

MOST OF IT IS PREVENTABLE. CARDIAC EVENTS ARE THE #1 KILLER OF FIREFIGHTERS.



SUDDEN CARDIAC EVENTS ACCOUNT FOR ~ 45% OF FIREFIGHTER LINE-OF-DUTY DEATHS — ABOUT 8 TIMES MORE THAN ASPHYXIATION. THE RISK IS 10 TO 100 TIMES HIGHER DURING FIRE SUPPRESSION THAN NON-EMERGENCY DUTIES.

WHAT IS CVD?

Cardiovascular disease (CVD) is an umbrella term for conditions affecting the heart and blood vessels. 2 types drive most firefighter line-of-duty deaths (LODDs): **atherosclerotic CVD** (plaque buildup in arteries) and **hypertensive heart disease** (structural heart changes from prolonged high blood pressure).

80%

of firefighter cardiac line-of-duty deaths in one study showed both atherosclerosis and an enlarged heart at autopsy.

69%

of firefighters in one large study were hypertensive.

THE 2 LEADING CARDIAC THREATS

Atherosclerotic CVD

Fatty plaques build up in artery walls, narrowing blood flow. A plaque rupture can trigger a blood clot — blocking a coronary artery and causing a heart attack. Even without rupturing, partial blockage can cause ischemia that triggers a fatal arrhythmia.

Hypertensive Heart Disease

Prolonged high blood pressure forces the heart to work harder, thickening and enlarging the heart muscle. A structurally changed heart is more vulnerable to dangerous arrhythmias — especially during the physical stress of firefighting.

ACUTE CARDIAC EVENTS

HEART ATTACK

Myocardial Infarction: A coronary artery becomes suddenly blocked, cutting off blood flow to part of the heart muscle. Without immediate treatment, that muscle begins to die. Firefighters are at elevated risk during and immediately after suppression activities.

CARDIAC ARREST

Heart suddenly stops beating — most often caused by a fatal arrhythmia triggered by ischemia. About 90% of out-of-hospital cardiac arrests are fatal. Early CPR and automated external defibrillator (AED) access are critical to survival.

STROKE

Blood supply to the brain is suddenly reduced. Brain cells begin dying within minutes. High blood pressure — common in the fire service — is the leading risk factor. Immediate medical attention is critical.

WHY FIREFIGHTING IS HIGH RISK



Extreme Physical Demand in Personal Protective Equipment

Strenuous work in heavy, insulated gear sharply increases cardiac workload—heart rate, blood pressure and oxygen demand all spike simultaneously.



Heat and Dehydration

Extreme heat causes dehydration and reduces the amount of blood pumped by the heart. Blood pressure drops post-firefighting, which can trigger a cardiovascular event in those with underlying CVD.



Smoke and Toxic Exposure

Products of combustion can advance CVD and trigger acute cardiovascular events. Self-contained breathing apparatus use is essential in all hazardous environments.

KEY RISK FACTORS IN THE FIRE SERVICE



Hypertension

On-duty coronary heart disease (CHD) death rate is 12 times higher in firefighters with hypertension. Normal blood pressure makes a firefighter 4 times more likely to survive a sudden cardiac event.



Obesity

On-duty CHD death risk triples in firefighters with obesity. Over one-third of firefighters are at an unhealthy body weight.



Altered Lipid Levels (Cholesterol)

Abnormal cholesterol levels accelerate plaque buildup in arteries. Regular screening is essential since high cholesterol often has no symptoms.



Type 2 Diabetes

The risk of on-duty CHD death is 10 times higher in firefighters with diabetes. Diabetes damages blood vessels and accelerates atherosclerosis.

45%

OF LODD

CARDIAC EVENTS KILL MORE FIREFIGHTERS ON DUTY THAN ANY OTHER CAUSE. MOST ARE PREVENTABLE.

Early detection, fitness and heart-healthy habits can change the outcome.

HOW TO REDUCE YOUR RISK



GET SCREENED

Know your blood pressure, cholesterol and blood sugar. National Fire Protection Association 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments*, annual evaluations and coronary artery calcium scans at age 40 can catch disease before a crisis hits.



STAY FIT

Improving cardiorespiratory fitness is the single greatest step to cut CVD risk in the fire service. 150+ minutes of moderate activity per week.



EAT HEART-HEALTHY

A healthy diet cuts CVD risk by 16% and CVD death by 32%. A Mediterranean-style diet is one type of healthy eating that will lower CVD risk.



PROTECT YOUR SLEEP

7–9 hours is the target. Sleep disorders affect over one-third of firefighters. Private quarters and sleep hygiene policies are evidence-based interventions.

READ THE FULL REPORT AT <https://www.usfa.fema.gov/downloads/pdf/publications/cardiovascular-disease-in-the-fire-service.pdf>

**KNOW THE RISK. KNOW THE SIGNS.
KNOW WHAT TO DO.**



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