

advancing firefighter mental health and wellness through design

by Tim Wiley



Firefighters are routinely exposed to fatal injuries, hostile environments, and life-threatening fires and accidents. These repeated stressors can be traumatic and are associated with increased vulnerability to behavioral health conditions, including PTSD, depression, and anxiety. According to a University of Phoenix study, 85% of all first responders surveyed have experienced symptoms related to mental health issues. A 2018 study by the Substance Abuse and Mental Health Services Administration suggests that firefighters are at a greater risk of dying by suicide than in the line of duty. Nevertheless, the mental health of firefighters is often put on the back burner.

Though most departments offer some form of behavioral health services, the resources are seldomly used. According to the Ruderman Family Study, bravado on the job, embarrassment about needing help, stigmas regarding mental health in general, and feelings of isolation are all reasons firefighters choose to keep their symptoms hidden. It is perceptibly easier to “bury feelings” than face potential ridicule, judgment, or derision from peers.

As design professionals focused on health and wellness, we inspire fire departments to implement thoughtful design elements that create highly functional stations and are conducive to holistic well-being. Biophilic features, social zones, and spaces conducive to relieving stress allow firefighters to decompress, build camaraderie, and boost mental health.

utilize daylighting and nature

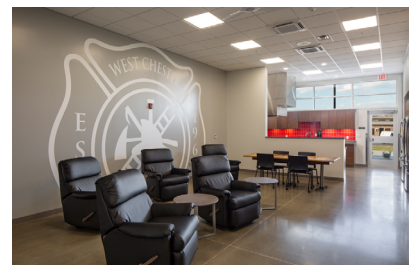
Daylighting plays a major role in determining our circadian rhythm, the natural internal process regulating the sleep/wake cycle. Disruption in the circadian rhythm can lead to poor sleep or insomnia, which directly impacts cognitive and physical functioning. A firefighters' irregular sleep schedule, coupled with anxiety, makes it difficult to get much needed rest between emergencies. To help minimize undue mental strain, fire stations typically require absolute darkness in dorm rooms. An alternative solution is to integrate wavelength-specific lighting, which replicates natural light hues and promotes melatonin production for deeper sleep. Productive resting periods lead to improved cognition and less fatigue. Natural lighting is also critical to normal daily function. Controlled daylight enhances function and performance, and is known to increase alertness, productivity, reaction times, and coordination. We believe elements such as vision glazing, clerestory windows, skylights, and glass walls should be considered in fire station design.

include stress-relieving zones

Stress is known to wreak havoc on the body. Interruptions to the cardiovascular, immune, digestive, and other systems can lead to serious health issues such as heart disease, high blood pressure, depression, and anxiety. First responders routinely deal with high levels of stress and trauma, so they must have places and outlets to unwind and relax. Most fire stations include fitness rooms, however, very few include additional spaces for meditation or reflection. "Science has shown that methods such as breathing techniques, meditation, yoga... when regularly practiced, can help people restore a sense of normalcy to neurological systems," says Deputy Chief Mike Ming of Cal Fire. Creating designated spaces for meditation and relaxation not only allows for decompression after an arduous day, but reduces the stigma around seeking assistance for mental health. If budget constraints won't allow for designated meditation space, bunk rooms, media rooms, or saunas can serve dual functions.

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incorporate social zones

Camaraderie is the keystone of a functioning fire department. An open and supportive environment is known to alleviate symptoms of depression, boost immune systems, and foster empathy. Design that encourages group activities promotes healthy peer-to-peer relationships, which increases trust, and creates a safe place to ask for help. Limiting private space and expanding common areas, such as kitchens, community rooms, dayrooms, and media rooms, increases communication and reduces isolation. The design of minimalist bunk rooms with a smaller footprint is an effective tool for discouraging unnecessary seclusion. As a result, bunk rooms are zones specifically utilized for rest and recovery, creating increased opportunities for fellowship in the social zones.

While the physical demands and stresses of firefighters are well known, it is the lesser known and often ignored mental stresses that warrant additional focus. A firefighters' cognitive stability and psychological well-being deserve top priority and should be considered in the design of today's fire stations.

As design professionals, we have an obligation to protect the mental health of those who protect us. By incorporating daylighting, nature, stress-relieving zones, and social zones into fire stations, we can secure increased health and mental well-being for first responders.



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