

**Northumberland
Fire and Rescue Service**



Service Policy No.HR-PO-05

Physical Training Policy

Document Overview

The following areas are covered by this document:

Introduction	Method of Delivery / Fitness Provision
Roles and Responsibilities	Quality Assurance and Monitoring
Fitness Assessments	Chester Walk Test
Chester Step Test	

Document Control

Version	Date	Author	Reasons for Change
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Sign-Off List

Position
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Approved By (to be completed by author)

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1. INTRODUCTION

- 1.1 Northumberland Fire and Rescue Service aims to protect the health, safety and welfare of its staff to ensure the Service has effective prevention, protection, intervention and response arrangements to protect the communities within Northumberland. To this end physical training was introduced in order to increase and maintain the fitness levels, and health and wellbeing of the entire workforce in line with the Thematic Review of fitness and health in the Fire Service (Fit for Duty – February 2000).
- 1.2 It must be acknowledged that the correct levels of physical fitness can play an important role in reducing ill-health, injuries and accidents and therefore reduce the levels of sickness absence.
- 1.3 Although it is important to promote health and wellbeing across all sections of the workforce, specific requirements are necessary for operational staff conditioned to the whole-time and retained duty systems due to the physical nature of their work and the criticality of being fit and able to undertake their role in a demanding environment.
- 1.4 As such this policy defines the arrangements for physical training across the varying sections and roles of Northumberland Fire & Rescue Service as a support mechanism for staff in fulfilling their duty to be fit and healthy for the role they are carrying out as per the Health and Safety Act 1974 s8 and the Fire Service National Occupational Standards.

2. METHOD OF DELIVERY / FITNESS PROVISION

- 2.1 To facilitate the support of staff undertaking physical training, appropriate to their role, a team of three Physical Training Coordinators (PTC's) has been appointed to coordinate physical training across the Service.
- 2.2 To supplement the Physical Training Team, specific Physical Training Instructors (PTI's) have been appointed to coordinate physical training activities within their own area of operation
- 2.3 The responsibility for the overall coordination of physical training across Northumberland Fire & Rescue Service lies within the Human Resources / Learning and Development Department.
- 2.4 The Occupational Health Department will play a key role in providing advice and guidance.
- 2.5 The table below details the method of delivery, specific arrangements and facilities provided to each of the identified sections of the workforce.

Group	Physical Training Support	Time	Facilities Provided
Wholetime & Day Staffing Duty System – Station Based	1 PT(i) per Watch	1 hour per shift to be allocated to PT activities	Gym facilities provided on station
<ul style="list-style-type: none"> PT(i)s attached to teams conditioned to the above duty systems will conduct structured physical training activities on a shift by shift basis during on-duty periods. All staff must be planned into the programme. Where a team does not currently have an appointed PT(i), then physical training activities will be planned by the team of PTC's. The team will plan the daily activities of the Watch personnel. The Watch Manager will then be responsible for ensuring that the programme is followed. It is the responsibility of the Watch Manager to notify the PTC of any watch PT(i) shortfall. 			
Retained Duty System – Station Based	1 PT(i) per station	PT to be carried out in own time with support from PT(i)	Gym facilities provided on station
<ul style="list-style-type: none"> PT(i)s attached to Retained Stations will conduct structured physical training during their stand-by periods on a voluntary basis. Where a Retained Station does not currently have an appointed PT(i), then physical training activities will be planned by the team of PTC's. The team will plan and advise on fitness issues for the staff. 			
Day Duty Staff – HQ Based	PTC Team	PT to be carried out in own time.	Gym facilities provided at HQ site
Flexi Duty Officers	PTC Team	PT to be carried out in own time.	Gym facilities provided at HQ site
Fire Control	PTC Team	PT to be carried out in own time.	Gym facilities provided at HQ site
Support Staff – HQ Based	PTC Team	PT to be carried out in own time.	Gym facilities provided at HQ site
Support Staff – Station Based	PT(i)'s on station	PT to be carried out in own time.	Gym facilities provided at station.
<ul style="list-style-type: none"> The PTC team will coordinate physical training activities for all HQ, Fire Control and Station based support staff. 			

3 ROLES AND RESPONSIBILITIES

3.1 Managers responsibilities include:

- Maintaining their own physical fitness inside and outside of work time.
- Recognising when staff are exhibiting difficulties in carrying out their role due to low levels of physical fitness and taking the appropriate action.
- Ensuring the time and resources available to staff under their remit are utilised appropriately and fully.

