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For Calif. firefighters, 'mindfulness' can ease the deadly stress of their jobs

"Psychological first aid" through therapy, meditation and breathing techniques could help prevent health problems caused by the stress of fighting California's wildfires

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[The Sacramento Bee](#)

About three and a half years ago, paramedic Susan Farren underwent major surgery for kidney cancer, and as she lay in the recovery room, one of her doctors told her that he had treated quite a few first responders with organ cancers.

The comment stuck with her.



Firefighters rest with their fire truck at outside a cardboard box factory that burned down by a wildfire in Riverside, Calif. Thursday, Oct. 31, 2019. Some Calif. firefighters are turning to meditation, yoga and other therapies to avoid developing stress-related conditions. (AP Photo/Ringo H.W. Chiu)

"I went home and started researching it after getting out of the hospital," Farren said, "and for the next year and a half, that's what I did every single day. I researched organ cancers, heart attack, strokes, depression, isolation, substance abuse, **suicide**."

In 2017, for instance, more firefighters and police officers died by suicide than in the line of duty, according to research from Boston's Ruderman Family Foundation. Researchers said the frequent exposure to death and destruction leads to mental health issues — and for some, suicide. In 2017, 103 firefighters and 140 police officers died by their own hand. That same year, 93 firefighters and 129 police officers were killed on the job.

Farren studied and absorbed statistics like these, biology lessons and evidence-based studies from experts in medicine, wellness and mindfulness. Stress, she learned, was the main contributing factor to disease.

"There's all sorts of research that proves that is a fact," Farren said. First responders are "under more stress than most people, professionally speaking. If stress is the No. 1 contributing factor to disease, then reducing the stress is the No. 1 contributing factor to reducing disease."

As California's firefighters confront one deadly wildfire after another around the state, the flames and the noxious fumes they spew are not the only perilous threats awaiting them, Farren and other experts told The Sacramento Bee. Rather, they said, stress and trauma also mount vicious assaults on first responders' bodies and brains.

Stress sets off the body's alarm systems, releasing neurochemicals to help overcome immediate threats, said Dr. Caroline Giroux, a psychiatrist with UC Davis Health. When the so-called flight-or-fight mechanism "is repeatedly activated, when people have these neurochemicals being constantly released in their bodies because of chronic stress, then it can ultimately damage...the blood vessels, the cells, the brain and cause all kinds of symptoms."

As Farren's research led her to this realization, she felt certain some smart person already armed with the knowledge would introduce a way to train first responders in how to better control the shut-off switch for alarms in their central nervous systems. There were methods, she discovered, but she didn't see anyone advancing this concept as part of firefighter training.

GIVING PSYCHOLOGICAL FIRST AID

Rather, organizational leaders in fire departments and other agencies were intervening only after their uniformed employees were experiencing symptoms from stress or trauma.

Deputy Chief Mike Ming, who heads up the Employee Support Services unit at Cal Fire, has become an ardent advocate for prevention. Up until recent years, though, the department had focused its efforts on providing a barrage of support services after employees and their spouses already were under stress, he said.

Cal Fire's employee support staff offered short-term counseling through an employee assistance program, Ming said, and on-site near the fire incidents, they also set up a mobile support trailer staffed with both peer support personnel and licensed clinicians.

"We've been doing this for at least the past five years on Cal Fire major incidents," Ming said, noting that he's had as many as 35 peers and 10 licensed counselors at some fires. "We bring the peer support to the incident for anybody who's maybe having a difficult time. They can come in and talk with us. We give them resources."

Giroux said that people with lived experience can provide inspiration to their peers.

"It might be easier for someone who's suffering to trust a peer who has been through similar issues," she said. "It also helps break the stigma and provides hope for healing."

Giroux applauded the idea of offering psychological first aid such as this — giving information or teaching about what to expect or look for if they eventually have symptoms of post-traumatic stress — but she cautioned against the practice of debriefing first responders.

"Forcing people to talk about trauma...wouldn't necessarily help post-traumatic stress disorder at all," she said. "It's basically like assuming that everyone will develop anaphylactic shock after exposure to an allergen. Providing epinephrine when not needed can be a problem. It's better to wait because everybody has a different background and experience....People may heal by themselves."

At times, spouses are home alone trying to deal with financial issues or a child's illness, or they're suddenly faced with a home repair or maintenance issue that they've never had to handle before, Ming said.

"It's easy to get in arguments with our spouses who are miles away," he said. "You haven't seen them for many weeks perhaps and so it's hard to take on what's going on at home, even though a partnership needs to do that."

MOVING INTO PREVENTION

Peer support, employee assistance and licensed counseling certainly can help firefighters in the midst of crisis, Farren said, but she believed it was possible to give first responders a number of tools to keep stress and trauma from becoming overwhelming.

So, she started her own company, First Responders Resiliency Inc., bringing in other veteran first responders who also had stumbled upon life-changing lessons after having encountered major setbacks in their behavioral or physical health. They, too, wanted to spread the message of prevention, Farren said.

Over a career with Cal Fire, Ming also had gone through some personal struggles of his own and was ready to go beyond a reactionary model of care. He championed the concept of resiliency training, he said, and Cal Fire has been working with Farren's company to teach techniques at retreats as well as in the California Fire Academy.

"There are some holdouts out there who don't believe in seeking help, but that culture and those numbers are going away rapidly," Ming said. "In Cal Fire specifically, our culture has broken through that stigma, and...we're training all of our new folks who come on board with us in a curriculum of resiliency."

So, what resiliency methods have been proven to work for first responders — and indeed anyone confronting trauma and stress on a regular basis?

