

Development of Guidelines for Implementing Tests for Evaluation of Athletes' Physical Condition

Novita¹, Abdul Harris Handoko², Ayu Elvana³, Suranta Pratama Ginting⁴

Faculty of Sports Science, State University of Medan

Abstract: *Physical condition is a condition found in an athlete that is very necessary in every effort to improve performance. Physical condition plays an important role in the training program. In an effort to improve athlete performance, evaluation is carried out as an activity to obtain information for decision making, planning and implementation of the next program so that it can be improved as optimally as possible. Remembering that physical condition is a very important element in almost all sports. The development of test guidelines is carried out to produce decisions that can be used as a reference in order to prepare athletes who are capable of producing the best performance. This research aims to develop guidelines for evaluating athletes' physical condition tests. The research method adapts Borg & Gall's research and development steps which include preliminary studies and data collection, planning, developing initial products, initial trials, revisions to develop main products, main field trials, revisions to develop operational products, operational product trials, final product revision, and dissemination and implementation of developed products. This research produces guidelines for implementing physical condition test evaluations. After implementation, the results obtained increased understanding in the implementation of the test. Evaluation guidelines have been socialized to coaches, athletes and practitioners.*

Keywords: Athlete performance, physical condition, evaluation guidelines, test implementation

1. Preliminary

In human life, we will definitely be faced with several existing problems, very complex problems that arise. With all the abilities that humans have, humans will always try to solve all these problems. But sometimes someone will forget what is happening to themselves, especially physical problems, namely about physical fitness. Many of them are busy, and will forget about their health and the stability of their physical fitness. A person's physical fitness is the ability of a person's body to carry out daily work tasks without causing significant fatigue. To be able to achieve a condition of prime physical fitness, a person needs to do physical exercise that involves several components of physical fitness with the correct training methods. The higher a person's level of physical fitness, the greater their physical abilities and work productivity, especially in the field of sports. For physical education teachers or coaches, it is very important to hold training to improve the physical fitness of students or athletes to develop achievements. Apart from that, teachers or trainers will need something called evaluation. Which aims to correct and find out the level and development after carrying out several stages of training. As a sports coach and teacher, he is responsible for the achievements of the children under his care. You need to equip yourself with knowledge about ways to measure and assess the status of your physical condition. And the status of a person's physical condition can only be known through measurements and assessments in the form of several ability tests. The appropriate way of evaluation that must be carried out is by testing and measuring athletes or students. Tests and measurements can be carried out in several ways and stages that have the benefits and objectives of carrying out the test. And the test is divided into several physical condition components and several types of tests that have been grouped. By carrying out these tests and measurements we can get several benefits, including we can evaluate the training stages that have been carried out, with this we can find out how much a person's physical condition has

developed, besides we can develop athletes' performance, we can also use this as material for improvement in learning or training.

The Puslatda program is a tiered and continuous achievement sports development program as a vision for ideal development at the provincial level towards the national level in preparation for PON 2024. The mission of sports achievement development is an effort to achieve maximum results in achieving achievements both in single events and in multi-events. The expected achievement target is an increase in the quality of Human Resources, both Athletes and Coaches, as well as the control and supervision system. To get optimal results, heavier work efforts are needed and it is hoped that they will be more accurate, especially in selecting and selecting as well as evaluating potential athletes and coaching which continues periodically. This gives us an idea that the efforts made must be based on accurate and precise data. We realize that finding potential achievements is not something that is easy, so care and precision is needed in testing and measuring it.

The most basic understanding is that skill ability is something that is not too difficult to train/build provided you have a trainer who is able to provide skills training properly and correctly (skill competency). Because the results of skills training will be recorded and stored in memory well if it is accompanied by good physical ability training. Meanwhile, the results of physical abilities are never stored in memory (they must be trained continuously). Therefore, we must measure physical abilities well and on target.

