

THE PREVALENCE OF OVERWEIGHT, OBESITY, AND SUBSTANDARD FITNESS IN A POPULATION-BASED FIREFIGHTER COHORT

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SUMMARY

Based on the growing evidence of low fitness and unfavorable body composition in firefighters, as well as a significant number of Line of Duty Deaths (LODD) due to cardiovascular disease (CVD), researchers see a critical need for large, well-designed epidemiological studies that better characterize rates of overweight and obesity in firefighters, general fitness levels of firefighters, and that examine important correlations and risks for overweight and obesity.

The purpose of this study is to examine both crude and adjusted rates of overweight and obesity by using several objective methods of determining excess adiposity. The use of objective methods is significant because concerns have been raised about determining obesity through body mass index (BMI) calculations, which can overestimate risk in athletic and/or active populations.

FINDINGS

- High prevalence rates of overweight + obesity and obesity were found in career and volunteer firefighters.
- False-positive obesity misclassification based on BMI, compared to waist circumference and body fat percentage (BF%) was low.
- False negatives based on BMI were much higher.
- Obese firefighters demonstrated unfavorable cardiovascular disease (CVD) profiles.
- The prevalence of overweight and obesity exceeded that of the US general population. Contrary to common wisdom, obesity was even more prevalent when assessed by BF% than by BMI, and misclassifying muscular firefighters as obese by using BMI occurred infrequently.

	Career	Volunteer
overweight + obesity ($BMI \geq 25 \text{ kg/m}^2$)	79.5%	78.4%
obesity ($BMI \geq 30 \text{ kg/m}^2$)	33.5%	43.2%
False Positive Obesity Misclassification (Based on BMI, compared to waist circumference and BF%)	9.8%	2.9%
False Negatives Obesity Misclassification (Based on BMI)	32.9%	13.0%



Visit www.fstaresearch.org to search for research and information you can use.

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TAKEAWAYS

- This study should be a wakeup call. It is not the first study that has pointed out that a large percentage of firefighters are obese, possibly putting themselves in danger from a wide range of ailments directly and indirectly related to being overweight.
- The fire service is expected to respond to the needs of the public at all times. The public depends on firefighters to be in good health to carry out their mission.
- More than three quarters of our fire and EMS personnel are obese and, as a result, are not at the fitness level needed to complete their duties.
- There needs to be a concerted effort to address the challenges of obesity by individuals, supervisors and fire departments.



FIRE STATION TALK

- Most employers offer special programs to assist employees. These programs involve education and counseling to improve diet and increase physical activity.
- Some programs offered a health risk assessment and lab work; others provided one-on-one and email counseling. Find out what's available in your department.
- **The pros of structured assistance programs:**
 - Emotional support from colleagues.
 - A structured program can offer opportunities to learn about nutrition and exercise.
- Starting a discussion has to include not only the problems pointed out in this study, but must include some suggestions on how to find a solution.



CONSIDERATIONS FOR CHIEFS

Department leaders should consider the following:

- Establish yourself as the role model for your firefighters
- Is your department and jurisdiction doing enough to be part of the solution of the obesity issue?
- Are there opportunities provided by the department to encourage better dietary opportunities and a proper exercise regimen while on duty?
- Are there programs in place to help those who are obese with overcoming this health issue and improve their stamina, strength, health, and overall well-being?
- Your firefighters come first. Create incentives and mandates to get your firefighters into the fit zone and out of the obesity range.



STAY IN THE KNOW

Read the research, start the discussion.

Additional resources and tools for this study can be found at www.fstaresearch.org/resource/?FstarId=11484.