

Physical Education and Recreational Training

RNZAF

# Fitness Testing Protocols

RNZAF PTI TRADE SPONSOR:



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## References

*The following references are the guiding publications for RNZAF Fitness testing.*

- A. DFO(F), Part 1, Chapter 3, Section 9, **RNZAF Fitness Policy**
- B. NZAP53, Chapter 30, **Fitness Testing**
- C. <http://org/A-PERS/FitnessSitePages/FitnessHome.aspx>
- D. **Swimming & Life Saving**. The Royal Life saving Society, New Zealand.
- E. NZAP 9221 **Manual of Common Aircrew Training**, Chap 9, Sect 8.
- F. NZAP 9029 **Manual of PE&RT for RNZAF Trainees**

## Distribution List

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Physical Education and Recreational Training

RNZAF

# RNZAF Operational Fitness Test

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## **Pre- Test Administration**

*The following is the Pre-Test Administration for the RNZAF Operational Fitness Test.*

1. The RNZAF Operational Test consists of two elements to be conducted consecutively:

- a. Push Up Test,
- b. 20kg Weighted March of five kilometres (5000 metres).

## **Medical Clearance**

2. Individuals, who have any questions about their health status, including any concerns associated with primary coronary heart disease risk factors, must be cleared for testing by the Base Medical Officer prior to testing.

3. Primary coronary heart disease risk factors include:

- a. High blood cholesterol
- b. Sedentary individuals
- c. Obesity
- d. Hypertension
- e. Diabetics
- f. Peripheral vascular disease
- g. Smoking
- h. Family history

4. Prior to the test PE&RT Staff will always ask if there are any medical reasons why participants should not attempt the test. It is the responsibility of the individual to inform PE&RT Staff if they have any medical concerns prior to the test commencing.

5. Participants must be medically cleared (F5) to attempt the test if they have been previously medically excused (F4).

## Pre-test Preparation

6. PE&RT Staff are to brief Recruits, Officer Cadets and Trade Trainees on optimal pre-test preparation. In addition, the below pre-test advice, and local testing days is to be promulgated as a reoccurring order in BRO's and PE&RT notices.

7. Personnel are to identify local testing days and times and be appropriately attired in accordance with DFO's. The following factors are likely to have a negative effect physiologically on the body during testing.

- a. Preliminary Rest. Strenuous exertion should be avoided on the day prior to testing and on the day of testing; no other strenuous activity should precede the test. Lack of sleep will also affect physical performance. Recommended sleep is 7-9 hours.
- b. Diet. Ingestion of food results in a rise in both heart rate and ventilation for an hour or more, while a complete fast may result in low blood sugar levels during testing. Therefore a compromise is necessary and the subjects instructed to eat only a light meal at least an hour before testing.
- c. Hydration. A well hydrated body will perform better physically. It is recommended to ingest 33mls of water per kg of body weight daily. Some fluids are consumed in foods high in water content. Caffeine will dehydrate personnel and require more water intake.
- d. Smoking. It is recommended that individuals refrain from smoking at least an hour prior to the test, as this will have a physiological effect on the body during testing.
- e. Alcohol. All subjects should be asked to refrain from drinking alcohol one day prior to testing, as this will also affect the body physiologically during testing.



## Equipment

8. The following equipment is necessary for the effective conduct of the RNZAF Operational Fitness Test. The addition of some items not listed below might be required at some locations. In all instances, a safety vehicle must be in attendance during the test. All test equipment must be checked for serviceability prior to the testing date.

- a. Copy of Risk Management Form for safe conduct of OFT
- b. 1 x Safety Vehicle
- c. First Aid kit
- d. Emergency communication device
- e. 2 x Stopwatches
- f. Qty x Markers / Road Cones
- g. Recording sheets and pens
- h. Numbered finish discs/tags (if required)
- i. Required number of vests and belts totalling 20 kg/ set
- j. Copy of protocol and briefs

## Environmental Conditions

9. Temperature - recommended being below 29°C and above 5°C for test to be valid.<sup>1</sup>

10. Wind speed - recommended to be below 30 knots for test to be valid.<sup>2</sup>

11. Testing at altitude<sup>2</sup>, in tropical and humid conditions is safe provided the PTI ensures that all participants are acclimatized and well hydrated. One week is to be given to all upon posting to tropical area to allow acclimatization.

12. Track - ideally this test should be conducted in a loop or an out and back flat track.

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<sup>1</sup> Service members should be made aware of the environmental conditions. An individual may undertake a test outside of these parameters and have the result recorded. However, if conditions are outside of these parameters a resit should be available in the event of a failure.

<sup>2</sup> Subjects' performance can be altered if the test is held at an altitude of over 3000 metres. Above this height there is a steep decline in percentage of haemoglobin saturation due to decrease in partial pressure of oxygen in the atmosphere. The test may be conducted at or above this height but the PTI must remain cognisant of this fact.

## Officials

13. The minimum officials required to carry out the RNZAF Operational Fitness Test is **two qualified Physical Training personnel**.

14. A minimum of two officials will hold a current DFAC or civilian equivalent first aid certificate. In all instances, test officials are to have access to higher medical aid if required.

15. Best practice in all testing, when staffing allows, is to have a moderator to assess the consistency of push up assessment. This moderator will be available to resolve any post-test concerns. The moderator should provide thorough feedback to all push up officials to assist with maintaining consistency between officials.

16. If only one service member is being tested, one official is sufficient to administer the test, if two Officials are not available. Safety and test validity should be considered before making this decision.

## Testing Standards

17. Standards for the Push up test:

MALES			FEMALES	
AGE GROUPS	REPETITIONS (F1)	REPETITIONS (F2)	REPETITIONS (F1)	REPETITIONS (F2)
16-29	40	30	22	16
30-39	33	23	18	13
40-49	28	18	16	11
50+	22	12	12	8

18. Standards for the 5km Weighted March:

MALES			FEMALES	
AGE GROUPS	TIME (F1)	TIME (F2)	TIME (F1)	TIME (F2)
16-29	42:00	44:00	44:30	46:30
30-39	44:00	46:00	46:30	48:30
40-49	46:00	48:00	48:30	50:30
50 +	48:00	50:00	50:30	52:30

## Test Procedure

1. Temperature and wind speed checked prior to testing.
2. Personnel's rank, initial, name, service number, age, and gender are recorded on the test sheet.
3. A test brief, detailed in Annex A is to be read out prior to the test commencing.
4. All subjects to be tested are to be asked "ARE ALL PERSONNEL MEDICALLY CLEARED TO PARTICIPATE IN THIS TEST", in accordance with Pre-test Administration.
5. Warm Up
  - a. Physical Training staff should conduct a warm up for all participants for each element.
    - (1) Push Ups: Trunk and upper body mobility's
      - (a) Exaggerated marching, chest press, trunk twist.
    - (2) Before donning the vest/belt, provide coaching on correct lifting.
    - (3) March: Aerobic 2-3 min and lower body mobility's.
      - (a) Walk to start line, calf pump, leg swings, hip/gluteal mobility.
6. Complete Push up element. Record result and which official counted.
7. Complete March element. Record result.
8. Cool Down
  - b. Where possible/practicable, PT Staff should provide supervision of a cool down routine.

