

# UNDERSTANDING HEART HEALTH AND NFPA

## Premature Ventricular Contractions

### WHAT ARE PVCs?

Premature ventricular contractions (PVCs) are extra heartbeats that begin in one of the heart's two lower pumping chambers (ventricles). These extra beats disrupt the regular heart rhythm, sometimes causing a sensation of a fluttering or a skipped beat in the chest.



### WHAT DOES NFPA SAY?

Special Criteria for restriction: Has ventricular arrhythmias (e.g., ventricular tachycardia and : ventricular fibrillation) where persistent or recurrent or frequent toxic appearing ectopy(a type of arrhythmia or abnormal heart rhythm).

## SIGNIFICANCE IN THE FIRE SERVICE

In 2010 NIOSH investigated the death of a 52 year old career LT who passed on duty due to sudden cardiac death, with “cardiomyopathy” and “ventricular ectopy” as underlying causes. After the investigation NIOSH recommended implementation of exercise stress testing, clearance for duty by a healthcare provider knowledgeable about physical demands of fire fighters, and annual medical and physical performance evaluation.



[Summary Of NIOSH Study by CDC](#)

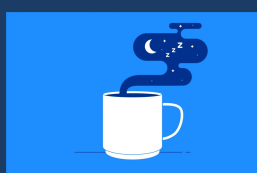
## LIFE SCAN AND PVCs

The frequency of PVCs and how they appear all play into the interpretation of “toxic ventricular ectopy”. Some individuals may have a PVC every minute or so during stress or even a few a minute. The real concern comes when there are an excessive amount in one minute or they are appearing in couplets, as bigeminy or trigeminy, and/or multi focal (coming from two or more parts of the ventricular wall). An increase in frequency or morphology from one year to the next can be a greater indicator of cardiovascular issues. Per our medical director, 6-10 PVCs in one minute (we follow the 10 PVC/per min guideline) is considered abnormal and classified as “toxic ectopy”. In most medical practices more than 5 in a minute during stress testing or >30 in an hour at rest are considered frequent and should trigger physician review and possible further testing such as a holter monitor, event monitor, or maximal stress test.

## HOW YOUR HEALTH HABITS CAN AFFECT PVCs

PVC triggers include:

- Caffeine
- Alcohol
- Stress
- Bad sleep habits
- High blood Pressure
- Cardiovascular Disease



When experiencing PVCs whether at rest or during exercise it is important to try and isolate the issue by reducing triggers especially prior to exercise stress testing.