FIREFIGHTER FITNESS JOINT WORKING GROUP

Firefighter Fitness Best Practice Guide

2016

Home Office

National Joint Council
for Local Authority Fire and Rescue Services

FOREWORD

The Department for Communities and Local Government and subsequently Home Office and the National Joint Council for Local Authority Fire & Rescue Services (the Secretariat comprising the LGA and the FBU) have been pleased to work together on the issue of the fitness of firefighters to develop this best practice guide.

The maintenance of firefighter fitness to undertake their work is a matter of significant importance to employers and employees alike and it is hoped that this best practice guide provides both useful guidance and reassurance to all.

Members of the Strategic Group would also wish to acknowledge input from other interested parties, namely, the Chief Fire Officers Association, the Fire Officers Association and the Retained Firefighters' Union in developing this best practice guide through a Joint Working Group involving all the above named parties.

All parties were mindful of the following terms of reference previously agreed by DCLG and the NJC:

- To consider aspects of the role that have been identified as the most physically intensive and how they impact upon an individual's ability and fitness to carry out their role over time;
- To examine future options and trends in respect of continued employment and develop a best practice guide.

It is recognised that the role of a firefighter continues to evolve. Whilst fighting fires remains a major activity, there is also an emphasis on community-based, prevention activities, and dealing with special service incidents like flooding and road traffic accidents.

In developing this guide the Joint Working Group considered the aspects of the role of firefighters which are the most physically intensive; sought to identify external drivers affecting the role of firefighters; and how new technology and new ways of working may impact upon the physical demands and consequent fitness requirements for firefighters.

The Joint Working Group sought to create a best practice guide which includes:

- approaches to address and mitigate aspects of the firefighter role that are the most physically demanding;
- identifying how best fire and rescue services could provide occupational fitness support to firefighters throughout their career;
- identifying actions that employees should take to maintain their fitness, health and well-being;
- identifying best practice within the fire and rescue service which supports firefighters in maintaining their fitness and meeting the obligation of fire and rescue services to provide appropriate training to their employees to reduce the potential for work-related injuries; and
- ensuring that recommendations do not unfairly discriminate against any firefighter/ groups of firefighters.

The Joint Working Group has been mindful of work that has taken place elsewhere such as the recent studies into firefighter fitness, including:

- that prepared in relation to the Normal Pension Age for Firefighters (Dr Williams); and
- the on-going FireFit project.

In researching, examining and compiling the work and practices that are taking place in FRSs around the country the group was also fortunate to have had the interest and expertise of a number of experts and academics in the area of fitness and have had the opportunity to question and draw out what it saw as pertinent information.

It is acknowledged that it is unlikely that there would be any disagreement between employers and employees that the fitness of individuals is paramount to effectively and safely carrying out the role of firefighter. It is hoped that this best practice guide demonstrates ways of maintaining firefighter fitness and that it reinforces the importance for all concerned, both employer and firefighter, to support and embrace the initiative.

The best practice guide could not have been produced without the willing participation of all of the fire and rescue services in the UK, who unanimously and promptly responded to the survey we conducted for this project and who enthusiastically put forward their policies or draft policies for the furthering of this guide. It should be noted that the FRSs featured within the guide have been identified from the information provided as best practice but we are pleased to recognise that there were many examples of good practice within FRSs not referred to by name within the guide. That information will also be shared via the LGA's website.

This best practice guide is in many ways a snapshot in time of both current practice and what is known in a physiological sense about fitness in the firefighting activity. This best practice guide should therefore be viewed as a document to build upon the good and best practice taking place and in light of any innovative emerging practices.

Whilst the NJC is a UK-wide body involving all fire and rescue services, the Home Office (and prior to the machinery of Government change in January, DCLG) is responsible for fire and rescue policy in England only. For the avoidance of doubt, the Scottish Government, Welsh Government and the Northern Ireland Assembly have not been involved in this work.

We are pleased to present this best practice guide to Fire and Rescue Services.

National Joint Council for Local Authority Fire and Rescue Services

Acknowledgements

1. Presentations to the Joint Working Group from:
   - Dr James Bilzon University of Bath
   - Dr Sam Blacker University of Chichester
   - Dr David Wilkinson University of Chichester

2. Presentations to the Joint Working Group from Fire & Rescue services:
   - Kent FRS
   - Greater Manchester FRS

3. The *FireFit* Steering Group

4. Dr. Williams's review report on the Normal Pension Age for Firefighters - A review for the Firefighters' Pension Committee - December 2012.

5. Every Fire and Rescue Services in the UK informed the content of his guide by their responses to the survey conducted by the Joint Working Group.

6. Fire and Rescue Services who welcomed members of the Strategy Group to observe *FireFit* drill-ground surrogate testing sessions:
   - Greater Manchester
   - Buckinghamshire

7. Fire Brigades Union National Women's Committee

8. Women in the Fire Service.

References to the following organisations:

- Advisory, Conciliation and Arbitration Service (Acas)
- National Institute for Health and Care Institute
- Public Health England
- National Health Service
- British Heart Foundation
- American College of Sports Medicine Health & Fitness Journal

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Section 1 - Introduction

1. Introduction

This guide has been produced by the Home Office/NJC Fitness Joint Working Group for the purpose of providing best practice on the management of fitness for operational firefighters. The Working Group endorsed some key principles to underpin best practice, which are set out below.

These principles are designed to enable all fire and rescue authorities (FRAs) to have processes in place to assist firefighters in maintaining the necessary physical fitness levels to undertake their role until normal pensionable age. They provide access to support and assistance and acknowledge that there is shared responsibility between the employer and the employee.

a) Firefighting is a physically demanding occupation and it is essential that firefighters have sufficient levels of cardiorespiratory fitness, strength and muscular endurance to enable them to carry out their tasks safely and effectively. As such, this requires higher levels of fitness than most other occupations and therefore the NJC rolemaps set out a specific requirement for firefighters to maintain appropriate levels of personal fitness.

b) A fitness standard adopted by a FRA must reflect the occupational demands of the firefighter role. Therefore, a process of fitness assessment and development is required in each FRA to ensure that firefighters are assisted in maintaining the personal fitness required to safely and effectively perform their role.

c) It is recognised that fitness levels may decline with age though this may be mitigated by fitness training and maintaining a healthy lifestyle.

