

# TONING PANTS— TOO GOOD TO BE TRUE?

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That's the promise Fila USA™ is using to sell its Toning Resistance Tight Capri, a \$50 exercise pant for women with compression toning panels that, it is claimed, "streamline the figure," while purportedly increasing the efficiency of a wearer's workout. The hangtag marketed with these polyester and Lycra-fabric capris claims a "50% increase in muscle workouts" and "41% more support." And a press release from Fila states that the capris are "designed to increase muscle exercise, which improves the efficiency as well as recovery of an existing workout."

*"Achieve  
amazing  
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time."*



Fila's claims caught the attention of the Workout Watchdog® at the American Council on Exercise (ACE). So earlier this year, ACE enlisted a team of exercise scientists from the University of Wisconsin-La Crosse to test the Toning Resistance Tight Capris and evaluate the claims made for them. An underlying assumption for the study was that if the Fila capris did, in fact, increase muscle activation, then there would be a corresponding increase in the caloric expenditure of the wearer and an improvement in her muscle tone.

## THE STUDY

Led by John Porcari, Ph.D., and Alexa Kleingartner, M.S., researchers from the University's Departments of Exercise and Sport Science and Physical Therapy first recruited 16 healthy female volunteers between the ages of 18 and 24 years. Prior to actual testing, each subject was fitted with a pair of Fila Toning Resistance Tight Capris.

During testing, the subjects walked on a level treadmill at 2.5 mph, 3.0 mph and 3.5 mph for five minutes at each speed. This sequence was repeated twice; once while wearing the toning capris and once while wearing regular athletic shorts. The order was chosen at random and each subject was given five minutes of rest between sequences.

Meanwhile, researchers continuously monitored each subject's  $\dot{V}O_2$  and heart rate (HR), as well as ratings of perceived exertion (RPE), which were determined every five minutes (after each stage). Muscle activity was also measured with EMG in the gluteus maximus, biceps femoris and vastus lateralis for 15 seconds at the end of each five-minute stage.

## THE RESULTS

After analyzing the data, the researchers found that there was a 2-percent increase in  $\dot{V}O_2$ , plus a small boost in caloric expenditure (.09 more Kcal/min) while exercising in the toning capris versus conventional athletic shorts. Researchers found no significant differences in HR. As for RPE, subjects reported significantly higher ratings of exertion while wearing the toning capris, especially during the 3.0 mph trial (Table 1,

next page). When comparing muscle activation by EMG, researchers found no significant differences during any of the trials attributable to the wearing of toning capris (Table 2, next page).

Subjects were also asked to write down what they felt while wearing the toning capris compared to the athletic shorts, and several stated that they felt increased compression and resistance around the hip joint, which made it more difficult to walk.

## THE BOTTOM LINE

Although the research showed a slight increase in calorie burn while wearing Fila's toning capris, in a real-world scenario that boost would be negligible.

"Calorie-wise, it's like burning off the equivalent of half a single Peanut M&M," says John Porcari, Ph.D. "You would be better off walking an extra 50 yards than wearing these capris to achieve that benefit."

In response to the claims of a 50-percent increase in muscle workouts, the researchers reported that the Fila capris didn't deliver there either.

"These pants have toning panels, which provide resistance, except your butt muscles and quads and hamstrings are so strong that putting a little bit of elastic in there doesn't add much resistance," Porcari says. "In order to provide enough resistance to be



beneficial, the pants would have to be so restrictive that you wouldn't be able to easily move. To achieve a 50-percent increase in muscle activation, you'd have to be wearing something akin to a straight jacket."

As for "achieving amazing in half the time," researchers point to the old adage: "If it sounds too good to be true, it probably is." That said, for some women the look and fit of these capris may deliver psychological benefits that can't be quantified.

"I would say that these toning capris are similar to other compression pants that you can buy," says Alexa Kleingartner, M.S. "I wouldn't recommend buying them to make a difference in the effectiveness of your workout, but the extra compression and tightness may give you a butt lift and a better shape. That factor is definitely there—so if you think you look better you may be more willing to work out. And that's always a good thing." ◆

**TABLE 1**  
**Physiological Responses to Wearing Athletic Shorts and Toning Capris (N=16).**

	Athletic Shorts Mean ± SD	Toning Capris Mean ± SD
Heart Rate (bpm)		
2.5 mph	99 ± 10.0	99 ± 10.9
3.0 mph	105 ± 10.9	106 ± 11.1
3.5 mph	115 ± 11.9	115 ± 11.9
V02 (mL/kg/min)		
2.5 mph	12.7 ± 0.83	13.2 ± 0.96*
3.0 mph	14.7 ± 0.93	15.0 ± 0.89
3.5 mph	17.5 ± 1.10	17.6 ± 1.10
Kcals/min		
2.5 mph	3.88 ± 0.437	4.02 ± 0.399*
3.0 mph	4.48 ± 0.483	4.58 ± 0.410
3.5 mph	5.34 ± 0.486	5.37 ± 0.480
RPE		
2.5 mph	7.4 ± 0.62	7.7 ± 0.79
3.0 mph	8.6 ± 1.02	9.1 ± 1.15*
3.5 mph	10.4 ± 1.31	10.7 ± 1.40

\*Significantly greater than athletic shorts ( $p < .05$ )

**TABLE 2**  
**Muscle Activation (% MVIC) of the Gluteus Maximus, Biceps Femoris and Vastus Lateralis While Wearing Athletic Shorts and Toning Capris**

	Athletic Shorts Mean ± SD	Toning Capris Mean ± SD
Gluteus Maximus (N=16)		
2.5 mph	34 ± 27.3	28 ± 16.4
3.0 mph	32 ± 19.9	30 ± 17.3
3.5 mph	34 ± 19.5	32 ± 17.7
Biceps Femoris (N=15)		
2.5 mph	19 ± 13.1	18 ± 10.5
3.0 mph	21 ± 12.7	21 ± 12.3
3.5 mph	24 ± 13.5	24 ± 12.5
Vastus Lateralis (N=13)		
2.5 mph	26 ± 8.7	27 ± 9.8
3.0 mph	32 ± 9.7	32 ± 10.4
3.5 mph	39 ± 10.2	39 ± 12.1

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