2. Research Methods

The development procedure in this research adapted Borg & Gall's research and development steps. According to Borg & Gall (2007, p.589) in carrying out the research and development process there are 10 (ten) steps that must be

taken, as follows: (1) preliminary study and data collection (literature review, field observations, creating a research framework), (2) planning (formulating research objectives, estimating the funds and time required, research work procedures, as well as various forms of activity participation during research activities), (3) developing initial products (designing the initial draft of the product), (4) initial trials (trying out product drafts in limited areas and subjects), (5) revisions to develop the main product (revision of products based on the results of initial trials), (6) main field trials (trials of revised products in wider areas and subjects), (7) revisions to prepare operational products, (8) operational product trials (testing product effectiveness), (9) final product revisions and (10) dissemination and implementation of developed products).

In this research, Borg and Gall's development research model was modified into three steps, namely: (1) preliminary study stage, which includes literature study, field study, and drafting test components and test types; (2) development study stage, distribution of draft test items to experts related to the test instrument and experts, evaluation and improvement of the draft test components and test types according to the input provided; present draft improvements to the coaching model to experts, evaluate and improve draft test components and test types; (3) Operational work stage, by carrying out a quasi-experimental one group pretest-posttest design.

3. Results and Discussion

The Puslatda program is a tiered and continuous achievement sports development program as a vision for ideal development at the provincial level towards the national level in preparation for PON 2024. The achievement sports development mission is an effort to achieve maximum results in achieving achievements both in single events and in multi-events. The expected achievement target is an increase in the quality of Human Resources, both athletes and coaches, as well as the control and supervision system. To get optimal results, heavier work efforts are needed and it is hoped that they will be more accurate, especially in selecting and selecting as well as evaluating potential athletes and coaching which continues periodically. This gives us an idea that the efforts made must be based on accurate and precise data. We realize that finding potential performance is not easy, so care and precision is needed in testing and measuring it.

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In accordance with the meaning and benefits of the test, it is hoped that it will contribute to improving the quality of coaches, especially in preparing athletes. This is based on

the principle of training program planning that its preparation must always be based on the individual qualities of the athlete concerned.

Therefore, the target of the parameter test is to use the data as a reference for preparing training programs and assessing athlete performance during the period. This directly indicates the characteristics of a competent trainer. Because the trainer's skill in designing and carrying out parameter tests is part of the potential role and duties of a trainer to be able to make reliable and exemplary athletes.

Excelling in performance in their chosen sport is the ultimate goal of every elite athlete. The drive to win, the desire to succeed and the ambition to exceed current performance limits are important traits in achieving excellence in elite sport. Athletes must continually strive to reach peak performance levels in order to reach and then stay at the peak. In field sports, players now have to move faster, anticipate better, demonstrate a higher level of technical and tactical ability, and survive longer than competitors of the past. The commitments made by clubs, coaches and players in the pursuit of perfection undeniably require a lot of time and financial contribution, especially as the gap between winning and losing becomes ever smaller. The foundations of training and competition can no longer be based on a simple subjective view of how well an athlete is performing or on traditional methods passed down from one generation of coaches to another.

Fundamental to elite performance in field sports is the need to capture, analyze and evaluate information regarding key areas such as the physical or technical capacity of the players. This information about various sports performance characteristics is the basis for providing feedback about a player's or athlete's performance. In turn, this feedback leads to the development of informed coaching interventions centered on evidence-based practices in daily training and competition preparation. When the opinions, experiences and knowledge of elite practitioners are complemented by these informed coaching methods, a combined approach may prove important in finding additional boundaries between success and failure.