- Authorities will need to provide individual firefighters with support to maintain their levels of fitness for the duration of their career.
- A firefighter's responsibility for maintaining their own fitness is set out in the NJC rolemap.

In producing this best practice document the JWG has endeavoured to take into account each of the following:

- approaches to address and mitigate aspects of the firefighter role that are the most physically demanding
- identifying how best fire and rescue services could provide occupational fitness support to firefighters throughout their career,
- identifying actions that employees should take to maintain their fitness, health and well-being

- identifying examples within the fire and rescue service which support firefighters in maintaining their fitness and meeting the obligation of fire and rescue services to reduce the potential for work-related injuries.
- ensuring that recommendations within the best practice guide on fitness issues have been effectively evaluated to ensure they do not unfairly discriminate against any firefighter/ groups of firefighters

In formulating this best practice document the JWG has been mindful of work that has been undertaken elsewhere which included evidence relating to the need for a safe occupational fitness standard for firefighters e.g. the work of FireFit; the report Occupational Fitness Standards for Operational UK Fire & Rescue Services Personnel by Siddall, Stokes & Bilzon; the [1]*Williams Review*.

Whilst by its nature this best practice document is not mandatory, a FRA would be expected to take into account:

- the conclusions when considering its safe occupational fitness requirements for firefighters; and
- the evidence currently available through the work indicated above and the need to be satisfied that its fitness arrangements meet safe occupational fitness requirements for firefighters.

FRAs will recognise there may be cases that are being progressed using this guidance that subsequently reveal a condition which could lead to the ill health retirement process. It is recognised that there are different routes for ill health retirement which are outlined in the firefighter pension scheme regulations and are not affected by this best practice guidance.

[1] Williams's review his report on the Normal Pension Age for Firefighters - A review for the Firefighters' Pension Committee - December 2012.

Section 2 - Managing physical fitness

2.1 Introduction

Managing fitness on both an individual and organisational level is key to ensuring a safe and healthy firefighter workforce. The Joint Working Group recognised the contractual commitment for a firefighter to be responsible for their own performance (including personal health and fitness). It also recognised that fire authorities understand the benefits of a healthy workforce and will wish to support firefighters in maintaining their fitness to do the job. Fire authorities will also be aware of their duty of care to their employees in terms of health and safety requirements.

The type of support may vary from one fire authority to another and this section sets out areas of good practice identified through a survey undertaken of fire authorities as part of the work of this group. Other sources include information such as the work promoted by the Local Government Association in respect of local authority staff and work undertaken by the National Health Service to encourage healthy workers.

By working together it is expected that both individual firefighters and services will be in the best position possible.

2.2 Physical fitness at point of recruitment

Although this area was not specifically covered in the JWG terms of reference it is essential that fire authorities ensure that selected recruits are able to cope with the requirements of the firefighter role including physical demands. Applicants should be made aware that those with a higher degree of fitness are more likely to be able to maintain the required level of fitness for the duration of their career. This is in line with the second recommendation contained in *Dr Tony Williams' review.*

2.3 Maintaining physical fitness

As highlighted in the introduction, individual firefighters are expected to maintain their fitness to undertake the role and FRAs have a responsibility to provide appropriate support to assist firefighters in achieving this. Therefore it is important that all parties consider the best exercise and lifestyle choices such as diet, which may support that position.

Maintaining levels of physical fitness are critical to the health & safety of operational firefighters. Engaging in regular physical activity and a healthy diet are essential for good health, and contribute to positive well-being. Adults who are physically active have 20-30% reduced risk of premature death, and up to 50% reduced risk of developing the major chronic diseases such as coronary heart disease, stroke, diabetes and cancers. For firefighters, maintaining a physically active lifestyle is also important to help ensure role related levels of physical fitness and this can be challenging over ones career. Whilst it is well recognised that in general terms physical endurance and muscular performance declines with age in both men and women, it is often hard to establish whether these changes in physical capacity are more directly related to the biological effects of genetic influence or more associated with the effects of lifestyle change and physical inactivity. However, scientific studies have shown that the cardio-respiratory and musculoskeletal systems are able to respond to a physical training stimulus well into later life, demonstrating that structured physical training

programmes can markedly lessen the age related decline in both endurance and muscular fitness. Therefore, the importance of engaging in regular structured physical activity along with minimising other unhealthy lifestyles are vital in helping to ensure good health, wellbeing and the required physical fitness for work in a physically demanding occupation.

A number of fire and rescue services indicated in their survey responses good practices in their approach to health and wellbeing; incorporating fitness policies into their broader strategy. Examples are included throughout this document. The key message is that a broader policy approach which includes education, occupational health & welfare issues is the best way forward.

Culture & Communication

It is important that FRAs and firefighters recognise the value of having a healthy safe workforce and that the fitness requirements are a necessary part of the role. The development of a fit and healthy workforce should be approached positively by both employers and employees. A well thought out, clear and effective communications strategy will promote buy in from all stakeholders. The strategy will need to explain the aims of the fitness policy to all concerned. FRAs will recognise that taking the time to fully explain the need for a fit and healthy workforce and the benefits that this will bring for all parties will deliver the best results. Some FRAs will also recognise the benefit of having a joint approach to this explanation with the representative body and will make the necessary arrangements to facilitate this. The most productive approaches will explain the process in a positive manner outlining all the support available, while clarifying the expectations and responsibilities of all concerned. Only by taking this approach will employers and employees fully understand the benefits of the policies. These benefits are not only the obvious ones but could include less working days lost to sickness, less overtime, less injuries, and overall can result in a healthier more productive workforce.

Examples relating to need for communication quoted in the Fitness Survey

- LANCASHIRE FRS – informs employees of its policy through clear, simple, and consistent communications believing it important to build awareness and take everyone on the journey. Strong leadership is demonstrated by Flexi-Duty Officers and local managers and it has active Service representation on the FireFit Steering Group. LFRS has appointed a dedicated Service Fitness Adviser. It believes in the importance of a visible trial to ensure subsequent policies are optimal and to provide a platform on which to build communication/cultural change. When introducing new assessment regimes they do so after a lead in time to allow the workforce to adapt and staff to prepare in advance. A communications strategy is developed to continually inform, promote and demystify fitness and health issues – presenting the positive messages. As a vital component of the above it recognises the importance of establishing a Service Fitness Twitter (or other Social Media) account.

