

Fit-Testing for Respiratory Protective Equipment (RPE) Procedure

Qualitative Method

Policy information

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Summary of document:

This procedure contains information and guidance on qualitative fit testing for Respiratory Protective Equipment (RPE) within Hywel Dda University Health Board (HDdUHB).

Scope:

This procedure applies to all HDdUHB staff that are required to wear a tight fit respiratory mask in the course of their work or who manage those staff.

To be read in conjunction with:

[010 Health and Safety Policy](#) (opens in a new tab)
[020 Asbestos Policy](#) (opens in a new tab)
[151 Personal Protective Equipment \(PPE\) Policy](#) (opens in a new tab)
[353 Transmission Based Precautions Policy on Contact / Airborne / Droplet Precautions](#) (opens in a new tab)
[369 Control of Seasonal Influenza Policy](#) (opens in a new tab)
[378 Management of Tuberculosis Infection Control Policy](#) (opens in a new tab)
[703 Control of Substances Hazardous to Health \(COSHH\) Policy](#) (opens in a new tab)

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Respiratory Protective Equipment, RPE, PPE, Face Fit, Fit-Test, COSHH, FFP3, Respirator, Qualitative, Facepiece, Half-mask, PAPR

Glossary of terms

AGP	Aerosol Generating Procedure
APF	Assigned Protection Factor
COSHH	Control of Substances Hazardous to Health
FFP	Filtering Face Piece
PPE	Personal Protective Equipment
RPE	Respiratory Protective Equipment

Key points:

This procedure contains information and guidance on qualitative fit testing for Respiratory Protective Equipment (RPE).

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Aim of procedure

The Hywel Dda University Health Board (HDdUHB) has statutory obligations under the Health and Safety at Work Act 1974 (HSWA) to ensure the health and safety of all employees and anyone affected by their work, so far as is reasonably practicable. Under the Control of Substances Hazardous to Health Regulations 2002 (COSHH), HDdUHB has a legal responsibility to control substances hazardous to health and biological agents in the workplace and to prevent or adequately control exposure to those substances by its employees. In addition to COSHH, HDdUHB has further statutory duties to control exposure under the Control of Asbestos Regulations 2012 (CAR) and the Control of Lead at Work Regulations 2002 (CLAW).

Under the law, Respiratory Protective Equipment (RPE) is a line of protection. Where RPE has to be used as a control measure, it is vital that it is adequate and suitable. The aim of this procedure is to ensure that, where RPE is required to be worn by a HDdUHB worker, it is suitable and sufficient to protect the wearer.

If the RPE does not fit, it will not protect the wearer.

To ensure that the selected RPE has the potential to provide adequate protection for the individual wearer, they must undergo facepiece fit-testing. For RPE to be suitable it must be matched to the job, the environment, the anticipated airborne contaminant exposure level, and the wearer. As people come in all sorts of shapes and sizes it is unlikely that one particular type, or size of RPE facepiece, will fit everyone. Fit-testing will help ensure that the equipment selected is suitable for the wearer.

Objectives

The objectives of this procedure are to:

- Identify the reasons why RPE would be required to be used by HDdUHB staff through the course of their work;
- Provide information on arranging for a facepiece fit-test to be undertaken to ensure that the protection provided by RPE is suitable and sufficient;
- Supply useful information for all RPE users;
- Detail the process of, and training for, undertaking facepiece fit-testing (for fit-testers).

Scope

This procedure sits directly beneath the HDdUHB Health and Safety Policy and applies to all employees of HDdUHB. General responsibilities are as per the over-arching policy.

This procedure applies to all HDdUHB staff that:

- Are required to wear a tight fit respiratory mask in the course of their work; or
- Manage staff that are required to wear a tight fit respiratory mask in the course of their work.

Why would HDdUHB staff need to wear RPE?

At HDdUHB there are two clearly distinguishable categories of RPE use:

1. Infection prevention and control (see section: [RPE for infection prevention and control](#));
2. All other reasons (see section [RPE for any other reason](#)).

Where RPE is needed for infection prevention and control purposes, the Infection Prevention Team, with their specialist knowledge, will take the lead on advice and risk assessment. Where RPE is needed for any other reason, the Health, Safety and Security Department (HS&S) will take the lead.