## Test Protocol

### Note:

1. All participants are to be dressed in accordance with DFO's. All subjects will be issued a vest and / or belt totalling 20kg which is to be worn as a vest and a belt during Element 2.
2. The OFT consists of two elements. Each element is to be conducted consecutively to warrant a pass.
  - a. If element one is failed, in an attempt, the other element should be tested to identify ability in both parts and the specific remedial action required. The participant is to fill out the Failure Management Record Log as per Annex B.
  - b. Both elements may not be required to be tested if the participant is already under failure management, or an injury has occurred during the first element.
  - c. Personnel should be fully tested at their 28 day and 90 day failure management dates to report to Command on the service members full fitness state.
3. Listening devices utilising headphones are not to be worn during the test. These pose a safety risk to participants.

## Element 1: Push Ups

4. **The set up:** Lying prone, (without the 20kg weight) abduct the arms to 90 degrees at the shoulder and elbow. Hands are then to be dragged back to where the elbows were situated in line with the shoulder. The hand position is not to be forward of the shoulder. The subject may then adjust their hand position inwards only. Hands are to remain in this position relative to the shoulder throughout the test. The hand may form a closed fist before the test commences. Feet are to be no wider than hip width apart.

5. **Repetitions:** Push-ups are to begin from the front support position. From this position the body must be lowered to a point where the upper arm is parallel to the ground<sup>3</sup>. The body must remain in a straight line throughout the repetition and not be bent at the hips or lower back.<sup>4</sup> The body is then pushed back up into the front support position to complete a repetition. The front support position must be achieved after every repetition. If the subject fails to complete a repetition that repetition will not count toward the total required. Repetitions must be continuous without rest during any phase of the movement.<sup>5</sup>

6. Failing to complete a repetition occurs when:

- a. the body is not moved to the standard mentioned at paragraph 4. Repetitions',
  - (1) For example: The body is not lowered to a point where the upper arm is parallel to the ground OR the body does not remain in a straight line throughout the repetition.
- b. arms do not straighten at the top of the movement,
- c. the head, chest, torso or legs rest or bounce on the ground.

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<sup>3</sup> 'Upper arm' refers to the line of the humerus and its position in relation to the ground.

<sup>4</sup> If a subject is unable to achieve a complete repetition, due to any form of anatomical restriction then the Physical Training staff may direct the individual to flex forward at the hips whilst in the front support position to allow the repetitions to be completed. If necessary, the body may be elevated using solid structures, of the same size, placed beneath the subjects hands and feet.

<sup>5</sup> Rest' is defined as any pause longer than 2 seconds during any phase of the movement.

7. An individual's push up test will be terminated if:
  - a. the subject chooses to cease exercising or rests, e.g.; pauses to rest at any stage, elects to stop, or becomes fatigued.
  - b. the body set-up position is adjusted during the test, e.g.; the hand position of the individual changes relative to the shoulder.
  - c. for any reasonable reason the Physical Trainer identifies that the test must be stopped, e.g. Technique is insufficient, safety to either Physical Trainer or subject is compromised.

## Element 2: 5KM March

8. In order to successfully complete this test, participants are required to walk/shuffle/run 5 km unassisted in a set time.
9. Subjects are to utilise the weighted equipment provided<sup>6</sup>. If subjects are deployed they may utilise other service issue packs or webbing specific to their operational mission. Subjects will need to present these to the PTI in advance of the test to allow weighing.
10. Subjects start from behind the start line. On the command 'GO' subjects will walk/shuffle/run continuously for a distance of 5 kilometres with the 20kg weight.
11. The timing device will be started when the last person crosses the line.
12. Subjects are to follow the designated march track.
13. PT Staff will attempt to inform subjects of split times where possible and participants should try to maintain a steady pace throughout the test
14. If subjects experience any other symptoms, e.g. chest pain or discomfort, dizziness and severe breathlessness, they are to stop or be stopped by the PT Staff the test terminated and medical advice sought.
15. No listening devices are to be worn throughout this element.
16. If large groups are carrying out this test, subjects may be given a tag as they cross the line. Subjects are to retain this tag until called upon to hand back to the PT Staff. Each numbered tag will correspond to a finishing split time.

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<sup>6</sup> Subjects using the provided weighted vest and belt are to wear one vest and one belt only .This is because the weight is representative of operational equipment IAW DFOs(F) Part 1, Chapter 3, Section 9, Annex A. This is subject to equipment availability for testing in operational theatre.

## Post test Procedure

### Result Processing

1. The following is the Post Test Procedure that should be carried out immediately after testing:
  - a. Results are to be transferred from the recording sheet to SAP HCM using an MD1440A. Electronic and hard copies saved.
  - b. SAP HCM will then update service member's information on ESS.
  - c. Test failure results are to be forwarded to test subject's FLTCDR for further action in accordance with current failure management policy.
  - d. Remedial registers are to be updated and 28 day dates entered.



## OFT Participant Brief

Is there **any** medical reason why anyone should not carry out the RNZAF Operational Fitness Test today? Are you F4 (Medically excused)?

The OFT comprises two elements; first is the push ups, followed by the 5km weighted march. Unless otherwise informed, all personnel registered to conduct the OFT today will carry out both elements of the test.

In the event you do not pass the OFT, you will see the physical training staff for advice on the failure management processes and, if necessary, arrange for remedial action.

For your own safety; please ensure you utilise the correct lifting technique while putting your vest and belt on and listening devices with headphones are not permitted during the march element.

### Push Up Brief & Demonstration

- Lie prone on the ground with your arms bent at 90 degrees (at the shoulder and elbow)
- Slide your hands back to where the elbows were situated, so they are in line with your shoulders (hands **not to be** forward of the shoulder)
- You may adjust your hand position inwards only
- Ensure your feet are no wider than hip width apart
- Start in the front support position
- Once you start the push ups, your hands and feet are not allowed to move.
- The body must remain in a straight line throughout the repetition and not be bent at the hips or lower back
- Lower your body until the upper arm is parallel to the ground
- Raise back up the front support position ensuring the arms are fully extended
- Perform the exercise continuously. If you pause and you will be told to continue and if you don't, the test will cease.
- Is everyone aware of their test standards? (Advise those that do not know/ Have signs on walls of standards)
- Any questions?