- SCOTTISH FRS – applies consistency of message by making reference to physical fitness and/or its policy in that regard across a range of other policies as well. Methods of ensuring employees are aware of the importance of health and fitness issues and the support available include regular communications through its Newsreel and E-zine articles.

- HUMBERSIDE FRS - has made a number of videos using modern fitness equipment relating to various Firefighting scenarios i.e. High rise, RTA, grass fires, and confined space these were then posted on Facebook and proved very popular within their own service but they also made their way to other services.

Regular periodic fitness testing

As the state of physical fitness can decline over a short space of time, periodic fitness testing at regular intervals is an important factor in supporting firefighters to maintain their required fitness levels. Evidence from the survey suggests that testing which takes place six-monthly or, if not, annually is more likely to be effective than that which takes place over a longer period. It is therefore considered to be best practice. This is because any problematic issues are picked up at a much earlier stage when it is easier to resolve the problem.

Examples of good practice periodic fitness testing quoted in the Fitness Survey

- BEDFORDSHIRE FRS - Regular annual fitness testing alongside the provision of fitness facilities and time to use these facilities have seen a gradual increase in the levels of aerobic fitness within the service since adopting the new standard in 2008/2009 ranging from 2009/10 – 95.5% tested, 91% passed to 2014/15 – 98% tested 95.3% passed. There has also been a reduction in sickness absence within operational staff ranging from 2010/11 - 5.58% of working time lost to 2013/14 – 3.54% of working time lost (2014/15 stats not yet available). Statistics favourably indicate that staff are maintaining/improving their levels of aerobic fitness which then points to a healthier, fitter workforce, with fewer incidences of health-related conditions such as obesity and high blood pressure.

- DURHAM & DARLINGTON FRS - Regular fitness assessments with the Health and Fitness Adviser (HFA) providing fitness support for those who need to improve their fitness. The HFA now administers Fitech health assessments as part of the annual fitness assessment. These provide personnel with a detailed report based on various elements of their physical health, wellbeing and lifestyle. Free physiotherapy and access to occupational health services, as well as the quality of physical training apparel being improved over the past few years. By setting a clear fitness standard in the Policy employees are now aware of the level of fitness expected of them. All employees have now been tested and are part of an annual testing programme. The testing programme has highlighted a number of employees who were unable to achieve fitness standards and have now improved and also a number of employees with medical conditions where occupational intervention has brought about positive benefits.

- LEICESTERSHIRE FRS - Annual fitness testing and pre-test screening has helped to improve the health of operational staff by improving the resilience to sickness and injury through the requirement to maintain a level of fitness. This encourages a healthier lifestyle which in turn helps with maintaining a healthy weight and blood pressure reducing the risk of preventable diseases such as diabetes and heart disease. It has also helped to identify some individuals for referral to their GP before they had been aware of a potential health problem reducing potential future time off work.

- ESSEX FRS **-** Annual fitness tests for all operational personnel. Provides fitness, health and nutritional advice. The session includes 1-to-1 advice following a fitness test or review, station-based training such as circuits or educational health/fitness talks to the Watch. This is offered to both whole-time and RDS personnel.

Dedicated workplace fitness advice

Some advisers are able to offer professional advice and support to firefighters to assist them in maintaining or regaining the required fitness level.

The main aim is to ensure that the approach to fitness is focused on supporting the firefighter to remain operationally fit until their retirement age. FRAs will have their own views on how fitness is introduced and managed within their individual workplaces. However consistency of approach is key if firefighters are to work towards a safe fitness standard. There can be various methods of such support within FRAs including watch based trainers, purely dedicated fitness managers etc. This was an area that a significant number of fire authorities made reference to in their survey responses.

Some good examples related to fitness trainers quoted in the Fitness Survey

- NOTTINGHAMSHIRE FRS - Fitness Adviser supported by on-site Physical Training Instructors and annual fitness tests to supplement statutory medicals, which has been successful in identifying and providing support to employees at an early stage if their fitness is deteriorating. It may also indicate other health issues that may otherwise not be spotted until symptoms become critical and allows the Service to provide occupational health support where this is needed. A fitness review includes blood pressure monitoring, waist measurement, review of any injuries, medication and records an exercise history which allows advice to be provided on dealing with abnormal outcomes.

- LANCASHIRE FRS - NVQ Level 3 personal fitness instructors distributed throughout Service. It utilises the governments' apprenticeship scheme to fund Level 3 training. It has embedded Level 2 gym instructors within watch and retained units. In addition to Physical Training Instructors administering testing, other assessors can be trained / certified. In the case of LFRS these are mainly STC instructors and this allows the Service to cost effectively administer tests without continually seconding PTI's to STC.

- DORSET FRS - Physical Education Instructor (PEI) Training: The service provides its own in- house training courses for service PEI’s. Individuals gain valuable information on nutrition, exercise, fitness-testing and biomechanics. There are at least two PEI’s on every whole-time watch and retained station. They provide health and fitness advice and organise fitness training on all stations. Refresher courses are organised with an outside provider to provide input on injury prevention especially related to firefighter occupational injuries.

- SCOTTISH FRS - has a dedicated team of staff directly involved in the delivery of fitness services, which ensures a consistent and coordinated approach to the delivery of advice and support and works closely with occupational health colleagues. All are fitness professionals with recognised industry standard qualifications.

Fitness equipment

While recognising the practical and/or financial constraints, fire authorities may wish to consider the provision of station based fitness equipment that will support firefighters in maintaining their fitness to the required level.

Some FRAs have recognised that specific training programmes can be developed which focus on the actual physical demands of the firefighting role rather than one general training method. For example exercises that are designed to strengthen the muscle groups that are most commonly utilised in the key essential roles could be introduced into the general fitness regime. This approach should maximise the potential for firefighters to maintain operational fitness whilst avoiding injury.

A number of role related training exercises have already been developed. One example is http://www.cfoa.org.uk/firefit These utilise equipment that is readily available to firefighters on every operational station. These can also be used to allow firefighters to train for role related fitness, either as a drill period or as a stand-alone physical exercise period.