RPE for infection prevention and control

The need for RPE to be used in infection prevention and control is laid down in the Public Health Wales, Welsh Healthcare Associated Infection Programme (WHAIP), National Policies for Infection Prevention and Control, Part 2: Transmission Based Precautions.

At Health Board level, the need for RPE use is detailed in the following Infection Prevention policies:

- [151 - Personal Protective Equipment \(PPE\) Policy](#) (opens in a new tab)
- [353 - Transmission Based Precautions Policy on Contact / Airborne / Droplet Precautions](#) (opens in a new tab)
- [369 - Control of Seasonal Influenza Policy](#) (opens in a new tab)
- [378 - Management of Tuberculosis Infection Control Policy](#) (opens in a new tab)

RPE for any other reason

There are many reasons, other than infection prevention and control, why RPE may be required in the workplace within HDdUHB including (list not exhaustive):

- Handling or working with substances / mixtures, as identified by a COSHH assessment;
 - See [703 Control of Substances Hazardous to Health \(COSHH\) Policy](#); (opens in a new tab)
- Work with asbestos or accessing areas potentially contaminated with asbestos;
 - See [020 Asbestos Policy](#); (opens in a new tab)
- Certain work with lead;
- Exposure to guano / bird droppings if the work could generate dust or aerosols;
- During deliveries of wood pellets for the biomass boiler;
- Grinding activities, such as in the Podiatry Workshop;
- Various Estates Department activities, as identified by COSHH or risk assessment.

Arranging a face-fit

In response to the Covid-19 pandemic of 2020-22, the HS&S Department established a Health Board-wide network of trained face-fit testers, following a Train-the-Trainer model, thus allowing Wards and Departments to fulfil their own facepiece fit-testing or re-testing needs. Face-fit testers should have received training within the last two years to maintain their competency.

Where it is identified that a member of staff requires a face-fit they should make contact with the trained fit-tester(s) within their Ward or Department in the first instance.

If there is no trained fit-tester available, the responsible line manager should:

- Consult the fit-tester lists to see if there is an alternate trained fit-tester that can complete the fit-test for the staff member; or
- Identify an individual(s) to be trained as a face-fit tester(s) for their Ward or Department. The line manager should then contact the Health, Safety and Security Team to arrange a Train-the-Trainer Session for the individual(s). The individual(s) can then undertake the required facepiece fit-tests for their team.

Train-the-Trainer Sessions may only be delivered by the HS&S Department, the Infection Prevention Team or select staff authorised by the HS&S Department to do so.

Wards or Departments with their own a face-fit tester(s) should purchase their own facepiece fit-testing kit, which the trained individual will be responsible for. They will then be able to use the kit for all future facepiece fit-testing requests within their area of responsibility. Facepiece fit-testing kits are available to order via the Oracle Catalogue System.

Reusable respirators

Where a reusable half-mask respirator is identified as the required level of RPE, it must be ensured that the fit-test is undertaken by a fit-tester that has received the additional training to this level. The fit-test method is the same as it would be for a disposable respirator (as in section [Arranging a face fit](#)), however the donning and doffing of these masks is different and a specific cleaning regime is required.

When the reusable respirator is required for infection prevention and control purposes the Health Board's approved half-mask model must be used i.e. the 3M 6000 Series. When the reusable respirator is for any other reason, such as for specific chemical applications, the HS&S Department should be consulted. The Team can advise on the most appropriate mask, the correct filter type(s) for the application, and the correct testing method to ensure the best protection for the staff.

Reusable respirators should be assigned to a specific user who is then responsible for decontamination, storage, maintenance, and filter replacement. User guides are available for reusable respirator users to guide them through their responsibilities as a reminder of their initial training.

Pandemics

In times of pandemic, such as with the 'Swine-flu' (H1N1) pandemic of 2009-10 and the Covid-19 pandemic of 2020-22, the need for staff to use RPE in the healthcare environment increases significantly. Should there be another pandemic, the Train-the-Trainer model for facepiece fit-testing for infection prevention / patient contact will be proactively increased, led by the Health, Safety and Security Team, with additional support from the Infection Prevention Team.