*Warm Up: PTI to complete a mobility warm up. Start push up counting.*

### Weighted March Brief

- In order to successfully complete this element of the test, you are required to walk/shuffle/run 5 km unassisted wearing the 20 kg vest and belt at all times.
- (Start from behind the start line). On the command 'GO' you will begin. Your time will start when the last person crosses the line.
- (Describe the designated 5km course and any safety points).
- PT Staff will attempt to inform you of split times (at \_\_\_\_/where possible). You should try to maintain a steady pace throughout the test.
- If you experience any symptoms such as; chest pain or discomfort, dizziness and severe breathlessness, you are to stop exercising and seek immediate assistance. PT Staff will monitor participants on the course and will render aid and if necessary evacuation.
- (Check for listening devices).
- Is everyone aware of their test standards? (Advise those that do not know)
- Any questions?
- When you finish the test. Wipe down the vest and belt and return them to the store. Also complete stretches before returning to your workplace.

MALES			FEMALES	
AGE GROUPS	TIME (F1)	TIME (F2)	TIME (F1)	TIME (F2)
16-29	42:00	44:00	44:30	46:30
30-39	44:00	46:00	46:30	48:30
40-49	46:00	48:00	48:30	50:30
50 +	48:00	50:00	50:30	52:30



**ANNEX C TO  
OPERATIONAL FITNESS TEST**

**Failure Management Record Log:**

All personnel who fail the RNZAF OFT are to fill in this form immediately and sign having read the statement below:

***“I acknowledge that I am to be issued an initial warning due to failing the OFT, and I am aware of the possible consequences of not achieving a satisfactory fitness standard within 28 days”.***

DATE Failed	Rank	Name	Service No.	Age	M /F	SQN & Section	FLTCDR/Superior officer Rank & Name	SNCO Rank & Name	SIGN – ack initial warning	Office Use		
										Remedial Reaister	Email Actioned	28 Days

Office Use: Highlight anyone who has consequently passed their OFT



Physical Education and Recreational Training

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Restricted

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### **Annex A**

RNZAF Restricted Fitness Test Brief

### **Annex B**

RNZAF Restricted Fitness Test Recording Sheet

## **Pre- Test Administration**

*The following is the Pre-Test Administration for the RNZAF Restricted Fitness Test.*

1. The RNZAF Restricted Test consists of two elements to be conducted consecutively:
  - a. 1 Mile Rockport Fitness Test,
  - b. Push Ups.

## **Medical Clearance**

2. As per Reference B, the decision on whether a service member may attempt the Restricted Fitness Test is to be made by a Medical Officer. Individuals, who have any questions about their health status, including any concerns associated with primary coronary heart disease risk factors, must be cleared for testing by the Base Medical Officer prior to testing.
3. Primary coronary heart disease risk factors include:
  - a. High blood cholesterol
  - b. Sedentary individuals
  - c. Obesity
  - d. Hypertension
  - e. Diabetics
  - f. Peripheral vascular disease
  - g. Smoking
  - h. Family history
4. Prior to the test PE&RT Staff will always ask if there are any medical reasons why participants should not attempt the test. It is the responsibility of the individual to inform PE&RT Staff if they have any medical concerns prior to the test commencing.
5. Participants must be medically cleared (F5) to attempt the test if they have been previously medically excused (F4).

## Pre-test Preparation

6. PE&RT Staff are to brief Recruits, Officer Cadets and Trade Trainees on optimal pre-test preparation. In addition, the below pre-test advice is to be promulgated as a reoccurring order in BRO's and PE&RT notices.
7. Personnel recommended to complete the RNZAF Restricted Fitness Test will need to book in with their local Gymnasium. Advice personnel the following factors are likely to have a negative effect physiologically on the body during testing.
  - a. Preliminary Rest. Strenuous exertion should be avoided on the day prior to testing and on the day of testing; no other strenuous activity should precede the test. Lack of sleep will also affect physical performance. Recommended sleep is 7-9 hours.
  - b. Diet. Ingestion of food results in a rise in both heart rate and ventilation for an hour or more, while a complete fast may result in low blood sugar levels during testing. Therefore a compromise is necessary and the subjects instructed to eat only a light meal at least an hour before testing.
  - c. Hydration. A well hydrated body will perform better physically. It is recommended to ingest 0.33L of water per kg of body weight daily. Some fluids are consumed in foods high in water content. Caffeine will dehydrate personnel and require more water intake.
  - d. Smoking. It is recommended that individuals refrain from smoking at least an hour prior to the test, as this will have a physiological effect on the body during testing.
  - e. Alcohol. All subjects should be asked to refrain from drinking alcohol one day prior to testing, as this will also affect the body physiologically during testing.



## Equipment

8. The following equipment is necessary for the effective conduct of the RNZAF Restricted Fitness Test. The addition of some items not listed below might be required at some locations. In all instances, a safety vehicle must be in attendance during the test. All test equipment must be checked for serviceability prior to the testing date.

- a. Copy of Risk Management Form for safe conduct of Fitness Testing.
- b. 1 x Safety Vehicle
- c. First Aid kit
- d. Emergency communication device
- e. 2 x Stopwatches
- f. Qty x Markers / Road Cones
- g. Recording sheets and pens
- h. Numbered finish discs/tags (if required)
- i. HR Monitors for all personnel.
- j. Scales.
- k. Copy of protocol, briefs and data conversion tables.

## Environmental Conditions

9. Temperature - recommended being below 29°C and above 5°C for test to be valid.<sup>7</sup>

10. Wind speed - recommended to be below 30 knots for test to be valid.<sup>2</sup>

11. Testing at altitude<sup>8</sup>, in tropical and humid conditions is safe provided PTI ensures that all participants are acclimatized and well hydrated. One week is to be given to all upon posting to tropical area to allow acclimatization.

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<sup>7</sup> Service members should be made aware of the environmental conditions. An individual may undertake a test outside of these parameters and have the result recorded. However, if conditions are outside of these parameters a resit should be available in the event of a failure.

<sup>8</sup> Subjects' performance can be altered if the test is held at an altitude of over 3000 metres. Above this height there is a steep decline in percentage of haemoglobin saturation due to decrease in partial pressure of oxygen in the atmosphere. The test may be conducted at or above this height but the PTI must remain cognisant of this fact.

