

**Advanced Life
Support (ALS)
Paramedic**

**Physical Capacity Testing Protocols
Pre-Employment Candidate Pack**



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AV Physical Capacity Testing Protocols

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Physical Capacity Testing Requirements for ALS Paramedics

Taking into account the job demands, the following table provides an overview of the Physical Capacity Testing (PCT) Regime for this role.

| ALS Paramedic | Aerobic | Endurance | | | | Strength | | | | | |
|---------------|---------|-----------|---|---|---|----------|---|---|---|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | | | | | | | | |

light blue

Medical clearance required but no specific PCT

medium blue

Medical clearance required plus PCT baseline

dark blue

Medical clearance required plus advanced PCT Baseline plus advanced elements

| Physical Capacity Tests - ALS |
|---|
| 1. Aerobic Treadmill Test |
| 2. Double Leg Hold |
| 3. Neck Hold |
| 4. Core Strength A - Timed Prone Hold |
| 5. Core Strength B - Dynamic Prone Hold (Not required for ALS) |
| 6. Static Lift - 245mm |
| 7. Static Lift - 600mm |
| 8. Static Lift - 950mm |
| 9. Static Push - 950mm |
| 10. Static Pull - 950mm |
| 11. Grip Strength |

Preparation for Tests

The Ambulance Victoria Physical Capacity Testing for ALS Paramedics involves 10 tests. The tests involve vigorous physical exertion, which in some cases may approach maximal exertion. Movements include jogging, balancing, holding and generating maximal strength in certain muscle groups.

Muscles, ligaments, tendons and joints may be placed under high stress and there is an inherent risk of injury with such testing. To mitigate these risks, some suggestions are outlined below:

1. Ensure the applicants avoid heavy strenuous exercise for the 24 hours prior to testing.
2. Ensure the applicants wear appropriate clothing for the conditions (e.g. shorts/track pants and t-shirt/singlet/sports top) and non-slip athletic footwear with laces securely fastened.
3. Ensure the applicants remove restrictive jewellery, watches, bracelets or hanging earrings that may get caught in equipment.
4. Do not conduct testing if the applicant is suffering any injury or illness that is likely to worsen as a result of participation or if they are unwell/not in good general health.
5. Ensure a warm-up is conducted prior to the commencement of testing. This would typically involve a 5-minute period of light exercise incorporating a series of stretches for the upper and lower body.

Medical Clearance

A medical clearance is required prior to the commencement of the Physical Capacity Testing. A General Health Practitioner must provide this clearance. The applicant should be encouraged to discuss any concerns with their health professional during the medical clearance screening prior to undertaking the testing process.

Informed Consent

A consent form must be completed and signed prior to the commencement of the Physical Capacity Testing. The applicant must be fully aware of all of the tests they are about to perform.

Physical Capacity Testing Protocols - Advanced Life Support (ALS) Paramedics

1. Aerobic Treadmill Test



Purpose and rationale:

This test provides a measure of cardiovascular and endurance fitness. Cardiovascular endurance is a specific requirement of many ALS paramedic tasks. Cardiovascular endurance ensures they can perform and maintain periods of sustained intensity without suffering from high levels of fatigue.

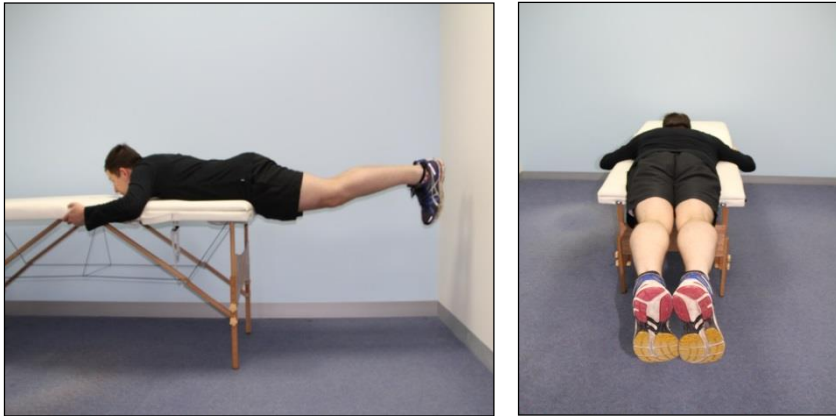
Procedure:

This test requires the subject to jog/run on a treadmill at **7.4 km/hour speed and a gradient of 5 percent for 3 minutes**. As soon as the test is completed the subject will be advised to rest and recover.

Measurement and results:

Completion of three minutes on the treadmill without the test being stopped will be assessed as a successfully completed test.

2. Double Leg Hold



Purpose and rationale:

To test the endurance of the lumbar extensors and gluteal muscles. Carrying, bending and lifting endurance is necessary for injury prevention while undertaking a range of ALS paramedic tasks.