Frequency of facepiece fit-tests

The HS&S Department recommend that fit tests on staff that regularly use RPE are repeated a minimum of every 3 years as a matter of routine. The risk assessment for the department and/or the activity that the individual is undertaking will determine the frequency of the periodic re-test required. If RPE is used frequently it is good practice to ensure repeat facepiece fit-testing is carried out on a regular basis.

A re-test of a facepiece fit-test will also be required if the individual:

- Needs to change to another type of facepiece;
- Loses or gains weight;
- Undergoes any substantial dental work;
- Develops facial imperfections (scars, moles, etc.) around the face seal area; or
- Returns from maternity leave.

Additionally, a re-test will be required if there is a change of RPE supply and the currently tested mask becomes either obsolete or no longer available.

Information for RPE users

[Appendix 1](#) contains useful information for users about the facepiece fit-test procedure that they will be undergoing and further information on the facepieces themselves, set out in a frequently asked questions format.

Information for RPE face-fit testers

Information for those undertaking the facepiece fit-tests, including those at Department / Ward level who are trained through the Train-the-Trainer process as fit-testers, can be found in Appendices 2-6 including:

- [Appendix 2](#): Information for the Person Conducting the Fit-Test;
- [Appendix 3](#): Qualitative Fit-Test Method;
- [Appendix 4](#): Fit-Test Report (The paperwork that must be completed with each fit-test);
- [Appendix 5](#): Failures (i.e. what to do in the event of a failed fit-test).
- [Appendix 6](#): Memory Jogger.

One copy of the completed Fit-Test report following a fit-test should be retained by the line manager and a second copy should be sent to the Health and Safety Team, C/O Estates Department, GGH for logging on the fit-test database.

References

The following reference sources have been used in the compilation of this Fit-Testing for Respiratory Protective Equipment (RPE) Procedure:

- H.M. Government: Statutory Instrument (2002), Control of Substances Hazardous to Health. The Control of Substances Hazardous to Health Regulations 2002 as amended, H.M. Stationary Office, London
- HSE (2012), Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, FOD Central Specialist Division
- HSE (2005), The Control of Substances Hazardous to Health Regulations 2002 as amended, Approved Code of Practice and Guidance L5 (fifth edition), HSE Books, Norwich, England
- HSE (2013). Respiratory Protective Equipment at Work, A Practical Guide HSG53 (fourth edition), HSE Books, Norwich, England
- HSE (2009) Working with Substances Hazardous to Health, What you need to know about COSHH INDG136(rev4), HSE Books Sudbury, England.
- 3M, Guide to using the 3M Qualitative Fit Test Kit, 3M Occupational Health and Environmental Safety Group, Bracknell, England.

Relevant law:

- Health and Safety at Work etc Act 1974
- Control of Substances Hazardous to Health Regulations 2002 (as amended)
- Management of Health and Safety at Work Regulations 1999
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
- Workplace (Health, Safety and Welfare) Regulations 1992
- Provision and Use of Work Equipment Regulations 1998
- Personal Protective Equipment at Work Regulations 2002

Further information is available on the HSE website:

<http://www.hse.gov.uk/respiratory-protective-equipment/index.htm> (opens in a new tab)

Appendix 1: Information for the Facepiece Wearer

(Adapted from Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, HSE (2012))

What is a fit-test?

The trained fit-tester carrying out the fit-test will explain to you what a fit-test is and why it is carried out.

What will be required from me when I have a fit-test?

You will be asked not to eat, drink (except plain water), smoke, vape, or chew gum for at least 30 minutes before the fit-test.

A fit-test should not be conducted if you have any facial hair growth in the area where the facepiece seal meets your face. This is because a reliable face seal can only be achieved if you are clean-shaven in the area where the facepiece seal touches your face. You will therefore be asked to be suitably clean-shaven for the fit-test. The clean shave must be a wet shave with a razor, performed no more than 8 hours prior to the fit test.

You should remember that the same clean-shaven rules applies when you wear your facepiece on a day-to-day basis at work, not just for the face-fit test.

If you are unable to be suitably clean-shaven for an unavoidable reason (e.g. where a beard is worn for religious reasons), then your employer should provide you with a suitable loose fitting facepiece that does not require you to be clean-shaven or make alternative arrangements so that the risk to your health is either prevented or adequately controlled. Care should be taken to ensure that any facial hair within the facepiece does not interfere with the proper functioning of the facepiece components such as exhalations valves. Loose-fitting facepieces do not require the fit testing described in this document. The Health Board uses Powered Air Purifying Respirator (PAPR) systems for their loose-fitting facepiece requirements. Please note that PAPR users still require training in their correct use.