12. Ideally this test should be conducted in a loop or an out and back flat track.

## Officials

13. The minimum officials required to carry out the RNZAF Restricted Fitness Test (RFT) is two personnel and comprises of:

- a. One NZDF Physical Training Instructor to be IC; defined as:
  - (1) NZDF military or ex military PTI/PFI or
  - (2) Civilian physical training employee who has completed PE&RT formalised fitness testing induction training under the PTI SNCO or DPERTS DAPTI course and deemed to have enough experience to be in charge of the RFT, performing at proficiency level A.
- b. One other NZDF Physical Training staff member (military / civilian).
  - (1) NZDF military or ex military PTI/PFI,
  - (2) DAPTI or
  - (3) Civilian physical training employee who has completed PE&RT formalised fitness testing induction training under the PTI SNCO.

14. A minimum of two officials will hold a current DFAC or civilian equivalent first aid certificate. In all instances, test officials are to have access to higher medical aid if required.

15. If only one service member is being tested, one official is sufficient to administer the test, if two officials are not available. Safety and validity should be considered before making this decision.

## Testing Standards

16. Standards for the Rockport One Mile Walk Test are:

	MALES	FEMALES
<45	35 ml.kg-1.min-1	32 ml.kg-1.min-1
45 - 54	34 ml.kg-1.min-1	31 ml.kg-1.min-1
55 - 64	32 ml.kg-1.min-1	29 ml.kg-1.min-1
>65	31 ml.kg-1.min-1	28 ml.kg-1.min-1

17. Standards for Restricted Push Up Test are:

AGE GROUPS	MALE REPETITIONS	FEMALE REPETITIONS
16-29	25	13
30-39	20	11
40-49	14	8
50 +	11	7

## Test Procedure

1. Temperature and wind speed checked prior to testing.
2. Personnel's rank, initial, name, service number, age, and gender are recorded on the test sheet.
3. Weigh and record weight for each of the participants.
4. All participants are to wear a functional Heart Rate Monitor.
5. A test brief, detailed in Annex A is to be read out prior to the test commencing.
6. All subjects to be tested are to be asked "ARE THERE ANY MEDICAL REASONS WHY YOU SHOULD NOT BE ATTEMPTING THIS TEST", in accordance with Pre-test Administration.
7. Warm Up
  - a. Physical Training staff should conduct a warm up for all participants. This must be in line with any physical restrictions which have resulted in personnel being recommended for the Restricted Fitness Test.
    - (1) Aerobic 2-3 min and lower limb mobility's before walk.
      - (a) Jog/Walk
      - (b) Leg Swings, calf pump, trunk twists, arm pumps.
    - (2) Upper body mobility's before push ups.
      - (a) Chest press, exaggerated march, arm circles.
8. Complete one mile walk element. Record result.
9. Complete Push up element. Record result and which official counted.
10. Cool Down
  - b. Where possible/practicable, PT Staff should provide supervision of a cool down routine.

## Test Protocol

### Note:

1. All participants are to be dressed in accordance with DFO's.
2. The Restricted Fitness Test consists of two elements. Each element is to be conducted consecutively to warrant a pass. If one element is failed in an attempt, the other element should be tested to identify ability in both parts and remedial action required, unless otherwise specified i.e. someone already under failure management.
3. All subjects must wear a functional heart rate monitor and must be aged 30-69 years.
4. Listening devices utilising headphones are not to be worn during the test. These pose a safety risk and in some testing areas are not allowed by higher authority.

### Element 1: One Mile Walk

5. In order to successfully complete this element of the test, participants are required to **WALK** one mile unassisted in a set time over a flat course.
6. Subjects start from behind the start line. On the command 'GO' will walk continuously a distance of 1 Mile (1600m) at a steady pace. (The timings device will be started when the last person crosses the line).
7. Subjects are to follow the designated march track (explain track).
8. Subjects will be informed of a split time at the half way mark and should maintain a steady pace throughout the test.
9. If the subject experiences any symptoms such as chest pain or discomfort, dizziness and severe breathlessness, they are to stop or be stopped by the PTI/PFI, the test terminated and medical advice sought.
10. Upon finishing, report immediately to a PTI to have your heart rate recorded.

11. Results are to be calculated as soon as practicable using the following formula:

a.  $VO^2 \text{ max (ml.kg}^{-1}.\text{min}^{-1}) = 132.853 - 0.3877(\text{age}) - 0.0769(\text{weight}) - 3.2649(\text{walk time}) - 0.1565(\text{heart rate}) + 6.315(\text{gender})$

- (1) Age in years. This test is appropriate for adults who are 30-69 years of age.
- (2) Weight to the nearest pound.
- (3) Walk time, in minute and fractional minutes. E.g. 15min 30 sec = 15.5
- (4) Heart rate, in beats per minute. A heart rate of 120 bpm must be achieved.
- (5) Gender, coded as 1 for male and 0 for female.

## Element 2: Push Ups

12. **The set up:** Lying prone, abduct the arms to 90 degrees at the shoulder and elbow. Hands are then to be dragged back to where the elbows were situated in line with the shoulder. The hand position is not to be forward of the shoulder. The subject may then adjust their hand position within one hand width in or out. Hands are to remain in this position relative to the shoulder throughout the test. Fingers can face forward or may be rotated in or outwards. The hand may form a closed fist before the test commences. Feet are to be no wider than hip width apart.

13. **Repetitions:** Push-ups are to begin from the front support position. From this position the body must be lowered to a point where the upper arm is parallel to the ground<sup>9</sup>. The body must remain in a straight line throughout the repetition and not be bent at the hips or lower back.<sup>10</sup> The body is then pushed back up into the front support position to complete a repetition. The front support position must be achieved after every repetition. If the subject fails to complete a repetition that repetition will not count toward the total required. Repetitions must be continuous without rest during any phase of the movement.<sup>11</sup>

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<sup>9</sup> 'Upper arm' refers to the line of the humerus and its position in relation to the ground.

<sup>10</sup> If a subject is unable to achieve a complete repetition, due to any form of anatomical restriction then the Physical Training staff may direct the individual to flex forward at the hips whilst in the front support position to allow the repetitions to be completed. If necessary, the body may be elevated using solid structures, of the same size, placed beneath the subjects hands and feet.

<sup>11</sup> Rest' is defined as any pause longer than 2 seconds during any phase of the movement.

