

What Army Leaders Should Know about Extreme Conditioning Programs

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1 Introduction

Extreme Conditioning Programs (ECPs) are workout regimens that focus on high-intensity, high-volume exercises with short rest periods between sets. Examples of ECPs include CrossFit[®], P90X[®], Insanity[®], and PT Pyramid. Many ECPs are commercially available, and some installations may offer them through their fitness centers or other physical activity facilities. While ECPs are growing in popularity, they can carry risks, particularly for those just starting the programs. It is important for Soldiers and leaders to understand the potential benefits and risks of ECPs and the actions they can take to minimize the risks of such programs. (CrossFit is a registered trademark of CrossFit[®], Inc.; P90X[®] and Insanity[®] are registered trademarks of Product Partners, LLC.)

2 Potential Benefits

ECPs may help to reduce body fat, enhance muscle strength and endurance, and increase cardiovascular capacity. For many warfighters, the exercise pace and difficulty of ECPs are appealing, motivating, and exciting. Additionally, there is a perception that these programs can help prepare Soldiers for physically demanding occupational tasks in garrison and during deployment. In group settings, ECPs may even foster teamwork and contribute to unit camaraderie. There is, however, insufficient research to suggest that ECPs are more beneficial than other types of fitness programs.

3 Potential Risks

The risk for musculoskeletal injury from ECPs may be greater than from other types of conditioning programs, particularly for individuals just starting an ECP because they may try to do too much too soon. Additionally, some of the exercises require a high degree of skill and coordination to safely execute. Risks associated with ECPs include muscle strains, torn ligaments, stress fractures, and exertional rhabdomyolysis (a potentially life-threatening condition resulting from breakdown of skeletal muscle following heavy physical activity). Conditions like these can result in lost duty time for medical treatment and extensive rehabilitation, which can adversely affect individual and unit readiness. In addition, ECPs should not be considered a replacement for Army physical training doctrine (Army Training Circular 3-22.20, *Army Physical Readiness Training*), as they do not cover all Soldier conditioning and training needs.

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4 Decrease the Risks of ECPs

Military leaders should ensure that their unit's physical training program is aligned with the Army's training doctrine. If Leaders and Soldiers choose to incorporate ECPs into their physical training, then they should seek to maximize the benefits and minimize the risks.

Suggestions for safely engaging in ECPs include—

- Require that all authorized physical fitness trainers are certified by a nationally recognized nonprofit certifying organization (such as the American College of Sports Medicine Certified Health Fitness Specialist and/or National Strength and Conditioning Association Certified Strength and Conditioning Specialist), as well as the respective ECP (for example, CrossFit level 1 coach certification).
- Inspect designated exercise areas regularly to make certain that it is safe to exercise there, particularly in areas where improvised exercise equipment is in use.
- Introduce ECPs to new participants gradually. Provide a specific, stepwise approach in order to increase exercise intensity, duration, and technique when performing advanced exercises.
- Ensure that Soldiers with a health condition (e.g., high blood pressure, previous heat injury, mTBI, or musculoskeletal injury) that might be affected by participating in an ECP are medically cleared before starting or resuming participation in an ECP.
- Tailor supplemental conditioning programs (particularly ECPs) to the individual based on his or her fitness level, training goals, and job-specific needs and demands. Limit full participation in ECPs to those Soldiers who are acclimated to the programs, very fit, and healthy.
- Increase the duration of rest periods between sets of exercise and schedule rest days (especially just before or after exhaustive military training) to optimize recovery and minimize fatigue.
- Plan variation and program phases around the Soldier's training or ARFORGEN cycle. Coordination with unit training activities is essential, such that ECP

participation does not occur immediately before, after, or on day(s) that vigorous unit training is conducted.

- Monitor profile rates and other signs of reduced performance, such as fitness test results, to provide insights into unit overtraining. Among Soldiers, watch for symptoms of overtraining such as injury, decreased physical performance, unusual fatigue, illness, or chronic soreness. Symptoms of rhabdomyolysis include dark urine, nausea, and/or severe muscle pain, swelling or weakness. Anyone with these symptoms should be medically referred immediately.
- Coordinate supplemental physical training, such as ECPs, with required military training in an effort to eliminate redundant activities and minimize over-use injuries.

5 Contact Information

For additional information, e-mail USAPHC-InjuryPrevention@AMEDD.ARMY.MIL.

6 References

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USU Consortium for Health and Military Performance, Human Performance Resource Center, Uniformed Services University of Health Sciences, and American College of Sports Medicine. April 2011. CHAMP/ACSM executive summary: High-intensity training workshop. See <http://humanperformanceresourcecenter.org/>.