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Athletes & Red Bull

Is Red Bull Bull?

I often hear comments among exercise enthusiasts and athletes about the energy drink Red Bull. As a result I decided to give you a brief look at the article "Is Red Bull Bull? The effects of Red Bull on anaerobic exercise performance", published in the *Journal of Pure Power, Volume III, Number I*.

Energy drinks are supposed to do exactly what they advertise: boost your energy. The actual formulations and brands may vary, but one thing that is common in many of them is caffeine. A number of studies have shown that caffeine can improve aerobic (with oxygen) performance. On the other hand, the effect of caffeine on the anaerobic (without oxygen) system is unclear.

One previous study had suggested that Red Bull improved maximum speed during an all-out cycling test. So, researchers at the University of Saskatchawan in Canada decided to look into whether the energy drink Red Bull would actually live up to its name by improving anaerobic exercise performance.

Fifteen subjects, 11 men and four women, were given the following tests:

- 1RM (one repetition maximum) bench press
- 3 sets of bench to failure at 70% of 1 RM, with a one minute rest period between sets
- 3 – 30 second Wingate cycling tests (cycling as hard as you can for 30 seconds with two minute rest periods between tests)

Subjects were then assigned to receive either a placebo (a mixture of non-caffeinated Mountain Dew, lemon juice, and water) or Red Bull. During the last week of this study each subject received the opposite drink and was re-tested (crossover study design).

The Red Bull drink gave each subject 0.9 milligrams of caffeine for every pound of body weight, which amounts to about 2 cans of Red Bull for the heaviest subjects. The average amount of caffeine the subjects were getting was 150 milligrams per pound of body weight. The subjects were asked to avoid caffeine for 48 hours, exercise for 24 hours and food and drink for 3 hours before testing. For the two laboratory testing visits, the subjects consumed Red Bull or the placebo 60 minutes before each session.

The researchers found that Red Bull improved endurance on the bench press test, but only 34 (Red Bull group) vs. 32 repetitions (placebo group). There were no differences between the conditions in peak power or average power on any of the 3 Wingate tests and blood lactate responses were similar for the two conditions (Red Bull and placebo). When subjects were asked to guess if they were getting Red Bull or the placebo, 7 of the 15 subjects guessed correctly and the others weren't sure.

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Red Bull may have some value in improving upper body endurance when performing a large number of sets with short rest periods. But there were some limitations to this study:

1. Improvement in bench press wasn't much, and though statistically significant, it doesn't mean it is significant, or really meaningful to training. It is questionable that the extra two repetitions in a training session would really help much relative to overall training.

2. It would have been interesting to see what would have happened if the tests (Wingate and bench tests) were reversed.

3. Slightly increasing bench press strength does not mean it will help with other upper-body activities.

4. Half the subjects in this study were regular caffeine users, who may not get the same benefit as someone who never uses it.

5. Half the subjects were able to guess correctly that they were taking the Red Bull. It may have had a placebo effect.

What's the Bottom Line?

While Red Bull resulted in a small, statistically significant increase in repeated bench press endurance, the improvement is not really meaningful. Add to this the lack of effect on Wingate performance, and this study fails to show any benefit to drinking Red Bull before training or competition. There is no good evidence that Red Bull would make a good addition to pre-training or pre-competition nutrition.

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For more information on how proper nutrition affects an athlete's body, go to www.tommyfit.ca or phone 604.607.1231.

References

Alford, C., et al. The effects of Red Bull energy drink on human performance and mood. Amino Acids 21: 139-150, 2000.