Examples of good practice from the survey include:

- CHESHIRE FRS - Changed the method of testing the fitness of operational staff used by the Service, from the Chester Step Test to the Chester Treadmill Test (CTT). As part of the change the Service set out a minimum level of fitness equipment to be provided for every station. This included providing the same model of treadmill which is used for conducting the CTT at Service Headquarters. The treadmills are pre-programmed with the CTT, which allows operational staff to practice for the test on station, ensuring they are familiar with the equipment and the test protocol before they are tested. This supports staff in managing their cardiovascular fitness and weight and allows operational staff to provide their managers with assurance, at appraisal, that they are maintaining their fitness to the necessary level. Regular maintenance and calibration of the treadmills ensures that the CTT program on the treadmill is consistent across the Service.

- DORSET FRS - Fitness equipment is now provided on all stations, both whole-time and retained duty system. Employees can also take advantage of the use of fitness facilities on service premises.

- NORTHAMPTONSHIRE FRS - Provides basic fitness equipment in all stations. Whole-time stations have bikes and rowing machines as standard. There are exercise regimes on the intranet for use by employees and nominated employees trained in physical activity. Negotiated discounted gym membership. Introduced a Cycle to Work scheme.

- WEST SUSSEX FRS - has equipped every Station with fitness equipment to encourage fitness maintenance. A dedicated Fitness and Therapy Suite is being created to provide all personnel support with fitness and injury issues.

Self-health checks

Other sources indicate the provision of on-site periodic self-health checks to be useful to firefighters in being able to monitor their health for themselves. While a fire authority will be conscious of cost and practical issues such as access to such equipment, it is nonetheless a tool that they may wish to consider.

Whilst 'other providers are likely to be available', the following is an example of companies that provide DIY health check services to their employees - https://www.my-diy-health.co.uk/

The 'loan' of equipment provided typically includes 'self-service' machines to check blood pressure, weight, BMI etc. which can be used by individuals within the workplace but in privacy and which allows a firefighter to create a print-out of the results. Whilst it is accepted that this would not guarantee that an individual would act on any indicative negative outcome of these tests, there is likelihood that it would trigger some action by the individual to perhaps see their GP to discuss the outcomes.

Given one of the main issues to impact upon a firefighter's fitness is excess weight, fire authorities may wish to consider external support resources and signposting employees to sources of advice. For example:

- National Institute for Health and Care Institute - workplace health guidelines (June 2015) which is an evidence based ready reckoner https://www.nice.org.uk/guidance/ng13
- Public Health England https://www.gov.uk/government/organisations/public-health-england
- NHS England - has recently introduced health checks for 40-74 year old employees which are funded by local authorities and range from height, weight, bmi to alcohol abuse and dementia testing. http://www.healthcheck.nhs.uk/
- British Heart Foundation – workplace health schemes https://www.bhf.org.uk/heart-health/risk-factors/check-your-heart-age
- The Knowledge network – a settings-based health promotion approach which aims to support the development of a health promoting culture and embed effective health improvement practice within NHS Scotland. The health improvement section of this site outlines a range of relevant guidance, evidence and resources for a range of health topics that will be relevant to Fire and Rescue Services http://www.knowledge.scot.nhs.uk/home/portals-and-topics/health-improvement/hphs/health-improvement-topics.aspx
- NHS Health Scotland - working with public, private and third sectors to reduce health inequalities and improve health in Scotland. http://www.healthscotland.com/index.aspx?utm_source=section&utm_medium=header-name&utm_content=home&utm_campaign=healthscotland
- Healthy Working Lives (Scotland) - aimed at employers to create a safer, healthier and more motivated workforce, offering practical information and advice to help improve health and safety and the wellbeing of everyone at work. http://www.healthyworkinglives.com/

Fitness issues specific to women firefighters

The joint working group considered the matter of fitness issues specific to women firefighters and whether there are any specific differences in approach required as a consequence. In doing so it received a presentation and information from *the Fire Brigades Union National Women's Committee* and information from *Women in the Fire Service.*

Cardiorespiratory fitness, strength and muscular endurance are important elements of physical fitness and are key physical characteristics enabling firefighters to carry out firefighting functions effectively and safely. *Dr Williams recognised this in his report;*

"The gender issue is important; only around 25% of women [general population] meet the fitness criteria to become firefighters, and a larger proportion will only just exceed the minimum level on entry. It is likely that a substantially larger proportion of women will find it hard to maintain fitness at the required level, leading to a disproportionate number becoming unfit for firefighting before age 60."

In order to support operational women firefighters with the maintenance of fitness levels, FRAs will wish to consider targeted programmes addressing strength, muscular endurance and cardiorespiratory fitness along with lifestyle advice as core components.

Currently there is a lack of reliable data on the impact of ageing on women firefighter fitness. However, it is acknowledged that FRAs need to consider being proactive in the future in addressing these issues and in ensuring that testing regimes are fair, non-discriminatory and role related.

Fire authorities will therefore need to be mindful of the issues below:

(a) Fitness for women throughout their career from point of selection.

- As stated earlier in the guide, firefighter recruitment and selection is not a matter for this group whose focus is on maintaining fitness. However there is a general recognition that most women do not have the same level of physical fitness as most men.

- In order to remain lawful, it is essential that both point of entry and ongoing fitness standards are objectively justifiable in terms of the role.
- For ongoing role-related fitness requirements, FRAs will wish to consider providing operational women firefighters with targeted and/or tailored fitness advice to support women employees in maintaining the required level of physical fitness, mindful also of the impact of ageing in doing so.

- It may be helpful to facilitate contact between women firefighters who have experienced similar issues e.g. menopause, return from maternity leave etc.

(b) Fitness whilst pregnant and during maternity leave.

- FRAs should consider support to women firefighters to assist them in maintaining their fitness throughout their pregnancy.

- Fitness advice could be provided to firefighters as part of Keep in Touch (KIT) days during maternity leave.

- Consider signposting women firefighters to appropriate support and guidance such as the *FBU Maternity Guide.*

(c) Support for women returning to work after maternity leave/long term absence.

- Before returning to operational duties FRAs will wish to consider providing women firefighters with a fitness programme, the opportunity to access a fitness adviser, and where available, fitness equipment to assist their return to work.

(d) Supporting women throughout the menopause

- The need for FRAs to develop appropriate policy.

- FRAs will wish to consider offering advice and guidance in relation to the potential issues that operational women firefighters may face throughout and post menopause which could include encouraging women to undertake weight training to assist with strength and supporting bone density.

