

Physical Conditioning: Anticipate Individual Variation in the Training Response

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Much of the information we have on exercise program design and the physiology of fitness comes from research studies. In these studies, researchers recruit subjects to undergo some sort of exercise training program, and then evaluate changes that occur, which help to illuminate the physiological responses to exercise training.



When we read the results of these studies, we tend to focus on the average response, and forget that there is enormous individual variation in this response. In addition, if you read the original research article, you invariably find that a large number of subjects drop out of the training program over the course of the study. Therefore, the average results may not apply to many individuals. What can we learn from this observation?

Anticipate individual variation in training response

Many exercise physiologists believe that a person's athletic potential and even initial fitness level are based largely on genetic endowment. Similarly, responses to exercise training vary greatly based on these differences in genetic potential, and also on countless other factors that go into being human.

Personal trainers are uniquely privileged in their ability to adapt exercise recommendations to the individuals with whom they are working. While sports team coaches must try to match their practices to the needs of an entire group, you can individualize your exercise recommendations to match the responses you observe in your clients. You can monitor improvements in physical condition in response to an exercise program, and adapt your recommendations accordingly.

Limit training volume at the first sign of injury

Injury is a leading cause of dropout in many training studies. Part of the individual variation in the training response is variation in exercise tolerance. Some people develop overuse injuries, such as tendonitis, shin splints and knee pain, at even low levels of activity. This is frustrating for both the client and trainer.

Your exercise training plan is always secondary to health. At the first sign of injury, you must reassess your recommendations and include rehabilitation as a central focus. Change exercise modes, reduce exercise volume and do whatever else is necessary to prevent that injury from becoming a chronic problem. Don't forget that rest and recovery are important components of every exercise program.

Talk about factors that affect exercise adherence

Make adherence a focus of your exercise recommendations. Talk with clients about what has interrupted exercise in the past, and be sure your plan will fit into your client's life. Your perfect exercise program is no good if your client does not exercise!

Discuss the importance of good nutrition

Weight loss is an important training goal for many clients. But dieting behavior, especially limiting carbohydrate

intake, can reduce glycogen stores and, thus, the availability of energy for training and competition. If training level is compromised, fitness improvement will be, too. Athletes striving for fitness improvements should probably limit their weight-loss focus to off-season training.

Help clients set realistic goals

We all have physiological constraints to how much fitness improvement we can attain. Even with the best adherence and the most well-constructed training program, a training plateau is inevitably reached. Perhaps you have worked with skinny guys who lifted like crazy trying to bulk up. They may have achieved larger muscles and better muscle tone, but they will never make the cover of bodybuilding magazines. If they keep increasing their weights past a certain level, they just get injured. Help clients realize that reaching a fitness plateau is a testament to their hard work. Help them come up with a plan to maintain and enjoy their improvements.