3.2 Employees responsibilities include:

- Maintaining their own physical fitness inside and outside of work time.
- Utilising the resources available to maintain an appropriate level of physical fitness appropriate to their role.
- Informing their line manager of any difficulties arising from, or preventing participation in physical training.
- Wear suitable PT kit and training shoes in good condition when carrying out PT.

3.4 Physical Training Coordinators responsibilities include:

- Coordinating all physical training activities across the Service.
- Supporting those groups without direct access to a specific Physical Training Instructor.
- Liaison with Occupational Health to create development plans for individuals to improve levels of fitness
- Promotion of health and fitness across the Service.
- Risks assessments of physical training activities and equipment.
- Quality assurance of physical training activities.
- To report on physical training activities and their impact on the Service.

3.5 Physical Training Instructors responsibilities include:

- Planning, delivering and coordinating physical training activities within their own team/ watch / station.
- Maintaining appropriate records and monitoring physical fitness levels.
- Ensuring appropriate inductions are carried out and recorded.
- Ensuring Chester Step Tests are carried out in line with Service Policy.

4. QUALITY ASSURANCE AND MONITORING

4.1 The PTC team and all PT(i)s must successfully complete an appropriate physical training instructor programme to ensure they have the knowledge and skill necessary to deliver physical training.

4.2 PT(i)'s must attend programmed refresher training update sessions in order to maintain their competencies.

- 4.3 The PTC team will carry out 6 monthly quality assurance audits on physical training activities to ensure consistency of delivery and performance.
- 4.4 The PTC team in liaison with PT(i)'s will monitor and audit the programme of fitness assessments in line with Service Policy
- 4.5 All PT(i)s will be required to sign an agreement ensuring agreed fitness programmes / sessions for their stations are implemented.

5. FITNESS ASSESSMENTS

5.1 Types of Assessments

- 5.1.1 NFRS recognise that there are various methods in which to assess staff fitness levels. In order to maintain a consistent approach the service has selected a suite of assessments that can be used, they include the Chester Walk Test, Chester Step Test, cardiopulmonary exercise testing machine
- 5.1.2 The assessments will be used to identify VO2 Max levels which will provide NFRS an aerobic fitness level for individuals.
- 5.1.3 The level of fitness required will be taken from the current guidance levels provided by Firefit, the British Fire Service's guidance body for fitness and wellbeing.

5.2 Chester Walk Test

- 5.2.1 The Chester Walk Test will form the ***primary test*** for the on-going examination of fitness within NFRS.
- 5.2.2 Details of the Chester Walk Test are contained within appendix A.

5.3 Chester Step Test

- 5.3.1 The Chester Step Test may be used by qualified assessors to administer the test for levels of fitness.
- 5.3.2 This test should be used when assessors are unable to conduct the Chester Walk Test or when advised by either Occupational Health or the PTC team.
- 5.3.3 Details of the Chester Step Test are contained within appendix B

5.4 Cardiopulmonary exercise testing machine

- 5.4.1 Where a more accurate level of fitness is required NFRS will use a gas analysis examination using a cardiopulmonary test currently the gold standard of fire testing within the UK fire service.

5.4.2 This test will be conducted for all new employees of NFRS at point of entry. The test may also be conducted on individuals when advised by the Occupational Health Advisor.

6.0 **UNSATISFACTORY TEST RESULTS - Time periods for improvements to fitness standards**

6.1 Any case which indicates health and fitness implications should be referred to the Service Medical Adviser by the OHA who will also advise the Line Manager, HR and the Service PT(i) Co-ordinator of that referral after consulting the individual concerned.

6.2 For those who fall below the accepted fitness standards, they will have a further 3 attempts at 6 week intervals (but all within 6 months) to successfully pass the fitness tests. All the fitness tests will be carried out by the Occupational Health Adviser.

6.3 The programme will be as follows:-

6.3.1 Following initial failure - Fitness Development Plan to be put in place (in liaison with PT(i) Co-Ordinator)

6.3.2 Second Failure – Continue to monitor.

6.3.3 Third Failure - where there has been no significant improvement in fitness, the individual should be advised that following another failure at fourth re-test then the situation will be referred to DGAT.

