



OFFICIAL

SA Ambulance Service

Work Fitness Assessment

(Guideline Only)



Government
of South Australia

SA Health



SA
Ambulance
Service

Table of Contents

Physical Capacity Requirements for SA Ambulance Service Career Operational Staff

Cardiopulmonary Resuscitation (CPR)

Preparation for Tests

Personal Information and Medical Screen

Work Fitness Assessment Tests – Physical Testing (current in May 2024)

1. Range of Motion and Posture
 - a. Joint Range of Movement
 - b. Back Fitness Posture
 - c. Knight's Kneel
 - d. Shoulder Range
2. Grip Strength
3. Muscle Strength and Endurance Tests
 - a. Prone Double Leg Hold (lumbar extension)
 - b. Supine Neck Hold (neck flexors)
 - c. Wall Squat (quadriceps)
 - d. Abdominal Endurance / Core Strength
4. Cardio-Vascular Fitness
5. Manual Handling
 - a. Above Bench Height Lift
 - b. Floor to Bench Height lift
6. Static Waist Height Push
7. Static Waist Height Pull

Background

Requirements

The Work Fitness Assessment (WFA) is performed to determine a job applicant's ability to safely perform the duties of the role for which they are applying. This test is applicable to all career operational staff including:

- Paramedics (all clinical levels)
- Ambulance Officers
- MedSTAR Doctors and Nurses

The components of the WFA for SA Ambulance Service (SAAS) have been determined by the actual job requirements and reflect the physical nature of the role. The WFA includes assessment of:

- Flexibility
- Strength
- Power
- Endurance
- Cardiovascular fitness

It is recommended all prospective or current workers of SA Ambulance Service maintain a level of fitness, strength, and range of motion to enable them to undertake all aspects of the role with minimal risk of injury.

Cardiopulmonary Resuscitation (CPR)

Fitness and capacity to undertake CPR effectively at ground level (in kneeling) is tested separately as part of clinical assessment and is not included in the WFA.

Preparation for tests

The SA Ambulance Service WFA involves vigorous physical exertion, which in some cases may approach maximal exertion. To maintain safety during the testing it is recommended applicants:

- Avoid heavy strenuous exercise for 24 hours before the test
- Wear appropriate clothing for exercise and movement and non-slip athletic footwear

The physical test must be completed without hand or wrist strapping or splinting to reflect the infection control requirements of on road duties.

The screening test will collect information and undertake physical testing.

*Please note this is intended as a guideline only as it does not include the full details for the testing.

Personal information and medical screen

Personal details

Medical Screening

Medical and visual screening is conducted to ensure safety and fitness to undertake all aspects of the role including driving emergency vehicles. Screening includes:

- General medical history and medication
- General visual screen
- Pulse and blood pressure



Physical testing (NB. order of test may differ from order in booklet)

Range of motion and posture



Purpose and rationale:

Operational staff work both indoors and outdoors, in all types of weather. Often work is conducted at ground level, and the environment may include confined spaces. Postures are often sustained whilst assessments are conducted, or care is provided.

The Operational worker is required to retrieve equipment from the Ambulance (or other SAAS vehicle), and transport equipment between the vehicle and the site for care to be provided. Some equipment is wheeled (e.g., the stretcher) whilst other equipment must be carried (including kits and monitor).

Procedure:

Each joint is assessed for range, restrictions, pain, or asymmetry. Posture is checked for alignment and symmetry.

As one component of this section, the candidate's ability to kneel on one knee (knight's kneel), hold the position and return to standing is tested.

Additional testing of the shoulder range and stability is included in the joint tests.

Measurements and results:

All joints are tested.

For knight's, the candidate is required to maintain the knight's position for a period and return to standing without using arms. Both sides are tested.

Grip Strength



Purpose and rationale:

Research indicates that grip strength is a reliable predictor of overall strength and health. Maintaining muscle mass is important for mobility and strength.

The purpose of this test is to measure the maximum isometric strength of the hand and forearm muscles. SAAS Operational tasks that require a strong grip include:

- Gripping bags and equipment
- Supporting patients and moving patients
- Gripping and moving stretchers over various terrain including slopes, uneven ground and grass
- Gripping and moving the compact carry chair over different terrain

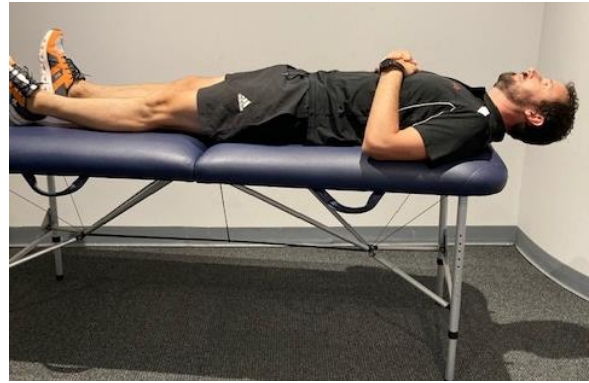
Procedure:

Grip strength is measured using a hand dynamometer. Each hand is tested 3 times.