The ALS paramedic's tasks related to this test include:

- Lifting bags from the vehicle and carrying to the scene
- Lifting and positioning equipment while attending to a patient
- Lifting the stretcher loaded with a patient.
- Lifting the spine board at ground level.

Measurement and results:

Throughout the test the legs and ankles should be maintained as described in the procedure above. If the subject is unable to hold this position then the test is to be stopped.

Pass mark:

- The recommended endurance time is **120 seconds**

3. Supine Neck Hold



Purpose and rationale:

To test the endurance of the neck flexor muscles. Carrying, bending and lifting endurance is necessary for injury prevention while undertaking a range of ALS paramedic tasks.

The ALS paramedic tasks related to this test include:

- Lifting bags from the vehicle and carrying to the scene
- Lifting and positioning equipment while attending to a patient
- Attending to the patient whilst adopting awkward postures.

Measurement and results:

Throughout the test the head should be maintained as described in the procedure above. If the subject is unable to hold this position then the test is to be stopped.

Pass mark

- The recommended endurance time is **30 seconds**

4. Core Strength A - Timed Prone Hold



Purpose and rationale:

This test measures abdominal muscle strength and endurance for core stability and back support. Core stability is an important component in many tasks that the ALS paramedic is required to perform.

The ALS paramedic tasks related to this test include:

- Attending to patient in a cramped/inaccessible space
- Extrication to stretcher using spine board and evacuation mat
- Moving a patient on a stretcher
- Lifting the shock stand whilst in the ambulance.

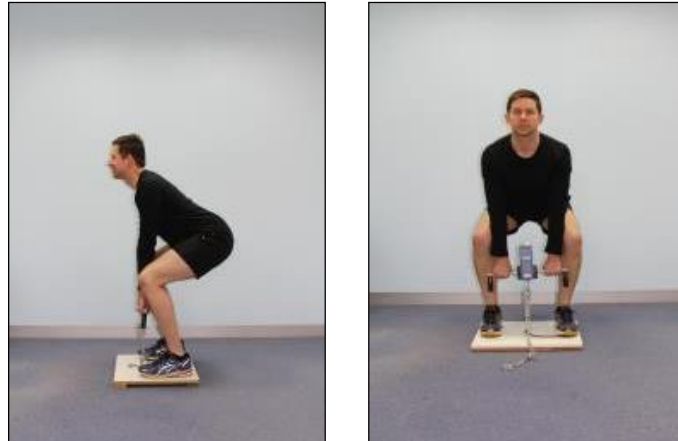
Measurement and results:

Throughout the test the ankles, hips and shoulders should be maintained in a straight line, as described in the procedure above. If the subject is unable to hold this position then the test is to be stopped.

Pass Mark:

- The recommended endurance time is **75 seconds**

6. Static Lift - 245mm



Purpose and rationale:

This test measures the strength of various muscle groups involved in lifting, including gluteals, quadriceps, shoulders and the lower back.

This test is designed to assess the subject's ability to lift at low levels. The 245mm height lift test represents a spine board team lift.

The ALS paramedic tasks related to this test include:

- Lifting and positioning patients and patients limbs at low heights
- Lifting patients on a spine board as a team lift.

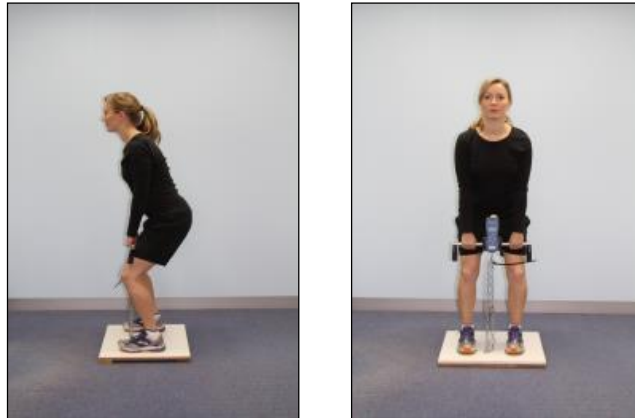
Measurement and results:

The score is recorded on the graph produced by the force gauge. This displays the average force held over five seconds. The average force is determined when a steady force is maintained. This is typically between one second and six seconds and this score is rated against the benchmark.

Pass Mark:

- The recommended static force is **42kg**

7. Static Lift - 600mm



Purpose and rationale:

This test measures the strength of various muscle groups involved in lifting, including gluteals, quadriceps, shoulders and the lower back.

This test is designed to assess the subject's ability to lift at medium levels. The 600mm height lift test represents a mid-stretcher team lift.

The ALS paramedic tasks related to this test include:

- Lifting and positioning patients and patients limbs at medium heights
- Changing the height of the stretcher when loaded with a patient.

