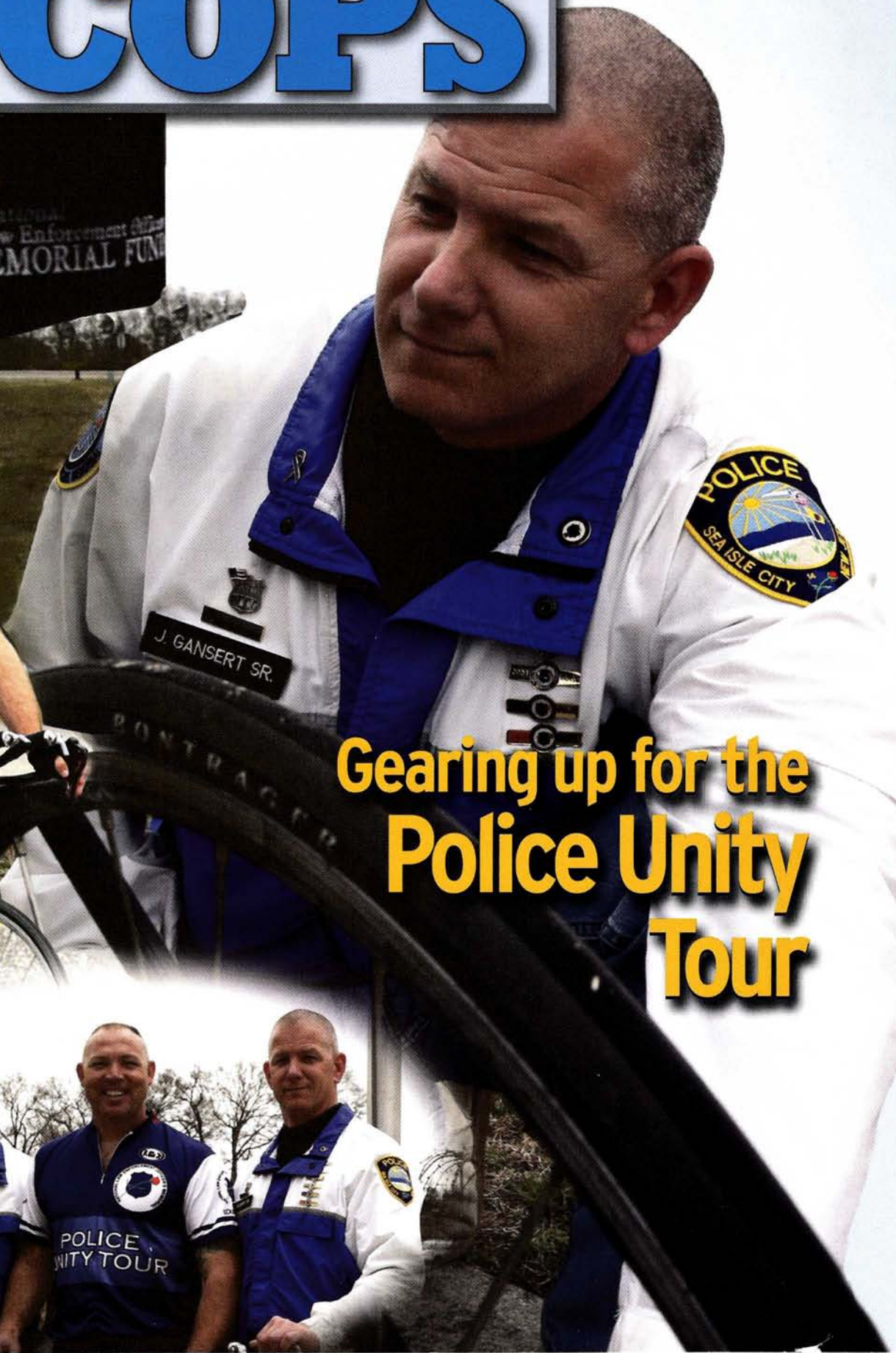


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Gearing up for the Police Unity Tour



Caffeine and its effect on performance

■ BY MATT BRZYCKI

The most widely used drug in the world is probably caffeine, a stimulant of the central nervous system. It's found in chocolate, soda, tea, energy drinks and, of course, coffee.