- Signpost women to relevant support and guidance such as the *FBU Good Practice Guidance for Menopause* which explains what the menopause is, what employers can do, what the FBU can do and what women firefighters can do to help themselves. The document also contains links to helpful websites and can be accessed via this link: https://www.fbu.org.uk/publication/fbu-good-practice-guidance-menopause

- ACAS have recently issued guidance accessible at the following link: ACAS guidance on managing the menopause at work:

- The American College of Sports Medicine's Health & Fitness Journal have published a report on exercise prescription and the menopause: http://journals.lww.com/acsm-healthfitness/Fulltext/2011/05000/EXERCISE_PRESCRIPTION_FOR_THE_MENOPAUSAL_YEARS_.6.aspx#

2.4 Regaining physical fitness

There can be a variety of reasons for a need to regain fitness.

- Most firefighters will reach a point in their career when fitness levels decline. However, evidence indicates that although fitness does decline with age this can be mitigated in part by maintaining a healthy lifestyle and training regime. Some firefighters however may need more assistance if they are to be able to maintain their safe operational fitness level.

- Arising from a particular issue - access to a physiotherapy service may be beneficial and a phased return to work with access to fitness support can ensure a quicker return to full firefighting duties. Encouragement should be given to access a rehabilitation programme to assist with returning to work/full duties.

It is important that both the firefighter and the FRA are aware of their responsibilities and work together to best achieve a positive outcome.

Fire authorities and firefighters will recognise that regular periodic monitoring is necessary to assist the individual, identify the current position and to monitor sufficient progress.

Examples of good practice related to regaining fitness quoted in the Fitness Survey:

- NORTH YORKSHIRE FRS - Development of individual return to work programmes based on ability, taking into consideration any debilitating conditions which are

impacting on their ability to carry out an operational role, looking at all areas of health, including diet, exercise and medication. Consideration is given to a return to work on restricted duties. It has introduced a more robust mechanism for identifying and outlining appropriate operational tasks and duties for individuals returning on restricted duties – a checklist allows for specific elements of specific tasks rather than looking at whole drilling genres (e.g. an individual may be unable to under-run a 13.5m ladder but is able to carry, extend etc.). This results in an improved communication function between specialist support services (Occupational Health) and local management. NYFRS undertakes a return to work functional assessment which is an end-point assessment, following progression through the categories included within the restricted duties checklist. Following the receipt of a 'fit note', a bespoke, individualised assessment is designed in agreement with the individual, occupational health and local management. It allows the individual to demonstrate their ability in the equivalent of a worse-case scenario conducted in a controlled environment. Based on the outcome a final decision is then made regarding their suitability for a return to operational duties. The level of sickness absence both long and short term has reduced.

- LONDON FB - LFB has introduced a 'Functional Restoration Programme' in partnership with its occupational health (OH) provider at nil cost. This is currently targeted at staff who are long-term sick with musculoskeletal conditions: the programme consists of a six-week course, one day per week, where staff attend and undertake fitness training, graded exercises, and discussions, overseen by an OH physiotherapist supported by LFB Fitness Advisers, with a view to improving the time taken for participants' to return to work. There are up to eight participants per course, and there have to date been 11 courses since it commenced in November 2013. The FRP is considered to have been very successful in achieving an earlier return to work for participants than would otherwise have been the case.

- DEVON AND SOMERSET FRS - The occupational health professional works closely with the Fitness Adviser throughout individual rehabilitation. DSFRS advises that a very popular addition to their Occupational Health service is the use of a quick response physiotherapy facility, which can offer assistance to minor injuries and a quicker return to full operational duty.

- LANCASHIRE FRS – provides immediate Occupational Health Unit and qualified physical training instructor support to staff when unable to achieve the relevant standard.

- SCOTTISH FRS - has developed an eight week functional fitness programme which has been piloted across a number of stations. The programme incorporates the use of both functional training equipment and operational equipment. The tasks undertaken during the sessions include a combination of functional exercises, body-weight exercises and role related drill ground tasks. The outcomes of the eight week training programme showed improvements across a number of health and fitness measures including weight, systolic and diastolic blood pressure and aerobic fitness.

2.5 Redeployment and other options

Redeployment

Despite a firefighter being aware throughout their career of the importance of maintaining the required fitness level for their role and actively working towards doing

so with the support of their FRA, it may be that a firefighter is unable to do so. In such circumstances redeployment is an option that should be considered.

Following discussion this may be redeployment in role or, with the agreement of the firefighter, fire authorities may also wish to consider if there are any other suitable redeployment options available within the service, or wider in the case of county council fire and rescue services, to extend employment.

Other options

Should redeployment not be an option, FRAs will then need to be mindful of their own local management procedures. In the case of firefighters aged 55 or over, they will also:

(i) be aware of the statement below made by the then DCLG Fire Minister in Parliament on 15 December 2014, which was also presented as a guarantee in subsequent correspondence between the Minister and the FBU:

'We are introducing a measure that will improve the current situation and ensure that if there is no operational role for someone to go into, they will get not just a pension but an unreduced pension' (Hansard 15 December 2014 vol 589 col 1165)

'I am very happy to give those assurances. We have done that. If someone fails a fitness test through no fault of their own and they do not qualify for ill health retirement, they will get a redeployed role or an unreduced pension. That will be put on a statutory footing in the national framework - a full, unreduced pension, if not an alternative role.' (Hansard 15 December 2014 vol 589 col 1166/7);

(ii) be mindful of the content of the *Addendum to the National Framework for Firefighter Fitness* in England (key points listed below), or as appropriate the approaches taken by Government in Scotland, Wales and Northern Ireland:

'Each Fire and Rescue Authority must:

- *have a process of fitness assessment and development to ensure that operational personnel are enabled to maintain the standards of personal fitness required in order to perform their role safely;*
- *ensure that no individual will automatically face dismissal if they fall below the standards required and cannot be deployed operationally;*
- *ensure that all operational personnel will be provided with support to maintain their levels of fitness for the duration of their career;*
- *consider where operational personnel have fallen below the fitness standards required whether an individual is able to continue on full operational duties or should be stood down, taking into account the advice provided by the authority's occupational health provider. In making this decision, the safety and well-being of the individual will be the key issue;*

- *commit to providing a minimum of 6 months of development and support to enable individuals who have fallen below the required fitness standards to regain the necessary levels of fitness;*
- *refer an individual to occupational health where underlying medical reasons are identified that restrict/prevent someone from achieving the necessary fitness and*
- *that individual must receive the necessary support to facilitate a return to operational duties; and*
- *fully explore opportunities to enable the individual to remain in employment including through reasonable adjustment and redeployment in role where it appears the medical condition does not allow a return to operational duties.*

In those circumstances where there are no such opportunities and suitable alternative employment is either unavailable or, where available, is not agreed by the individual, then the Fire and Rescue Authority will commence an assessment for ill-health retirement through the Independent Qualified Medical Practitioner process.

