

Strength control tests with the barbell in throwers' performance prognosis

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Abstract

Background. The battery of control tests should cover, from the information point of view, the events' main factors (not only the motor ones) and it should be interpreted in a compensative way. To be relevant, the tests have to be correlated with the sports event.

Aims. We aimed at verifying to what extent the control tests and norms that evaluate the discus, hammer, javelin and shot put throwers' strength, as stated by the Romanian Athletic Federation, correspond to the throwing events and if these events are relevant or useless for an efficient management of the training and competition levels.

Methods. We extracted from the coaches' and the athletes' notebooks, as well as from the centralized data of the Romanian Athletic Federation, the top competition results and the control tests measuring the strength over a 3-year period (2004-2007), for the best Romanian male and female discus, hammer, javelin and shot put throwers, in different stages of the centralized training. We took into account the control tests made three weeks before the major competition. The results were graphically and analytically processed, by using statistical functions (the measurands' correlation, regression labeling).

Results. Javelin throw: the snatch weightlifting test is significant for the predictive model; the up-and-down weightlifting test is not conclusive for the predictive model. Shot put: the up-and-down weightlifting test is conclusive. The closer the result to one's own record or even better, the greater the chance to get a good result in the competition to come; the prone pushing event shows that this control test is significantly correlated to the competition result and that it could be considered in the predictive calculation of the result in the following competition. Hammer throw: the correlation between the snatch weightlifting control test and the result in the proximal contest is significant at a 95% reliability threshold. A result demonstrating the significant increase in the snatch event provides a relatively great probability of getting a good result in the competition. Discus throw: the snatch weightlifting control test is adequate to the prediction, any significant increase providing better chances to get a good result in the proximal competition; the up-and-down event is not possible to be taken into consideration for a predictive model, but only for a model to diagnose the general physical training level.

Conclusions. The significant tests are: snatch - for the javelin throw; ups-and-downs and prone pushing - for the shot put; snatch - for the discus throw; rowed pulls and snatch - for the hammer throw. The events with a very reduced power of prognosticating the competition results immediately after their application are: pushed at the neck - for the shot put; put on the chest, back kips, pushed ups-and-downs - for the hammer throw; ups-and-downs, prone pushing - for the discus throw. A series of events are correlated among them: snatch to put on the chest and back kips and backward shot put; ups-and-downs to shot put.

Key words: track and field, throws, control tests, strength with the barbells, competition results, prognosis. .