## Post test Procedure

### Result Processing

1. The following is the Post Test Procedure that should be carried out immediately after testing:
  - a. Results are to be transferred from the recording sheet to SAP HCM using an MD1440A. Electronic and hard copies saved.
  - b. SAP HCM will then update service member's information on ESS.
  - c. Test failure results are to be forwarded to test subject's FLTCDR for further action in accordance with current failure management policy.

## **Restricted Fitness Test Participant Brief**

*Check everybody's age is 30-69 years old on recording sheet.*

Is there any medical reason why anyone should not carry out the RNZAF Restricted Fitness Test (RFT) today? Are you F4 (medically excused)?

The RFT comprises two elements; first is the one mile walk, followed by push ups. Unless otherwise informed, all personnel who have registered to conduct the RFT today will carry out both elements of the test.

In the event you do not pass the RFT, you will see the physical training staff for advice on the failure management processes and, if necessary, arrange for remedial action.

You are required to wear a heart rate monitor for this test. *Get heart rate monitors on participants and ensure they are working.*

### One Mile Walk Brief

- In order to successfully complete this element of the test, participants are required to WALK only, one mile unassisted in a set time over a flat course.
- Subjects start from behind the start line. On the command 'GO' you will walk continuously a distance of 1 Mile (1600m) at a steady pace. (The timings device will be started when the last person crosses the line).
- Subjects are to follow the designated march track; this is (explain track).
- Subjects will be informed of a split time at the half way mark and should maintain a steady pace throughout the test.
- If the subject experiences any symptoms such as chest pain or discomfort, dizziness and severe breathlessness, they are to stop or be stopped by the PTI/PFI, the test terminated and medical advice sought.
- Upon finishing, report immediately to a PTI to have your heart rate recorded.
- The PTI's will calculate your walk test score after the push up element and advise you of your result.

*Warm Up: PTI to complete a warm up appropriate to the condition which has rendered the participants to do the RFT and appropriate to the test.*



## Push Up Brief & Demonstration

- Lie prone on the ground with your arms bent at 90 degrees (at the shoulder and elbow)
- Slide your hands back to where the elbows were situated, so they are in line with your shoulders (hands **not to be** forward of the shoulder)
- You may adjust your hand position to 1 hand width in or out
- Ensure your feet are no wider than hip width apart
- Start in the front support position
- Once you start the push ups, your hands and feet are not allowed to move.
- The body must remain in a straight line throughout the repetition and not be bent at the hips or lower back
- Lower your body until the upper arm is parallel to the ground
- Raise back up the front support position ensuring the arms are fully extended
- Perform the exercise continuously. If you pause and we tell to continue and if you don't, we'll cease the test.
- Is everyone aware of their test standards? (Advise those that do not know/ Have signs on walls of standards)
- Any questions?

*Warm Up: PTI to complete a mobility warm up.*

AGE GROUPS	MALE REPETITIONS	FEMALE REPETITIONS
16-29	25	13
30-39	20	11
40-49	14	8
50 +	11	7

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## **Intentionally Blank**

PART

3

Physical Education and Recreational Training

RNZAF

# RNZAF Swim Tests

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## Pre- Test Administration

*The following is the Pre-Test Administration for the RNZAF Swim Tests.*

1. The following tests are the approved RNZAF Swim Tests.
  - a. **Aircrew Survival Swim Test.** This test is used as an assessment of all Aircrew swimming ability and is the minimum standard to be achieved prior to graduating IOTC/Recruit course for direct entrant aircrew or Initial Aircrew Survival Course. Most personnel will complete this test prior to going on OASB. This tests acts as a qualification and has no expiry.
    - (1) Woodbourne SNCO should identify new recruits who are Aircrew branch and schedule training and testing into the recruit/IOTC syllabus as per Ref F.
  - b. **RNZAF Swim Test One.** This test is used as an assessment of basic swimming ability.
  - c. **RNZAF Swim Test Two.** This test is used as an assessment of swimming and life saving ability for service members required to supervise personnel completing closed water training.

## Medical Clearance

2. Individuals, who have any questions about their health status, including any concerns associated with primary coronary heart disease risk factors, must be cleared for testing by the Base Medical Officer prior to testing.
3. Primary coronary heart disease risk factors include:
  - a. High blood cholesterol
  - b. Sedentary individuals
  - c. Obesity
  - d. Hypertension
  - e. Diabetics

- f. Peripheral vascular disease
  - g. Smoking
  - h. Family history
4. Prior to the test PE&RT Staff will always ask if there are any medical reasons why participants should not attempt the test. It is the responsibility of the individual to inform PE&RT Staff if they have any medical concerns prior to the test commencing.
5. Participants must be medically cleared (F5) to attempt the test if they have been previously medically excused (F4).

## **Pre-test Preparation**

6. PE&RT staff should advise Recruits/IOTC students of pre test preparation leading into their scheduled test. Pre-test advice is also to be promulgated as a reoccurring order in BRO's and PE&RT notices.
7. Base personnel who are required to complete the any RNZAF Swim Tests will need to book in with their local Gymnasium. Advise personnel the following factors are likely to have a negative effect physiologically on the body during testing.
- a. Preliminary Rest. Strenuous exertion should be avoided on the day prior to testing and on the day of testing; no other strenuous activity should precede the test. Lack of sleep will also affect physical performance. Recommended sleep is 7-9 hours.
  - b. Diet. Ingestion of food results in a rise in both heart rate and ventilation for an hour or more, while a complete fast may result in low blood sugar levels during testing. Therefore a compromise is necessary and the subjects instructed to eat only a light meal at least an hour before testing.
  - c. Hydration. A well hydrated body will perform better physically. It is recommended to ingest 0.33L of water per kg of body weight daily. Some fluids are consumed in foods high in water content. Caffeine will dehydrate personnel and require more water intake.
  - d. Smoking. It is recommended that individuals refrain from smoking at least an hour prior to the test, as this will have a physiological effect on the body during testing.
  - e. Alcohol. All subjects should be asked to refrain from drinking alcohol one day prior to testing, as this will also affect the body physiologically during testing.



# Equipment

8. The following equipment is necessary for the effective conduct of the RNZAF swim tests. All test equipment must be checked for serviceability prior to the testing date.

- a. Aircrew Survival Swim Test.
  - (1) Stop watch
  - (2) Cones x 4
  - (3) Overalls for subjects
  - (4) Personal combat boots for subjects
  - (5) Running / Sports shoes for civilians on OASB.
  - (6) A partner to tow in correct dress.
  
- b. Swim Test One.
  - (1) Stop watch
  - (2) 2.5kg weight
  
- c. Swim Test Two.
  - (1) Stop Watch
  - (2) PTI or Swim test two partner.

