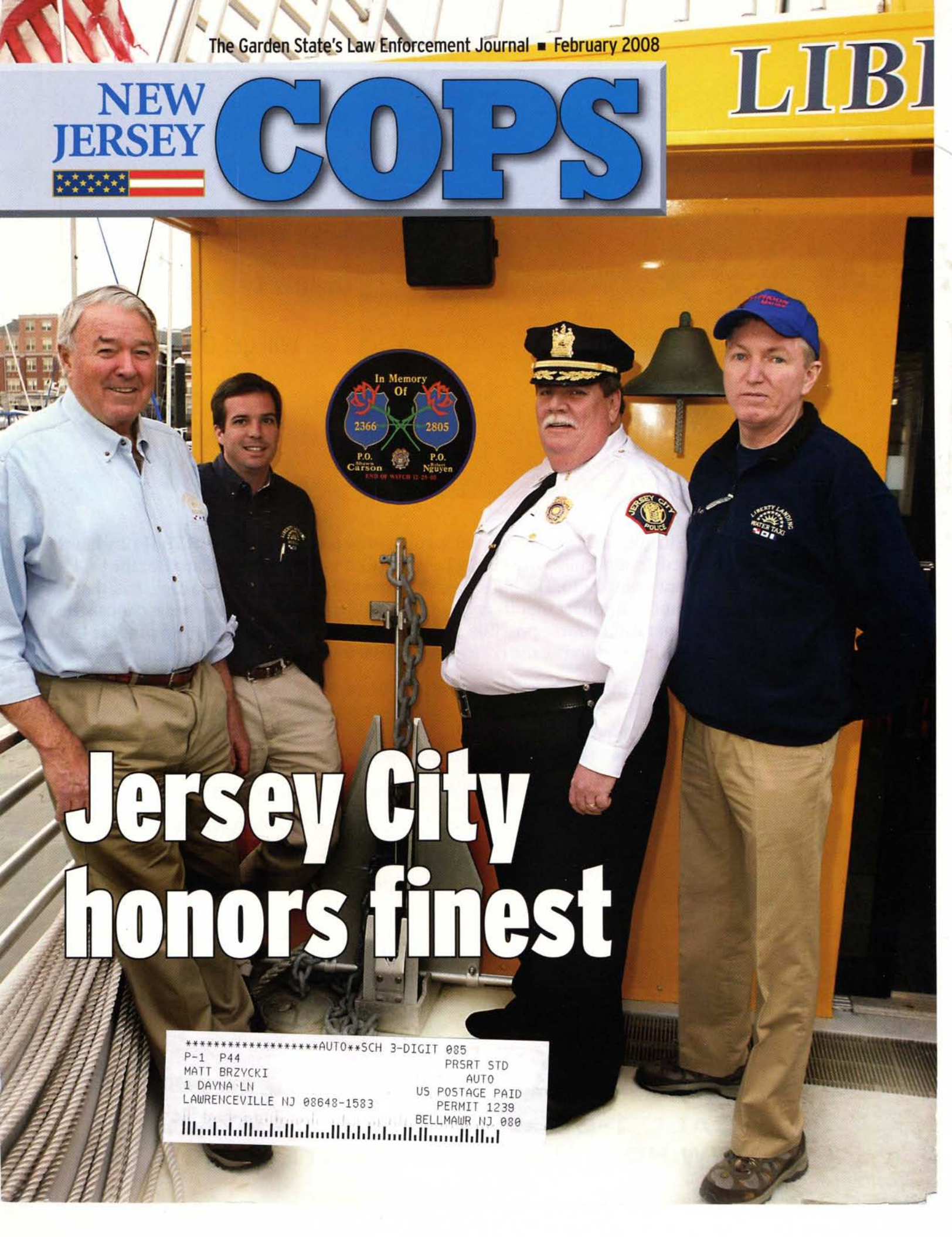
The Garden State's Law Enforcement Journal ■ February 2008

NEW JERSEY COPS

Jersey City honors finest



Effects of smoking on fitness

BY MATT BRZYCKI

It's well known, of course, that cigarette smoking affects your health. But smoking also affects your fitness. Let's take a look at a recent study on police officers.