One of the difficulties of working with individual or small groups of clients or athletes is the potential of seeing their abilities in a vacuum without comparison to others. This can lead to complacency or a lack of focus on basic skills and physical capacity. A good example of this conundrum is when an athlete who is classified as a big fish in a small pond transitions from junior to senior level competition or from high school to college level athletics. For example, the fastest athlete on a team may struggle when suddenly surrounded by a group of equally strong runners, and a state champion high school wrestler may be overwhelmed in a college wrestling room filled with state champions touting several years of collegiate experience. In the first case, fast athletes can undertake additional preparatory training with the aim of becoming competitive. In the second case, the wrestler may undergo an assessment to identify potential deficiencies compared to more senior wrestlers. Regardless of the situation, access to normative assessment data regarding similar individuals or the accumulation of

previous assessment data provides a clearer perspective regarding where a client or athlete is currently or how far they have progressed toward desired goals.

A wide range of research in the field of exercise science is dedicated to determining the relationship between specific physical attributes and performance potential. Prediction may come in the form of the ability to differentiate between individuals who have higher and lower levels of competition or skill or to classify individuals who have certain skill groups that are similar to those of successful athletes. However, it should be noted that often, these predictions are actually based on determining that two particular outcomes are highly related and not that one outcome causes the other, or vice versa. Perhaps the most widely explored assessments in this regard are the determination of aerobic capacity to predict endurance performance or the determination of maximal power output to predict success in activities involving explosive power. Assessments that can easily be administered outside the laboratory (called field-based tests or simply field tests) have also been explored for their usefulness in quickly evaluating large groups of athletes regarding their potential to excel in a particular sport. For example, elite youth soccer players have lower body fat percentages and higher aerobic capacity, and tend to score higher on agility and speed assessments compared to non-elite tiers. Many experienced coaches also develop their own personal approach by which they identify individuals who they believe have the capacity for success. In this case, assessment data can play an important additional role to substantiate or fact-check qualitative evaluations.

In statistics, the term parsimonious is used to describe the desire to maximize predictive power while minimizing the number of inputs. This concept is sometimes referred to as the "law of brevity" and should be at the forefront of the planning and implementation process due to the complexity of the procedure and the time available to complete it. Parsimony in the context of assessments refers to the ability to gather as much useful information as possible with just a few assessments.

Assessment data is especially useful when seeking to educate or provide feedback to clients or athletes and other related stakeholders (family members, teammates, other coaches, or fitness professionals) regarding a specific topic. From the beginning of our lives, our parents or guardians are faced with important assessment data in the form of basic anthropometric measurements (height, weight, body mass index, etc.), which are compared with normative data presented in the form of growth charts. This information is carefully tracked by healthcare providers and family members to ensure normal development is occurring. Ask most parents or guardians about statistics and you'll get blank looks, but they'll likely be able to tell you what their child's height and weight percentiles are and how big their child should grow. In a similar way, we can use assessments, including anthropometric data, to describe progress and support decision-making processes. This is especially useful when working with the same stakeholders (parents or guardians) and educating them about why we are doing training like this and what possible next steps are.

In the case of clients or athletes, the results of the assessment help increase commitment to a training program or buy-in or endorsement of an intervention. For example, in hot and humid environments, many clients or athletes come to training sessions dehydrated and fail to rehydrate properly after training. Simple self-reported urine color assessments may reflect this problem in athletes and brief educational sessions highlighting the relationship between hydration and fatigue and performance, such as running and dribbling performance in soccer players, may provide an incentive to drink fluids throughout the day. and attend training sessions.

Assessments can be used when designing new training programs or to introduce modifications to existing programs. Determining basic values allows the creation of personalized programs and provides a basis for setting appropriate training goals. For example, a new coaching staff that emphasizes speed may inherit athletes from a previous coach who focused primarily on size or strength, and an initial assessment may be necessary to determine specific training emphases. The development of training groups based on strength versus speed or explosive power versus aerobic capacity may also be considered. This may be an option for off-season training where specific training programs and objectives are provided to a group of clients or athletes with opportunities for improvement identified through an assessment process.

