

Fitness Pre-requisites for International Competition Selection

Cadets and Juniors

Updated for the 2014-15 season

Having the chance to compete for your country should come with great pride but also with the responsibility to be as well prepared as you can in order to perform to the best of your ability.

The IYC and the World Class Performance Team are responsible for selecting athletes to represent their country at international competitions for cadets and juniors. To assist fencers to be optimally prepared for these competitions, we have agreed a set of sport-specific fitness and skill-based tests for all those wishing to be selected.

Table 1 identifies the minimum values that should be achieved by a fencer as a pre-requisite for selection. These scores come from an analysis of Talent Assessment Day results, taking into account a variety of factors such as age.

The tests identified can be conducted without the use of sophisticated equipment so can be held at club level; the set-up for these tests is provided (see end of document).

To give all fencers the best chance of achieving and ultimately surpassing these scores, some exercises have been suggested for each test (Table 2).

It is worth noting that these tests are simplified versions of some of the tests that talent athletes went through at the Talent Assessment Days; adding the exercise suggestions into your daily training will assist your fencing fitness level.

Table 1. Pre-requisite fitness-test scores for selection eligibility.

Scores are separated for males and females but are inclusive of all weapons.

Test	Male scores	Female scores
Standing Broad Jump	Must be able to jump at least 1.95m	Must be able to jump at least 1.55m
7-5-5-7 Agility Test (includes speed of change of direction)	Must be able to complete this within 8.5 sec	Must be able to complete this within 10 sec
Repeated Lunge Ability	The sum of all 5 repetitions should be <85sec	The sum of all 5 repetitions should be <90sec
Side plank	Should be able to hold correct posture for 90 seconds each side	

Table 2. Exercises to incorporate within your training to improve your jump distance, change of direction speed and core stability.

Test	Exercises to make you better
Jump height and distance	<p>Other than practicing jumping as far forward as you can, you should practice:</p> <ul style="list-style-type: none"> • Jumping up onto a box, slowly increasing the height. As a rough guide, you should be able to jump at least hip height from two feet and knee height from one foot. Start with a low box and gradually increase the height. • Single leg squats (also called pistol squats), ensuring you descend with the weight going through your heel and ascend with the weight distributed across the whole foot

	<ul style="list-style-type: none"> • Incorporate split squats, descending and ascending with the weight going through the front heel. Progress this to raising the back leg up on to a bench
Change of direction speed	<p>Other than practicing the test itself and devising others, which incorporate a variety of changes of direction (i.e., using different shuttle lengths and sequences such as 2-4-2), try some of the following.</p> <ul style="list-style-type: none"> • On one leg, perform lateral jumps over a bench. Practice minimising the contact times at landing and then progress to increasing the height of the bench. • Practice stepping off a bench and then upon landing, immediately jumping as high as you can while minimising ground contact time. • Progress these to placing some benches in a row and jumping over them, minimising ground contact time as you land between each. • Progress again to increasing the distances between benches or the height of each bench
Repeated Lunge Ability	<ul style="list-style-type: none"> • You can do almost any high intensity exercise but try to follow a 30second-on, 30second-off routine • The 30s-on should be near max effort and you should aim to perform 5 repetitions. Perhaps start at two or three and work your way up. • It is short enough to add in to the end of a couple of your current weekly training sessions • Try to do this sequence on an exercise bike or rower for example, as this will not involve any impact loads through the legs (or essentially, just avoid running unless pulling a sled); that way your legs recover faster so you can keep fencing • The exercise mode isn't as important as the accumulation of lactic acid from it. You are training your body to deal with this and to work despite it. • A good challenge is as follows: use the rowing ergometer and complete 5 repetitions, 30s-on, 30s-off and aim to row 150m each interval. •

Side plank	<ul style="list-style-type: none">• Performing a side plank is a good exercise to test where you are and also to strengthen your core muscles.<ul style="list-style-type: none">• Normal plank position on your forearms and feet, keeping a good alignment throughout the whole back can be added in.• More dynamic core exercises like the <i>dead bug</i> core exercise where fencer lies on his/her back with knees and elbows tucked in. Action: extend one arm and the opposite leg, pause and bring them back in to the start position. Alternate sides with each repetition. Weight could be added- make sure lower back remains in contact with the floor at all times.• <i>Supine windmills</i> (more advanced) where fencer lies on the floor, legs together up in the air and arms open on the floor to increase the support base. Let your legs drop towards one side keeping your mid-back in contact with the floor. Pause and bring them up to the starting position before you let them drop towards the other side. Legs are controlled with core muscles. It is paramount that your mid-back remains in contact with the floor at all times.
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Set-up instructions for the 4 tests

Standing Broad Jump

Assessment Goal A measure of *lower body power*.

Equipment

- Tape measure
- Measuring stick (used to measure the heel relative to the tape)

Athlete Instruction

“This is a test of explosive horizontal power. Standing behind the start line, you should jump forward as far as possible. You then need to ‘stick’ the landing. That is, you should not fall forward and your feet should not ‘shuffle’. The coach will then measure the distance travelled, measuring from the back of your heel. You need to keep your hands on your hips throughout this test.”