You should be able to fit the facepiece in the manner in which you have been trained, and without assistance from the fit tester. You should know how to carry out a pre-use fit check of the facepiece.

During the fit test you will be asked to perform simple exercises. The person conducting the fit test should explain the reasons for carrying out these exercises. If you have any medical condition that may prevent you from performing these exercises, then you should bring this to the attention of the fit-tester and your employer.

If you normally wear protective goggles or hard hat, etc when you wear your facepiece you may be asked to wear these also during the fit test.

If you are required to wear a tight-fitting full-face mask, please seek guidance from the Health, Safety and Security Departments as these masks cannot be fit-tested using the qualitative method outlined in this Procedure. They must be fit-tested using the alternative quantitative method that must be undertaken by an external provider.

Can I be fit-tested in the facepiece I usually wear?

The fit-test will be carried out using the facepiece you normally wear or one identical to it. If you are to be fit-tested in your own facepiece then you or your employer should make sure that the facepiece is clean and maintained in accordance with the manufacturer's instruction. *Note:* It is not the job of the fit-test provider. They have been advised by HSE not to carry out a fit testing on a facepiece that is not maintained in accordance with the manufacturer's instructions.

What if I normally wear more than one type of respirator?

If you need to wear more than one type of tight-fitting facepiece for your job, e.g. a filtering facepiece and a full-face mask respirator, then you should be fit tested for each type of facepiece.

What will I be told at the end of the fit-test?

When you have completed the fit-test you will be told if you have obtained a pass or a fail. A pass means that the facepiece is suitable for you. You or your employer will be issued with a fit-test report, which should be retained. If you have not been given a copy of the report, you can ask for a copy from your employer. A failed fit-test may indicate that the facepiece does not fit you properly.

What will happen if I fail a fit-test?

The fit-tester should ask you to re-fit the facepiece and repeat the fit-test. If a better fit is not obtained you may be asked to try on a different size or type of facepiece and repeat the fit-test.

You should not use a facepiece that does not fit you properly.

The fit-tester should inform your employer. Your employer should ensure that you are provided with a facepiece that fits you properly.

Powered air hoods are available for staff unable to taste both bitter or sweet solutions, or for staff that are unable to shave due to religious reasons. Certain powered air hoods fitted with a large head-top may accommodate religious head coverings and may be more secure than wearing an FFP3 mask.

Note: Powered air hoods need additional training – please consult the HS&S Department.

How often should I have a fit-test?

If you need to change to another type of facepiece; you lose or gain weight; undergo any substantial dental work or develop facial imperfections (scars, moles, etc) around the face seal area. Additionally you should be re-tested upon return from maternity leave. Your employer may also have a policy that you have a fit test every year or two years for example.

Will I be able to move employment without having to have another fit-test?

If you change your employer but still continue to wear the same facepiece or same facepiece model and size you should not have to be re-tested, your new employer, however, may wish for you to have another fit test.

Who should pay for the fit-test?

Your employer is responsible for your health and safety whilst at work and therefore they are responsible for the cost of the fit-test.

Appendix 2: Information for the Person Conducting the Fit-Test

(Adapted from Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, HSE (2012))

Note: If social distancing is a relevant requirement at the time of the fit-test, fit-testers should don a Fluid Resistant Surgical Mask (FRSM) when undertaking the test as it will not be possible to maintain suitable distancing during the testing procedure.