If no underlying medical issues are identified and following a programme of development and support it becomes apparent that an individual will be unable to regain the necessary levels of fitness, then a fire authority will fully explore opportunities for reasonable adjustments and/or suitable alternative employment. In those circumstances where there are no opportunities for reasonable adjustments or suitable alternative employment, the fire authority will in the case of an employee aged at least 55 consider commencement of the authority initiated early retirement process for it to determine whether the individual should be retired with an authority initiated early retirement pension.'

Section 3 - Service fitness testing regimes and methodology

3.1 Introduction

This section considers the more technical areas of service testing regimes and methodology.

The Joint Working Group believes it is important that testing and its methodology is scientifically evidence based in order to engender the confidence of both the firefighter and the employer. In the fire service this is particularly so given the close link between fitness to undertake the role of firefighter and the safety of the individual and the team in which they work. In deciding its approach to fitness testing and methodology a fire authority will be aware of the recent work undertaken through the auspices of CFOA – *FireFit.*

3.2 FireFit background

The joint working group was aware of the work of *FireFit* and received presentations on the subject to further inform the group's work.

Within the CFOA People and Organisational Development Directorate, FireFit is a steering group of fitness and health professionals chaired by the Chief Fire Officer's Association (CFOA) lead member with the responsibility for firefighter fitness.

Three years ago the group was tasked with developing a set of fitness standards to be maintained by serving operational fire service personnel.

This programme of work, led by the University of Bath, was commissioned by the Chief Fire Officers Association (CFOA), with financial support from the Fire Service Research and Training Trust (FSRTT) and the FireFit Steering Group (FFSG). The project has been guided by a 'Stakeholder Panel', with invitees from the Chief Fire Officers Association (CFOA), the Fire Brigades Union (FBU), the Retained Firefighters' Union (RFU), the Fire Officers Association (FOA), as well as the FRS health and fitness community.

Any representatives of these groups who did not attend meetings were kept updated separately. The initial phase of research, reported here, had clear aims:

(i) Conduct a task analysis to identify the most arduous physical tasks, which are reasonably required to be performed by all UK FRS operational personnel.
(ii) Assess the physical demands of these tasks, performed to a minimum acceptable standard, and make proposals for a fitness standard and associated annual fitness test.
(iii) Determine gym-based surrogate tests appropriate for predicting performance in criterion tasks involving strength and muscular endurance.
(iv) Conduct a health and lifestyle survey of UK FRS personnel and identify behaviours associated with adverse health outcomes.

The report focussed entirely on the first three aims, with the overarching objective of deriving empirically informed cardiorespiratory fitness standards and strength requirements for operational firefighters in the UK FRS.

A ‘Technical Panel’ was established, comprising 13 highly experienced operational firefighters and training instructors currently employed in the UK FRS. The panel were invited to consider a number of ‘single-person’ fire-fighting tasks and identify a minimum acceptable pace for each. These tasks utilised 62 (50 male, 12 female) FRS firefighter personnel who volunteered to participate in a Physical Demands Analysis at the Fire Service College, Moreton-in-Marsh. The cardiovascular and metabolic strain associated with each task was quantified.

From these data, the following was identified:

(i) The essential tasks for all operational firefighters were hose running, equipment carrying, stair climbing, casualty evacuation, wild-land firefighting, lifting, extending and lowering of fire service ladders.

(ii) A Physical Demands Analysis (PDA) was completed and the occupational tasks were endorsed by participants as reasonable minimum expectations.

(iii) Results of the research endorsed by both technical and stakeholder panels indicate that firefighters with cardiorespiratory fitness level of less than 42.3 mL.kg-1.min-1 cannot be guaranteed to be safe and effective in their ability to complete their necessary tasks. (However in the presentation to the JWG Dr Bilzon indicated that in some circumstances an individual may have a VO2 level of less than 42.3 but be safe to continue firefighting. This may be down to the physiology of the individual. For this reason the FireFit group (working with Dr Bilzon) has been developing a drill ground assessment based upon the key essential elements of firefighting). The full report referring to the development of minimum fitness standards can be found here: http://www.cfoa.org.uk/firefit

Further consultation was conducted to derive a fitness management protocol. Online guidance has now been produced by FireFit, recommending a process for the conduct and reporting of annual fitness assessments.

Research was also conducted to establish the strength and muscular endurance demands required for completing essential fire-fighting tasks.

The report made a series of recommendations that were endorsed by the projects’ technical and strategic stakeholder panels. There is a live guidance section on the CFOA website to assist fire services in developing, implementing and maintaining their own fitness practices.

The link to all of the guidance (that links to all of the sources) is:
http://www.cfoa.org.uk/firefit

3.3 Testing regimes

In general, it will be important to ensure an appropriate risk assessment is undertaken prior to fitness testing. This would especially be so where it is considered that the test may be a ‘maximal’ test for the firefighter.

- **Occupational Fire-ground Assessment**

FireFit plans to issue further guidance soon with the intention that it will provide a realistic occupational fire-ground assessment that will measure appropriately to the safe standards identified in the University of Bath research.

Members of the Strategic Committee for the Joint Working Group observed a number of firefighters taking part in the FireFit validation for its drill ground tests, which included:

- A hose running exercise
- A casualty evacuation exercise, and
- An equipment carry exercise

These firefighters who were male and female of differing ages and physical builds felt that the tests, which could vary in running order, accurately reflected the role requirements and physical demands of essential firefighting tasks.

It is anticipated that this work will conclude by spring 2016.

- **Surrogate Tests**

Whilst the FireFit validation work is on-going, a robust and evidenced drill ground assessment method may provide another option for FRAs applying the FireFit approach to test their operational firefighters instead of a surrogate test.