Caffeine has no significant nutritional value but it has been viewed as a performance enhancer – or “ergogenic aid” – for many years. Is there any scientific evidence to support this belief? More importantly, does caffeine offer any specific benefits to you as a police officer in preparing for your job or actually performing your job?



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Sustained Operations

Some of you who are members of a SWAT team may get called out for an extended tactical operation. In this situation, does caffeine improve physical performance?

In one study, 20 Special Forces personnel were randomly assigned to two groups of four. Two soldiers in each group were designated to receive caffeine gum or a placebo (unspecified).

Wearing fatigues and combat boots, the soldiers did a 2.5-mile run that included three different obstacle courses. The O-Courses involved a wide variety of physical tasks such as lifting a 33-pound bag and simulating a forced entry against a wall; climbing stairs; negotiating balance beams; running 11 yards with a 22-pound bag; running across 10 tires with and without a 77-pound bag; doing “up and on shoulders” with a 77-pound bag; low crawling; and running a series of 20 22-yard sprints while wearing a gas mask. During the course of the study, the soldiers did this 2.5-mile run five times. (And remember, three O-Courses were done at points along each 2.5-mile run.)

The soldiers were also given a “vigilance task” in which they had to record the where, when and what of any activity that occurred in and around a building that was about 190 to 220 yards away during a two-hour period of observation. There were five sessions of vigilance tasks. Over the course of 100 hours, the soldiers received eight hours of sleep.

There was little difference between the two groups with respect to physical performance.

Those who received caffeine had significantly higher scores in the vigilance tasks than those who received the placebo. Plus, the caffeine group increased their vigilance scores by 12 percent while the placebo group decreased (worsened) their vigilance scores by 30 percent. The researchers noted that “inadequate sleep appears to have a much greater impact on cognitive rather than physical function.”

Other research has shown that caf-



fine maintains vigilance and marksmanship in simulated urban operations with sleep deprivation.

WHAT THE RESEARCH SAYS

The effect of caffeine on performance has been studied extensively since the late 1970s. Two recent studies have some degree of relevance to police officers.

Physical Training

In preparation for your work in law enforcement, you're most likely doing some form of physical training. Under these circumstances, does caffeine improve physical preparation?

In one study, 22 men consumed either caffeine or a placebo (cellulose) one hour prior to tests of muscular strength and endurance. One week later, they switched to the other substance and repeated the same tests.

Compared to the placebo, caffeine had no effect on one-repetition maximum (1-RM) in the bench press and leg press. In the bench press, 12 subjects lifted at least 6.6 pounds more weight with caffeine but so did five subjects with the placebo. (Five subjects lifted the same weight with caffeine as they did with the placebo.) In the leg press, 11 subjects lifted at least 22 pounds more weight with caffeine but so did eight subjects with the placebo. (Three subjects lifted the same weight with caffeine as they did with the placebo.) In both exercises, the subjects did about 1.5 more repetitions with 60% of their 1-RM with caffeine.

It would appear, then, that caffeine has no effect on muscular strength and only a slight effect on muscular endurance.

PRECAUTIONS

Be advised that when caffeine is consumed in high doses, it has the potential for many adverse side effects such as anxiety, jitters, tremors, inability to focus, gastrointestinal distress, diarrhea, insomnia, irritability and “withdrawal headache.” Obviously, these side effects could be problematic for police officers. Since caffeine is a potent diuretic (which increases the production of urine), there has been some concern that it can increase the risk of dehydration – a major fear during physical activity, especially in a hot, humid environment.

BOTTOM LINE

At the present time, it seems that caffeine produces little or no improvement in physical preparation (muscular strength and endurance) but may improve cognitive function (such as maintaining alertness) when fatigued. Police officers should be aware of the potential for adverse effects. ♥

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