

**National Averages**

**The Multi-Stage (Bleep) Fitness Test** *(AEROBIC ENDURANCE)*

**Equipment:** 20 m measuring tape, prerecording of test, tape player, markers, scoring recorders.

**Target Population:** Sports teams & school classes. Health screen first!

**Advantages:** Large groups can do test together.

**Disadvantages:** Audio tape can stretch, high motivation needed for accurate score, scoring can be subjective.

**Procedure:** Subjects run between two lines 20m apart trying to keep up with a set of pre-recorded bleeps on a tape or CD. Roughly every minute the level changes (and the bleeps get closer together) and the running speed gets 0.5 km/h faster (start speed is 8.5 km/h).

The athlete tries to keep up with the recording getting as many levels and shuttles into the test as possible.

The results below are not predictions for Max VO2 but are indicators for aerobic fitness. Each score implies the test level and the number of shuttles completed successfully (e.g. 4/6 = level four and six shuttles completed).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gender & Age (yrs)**  | **Excellent** | **Good** | **Average** | **Fair** | **Poor** |
| **Males 14-16** | 12/7 | 11/2 | 8/9 | 7/1 | <6/6 |
| **Females 14-16** | 10/9 | 9/1 | 6/7 | 5/1 | <4/7 |
| **Males 17-20** | 12/12 | 11/6 | 9/2 | 7/6 | <7/3 |
| **Females 17-20** | 10/11 | 9/3 | 6/8 | 5/2 | <4/9 |
| **Males 21- 30** | 12/12 | 11/7 | 9/3 | 7/8 | <7/5 |
| **Females 21-30** | 10/8 | 9/2 | 6/6 | 5/1 | <4/9 |
| **Males 31-40** | 11/7 | 10/4 | 6/10 | 6/7 | <6/4 |
| **Females 31-40** | 10/4 | 8/7 | 6/3 | 4/6 | <4/5 |
| **Males 41-50** | 10/4 | 9/4 | 6/9 | 5/9 | <5/2 |
| **Females 41-50** | 9/9 | 7/2 | 5/7 | 4/2 | <4/1 |

**30m Sprint Test** *(SPEED)*

**Equipment:** 30m tape measure, stopwatch.

**Target Population:** Sprinters, jumpers, games players or anyone who is injury free.

**Advantages:** Poor reactions and starting technique let down result.

**Disadvantages:** Subject to timing errors.

**Procedure:** Mark out 30 metres accurately on a flat, non-slip surface. Using a standing start, run from the start line as quickly as possible to the finish line. Have someone start the run and time it to the 100th/sec.

**Flying Start 30m Sprint Test** *(SPEED)*

**Equipment:** 40 m tape measure, stopwatch.

**Target Population:** Games players or anyone who is injury free.

**Advantages:** Gives an idea of speed regardless of reaction time.

**Disadvantages:** Subject to timing errors.

**Procedure:** Mark out a 40 metre run with a 'timing' startline 10 m into the run. Using a standing start run the 40 m as quickly as possible. Have someone start the run and time it from the 10 m line to the 40 m line, so a flying 30 m time is gained.

|  |
| --- |
| **Time (secs) for 30 m flying sprint** |
| **Males** | **Females** | **Rating** |
| <4.0 | <4.5 | Excellent |
| 4.2-4.0 | 4.6-4.5 | Good |
| 4.4-4.3 | 4.8-4.7 | Average |
| 4.6-4.5 | 5.0-4.9 | Fair |
| >4.6 | >5.0 | Poor |

**Sit and Reach Test** *(FLEXIBILITY)*

**Equipment:** Sit and reach box, marking slider.

**Target Population:** Everyone without injury.

**Advantages:** Simple to administer.

**Disadvantages:** Only measures hamstring flexibility.

**Procedure:** Sat down with straight legs and the feet flat against a box with a ruler on top of it the subject reaches forwards with their arms and fingers outstretched and tries to stretch past their toes. The length of the stretch is measured in centimetres at the fingertips. Past the toe line is a positive reading. Not reaching the toe line is a minus reading.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |
| --- | --- | --- |
| Flexibility in cm | **Males** | **Females** |
| **Excellent** | >14 | >15 |
| **Good** | 11-13 | 12-14 |
| **Average** | 7-10 | 7-11 |
| **Fair** | 4-6 | 4-6 |
| **Poor** | <3 | <3 |