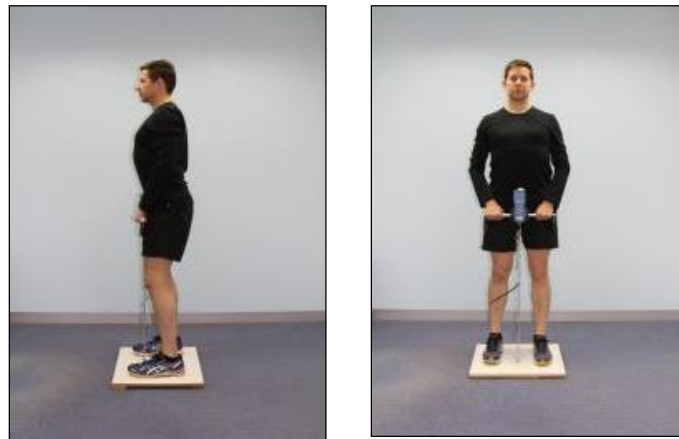
Measurement and results:

The score is recorded on the graph produced by the force gauge. This displays the average force held over five seconds. The average force is determined when a steady force is maintained. This is typically between one second and six seconds and this score is rated against the benchmark.

Pass Mark

- The recommended static force is **41kg**

8. Static Lift - 950mm



Purpose and rationale:

This test measures strength of various muscle groups involved in lifting, including gluteals, quadriceps, shoulders and the lower back.

This test is designed to assess the subject's ability to lift at high levels. The 950mm height lift test represents a full stretcher height team lift/load.

The ALS paramedic tasks related to this test include:

- Lifting and positioning patients and patients limbs at high heights
- Lifting and loading of the stretcher when loaded with a patient.

Measurement and results:

The score is recorded on the graph produced by the force gauge. This displays the average force held over five seconds. The average force is determined when a steady force is maintained. This is typically between one second and six seconds and this score is rated against the benchmark.

Pass mark

- The recommended static force is **36kg**

9. Static Push - 950mm



Purpose and rationale:

This test measures upper body pushing strength. Pushing strength is an important component of the tasks that are required of an ALS paramedic.

The ALS paramedic tasks related to this test include:

- Pushing equipment, stabilizing unsteady patients, moving patients into ambulance
- Pushing stretchers over various terrain, including up sloping ground, over obstacles, through gravel and grass
- Pushing patients in wheelchairs.

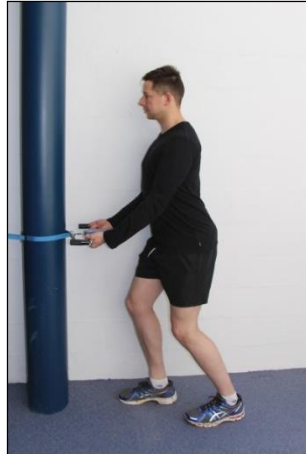
Measurement and results:

The score is recorded on the graph produced by the force gauge. This displays the average force held over five seconds. The average force is determined when a steady force is maintained. This is typically between one second and six seconds and this score is rated against the benchmark.

Pass mark

- The recommended static force is **21kg**

10. Static Pull - 950mm



Purpose and rationale:

This test measures upper body pulling strength. Pulling strength is an important component of the tasks that are required of an ALS paramedic.

The ALS paramedic tasks related to this test include:

- Pulling equipment, stabilizing unsteady patients, moving patients into ambulance
- Pulling stretchers over various terrain, including up sloping ground, over obstacles, through gravel and grass
- Pulling a patient in a wheelchair.

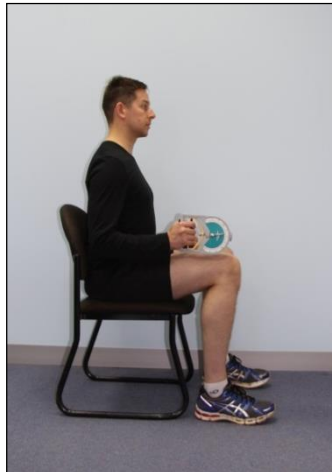
Measurement and results:

The score is recorded on the graph produced by the force gauge. This displays the average force held over five seconds. The average force is determined when a steady force is maintained. This is typically between one second and six seconds and this score is rated against the benchmark.

Pass mark

- The recommended static force is **20kg**

11. Grip Strength



Purpose and rationale:

The purpose of this test is to measure the maximum isometric strength of the hand and forearm muscles. Handgrip strength is important for many tasks performed by the ALS paramedic. Also, as a general rule people with strong hands tend to be strong elsewhere, so this test is often used as a general test of strength.

The ALS paramedic tasks related to this test include:

- Gripping bags and equipment, holding unsteady patients, moving patients
- Gripping and pulling stretchers over various terrain, including up sloping ground, over obstacles, through gravel and grass
- Gripping and restraining wheelchairs on slopes.

Measurement and results:

The best result from three trials for the dominant hand is recorded, with at least 15 seconds recovery between each effort. The recorded score is the best score of the dominant hand.

Pass mark

- The recommended static force is **28kg**