## Officials

9. **One** NZDF Physical Training Instructor is required to conduct the testing and is defined as:

- a. NZDF military or ex military PTI/PFI or
- b. Civilian physical training employee who has completed PE&RT formalised fitness testing induction training under the PTI SNCO or DPERTS DAPTI course and deemed to have enough experience to be in charge of RNZAF Swim Tests, performing at proficiency level A.

10. For large groups of five or more, it is recommended to have more than one NZDF PTI to conduct testing to assist with counting and monitoring.

11. The officials will hold a current DFAC or civilian equivalent first aid certificate. In all instances, test officials are to have access to higher medical aid if required. DPTIs are qualified in RLSS Bronze Star and Medallion. Civilian PT staff without a minimum of RLSS Bronze Star qualification should have as a minimum a lifeguard or PTI in attendance.

## Testing Standards

12. Subjects must pass all elements consecutively to constitute a test pass.

## Test Procedure

1. Equipment check prior to test commencement.
2. Subjects fill in their personal details on the recording sheet.
3. All subjects being tested are to be questioned regarding medical status and swimming ability. 'Are there any medical reasons why you should not carry out this test today?' 'Is there anyone here who is an unconfident swimmer?'
4. Warm Up
  - a. Physical Training staff should conduct a warm up for all participants.
    - (1) Aerobic phase of 4 widths in the pool including 1 width of breaststroke/back towing kick.
    - (2) Mobility phase of arm circles (forward and back), trunk twists, leg swings and calf pumps.
5. Read out the test brief to the participants (Before each element if appropriate).
6. Commence testing and record results.
7. Cool Down
  - a. Where possible/practicable, PT Staff should provide supervision of a cool down routine.

## Test Protocol

### Aircrew Survival Swim Test

*The following is the Test Protocol for the Aircrew Survival Swim Test.*

1. All subjects must wear overalls (zipped up with sleeve rolled down) and combat boots for the duration of the test.
  - a. Civilians on OSAB are to wear running / sport shoes in place of combat boots.
2. Subjects are not to wear flippers, buoyancy aids (including inflating overalls with air) or other swimming aids i.e. goggles in completing this test.
3. This test comprises of 3 elements, a swim, treading and rescue tow. You will receive a brief before each element.
4. Subjects will be permitted a 3 minute rest in between each element of the test.

#### **Swimming Distance.**

5. Starting from the deep end of the pool either in the pool or from a dive start, subjects must swim one length (30 metres) continuously using breast stroke or back towing kick. Subjects must then continue using any other stroke for four lengths (120 metres) continuously. There is no time limit for this test but the subject must not;
  - a. Stay at the end of the pool after each length longer than 3 seconds. The subject may push off the end of the pool.
  - b. Use the side of the pool to assist in completing the lengths.
  - c. Touch the bottom of the pool prior to completing each length.

Three Minute Rest

## **Tread Water.**

6. At the deep end of the pool the subject is to **tread water** for a period of 15 minutes. The subject must stay within proximity of a three metre radius. The body is to remain vertical or slightly forward, and keep their airways (mouth and nose) above the water. The subject must not;

- a. Fully submerged one or both airways more than three times.
- b. Use the side of the pool to assist in completing the time or touch the bottom of the pool.

### Three Minute Rest

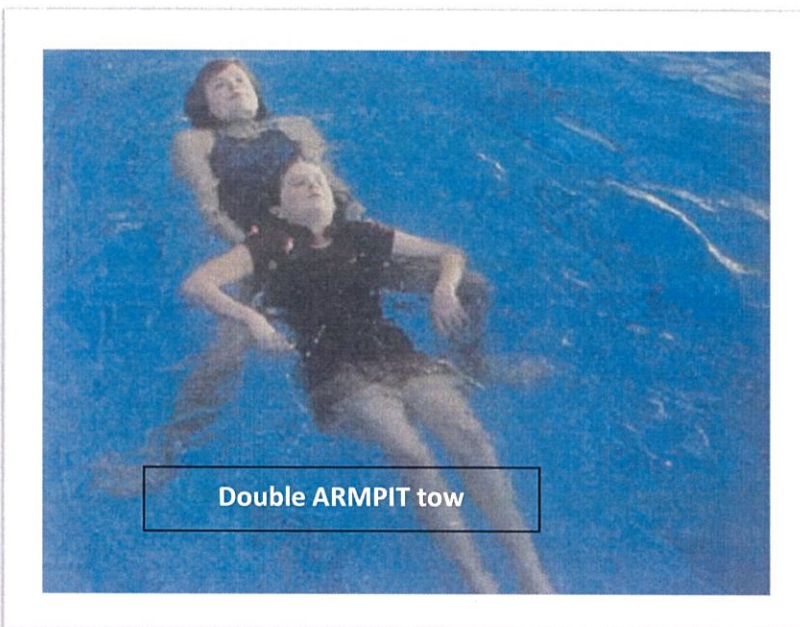
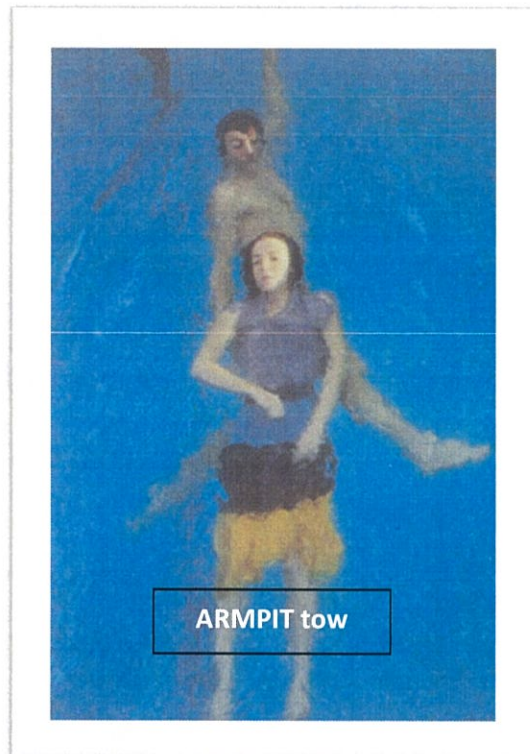
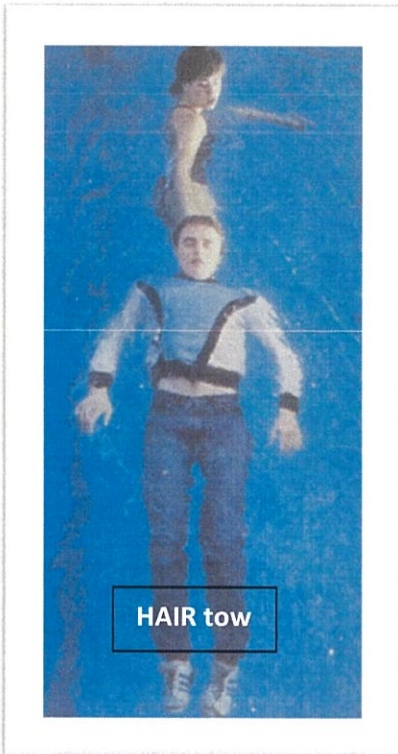
## **Rescue Tow**

