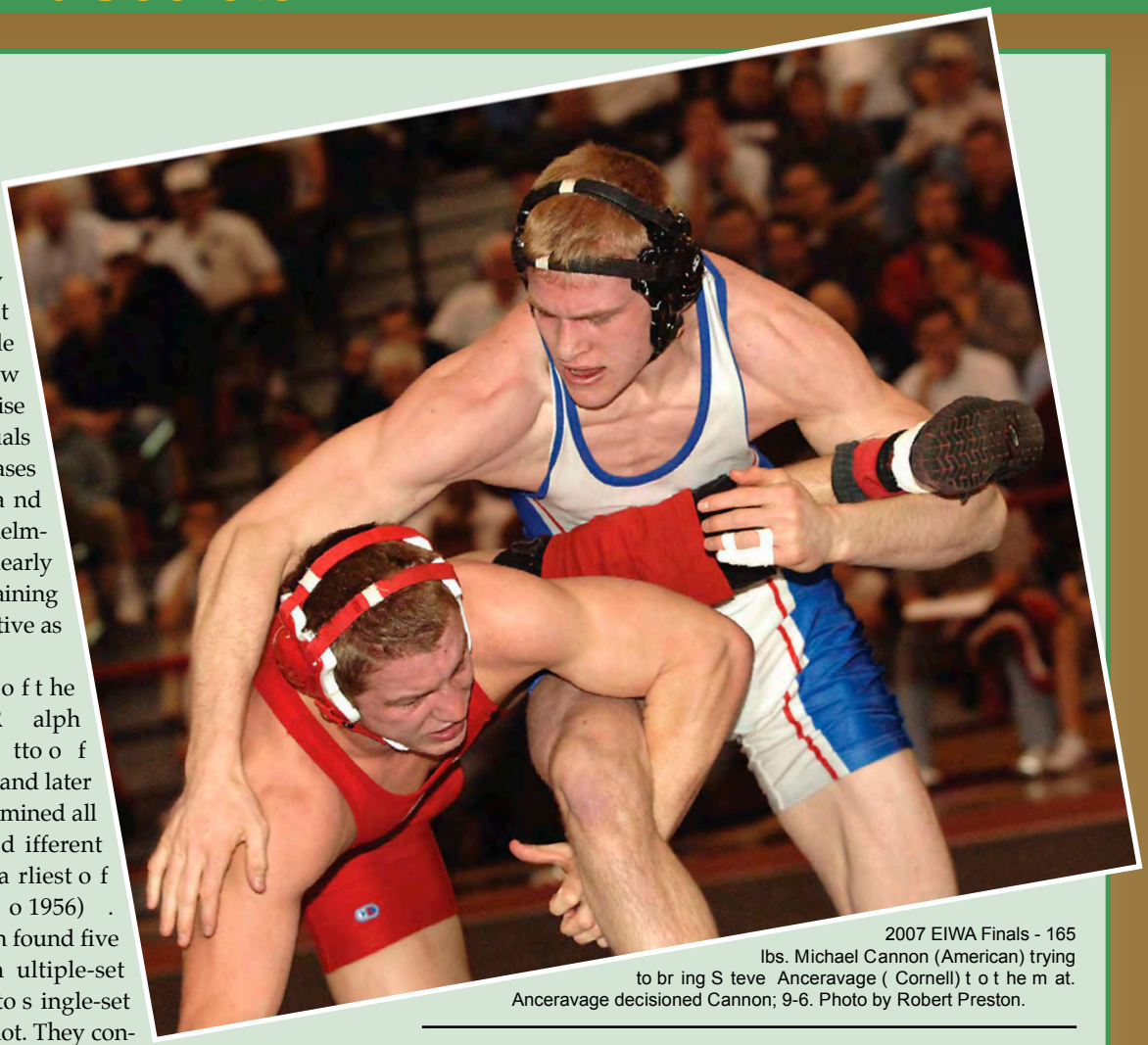

2007 EIWA Finals - 165 lbs. Michael Cannon (American) trying to bring Steve Anceravage (Cornell) to the mat. Anceravage decisioned Cannon; 9-6. Photo by Robert Preston.

Sets

One misconception is that HIT always involves one set and only one set of an exercise. First, it is necessary to understand that research has been unable to determine exactly how many sets of each exercise are required for individuals to achieve optimal increases in their muscular size and strength. But the overwhelming majority of research clearly shows that single-set training can be at least as productive as multiple-set training.

An exhaustive review of the literature by Drs. Ralph Carpinelli and Bob Otto of Adelphi University (NY) and later reviews by Carpinelli examined all studies that compared different numbers of sets (the earliest of which dated back to 1956). Collectively, their research found five studies that showed multiple-set training was superior to single-set training and 57 that did not. They conclude: "The preponderance of evidence suggests that for training durations of 4 to 25 weeks there is no significant difference in the increase in strength or hypertrophy as a result of training with single versus multiple sets."

So, there is a great deal of highly compelling scientific proof that one set of an exercise can be just as effective as multiple sets. While many versions of HIT do indeed involve one set of each exercise, there are some multiple-set applications. As an example – and this may come as quite a shock to most – Jones himself initially recommended that as many as three sets of each exercise could be done.

Another example is the program of Ken Mannie, the fiery Strength and Conditioning Coach at Michigan State University. One of the elder statesmen among those who train collegiate athletes, he has been a proponent of HIT for more than 30 years. Coach Mannie prescribes a myriad of protocols for his athletes. Some routines call for two, three and even four sets of the same exercise. Sometimes the sets are performed in succession – as in most traditional multiple-set protocols – while other times they are segmented into push/pull, pre-exhaust or post-exhaust schemes.

According to Coach Mannie, the number of sets performed for each exercise is determined by several factors including the available equipment, the emphasis of the workout or simply personal preference. "For competitive weightlifters," he adds, "the fact that the congruent neuromuscular pathways must be fashioned for skill encoding makes multiple-sets a polestar variable."

Rather than dwelling on the number of sets that his athletes perform for each exercise, Coach Mannie focuses on the total number of sets that they do in their workouts. When performing total-body workouts, his athletes target their major muscles with 15 - 18 sets per workout in the off-season and 10 - 15 during the in-season. So even though the number of sets per exercise may vary from one to four, the aggregate number of sets per workout remains the same. Also, he pays close attention to balancing their workouts with adequate stimulation in a variety of movement planes for all of the anterior, posterior, medial and lateral compartments.

But lost in the commotion over how many sets are used in HIT is the importance of intensity (or effort). "HIT is an exercise protocol which demands that athletes exert a maximum effort in each set," stresses Gregg Humphreys, the Head Judo and Sambo Coach for Miletich Fighting Systems in Bettendorf, Iowa. "The most critical aspect of HIT is the effort that is put forth by the athlete," he adds.

The truth is that the level of intensity dictates the number of sets that can be done. "Training with high effort requires that