, when in fact (my injuries) were deep third degree burns. But...I ended up...being able to fully recover and not have any really serious disability.

(We need to) make sure that people know what they might encounter, what it might be like, what they might hear and see around them, and to know above all else that if you get up, you die.



I think people need to know that you’re going to think you’re dying lying there on the ground, but in fact it’s probably not as bad as you really think it is, and as long as you can protect your respiratory tract, you’re probably going to walk away from this and maybe fight fire again another day. People have to know that up front, going into this, or they’re just going to be surprised by it when they get in there and they start feeling these things and they go, “Oh, my God, I’m dying. What do I do now?” You have to condition them to know what the response to that should be, “Oh, my God, I’m dying. Well, they told me I would. And, so I need to stay here.”

Entrapment survivor



Controlling Panic

This was like a nuclear blast occurring right over you and you're lying in tinfoil.

Entrapment survivor

Firefighters can panic when they become entrapped. Panic can cause firefighters to leave their

shelters and make a run for it—a far more hazardous gamble than staying put. It is very important to control such feelings so you can think clearly. Once you are under the shelter, concentrate your attention on your breath or on an object, person, or religious symbol that is very meaningful to you. You can also use a repetitive chant or phrase. These techniques of meditation will help quiet your mind. They can help reduce panic, yet

keep you alert for necessary actions.

...One of the other firefighters began to pray out loud, and it had almost a soothing effect at that point, listening to him do that.

Entrapment survivor



I think for a period of probably 3 to 5 minutes I was absolutely sure that this was it, that I was going to die in this, that I would not survive this. There was no question in my mind. It was just...a matter of when.... (Then) I started to think about my family...and I remember thinking I need to do everything that I possibly can to go home and see them. And so that—that really is what kept me in the shelter.

Entrapment survivor



Stay in Your Shelter

When the flame front hit, the shelter was unbearable. I cannot put in words what it was like. It was just totally unbearable. The only reason I didn't get up and get out was because I had enough sense to realize it was a lot worse on the outside.

Entrapment survivor

Remember, once you commit yourself to the shelter, stay there. No matter how bad it gets inside, it is much worse outside. If you panic and leave the shelter, one breath of hot, toxic gases can damage your lungs. Suffocation will follow. Most

firefighters who perish die from heat-damaged airways and lungs, not from external burns. You may be burned. You may feel like you are dying, but your only chance to protect your airways and lungs is to stay in your shelter.

We need to emphasize that to people, that they may receive injuries, but their greatest hope is staying inside that shelter and protecting themselves, no matter what they hear, no matter what they see or feel, that they have to make just an absolute commitment to staying with that shelter if they want to go home.

Entrapment survivor

When to Leave the Shelter

There is no fixed time to stay under your shelter. **Don't move until the flame front has passed.** A drop in noise, wind, and heat, and a change in the color of light passing through the shelter are tipoffs that it's safe to leave the shelter. Stay put until temperatures have cooled significantly or a supervisor tells you it's safe to come out. Leaving a shelter too soon can expose your lungs to superheated air or dense smoke. Typical entrapments have ranged from 15 to 90 minutes. Entrapments are shorter in light, flashy fuels, and longer in dense, heavy fuels. **Firefighters have died when they came out of their shelters too soon. Stay inside a little longer if you have any doubt about leaving the shelter.**



Inspection



The shelter has an indefinite shelf life because its materials do not degrade in normal fire-cache storage. Nevertheless, all shelters should be inspected when they are issued and every 14 days during the fire season. Only serviceable fire shelters should be taken to the fireline. Don't assume that a new carrying case contains a new shelter. Shelters with the oldest manufacture dates should be issued first.

Inspect the carrying case, liner, vinyl bag, and shelter. **Do not open the vinyl bag.** All opened shelters should be removed from service.

1. Check the vinyl plastic bag to ensure that the quick-opening strip is unbroken and the two red pull rings are intact. If any item is broken, remove the shelter from service (Figure 24).
2. Abrasion is the most common shelter damage. It can be spotted through the vinyl bag. Typically, the aluminum foil is rubbed from the fiberglass cloth on the outer surface or the outside edges of the shelter. Remove the shelter from service if you see extensive edge abrasion, if aluminum particles have turned the clear

vinyl bag dark gray or black, or if debris is in the bottom of the bag. All of these problems are signs of serious abrasion.

3. Look for tears along folded edges. Tears are most likely to occur at the top end of the shelter where all the sharp edges come together above the liner. Damage is less common along the wider folds. Remove shelters from service when tears are longer than $\frac{1}{4}$ inch. Many cracks and pinholes occur in the shelter fabric during manufacture, particularly when the shelter is sewn and folded. Holes the size of a dime



Figure 24—Frequent inspection keeps damaged shelters off the fireline.



or smaller don't impair the shelter's ability to reflect radiant heat. If holes are larger than a dime, remove the shelter from service.

Shelters that have been removed from service make excellent training aids, but should be clearly marked "For Training Only" so they do not reach the fireline.

Care of the Fire Shelter

Firefighting is rough on equipment, so the fire shelter is expected to have a limited service life. A little care can extend that life—even on the fireline.

The shelter is an important piece of protective equipment. Treat it accordingly:

- *Keep your shelter away from sharp objects that may puncture it.*
- *Don't load heavy objects on top of the shelter.*
- *Avoid rough handling.*
- *Do not crush the shelter when leaning against objects.*
- *Do not sit on the shelter or use it as a pillow.*
- *Always keep the shelter in its hard plastic liner.*

Practice Fire Shelters

Practice fire shelters are made from blue plastic and are designed to be reused many times. The carrying case and liner are identical to the standard case except that the practice shelter's carrying case is orange. *Never* mix practice and real fire shelter components. Sooner or later someone could end up carrying a practice shelter onto the fireline. This is another reason to inspect your fire shelter when you first receive it.



Conclusions



As a firefighter, your highest priority is to stay out of situations that can lead to entrapment. You must take responsibility for your own safety. You have an obligation to speak up if you see something that is wrong, and you have the right to be heard without criticism. Remember, the fire shelter does not guarantee your safety. It is a last resort.

But, if you ever have to use your fire shelter, use it with confidence. The fire shelter has saved the lives of over 250 firefighters and has prevented serious burn injuries for hundreds of others. Take your training seriously. Practice deploying your shelter until deployment is, in the words of one entrapment survivor, “like tying your shoe.” Think of training as life insurance—insurance that if the unthinkable ever occurs, you will have every possible chance to survive.



Feedback

Improving the fire shelter and the fire shelter training aids is an ongoing process. Ideas for improvements come primarily from you, the users. Please send your ideas for improvements to us.

Send comments and suggestions to:

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About the Project Leader



Leslie Anderson has been a Project Leader for the fire shelter and fire clothing projects since 1998. She has a bachelor's degree in forestry from the

University of California, Berkeley, and a master's degree in forestry from the University of Montana. She has worked in wildland fire since 1979, including

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