Giroux, Farren and Ming all said that what people need is essentially a reset on their central nervous systems. Science really has shown that methods such as breathing techniques, meditation, yoga, equine therapy, when regularly practiced, can help people to restore a sense of harmony to their neurological systems, Ming said.

Farren said: "We tell them to try and get still. Just give your nervous system a break, even if you do it for only five minutes a day. Your mind is always talking. You may not be aware of it, but there's a constant conversation going on in your head."

One technique Farren's team teaches is called box breathing, noting that it's so effective that it works to calm panic or anxiety attacks. The practice requires inhaling through the nose for four seconds, holding it for four seconds, exhaling for four seconds and then holding it for four seconds. That cycle is repeated for three to four minutes.

It oxygenates their bodies, Farren said, and balances their breathing. Under stress, she said, people breathe shallowly as a response to fear.

"We get them breathing more deeply and more effectively, and then the nervous system says, 'Oh, oh, hey guys, we're not in a crisis. It's OK. Everybody take a deep breath. We can calm down. There's no imminent threat in the room.'"

WHY MEDITATION WORKS

Giroux explained that, when people take deep breaths, they become more mindful of their surroundings and their emotions. Yoga and meditation work in a similar way, she said. One tool that Farren's team has used to introduce firefighters to the idea of meditation and mindfulness techniques is a mobile app called Headspace.

Over at Cal Fire's station in Petaluma, Capt. Matt Newberry decided after attending a retreat with Farren's team that he was ready to try meditation. Farren said her instructors share a lot of the

data and research they have amassed on stress management, and they recommend books such as *"The Body Keeps the Score"* and *"10% Happier"* with more information.

Knowledge of biology and science has allowed first responders to save lives, Farren said, and it also has saved their lives, so they are more willing to embrace what research has proven.

Newberry had tried meditation a year or two earlier, he said, but he had felt unable to focus. In July, he started using Headspace's guided meditations for three minutes before bedtime at the firehouse. He's now up to 20 minutes nightly, he said, and with the assistance of an instructor from Farren's team, he's introduced his crew to yoga.

Firefighters "do such a good job of working out, lifting weights, getting our physical training," Newberry said, "but we do a really bad job of taking care of the biggest muscle in our body, and when...we really need to be on our A-game, what's going to get us out of those situations? Having a clear mind."

Meditation, he said, has given his brain a renewed sense of focus and clarity. But why does meditation work?

Giroux explained: "Meditation helps reshape certain structures in the brain such as the amygdala, or so-called alarm system that is also bigger after a traumatic experience and that goes on overdrive when it's over-sensitized by trauma....Doing these techniques will help bring the amygdala back to a more normal size — after repeated practice."

For those who wish to learn more, Giroux suggested the book, *"Theatres of the Body,"* and a TED talk by California's surgeon general, Dr. Nadine Burke Harris, about the impact of trauma over a lifespan and how it affects health outcomes.

"The body indeed keeps the score," Giroux said. "The body is basically the theater of unconscious trauma. It's trauma that is often referred to as the unnameable or the unthinkable....Having physical manifestations is the language of some kind of distress."

Giroux said some patients have come to her for help decades after a traumatic event — some aware of the cause, others not — and they will tell her that they thought they had put it in a box and stowed it away.

"It re-emerges somehow later in life, in some form or another," she said.

In the case of first responders, Farren said, they often get transported back into traumatic events by seemingly innocuous questions from people around them: "Have you ever shot anybody?" or "What's the worst thing you've ever seen?"

"If I could change the world in small ways, one of the first things I would do is I would train people to stop asking (those questions)," Farren said. "When a first responder begins to tell

those stories or remembers those stories, their bodies begin to relive the event again. That causes them to release adrenaline and cortisol which are all stress hormones, and that again propagates this constant state of fight or flight.”

Memories are stored not just in the mind, she said, but in the muscle memory and elsewhere in the body.

BRINGING ARMOR DOWN

Farren said she has learned that first responders are more likely to accept information presented by other first responders — doctors, nurses, paramedics, dispatchers, firefighters and others like them.

“It’s like the armor comes down,” Farren said. “We’ve had these incredibly strong battalion chiefs and folks who have been doing this job for 20 or 30 years come to us and just completely relate to what we’re sharing.”

While many first responders may experience physical illness after years of ignoring their body’s shrieking alarm system, Farren and Ming said, research shows others may suffer challenges with their behavioral health.

Farren pointed to documented high rates of suicide among first responders, and anecdotally, she had observed a number of divorces among her peers over her 30-year career. Individuals confronting suicide and divorce also may be battling depression, isolation, substance abuse or a combination of those conditions, Farren and Ming said.

“Alcohol ... is a central nervous system depressant,” Farren said. “It calms you down. ...You’re not necessarily aware of this, but your body senses that, after a drink, your nervous system feels calmer. First responders’ nervous systems are constantly on high alert, and if one drink calms you down, it would seem reasonable that four drinks would be even better. That can become a coping mechanism.”

Abuse of alcohol or prescription drugs can cause other physical ailments and sabotage job performance, Farren said.

When sidelined from work, Farren said, some first responders can become isolated and depressed because they’ve placed a lot of their self-worth in what they do. For years, she said, people they meet have told them: “How do you do that for a living? I could never do that for a living.”

That sends the message that first responders are different — socially and professionally, Farren said. If cut off from their profession, they may begin to struggle with who they are and whether the person they’ve become has any value.

“That is a really hard thing to transition out of if they’ve spent an entire career doing that, especially since there’s no such thing as off duty and on duty,” Farren said. “There’s no on/off button when you’re a first responder. The day you take your oath, the day you get your pin, the day you go out and do the job, you’re on duty for as long as you have this as a career.”

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