7. The subject is to swim 20 metres to an 'unconscious patient' and using any recognised rescue grip, tow the subject 20 metres. The subject must not;

- a. Receive any assistance from the patient. The patient is 'unconscious' and is to have feet together and hands crossed the chest to avoid assisting.
- b. Fully submerge the victim's airways (mouth and/or nose) more than twice.
- c. Touch the bottom of the pool or use the side of the pool during the tow.

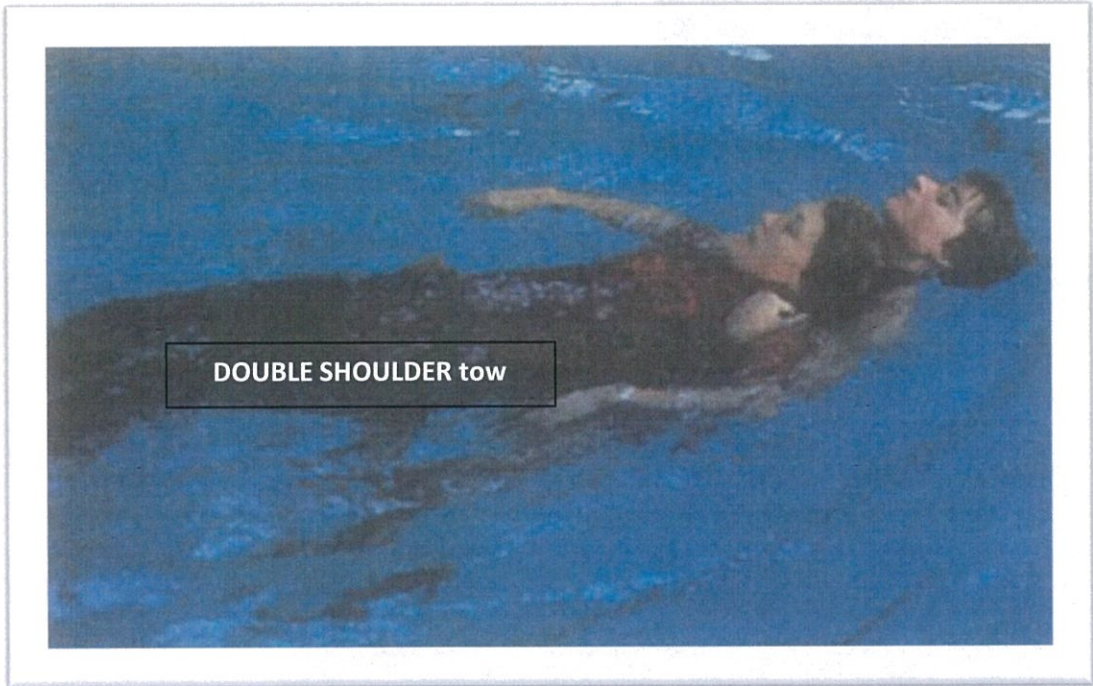
## Recognised Rescue Grips (RLSS)

Hair Tow, Armpit Tow, Double Armpit Tow, Clothing Tow, Double Shoulder Tow, Cross Chest Tow, Head Tow.

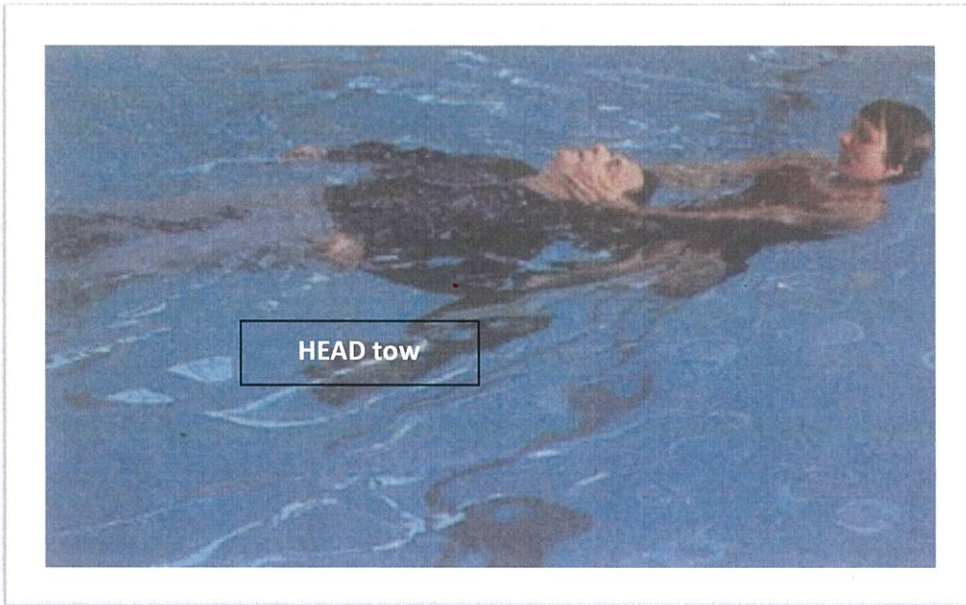
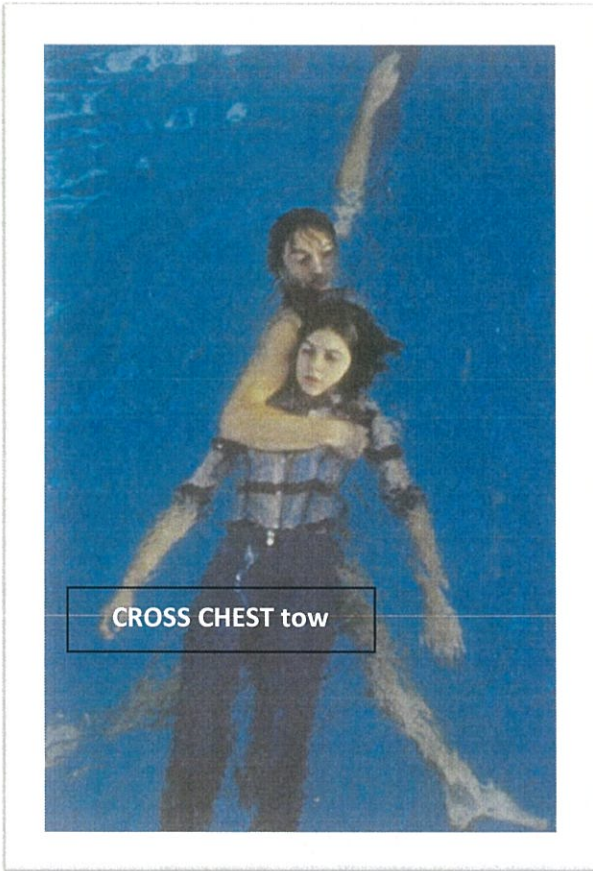