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**The Sergeant Test** *(POWER)*

**Required Resources**

To undertake this test you will require:

* A wall
* 1 metre tape measure
* Chalk
* An assistant

**How to conduct the test**

|  |  |
| --- | --- |
| The athlete:* chalks the end of his finger tips
* stands side onto the wall, keeping both feet on the ground, reaches up as high as possible with one hand and marks the wall with the tips of the fingers (M1)
* from a static position jumps as high as possible and marks the wall with the chalk on his finger tips (M2)

The assistant then measures the distance from M1 to M2 and records the value. Athlete repeats the test two more times and then the assistant calculates the average M1 to M2 value. |  |

#### Reliability

Test reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure.

Reliability will depend upon how strict the test is conducted and the individual's level of motivation to perform the test.

#### Validity

Test validity refers to the degree to which the test actually measures what it claims to measure and the extent to which inferences, conclusions, and decisions made on the basis of test scores are appropriate and meaningful. This test provides a means to monitor the effect of training on the athlete's physical development.

**Normative Data**

The following normative data has been obtained from the results of tests conducted with world class athletes.

|  |  |  |
| --- | --- | --- |
| % Rank | Females | Males |
| 91-100 | 76.20 - 81.30 cm | 86.35 - 91.45 cm |
| 81 - 90 | 71.11 - 76.19 cm | 81.30 - 86.34 cm |
| 71 - 80 | 66.05 - 71.10 cm | 76.20 - 81.29 cm |
| 61 - 70 | 60.95 - 66.04 cm | 71.10 - 76.19 cm |
| 51 - 60 | 55.90 - 60.94 cm | 66.05 - 71.09 cm |
| 41 - 50 | 50.80 - 55.89 cm | 60.95 - 66.04 cm |
| 31 - 40 | 45.71 - 50.79 cm | 55.90 - 60.94 cm |
| 21 - 30 | 40.65 - 45.70 cm | 50.80 - 55.89 cm |
| 11 - 20 | 35.55 - 40.64 cm | 45.70 - 50.79 cm |
| 1 - 10 | 30.50 - 35.54 cm | 40.65 - 45.69 cm |

*Table reference: Explosive Power and Strength, D.A. Chu, Phd*

The following are national norms for 16 to 19 year olds

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gender | Excellent | Above average | Average | Below average | Poor |
| Male | >65cm | 50 - 65cm | 40 - 49cm | 30 - 39cm | <30cm |
| Female | >58cm | 47 - 58cm | 36 - 46cm | 26 - 35cm | <26cm |

*Table Reference: Physical Education and the study of sport, B. Davies et al.*

The following table is for adult athletes (20+)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gender | Excellent | Above average | Average | Below average | Poor |
| Male | >65cm | 60m | 55cm | 50cm | <46cm |
| Female | >55cm | 50cm | 45cm | 40cm | <36cm |

*Table Reference: Unknown*

**The 1 Minute Sit up Test (MUSCULAR ENDURANCE)**

**Required Resources**

To undertake this test you will require:

* Flat surface
* Mat
* Stop watch
* An assistant

**How to conduct the test**

The Sit Ups Test is conducted as follows:

|  |  |
| --- | --- |
| * Athlete lies on the mat with the knees bent and feet flat on the floor
* Athlete folds their arms across their chest (not behind the head as in the picture)
* Assistant can hold the athlete's feet on the ground
* Athlete sits up to the 90 degree position and then returns to the floor (1 sit up)
* Assistant records the number of sits up completed in 60 seconds
 | Sit Ups |

#### Reliability

Test reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure.

Reliability will depend upon how strict the test is conducted and the individual's level of motivation to perform the test.

#### Validity

Test validity refers to the degree to which the test actually measures what it claims to measure and the extent to which inferences, conclusions, and decisions made on the basis of test scores are appropriate and meaningful. This test provides a means to monitor the effect of training on the athlete's physical development.