6.3.4 Fourth failure– refer to Disciplinary and Grievance Advice Team (DGAT).

8.0 **WHOLE-TIME TRANSFEREES**

8.1 Any individual transferring into NFRS will be required to undergo a fitness examination.

Appendix A**CHESTER WALK TEST****DESCRIPTION**

- 1.1 The Chester Walk Test has been introduced as the primary fitness test for NFRS personnel.
- 1.2 Where it is not possible or feasible to measure oxygen uptake directly, reasonable estimates can still be made during steady state sub maximal exercise. The Chester Walk Test provides an alternative method of predicting aerobic capacity from performance on an incremental bout of exercise, walking at 6.2 km/hr (3.9 mph) on a treadmill. Subjects able to complete the full 12 minute test protocol will have achieved the recommended minimum fitness standard i.e. a level of 42 mls o/kg/min.
- 1.3 The regular testing of aerobic capacity provides a useful incentive for individuals to maintain a fitness regime. The monitoring of these tests by the Service PT Coordinator and the OHA is to safeguard the Health, Safety and Welfare of all operational personnel.
- 1.4 Advice is available from PT(i)'s, Service PT Coordinator or the OHA.

2.0 ADMINISTRATION

- 2.1 This test will primarily be carried out by the Watch PT(i), if unavailable then by a PT Coordinating team member. Results should be passed by the PT(i) to a PT Coordinating team member
- 2.2 The OHA will monitor the scheme and interpretation of results and will maintain confidential records.
- 2.3 Test results will be recorded by PT Coordinating team.
- 2.4 The results of the tests are CONFIDENTIAL and will only be viewed by and available to the OHA, PT(i) and the individual.

3.0 TEST PROTOCOL

- 3.1 The subject should be familiar with walking briskly on a treadmill and to performing exhaustive work. Following a gentle loosening and limbering warm up, subjects are then asked to walk on the treadmill at 0% gradient being increased to 6.2 km/hr, when the test is commenced. This is a 12 minute test, walking at the constant pace of 6.2 km/hr. commencing at 0%, the gradient is

increased by 3% every 2 minutes. After 12 minutes, the subject will have reached the required fitness standard of 42 mls o/kg/min.

- 3.2 This may be a maximum test and care should be taken by the Examiner to ensure that if the subject is unable to keep up the work rate and becomes overly distressed, the test should be stopped and the subject should be allowed to cool down. The examiner should control the safety of the test by the use of the 'Rate of Perceived Exertion Scale'.
- 3.3 Please note the individual must walk unaided and should not be allowed to hold onto the treadmill or any heart measurement device.

Table 1

Time (mins)	2	4	6	8	10	12
Treadmill gradient	0%	3%	6%	9%	12%	15%
VO2 (mls o/kg/min)	14	19	25	31	36	42

4.0 **EQUIPMENT**

4.1 The following items are required to conduct the Chester Walk Test:-

- Treadmill (with incline facility)
- A quiet well ventilated room between 18-20°C

4.2 Individuals shall be tested separately in confidence.

5.0 **PRE-TEST CONDITIONS**

5.1 The test coordinator must ensure that the subject:-

- i) Is wearing PT kit and training shoes, in good condition.
- ii) The participant should be informed not to have either smoked, eaten, drunk tea or coffee for two hours, preferably, before the test. If so, this information should be recorded on the Health Questionnaire prior to the test being taken.
- iii) Has not taken part in vigorous exercise prior to the test.
- iv) If the participant is recovering from an injury, illness or is suffering from a cold. Then the test should be re arranged for the nearest suitable date.

6.0 **UNSATISFACTORY TEST RESULTS**

6.1 Any case which indicates health and fitness implications these should be referred to the Service Medical Advisor by the OHA who will also advise the

relevant Line Manager, HR and the Service PTI Co-ordinator of that referral after consulting the individual concerned.

- 6.4 For those unable to complete all 6 stages, aerobic capacity may be estimated from the time and gradient that the subject was able to fully complete (e.g. if the subject was able to walk for only 10 minutes before having to stop the test, their aerobic capacity may be estimated from the table at 36 mls/ o/kg/min).
- 6.3 For individuals who fail to complete all 6 stages of the test but who have an estimated result of 36 mls/o/kg/min (i.e. completed 5 stages). They will have a further 3 attempts at 6 week intervals to successfully (within 6 months) complete the test. If this is not achieved then DGAT shall be informed.
- 6.4 The test has also been designed specifically to identify individuals capable of reaching the required National fitness standard who are either on Beta Blockers or have physical condition that has been identified via the Occupational Health Advisor

