

Fitness Testing for Junior Snow Sport Athletes

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When should coaches evaluate our club athletes and what should we evaluate?

There are a few things that are important. Some are important for right now and others are important both now and in the future. Let's be perfectly clear that you should not test for the sake of testing. Use your experience and only include those tests that provide the most useful information. The test should provide you feedback both on the program you are writing and how your athletes are responding to it. Think to yourself for a moment and decide of all the tests you have done over the years, which ones were helpful to you right at that moment and which ones you went back and looked at a year or so later and used in your evaluation process. Ask yourself, "What gave me the best feedback? Which tests helped me make decisions?" These are questions we ask ourselves all the time. At the USSA, since we are starting a new quadrennial (four year Olympic cycle), this is the perfect opportunity for us to make fine tuning adjustments to our programs and tests.

What should you be testing? We recommend that you collect, as a minimum, anthropometric data (standing height, sitting height, and body mass) and physiological data (vertical jump, 20m shuttle run, and coordination). Other tests you might consider are a 20 or 40 meter sprint and the anaerobic box jump test (after puberty). There is no need to evaluate anaerobic tests of 20-90 seconds until after puberty as the physiological mechanisms are not in place until this time. Each of these tests meets many standards that we are looking for in a test. One is they are simple to perform. Even if there are strict guidelines to follow, it only takes a little bit of training for the testers to get it right. Second is that the tests are inexpensive and don't require a large chunk of your resources. Third, they can be performed in any gym. Finally, they all provide very useful information about the athlete and improve the effectiveness of the program you are writing for them. In addition, a sport-specific skill assessment should be made that can be used over the long term. Create tests that are simple to consistently evaluate for each of the major areas of sport technique. These generally would be done on-snow.

The anthropometric data will provide you with the tools to evaluate their state of biological maturation. This is an invaluable tool for junior level coaches as it can give you an objective measure of whether your athletes are early developers, are in the middle of development (awkward stage), or are late developers. All these values are critical to the decisions that you make.

Why is the stage of development important to you? Many reasons, but the most fundamental aspects are that **early** maturing athletes have unfair strength and weight advantages compared to other children. That can give coaches or athletes a false impression of future success. Many coaches will look at an early developer and think they are more mature based on looks alone. Mistakes can then be made by placing the athlete in a situation that they might not be mentally ready for. If a young athlete is in the **middle** of their growth spurt, you can also make many mistakes due to a lack of information on their condition. This stage of biological development is called the awkward stage due to the fact that the kids

are growing so fast the nervous system has trouble keeping up and the young athletes are often stumbling up stairs and misjudging steps, among other things. They lose their sense of coordination, balance, flexibility, etc. In addition, this awkward stage can last up to six months. As a coach, you may think that an athlete has completely lost the plot and you might make a decision to drop an athlete or move them to another program prematurely when you should be sitting tight, encouraging the athlete and helping them get through this difficult period of their life. During this stage of awkwardness, the training plan needs to be adjusted to prevent losses in coordination, balance, flexibility and speed rather than attempting to maximize gains. Finally, the **late** biological developer is the source of many mistakes by coaches. The fact is, late maturing children tend to be taller over time, and this has many benefits in sports. Coaches may look at two children and see an eighteen year old and an eleven year old when in fact they both are actually fourteen. For the late developer in this scenario, you simply need to keep them motivated and in your program. Don't make the mistake of dropping them based on their physical appearance alone.

The question of when to test can be and often is a much more complicated matter. In an ideal world, you should test during the early, middle and late training phases of your program. The best timing for the early phase allows for your athletes to get a few weeks of basic training under their belts before you evaluate them. Testing right when you start will not be a good assessment of their fitness or your program, it will just show how little they did in the offseason. Thus, it is highly recommended that you allow for a few weeks of foundation building before you assess them. This allows for future evaluations to provide more effective feedback concerning how your athletes are adapting to the program and if your programs are working correctly or not.

Testing during the middle phase of the training blocks should emphasize the ending of one block of training and the starting of another. Ideally, this means that your training blocks have clear objectives and the testing is evaluating those objectives. For example, the first training block might emphasize building an endurance foundation from which you can build your intensity block. The early phase and mid phase testing blocks are set primarily to evaluate the effectiveness of building this foundation. The second training block then changes gears and starts to increase the pre-race preparation – that is, the intensity aspect of the athletes training then ramps up considerably. The second phase test not only acts as the evaluation of the endurance block, but the start point of the intensity block. The third phase of testing then gives you feedback on how your program worked with regard to improving intensity and also maintaining the endurance portion. The timing of when you do this testing is based on your training blocks, not necessarily on a specific date. In general, early to mid May is when the first phase of testing occurs, mid June to late August is the time of the second phase, and early July to early November is when the final phase of testing can occur.

Regardless of what time of the year you test, it is very important that you follow a set pattern of testing. This begins with scheduling testing at the end of a recovery week. This allows the athletes to come into the testing ready to perform. It is not productive for you or your athletes to attempt to test when they are tired and fatigued. It will give you false information and can lead to even greater mistakes being made from your evaluation. You should attempt to keep the number of tests to a minimum to allow you to do all the testing in one day. This will not cause a disruption in your training program. The order

of tests should be to complete all the anthropometric evaluations first. Then move to the short burst high intensity tests next (vertical jump, sprints, etc). Next do the longer duration high intensity tests (box jumps). Finally always do the endurance test last (20m shuttle run) as this will tap whatever reserves they have left.

Remember to always keep it simple and effective. Make sure that the information you collect is accurate. The higher the quality information you collect, the higher the quality decisions you will make based on the results. With good results, you can do a better job of evaluating both your program and the athlete's fitness.