Current recommended surrogate tests can be found at: CFOA link:
http://www.cfoa.org.uk/firefit

Approaches to Testing Regimes

In addition to the drill ground assessment test, FireFit have recommended an assessment flowchart – (Appendix A). During the Joint Working Group discussion the Fire Brigades Union presented an alternative role based version (Appendix B), which replaced the surrogate tests with the drill ground assessment, included a *Par-Q* (physical activity readiness questionnaire) at this stage and the traffic light system with a pass or fail method.

Application of both these testing regimes should be subject to successful completion of the occupational drill ground assessment validation and further discussion.

FRAs will need to ensure that information in respect of testing regimes is clearly communicated to firefighters and other appropriate employees.

Section 4 - New technologies to reduce the physical burden of the role of firefighter

4.1 Introduction

The Joint Working Group considered whether technological advances within the fire industry could help mitigate some of the most strenuous and physically demanding activities that an operational firefighter may undertake. These technologies may assist in reducing strain and injuries on firefighters, so helping firefighters to maintain their fitness levels, reduce sickness absence and extend their careers. In doing so the group received information from Kent Fire and Rescue Service and a presentation from Greater Manchester Fire and Rescue Service concerning personal protective equipment which, for example, made reference to a layered approach to personal protective equipment. Other examples include other alternate PPE, lighter equipment e.g. ladders, improved stowage systems, gantries on appliances etc.

4.2 Procurement

In the longer term, new technologies and further such developments may impact on the fitness requirements of firefighters. Fire and rescue services will obviously have different procurement and capital replacement cycles. They will also have different priorities, risks and budget considerations which will limit their capacity, need or willingness to adopt some of the new technologies.

However, services will wish to be mindful of technological innovations when replacing firefighting equipment and to give consideration to that as part of the procurement process. With that in mind, fire authorities will therefore want to keep under review areas such as personal protective equipment, breathing apparatus, fire appliance design and firefighting equipment.

However for the present such innovations are unlikely to impact greatly on the fitness requirements for firefighters, or change any aspect of the fitness testing covered in previous sections of this guidance. FRAs will however wish to consider supporting the principle for the future of ensuring the reduction of physical burden is a priority.

Section 5 - Conclusions

- Firefighting is a physically demanding occupation and it is essential that firefighters have sufficient levels of fitness to enable them to carry out their tasks safely and effectively. As such, this requires higher levels of fitness than many other occupations. The National Joint Council for Local Authority Fire and Rescue Services rolemaps set out a specific requirement for firefighters to maintain levels of personal fitness required in order to perform their role safely. FRAs will also be aware of their duty of care to their employees

- In putting together this best practice document relating solely to firefighter fitness, the Joint Working Group has been presented with evidence showing the need for a safe fitness standard for firefighters. The information available to the group included the work of the FireFit group outlined in section 3.2 of this guidance and the two approaches to fitness flowcharts in section 3.3 as well as information provided through a 2015 survey of fire authorities. Should you wish to view wider examples of approaches to fitness indicated in those survey responses, they can be found here: http://www.local.gov.uk/fire-and-rescue/-/journal_content/56/10180/7731172/ARTICLE

- A fitness standard adopted by FRAs must reflect the occupational demands of the firefighter role. Therefore, each FRA should have in place a process of fitness assessment and development to ensure that firefighters are supported to maintain the standards of personal fitness required in order to safely perform their role.

- It is recognised that fitness levels may decline with age though this may be mitigated by fitness training, diet and maintaining a healthy lifestyle.

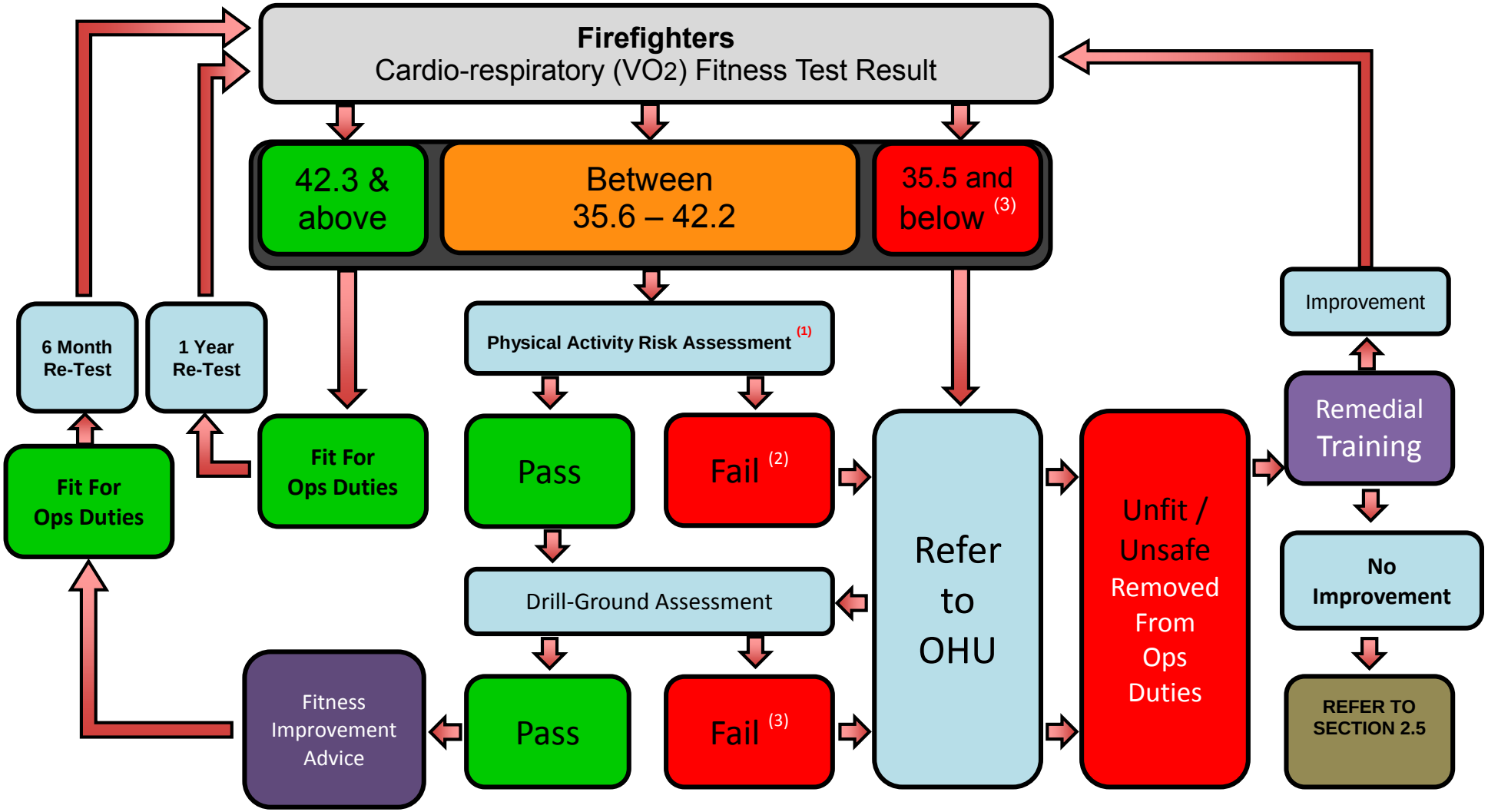
- The importance of good communication between fire authorities and the firefighters they employ should not be underestimated. Being clear on expectations will be fundamental to ensuring that firefighters understand what is required of them and why.