Matt Brzycki

WHAT THE RESEARCH SAYS

In a study that was published in Occupational Medicine, researchers compared smokers to non-smokers in a metropolitan police department in the southeastern United States. (The name of the department wasn't disclosed.) Specifically, the study involved more than 500 police officers of whom about 21 percent were smokers and 79 percent were non-smokers. (Interestingly, these numbers are virtually identical to the national average where an estimated 20.9 percent of the general population smoke and 79.1 percent don't.) The average age of all officers was 34.8 years.

The officers were required to take an annual physical fitness test on or as close as possible to their date of birth. Their test consisted of five elements: percentage of body fat, flexibility (using a sit-and-reach test), sit-ups (the maximum number done in one minute), a one-repetition maximum in the bench press (with a barbell) and either a step test (for those 34 or younger) or a bike test (for those 35 or older).

The researchers found that in comparison to male smokers, male non-smokers had significantly higher performances in flexibility (stretching 0.9 inches farther), muscular endurance (doing 8.2 more sit-ups in one minute), muscular strength (lifting 18.0 more pounds) and cardiovascular endurance in the bike test (consuming 4.9 ml/kg/min more oxygen); in comparison to female smokers, female non-smokers had significantly higher performances in flexibility (stretching 1.4 inches farther), muscular endurance (doing 6.0 more sit-ups in one minute), muscular strength (lifting 4.0 more pounds) and cardiovascular endurance in the bike test (consuming 4.3 ml/kg/min more oxygen).

Surprisingly, there were no significant differences between smokers and non-smokers in percentage of body fat. Male smokers had 1.0 percent more fat than male non-smokers; female smokers had 1.0 percent less fat than female non-smokers. As well, there were no significant differences between smokers and non-smokers in cardiovascular endurance in the step test. Here, the researchers looked at recovery heart rate. Male smokers had 4.0 more beats per minute than male non-smokers; female smokers had the same number of beats per minute as female non-smokers. Keep in mind, however, that the step test was given to officers who were 34 years old or less. The researchers point out that this age may be too young to show a loss of cardiovascular function as a result of smoking.

Finally, the study also looked at absenteeism rates and worker's compensation claims. The absenteeism rate was the number of sick days that were taken by the officers during a calendar year; worker's compensation claims were the number of dollars that were paid to the officers during the same calendar year for accidents that occurred to them while on the job.

Compared to smokers, non-smokers missed fewer days of work (4.2 versus 4.5 in males; 5.2 versus 7.4 in females) but this wasn't statistically significant; compared to smokers, non-smokers' worker's annual compensation claims were higher among males ($68 versus $23) and lower among females ($75 versus $103).

These last two findings are contrary to most other studies. In particular, the majority of research has shown that smokers have higher rates of absenteeism than non-smokers. However, this study is perhaps the only one ever published that looked at police officers. It's possible that because of their work ethic and dedication to duty, police officers are less likely to "call out sick" when not feeling well. Moreover, interviews with the officers supported the notion that smokers took fewer risks on the job than non-smokers, likely because of their lower fitness.

SMOKING AND HEALTH

Not to be forgotten are the myriad of health problems that are associated with smoking. To say "cigarette smoking may be hazardous to your health" appears to be a vast understatement.

Smoking impairs lung function; increases respiratory symptoms (cough with phlegm aka "smoker's cough") and infections (such as bronchitis, emphysema and pneumonia); weakens the bones (making a person more susceptible to fractures); increases the risk of heart attack and stroke (a "brain attack"); and raises blood pressure and heart rate. In addition, smoking is associated with cancer of the lungs, mouth, throat, larynx (the "voice box"), esophagus, stomach, pancreas, kidney, bladder and cervix.

According to the Centers for Disease Control and Prevention, smoking kills about 440,000 Americans per year – that's more than 1,200 deaths per day. And yet, all of these conditions are preventable by choosing not to smoke.

THE BOTTOM LINE

Although this study didn't find significantly higher rates of absenteeism or worker's compensation claims, there was strong evidence that smoking has a significant impact on the fitness of police officers.

Matt Brzycki is the Assistant Director of Campus Recreation, Fitness at Princeton University in Princeton, New Jersey. He has authored, co-authored or edited 16 books on strength and fitness, including SWAT Fitness (available at www.optacinternational.com).