Errors That Void the Test

- If the athlete falls forward or shuffles their feet at landing
- If the athlete jumps too far away (laterally) from the tape so that distance can not be accurately measured by the practitioner
- If the athlete takes their hands off their hips at any point during the test

7-5-5-7 Agility Test

Assessment Goal A measure of *change of direction speed using fencing footwork*

Equipment

- Stop watch
- Tape measure
- Electrical tape/cones

Equipment Set Up: Measure 2 and 7-metres from the start line and mark on the floor using the electrical tape and/or cones. Ensure that there is a clear ‘run off area’ behind the start line.

Athlete Instructions:

“This is a test of fencing agility, measuring change of direction speed. When asked by the coach, you will set yourself up in an on guard position with your lead toe behind the start line; you may start when ready. You should travel using high-quality footwork up the piste as rapidly as possible until the toe of the lead foot just passes the 7-metre line; you are not allowed to lunge to reach this position. From here, rapidly change direction, traveling backwards till your lead toe is just behind the 2-metre line. Then rapidly change direction to travel forwards until your lead toe is beyond the 7-metre line again. From here, as quickly as possible, travel backwards through the start line where the test will finish.”

Errors that void the test

- If the athlete breaks into running, or uses footwork deemed by the fencing coach to be unrepresentative of proper form
- If the athlete fails to pass either line with their toe or lunges in order to reach the line

Repeated Lunge Ability

Assessment Goal

To assess the athlete's ability to *perform and recover from repeated lunges*

Equipment

- Stop watch
- Coloured electrical tape and/or cones
- Lunge pad/dummy/target

Equipment Set Up: Measure 7 metres (start line) and 4 metres from the lunge pad or dummy using the tape measure. Mark both lines on the floor using the electrical tape and cones. Ensure that there is a clear 'run off area' beyond the starting line. If necessary, clearly mark the targets on the lunge pad or dummy. (The target should be approximately the size of an average fencer but this is not crucial).

Athlete Instructions

"This is a test to establish your ability to sustain fast attacking lunges to a target whilst under increasing levels of fatigue. You will perform this test only once, but the test constitutes 5 repetitions of 5 hits.

When asked you will set yourself up in the on guard position with your lead toe just behind the start line. Once the tester has signalled that they are prepared, you may start when ready. You should travel using high-quality footwork towards the dummy performing a lunge to hit the target. From here rapidly change direction and perform fast footwork backwards until your lead toe is completely behind the 4-metre line. Repeat this until you have hit the target 5 times in total. At the completion of the 5th hit, travel backwards all the way through the start line. This constitutes one repetition. You will be given 10 seconds rest between repetitions and you will complete 5 repetitions in total. The time taken to complete each repetition is recorded.

Errors that void the test

- If the athlete breaks into running, or use footwork deemed by the fencing coach to be unrepresentative of proper form
- If the athlete performs a lunge deemed by the fencing coach to be unrepresentative of proper form
- If the athlete fails to pass either line with their toes

Side Plank

Assessment Goal A measure of *core stability*.

There is evidence to suggest that poor core muscle endurance is directly related to lower back injuries (McGill 2009, 2012; Evans 2007). Lower back pain is quite common in fencing due to the asymmetrical nature of the sport so prevention is important.

Equipment

- Stop watch
- Mat.

Athlete Instructions:

- Fencer will be lying on his/her side with trainers on. Elbow bent and in good alignment with the shoulder joint. Feet in touch with top foot going in front of the other as image shows. Bring hips up towards the ceiling adopting a plank position. Good alignment should be observed between legs and spine as the dot line shows.



Errors that void the test

- Most common mistake is that due to muscle fatigue the initial side plank shape is lost and fencer tries to compensate by:
 - Dropping hips so knees and lower legs can touch floor providing a bigger platform of support.
 - Leaning forward in order to increase the support upon the forearm
 - Using non-contact arm to help support the body.

If fencer starts compensating with any of the above mentioned strategies, a warning should be given, so it can be corrected. However, the watch should be stopped and time recorded if a second warning is needed or fencer drops on the floor.

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Any queries please contact Neil Brown or Joanna Cook

Test Scores

Athlete Name:

Category (cadet/junior):

Weapon:

Club:

Date of test:

Name of Coach administering the tests:

Test	Scores
Standing Broad Jump	
7-5-5-7 Agility Test	
Repeated Lunge Ability	
Side plank	Right: Left:

Athlete: "I can confirm these test scores were done in accordance to the testing protocol set out in this document, and are a true and accurate representation of my fitness levels"

Athlete sign.....

Coach: "I can confirm these test scores were done in accordance to the testing protocol set out in this document, and are a true and accurate representation of the athlete's fitness levels"

Coach sign.....

Please email back to Neil Brown: neil.brown@britishfencing.com