Whilst by its nature this best practice document is not mandatory, a fire and rescue authority would be expected to take into account:

- the conclusions when considering its safe occupational fitness requirements for firefighters;

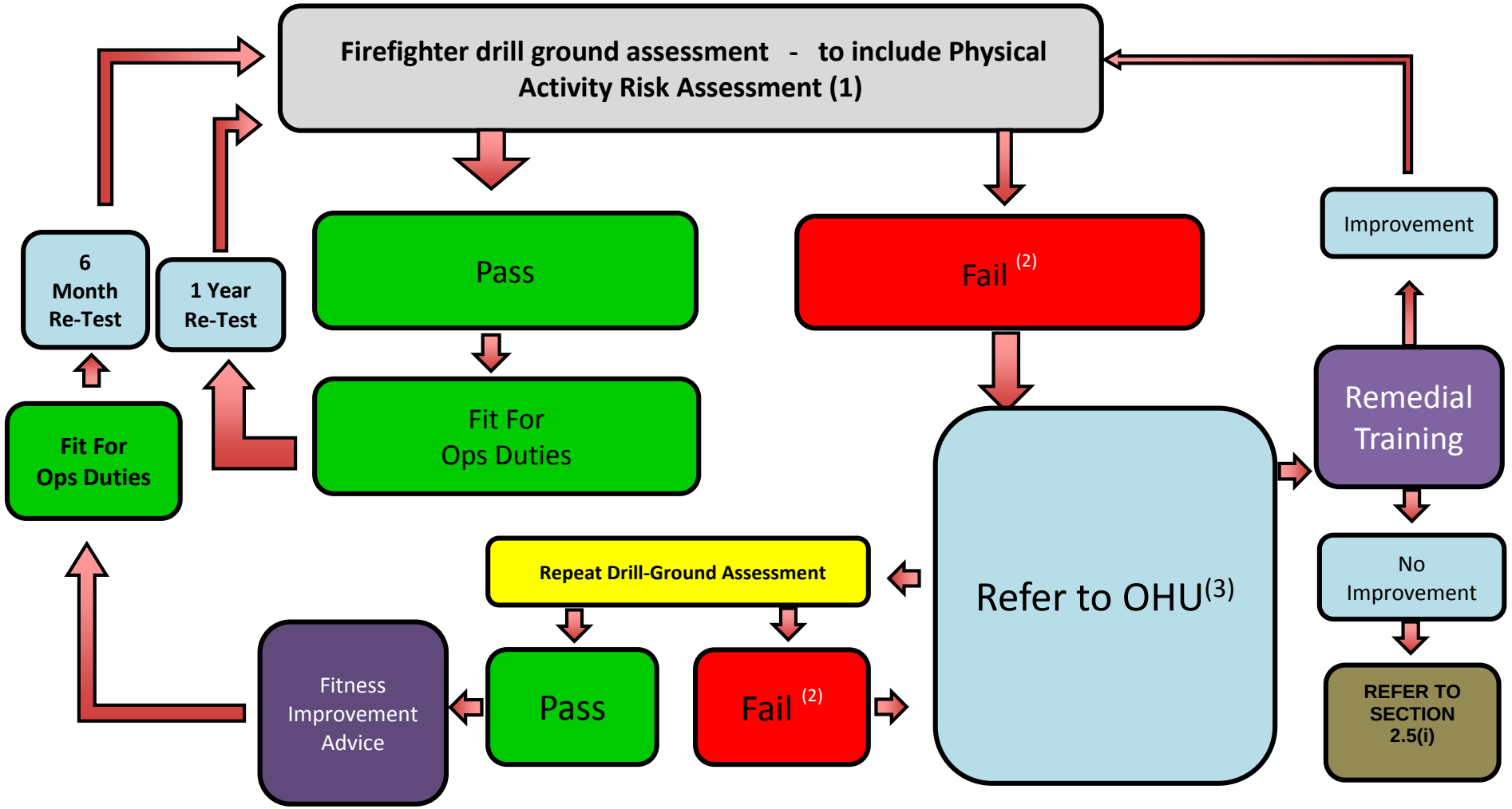
- the evidence currently available through the work indicated above and the need to be satisfied that its fitness arrangements meet safe occupational fitness requirements for firefighters.

Appendix A Firefighter Physical Activity Risk Assessment flowchart reference section 2 (FireFit)



- [1] OH + fitness assessor to determine suitable Physical Activity Risk Assessment (minimum Par-Q+)
- [2] Firefighters who fail a Physical Activity Risk Assessment may be considered fit to undertake a drill ground assessment following an assessment by OHU.
- [3] Firefighters who fail drill ground test or have a confirmed VO_2 max below 35.6 should be removed from operational duties even in the absence of other medical risk factors.

Appendix B Firefighter Physical Activity Risk Assessment flowchart reference section 2 (FBU alternative)



1. Firefighters who fail a Physical Activity Risk Assessment may **only** be considered fit to undertake a drill ground assessment following an assessment by OHU.
2. Firefighters that fail drill ground test should be removed from operational duties even in the absence of other medical risk factors and must be referred to OHU in every case
3. If an underlying medical issue is discovered an alternative route is taken.