CLOTHING tow



DOUBLE SHOULDER tow





## Swim Test One

*The following is the Test Protocol for RNZAF Swim Test One.*

1. All subjects must wear regular swimming attire. Subjects are not to wear flippers, buoyancy aids or other swimming aids i.e. goggles in completing this test.
2. This test comprises of 3 elements, a swim, treading and duck dive. You will receive a brief before each element.
3. Subjects will be permitted a 3 minute rest in between each element of the test.

### Swimming Distance

4. Starting from the deep end of the pool either in the pool or from a dive start, subjects must swim two lengths (30 metres x 2) continuously of any one stroke. There is no time limit for this test but the subject must not:
  - a. Stay at the end of the pool after 1 length longer than 3 seconds or touch the bottom of the pool prior to completing each length.
  - b. Use the side of the pool to assist in completing the lengths.

### Three Minute Rest

### Tread Water

5. At the deep end of the pool the subject is to tread water for a period of **5 minutes**. The subject must stay within a proximity of a three metre radius. The body is to remain vertical or slightly forward, and must keep their airways (mouth and nose) above the water. The subject must not;
  - a. Fully submerged one or both airways more than three times.
  - b. Use the side of the pool to assist in completing the time or touch the bottom of the pool.

### Three Minute Rest

### Duck Dive

6. The subject must start in the water on the side of the pool and duck dive down to retrieve a 2.5kg weight on the bottom of the pool at the deep end. The test is completed when the weight and the subjects head are both out of the water. The subject must not;
  - a. Push off the side of the pool to assist in the duck dive.

## Swim Test Two

*The following is the Test Protocol for RNZAF Swim Test Two.*

1. All subjects must wear regular swimming attire. Subjects are not to wear flippers, buoyancy aids or other swimming aids i.e. goggles in completing this test.
2. This test comprises of 4 elements, a swim, treading and two rescue tows. You will receive a brief before each element.
3. Subjects will be permitted a 3 minute rest in between each element of the test.

### Swimming Distance

4. Starting from the deep end of the pool either in the pool or from a dive start, subjects must swim 14 lengths (400 metres) continuously of any one recognised stroke. The time limit for the distance is 13:00.
5. The subject must not;
  - a. Stay at the end of the pool after each length longer than 10 seconds.
  - b. Use the side of the pool to assist in completing the lengths.
  - c. Touch the bottom of the pool prior to completing each length.

Three Minute Rest

### Tread Water

6. At the deep end of the pool the subject is to tread water for a period of 10 minutes. The subject must stay within a proximity of a three metre radius. The body is to remain vertical or slightly forward, and must keep their airways (mouth and nose) above the water. The subject must not;
  - a. Fully submerged one or both airways more than three times.
  - b. Use the side of the pool to assist in completing the time or touch the bottom of the pool.

Three Minute Rest

## Rescue

7. The following must be adhered to during Rescue One and Two;
  - a. The subjects head must not go under the water during the shallow water entry.
  - b. The subject may not use the side of the pool to assist in completing the rescues.
  - c. The subject may not touch the bottom of the pool prior to completing the rescue tows.

### Rescue One

8. The following activities must be carried out in the following order;
  - a. Shallow water entry into the pool.
  - b. Swim 20 metres to a patient using any recognised stroke.
  - c. Carry out a release from a wrist hold.
  - d. Tow the patient 20 metres using back life saving kick to the shallow end of the pool.
  - e. Carry out shallow water EAR for a period of 30 seconds.

### Rescue Two

9. The following activities must be carried out in the following order;
  - a. Shallow Dive entry into the pool keeping the head above water.
  - b. Swim 20 metres to a patient using any recognised stroke.
  - c. Carry out a release from a neck hold.
  - d. Tow the patient to the side of the pool.
  - e. Carry out deep water EAR using the side of the pool.
  - f. Unassisted remove an unconscious patient from the water in the deep end.

## Post test Procedure

### Result Processing

1. The following is the Post Test Procedure that should be carried out immediately after testing:
  - a. Results of the Aircrew Survival Swim Test are to be transferred from the recording sheet to SAP HCM using an MD1440B. Electronic and hard copies saved.
  - b. SAP HCM will then update service member's information on ESS.
  - c. Test failure results are to be forwarded to test subject's FLTCDR for further action. Arrange appropriate remedial training and reschedule a testing date.
2. RNZAF Swim Test One and Two are not entered on SAP HCM. They are assessments and not official tests. Results should be forwarded to requesting unit's command. Hard copies are to be saved.



## RNZAF Aircrew Survival Swim Test Recording Sheet

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_ **PTI/PFI:** \_\_\_\_\_

Rank	Int. NAME	Service no.	Swim					15 min Tread		20m Rescue	Result		
			1	2	3	4	5	Time	Pass/Fail	Pass/Fail			

**NOTE:** For OASB, only results for CFRs are entered onto SAP HCM due to personnel number requirement. Selected DE's will complete the test on Recruit or IOTC which will be entered on SAP HCM.



## RNZAF Swim Test One Recording Sheet

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_ **PTI/PFI:** \_\_\_\_\_

Rank	Int. NAME	Service no.	Swim 2 lengths	Tread 5 min Pass/Fail	Duck Dive Pass/Fail	Result



## RNZAF Swim Test Two Recording Sheet

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_ **PTI/PFI:** \_\_\_\_\_

Rank	Int. NAME	Service no.	Swim														Tread Pass/Fail	Rescue 1&2		Result					
			14 Lengths															Pass/Fail	R1		R2				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14						Time			



## **RNZAF Fitness Testing Protocols**