Appendix B**CHESTER STEP TEST****DESCRIPTION**

- 1.1 The Chester Step Test has been introduced as one of a potential suite of tests which will confirm the levels of fitness for NFRS personnel.
- 1.2 A far more reliable way of gauging your fitness is to measure your heart's ability to recover from exertion. The step test is a sub maximal test which requires you to step onto, and off a 30 cm/12" step (a standard gym bench), at a rate set by a metronome disc, sufficient to elicit a heart rate of around 80% max heart rate at a moderate level of exertion.
- 1.3 It is a multi-staged test so every 2 minutes there is an increase in the rate of the step. Exercise heart rates are then plotted on a graph and aerobic capacity and fitness rating may be calculated.
- 1.4 When the audio for the Chester Step Test is turned on you will be encouraged to commence stepping at the appropriate stepping rate, and will continue to step for the next 2 minutes.
- 1.5 The regular testing of aerobic capacity provides a useful incentive for individuals to maintain a fitness regime. The monitoring of these tests by the Service PT Coordinator and the OHA is to safeguard the Health, Safety and Welfare of all operational personnel.
- 1.5 Advice is available from PT(i)'s, Service PT Coordinator or the OHA.

2.0 ADMINISTRATION

- 2.1 This test will primarily be carried out by the Watch PT(i) if unavailable then by a PT Coordinating team member. Results should be passed by the PT(i) to a PT Coordinating team member
- 2.2 The OHA will monitor the scheme and interpretation of results and will maintain confidential records.
- 2.3 Test results will be recorded by PT Coordinating team.
- 2.4 The results of the tests are CONFIDENTIAL and will only be viewed by and available to the OHA, PT(i) and the individual.

3.0 TEST PROTOCOL

- 3.1 Your maximum heart rate will be calculated (220 – age) and then 80% of your maximum heart rate. These values will be entered in the appropriate box on the Chester Step Test Record sheet and two horizontal lines will be drawn on the graph to represent these values.
- 3.2 A heart rate monitor will be attached to you, and you will be told what will be required of you during the test, followed by a brief demonstration of the initial stepping rate (15 steps /min).
- 3.3 After the first 2 minutes of stepping (stage 1) your heart rate will be recorded during the last few seconds of stepping. (You may also be asked to indicate your rating of perceived exertion (RPE) from a chart numbered 6 to 20, low scores being very, very light exertion and high scores being very, very hard exertion).
- 3.4 Providing your heart rate is below 80% of your maximum heart rate and the RPE is below 14, you'll be asked to continue stepping at the slightly faster rate in stage 2 (20 steps/min).
- 3.5 After another 2 minutes of stepping your heart rate will be recorded during the last few seconds of stage 2, and again you may be asked to indicate your RPE from the chart provided.
- 3.6 Providing your heart rate is below 80% of your maximum heart rate and the RPE is below 14, you'll be asked to continue stepping at the slightly faster rate in stage 3 (25 steps/min).
- 3.7 The test will continue until either you report an RPE greater than 14 and/or an exercise heart rate greater than 80% of your maximum heart rate (stage 4 = 30 steps/min, stage 5 = 35 steps/min).
- 3.8 Your results will then be plotted and a decision will be made by the Occupational Health Advisor as to whether or not you pass the criteria for the step test.
- 3.9 Please note the step test calculator if available can be used to calculate fitness results.
- 4.0 **EQUIPMENT**
- 4.1 Equipment needed:
- 30cm /12" Step.
 - Heart Rate Monitor.
 - Chester Step Test CD
 - CD player.
- 4.2 Individuals shall be tested separately in confidence.

5.0 PRE-TEST CONDITIONS

5.1 The tester must ensure that the subject:-

- i) Is wearing PT kit and training shoes, in good condition.
- ii) The participant should be informed not to have either smoked, eaten, drunk tea or coffee for two hours, preferably, before the test. If so, this information should be recorded on the Health Questionnaire prior to the test being taken.
- iii) Has not taken part in vigorous exercise prior to the test.
- iv) If the participant is recovering from an injury, illness or is suffering from a cold. Then the test should be re arranged for the nearest suitable date.

6.0 UNSATISFACTORY TEST RESULTS

6.1 Any case which indicates health and fitness implications these should be referred to the Brigade Medical Officer by the OHA who will also advise the Deputy Chief Officer, Head of Community Protection & Service PT(i) Co-ordinator of that referral after consulting the individual concerned.

6.2 Any negative test result of a firefighter i.e. anyone who fails to attain the 42 VO2 max figure that is on duty when they take part in the test should be notified to the Duty Group Manager as well as their immediate line manager.

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