#### 1 Minute Sit Up Test (Men)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age** | **18-25**  | **26-35**  | **36-45**  | **46-55**  | **56-65**  | **65+**  |
| Excellent | >49  | >45  | >41  | >35  | >31  | >28  |
| Good | 44-49  | 40-45  | 35-41  | 29-35  | 25-31  | 22-28  |
| Above average | 39-43  | 35-39  | 30-34  | 25-28  | 21-24  | 19-21  |
| Average | 35-38  | 31-34  | 27-29  | 22-24  | 17-20  | 15-18  |
| Below Average | 31-34  | 29-30  | 23-26  | 18-21  | 13-16  | 11-14  |
| Poor | 25-30  | 22-28  | 17-22  | 13-17  | 9-12  | 7-10  |
| Very Poor | <25  | <22  | <17  | <13  | <9  | <7  |

#### 1 Minute Sit Up Test (Women)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age** | **18-25**  | **26-35**  | **36-45**  | **46-55**  | **56-65**  | **65+**  |
| **Excellent** | >43  | >39  | >33  | >27  | >24  | >23  |
| **Good** | 37-43  | 33-39  | 27-33  | 22-27  | 18-24  | 17-23  |
| **Above average** | 33-36  | 29-32  | 23-26  | 18-21  | 13-17  | 14-16  |
| **Average** | 29-32  | 25-28  | 19-22  | 14-17  | 10-12  | 11-13  |
| **Below Average** | 25-28  | 21-24  | 15-18  | 10-13  | 7-9  | 5-10  |
| **Poor** | 18-24  | 13-20  | 7-14  | 5-9  | 3-6  | 2-4  |
| **Very Poor** | <18  | <13  | <7  | <5  | <3  | <2  |

**The Press Up Test (MUSCULAR ENDURANCE)**

**Required Resources**

To undertake this test you will require:

* Flat surface
* Mat
* An Assistant

|  |  |
| --- | --- |
| **How to conduct the test**The Press Up Test is conducted as follows:* Lie on the mat, hands shoulder width apart & fully extend the arms - see Figure 1
* Lower the body until the elbows reach 90° - see Figure 2
* Return to the starting position with the arms fully extended - see Figure 1
* The feet are not to be held
* The push up action is to be continuous with no rest
* Complete as many push ups as possible
* Record the total number of full body press ups
 | Full press up start postionFigure 1Full Press Up end positionFigure 2 |

|  |  |
| --- | --- |
|  |  |

**Push Up Test (Men)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age** | **17-19**  | **20-29**  | **30-39**  | **40-49**  | **50-59**  | **60-65**  |
| **Excellent** | > 56  | > 47  | > 41  | > 34  | > 31  | > 30  |
| **Good** | 47-56  | 39-47  | 34-41  | 28-34  | 25-31  | 24-30  |
| **Above average** | 35-46 | 30-39 | 25-33 | 21-28 | 18-24 | 17-23 |
| **Average** | 19-34  | 17-29  | 13-24  | 11-20  | 9-17  | 6-16  |
| **Below average** | 11-18 | 10-16 | 8-12 | 6-10 | 5-8 | 3-5 |
| **Poor** | 4-10  | 4-9  | 2-7  | 1-5  | 1-4  | 1-2  |
| **Very Poor**  | < 4 | < 4 | < 2 | 0 | 0 | 0 |

**Push Up Test (Women)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age** | **17-19**  | **20-29**  | **30-39**  | **40-49**  | **50-59**  | **60-65**  |
| **Excellent** | > 35  | > 36  | > 37  | > 31  | > 25  | > 23  |
| **Good** | 27-35  | 30-36  | 30-37  | 25-31  | 21-25  | 19-23  |
| **Above Average** | 21-27 | 23-29 | 22-30 | 18-24 | 15-20 | 13-18 |
| **Average** | 11-20  | 12-22  | 10-21  | 8-17  | 7-14  | 5-12  |
| **Below average** | 6-10 | 7-11 | 5-9 | 4-7 | 3-6 | 2-4 |
| **Poor** | 2-5  | 2-6  | 1-4  | 1-3  | 1-2  | 1  |
| **Very Poor**  | 0-1 | 0-1 | 0 | 0 | 0 | 0 |