Measurements and results:

Both sides undergo testing and scoring, with the candidate required to meet or exceed the score for the job's physical demand's classification (for the purpose of this test – tested to 'medium' work $\geq 27\text{kg}$).

Muscle strength and endurance tests – multiple tests



Purpose and rationale:

To test the endurance of different muscle groups for bending, lifting and carrying. Specific muscle groups tested may include:

- Lumbar extensors / gluteal muscles
- Neck flexors
- Hip flexors
- Quadriceps
- Core strength / abdominals

SAAS Operational tasks that require muscle strength and endurance include:

- Lifting kits from vehicle and carrying to the scene
- Lifting and positioning equipment when attending to a patient
- Manoeuvring a stretcher over a kerb
- Lifting a patient on a spinal board from ground level
- Attending to a patient on scene or in the rear of the Ambulance (may include awkward spaces)

Muscle strength and endurance tests – multiple tests (continued)

Procedure:

Position and hold tests are conducted and may include the following tests (or similar):

- Prone double leg hold
- Supine neck hold
- Wall sit
- Plank / prone bridge

Measurements and results:

Endurance tests are timed tests. Once the endurance time is reached the test is completed.

Cardio-vascular fitness

Purpose and rationale:

Aerobic capacity determines the body's ability to efficiently transport and utilise oxygen during sustained physical activity, influencing endurance, overall fitness, recovery and cardiovascular health.

A high level of fitness and endurance is a specific requirement for many SA Ambulance Service tasks and ensures workers can perform and maintain periods of sustained intensity without suffering from a high level of fatigue.

Procedure:

Cardio-vascular fitness will be tested by either a step test (e.g., The Chester Step Test (CST)), walking / running on a treadmill or riding a stationary bike.

The speed / intensity is increased gradually, and heart rate and exertion levels are monitored and recorded.

Measurements and results:

Fitness level is determined by comparing results against standardised / normative data age and gender tables. An average or above level of fitness is recommended for SA Ambulance Service on-road staff.

Manual handling – above bench height lift



Purpose and rationale:

Equipment and medical kits are stored in various locations in the Ambulance and other SAAS vehicles. Kits need to be retrieved and placed on shelving both within the vehicle and on job locations. Above bench height lifting includes:

- Loading kits onto the shelf in the grab and go locker of the Ambulance
- Loading kits onto the shelf in the rear of light fleet
- Assisting patient moves on the stretcher – supporting patient's head or limbs

Procedure:

- The candidate is required to lift a weighted box with handles from 600mm bench level (handle position will be approximately 200mm from base of box) to position the box onto a 1200mm high bench (lift position is to 1400mm with handle position)
- The candidate commences with a lighter weight, then weight is gradually increased, and the test is repeated
- The candidate's technique and level of exertion will be assessed throughout
- The test can be stopped if the candidate demonstrates improper technique or over exertion

Measurements and results:

Required to be tested to 10kg (approximate weight of a single kit or monitor)

Manual handling – floor to bench height lift



Purpose and rationale:

Despite access to equipment, lifting remains a fundamental requirement within SA Ambulance Service. Lifting from ground level may be required when:

- Lifting and carrying kits
- Team lift of a patient on a spinal board

Procedure:

- The candidate is required to lift a weighted box with handles from ground level (handle position will be approximately 250mm from ground) to position the box onto a 600mm high bench (lift position is to 850mm with handle position)
- The candidate commences with a lighter weight, then weight is gradually increased, and the test is repeated
- The candidate's technique and level of exertion will be assessed throughout
- The test can be stopped if the candidate demonstrates improper technique or over exertion

Measurements and results:

Required to be tested to 35kg (approximate value of an individual worker's contribution of a team lift involving a 100kg patient with a 4-person team).

Static push forces



Purpose and rationale:

This test measures pushing strength, which is an important component of tasks required by SA Ambulance Service on road staff including:

- Manoeuvring stretcher over various terrains, sloping ground and negotiating obstacles
- Loading stretcher into the back of the Ambulance
- Assisting a transfer e.g., between a chair and the stretcher

Procedure:

- A force gauge is used and is set up 950mm from the ground
- The candidate is required to undergo testing 3 times, exerting their maximum safe pushing force on each occasion
- The best of the 3 trials is documented

Measurements and results:

Required to be tested to 23kg which is the measured force of pushing a laden stretcher up a slope.

Static pull forces



Purpose and rationale:

This test measures pulling strength, which is an important component of tasks required by SA Ambulance Service on road staff including:

- Unloading stretcher from the back of the Ambulance
- Extrication of a patient at floor level and up a spinal board bridge to the stretcher
- Manoeuvring a stretcher over various terrains, sloping ground and negotiating obstacles
- Pulling a patient in the compact carry chair
- Assisting a transfer e.g., between a chair and the stretcher

Procedure:

- A force gauge is used and is set up 950mm from the ground
- The candidate is required to undergo testing 3 times, exerting their maximum safe pulling force on each occasion
- The best of the 3 trials is documented

Measurements and results:

Required to be tested to 30kg which is the measured force for each person for a 2 person pull of an 80+kg patient from floor to stretcher via a spinal board bridge.