Once initial targets have been exceeded, progress can be built into the training program. With respect to strength, when an individual initially identified as weaker than his or her peer group has achieved comparable maximal strength or muscular endurance values, that individual's program can be adjusted to focus on other desired physical fitness qualities or to further develop strength. Consistent assessments can also be used to monitor fatigue and manage rest and recovery. Methods for evaluating fatigue may include routine evaluation of various measures, including, but not limited to, perception of effort, explosive power (e.g., jump height or distance), or speed of movement (e.g., bar speed). For example, a simple vertical jump test performed prior to a training session that results in a jump height less than normal for a particular client or athlete may indicate the need for reduced training intensity that day or other modified programming options.

Prehabilitation refers to engagement in a specially selected exercise program in an effort to minimize the potential for injury. Muscle imbalances identified through various testing methodologies (between limbs, upper/lower body, push/pull ratio, etc.) may be attributed to injury or performance deficits from individual anatomical features or caused by training. Some athletes are prone to knee injuries, especially those related to anterior cruciate ligament (ACL) tears when landing or decelerating quickly. This problem may be caused by differences in limb alignment and muscle development which occur more often in women than men. Strength and flexibility deficits between muscle groups (quadriceps dominance), between legs (leg dominance), and between body segments (trunk dominance) associated with increased risk of ACL injury can be identified using assessment. For example, a single-leg hop test that indicates

lower body strength and power can be used to identify muscle imbalances as well as the need to perform unilateral exercises (e.g., primarily using one leg). Furthermore, preventative training programs can be implemented to minimize the potential for this type of injury.

4. Conclusions and Suggestion

4.1 Conclusion

Carrying out a series of full-scale tests is time-consuming and very laborious, so it may not be realistic to test more than once every few months. However, coaches and fitness professionals are required to continuously observe their athletes and clients and make adjustments to their training on a daily or weekly basis to maximize their performance and minimize the risk of injury—a process called monitoring. Training monitoring tools allow coaches and fitness professionals to evaluate trends by comparing test results to a specific general or threshold value (such as a change of more than 5 to 10% from a previous test or baseline) that would indicate a period of stable training or a positive training adaptation or negative.

For example, heart rate measurements may be used as an indicator of exercise intensity and a means of evaluating an athlete's or client's response to exercise, both of which may be useful for monitoring exercise. Weight maintenance, hydration status, and recovery of fluid loss are additional factors that can be monitored before and after exercise sessions.

Beyond these physiological factors, monitoring training load and physical readiness can reveal valuable insight into the adaptive training status of an athlete or client. Training load is influenced by the balance between external training load (training activities carried out by the athlete or client) and internal training load (the athlete's or client's response to training activities). Decision matrix for the balance between external and internal training load. Specifically, an imbalance in the type of training load most likely indicates positive adaptation (high external training load with low internal training load) or negative adaptation (low external training load with high internal training load). Low scores in both categories indicate the need for more aggressive training progression, and high scores in both categories indicate the need for less aggressive training progression.

Physical readiness is described as the athlete's or client's ability to perform training activities on a given day. Both training load and physical readiness must be considered in relation to how well the training process can be tolerated by the athlete or client.

Decision matrix for the balance between perceived well-being and physical readiness, as well as between perceived well-being and training load. An imbalance between training load and perceived well-being scores may signal the need to change the training program, high scores in both categories indicate a stable training environment, and low scores in both categories may indicate problems outside the training program. An imbalance between physical readiness and perceived well-being scores may signal the need for

additional physical preparation (due to high perceived well-being and low physical readiness) or mental preparation (caused by low perceived well-being and high physical readiness). High scores in both categories indicate a stable training environment, and low scores in both categories may indicate the need for additional recovery or alternative interventions.

4.2 Suggestion

The portion of information provided in the decision matrix is merely advice that should be guided by intuition, professional preparation, and the sport or activity specific knowledge of the coach or fitness professional. In addition to physical measurements, assessments of external training load, internal training load, perceived well-being, and physical readiness, and most training monitoring data can be collected using training logs.

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