ANTICIPATING AND TRAINING FOR THE WORST-CASE METABOLIC SCENARIO: A COMMENT ON DEL VECCHIO, HIRATA, AND FRANCHINI (2011)

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Summary.—Del Vecchio, Hirata, and Franchini (2011) studied the effort:pause ratio of mixed martial arts by analyzing 26 bouts in two separate mixed martial arts events in Sao Paulo, Brazil. They referenced research identifying effort:pause ratios from other combat sports ranging from 10:1 (Brazilian Jiu Jitsu), 2:1 (judo and wrestling), and 1.3:1.4 (taekwondo). The authors identified an effort:pause ratio ranging from 1.2 to 1.4 in the bouts they analyzed, and suggested and described training programs that resemble this ratio. It is important for coaches to anticipate the most challenging metabolic mixed martial arts scenario and to create training programs that mimic that profile. Del Vecchio and associates’ research is an important first step in gathering information which can help enhance training programs for injury prevention and performance enhancement.

Del Vecchio and associates’ (2011) research is a valuable contribution. They examined 26 mixed martial arts bouts and analyzed the time of low/high intensity combat compared to non-combative or pause times. Though the authors found an effort:pause ratio of 1.2 to 1.4 in the mixed martial arts bouts they analyzed, it may be beneficial for coaches of these athletes to anticipate more demanding bouts that will require effort:pause ratios more similar to the ratios seen in judo, wrestling, and Brazilian Jiu Jitsu, which were identified in their literature review. Pulkkinen (2001) conducted a comprehensive review of the literature related to time-motion analysis of grappling sports and suggested an effort:pause ratio of 2:1 to 3:1 for judo-specific interval training. More research in this area is needed to assess if there may be a wider range of effort:pause ratios in mixed martial arts, and whether or not different effort:pause ratios are more effective in mimicking the metabolic demands of mixed martial arts bouts.

The most successful judo athlete in the history of United States judo was Jimmy Pedro (1996 Olympic Bronze Medalist—Judo; 1999 World Judo Champion; 2004 Olympic Bronze Medalist—Judo), and Jimmy credits his long-time strength and conditioning coach, Paul Soucy, with helping him to physically prepare during his long and successful career. In his approach to strength and conditioning for Pedro, who had a reputation for excellent strength and endurance, Soucy recommended anticipating and

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training for the worst-case metabolic scenario: to hope for and attempt to achieve a quick win, but to be physically and mentally prepared to outwork an opponent through the regulation and overtime periods (Amtmann & Cotton, 2005). This occurred in multiple bouts during one tournament: in his final Olympic tournament, Pedro fought seven times, two of these fights went to overtime, and he won both of the overtime bouts. He won six and lost one during the tournament and came away with his second Olympic bronze medal. Pedro attributed a portion of his success to the well-planned strength and conditioning programs Soucy developed for him (Amtmann, 2009).

Though judo/wrestling may have different tactical approaches and strategies than what is seen in mixed martial arts, the training and conditioning of the successful mixed martial arts athlete, who may be fighting five rounds of five minutes duration, are likely to be very similar to the training and conditioning of the successful wrestler/judo athlete. Quite frequently a former wrestler/judo athlete, the mixed martial artist could benefit from an approach of training for the worst-case metabolic scenario. As more data are collected on effort:pause ranges in mixed martial arts bouts, coaches will have a better opportunity to learn from these types of studies, and should approach training based on a combination of reliable and valid research such as this, as well as personal experience and practicality.

REFERENCES


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