- You should explain to the wearer the purpose of the test, what they will have to do, and the meaning of the fit-test results.
- You should check that the fit-testing equipment is properly set up and checked prior to conducting the fit-test.
- You should check the integrity of the test hood and ensure that it has been thoroughly cleaned. Hoods must be cleaned between each staff assessment with a Clinell wipe. Both the inside and the outside must be cleaned (using two separate wipes).
- You should check the expiry date of the testing fluid(s). If using sweet testing fluid(s) you should check whether dilution is required. If yes, you should dilute the test solution as per the manufacturer's instructions to make the sensitivity solution.
- You should ensure that the nebulisers are not blocked. Prior to testing the nebulisers should be physically tested to check that they are atomising the fluids correctly. Aiming towards a window may help to see the atomised fluid.
- You should use the wearer's own facepiece. Where this is not practicable then a test facepiece that exactly matches the wearer's facepiece should be used.
- You should visually examine the facepiece (used for fit-testing) prior to carrying out a fit-test. The examination should include the condition of the facepiece, especially around the face seal and facepiece connectors, the exhalation valve(s) and the head harness. Test facepieces should be properly inspected and maintained in accordance with the manufacturer's instructions. As part of the fit-test, it is encouraged that you check the condition of the wearer's own RPE. This is vital if the fit-test is going to be performed on the wearer's own facepiece. The condition of the RPE can form part of the test report.
- You should ensure that test facepieces are cleaned and disinfected before being used by different individuals. Test facepieces that cannot be adequately disinfected, (e.g. filtering facepieces), should not be used by more than one individual.
- You should instruct the wearer in the test exercises.
- You are advised to ascertain that the wearer is medically fit to wear Respiratory Protective Equipment (RPE) and, where appropriate, be able to undertake the recommended test exercises (as described in [Appendix 3](#)).

- The wearer should don the facepiece in accordance with their received training and the manufacturer's instructions. If it is necessary for you to help (or intervene) this should be noted and recommendations should be made for further training. The use of a mirror will assist the wearer to fit the facepiece correctly.
- The wearer should be instructed to wear the facepiece for at least five minutes before the start of the fit-test. This allows time for the wearer to determine if the facepiece is comfortable and to make any adjustments to the fit before commencing the fit-test.
- The wearer should have received training in correct donning of the facepiece before the fit-test. However, if you are helping in the facepiece selection process, you should show the wearer how to put on a facepiece, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror should be available to assist the wearer in evaluating the fit and positioning of the facepiece.
- If the wearer will need to use a full-face respirator with spectacles, then in-facepiece spectacles (or unglazed frames) should be worn during the fit test.
- If other types of Personal Protective Equipment (PPE) are worn with the RPE, (e.g. hard hat, goggles, etc), and have the potential to interfere with the seal of the facepiece then they should be worn during the fit-test. However, if the other items of PPE prevent the RPE from being fitted correctly, a proper fit-test cannot be carried out. PPE must be worn over the top of the RPE straps. All PPE should be compatible with the RPE, therefore you should consider compatible PPE e.g. if using a 3M reusable respirator, 3M PPE such as goggles and glasses may fit better than other brands as they are designed to be compatible.
- You should not conduct the fit-test if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, moustache, sideburns or low hairline which cross the respirator sealing surface. You should ensure that any type of non-PPE apparel or adornment (e.g. piercing) does not interfere with the fit of the facepiece. Wearers with long hair may find it beneficial to place their hair over the straps.
- You should observe the wearer throughout the fit-test to watch for facial/head movements that may cause face seal leakage and to ensure the safety of the wearer. If the wearer sneezes or coughs during the fit-test this can have an effect on the fit-test result and the fit-test may have to be repeated.
- If the test fails, you must determine the appropriate action to take. This is where the fit-test operator's experience is important. Further guidance on failures is given in [Appendix 5](#). In any case, the fit-test should be repeated. If a repeat test is undertaken within 2 weeks of the failure, the sensitivity test result may be considered valid. Outside of this period the test should be repeated in its entirety.
- You should inform the wearer of the fit-test result, i.e. a pass or fail.

- You should also be aware of the sensitive nature of a fit-test failure especially on a wearer who may have been wearing the particular type of respirator in the asbestos or similar hazardous industry for a period of time. A procedure for consultation with the employer should be developed in advance to deal with such cases. Where the failure results from a type of facepiece already worn for a period of time in the workplace, you should inform the employer. They in turn should note this fact on the individual's health record and may wish to make arrangements for medical advice.
- To help fit-testers manage their workload and increase productivity, fit-tests may be split i.e. you may conduct the sensitivity tests for all wearers at the beginning of the session, then conduct all of the fit-tests afterwards.

Appendix 3: Qualitative Fit-Test Method

(Adapted from Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, HSE (2012))

Precautions

The wearer should not eat, drink (except plain water), smoke, or chew gum for at least 30 minutes before the fit-test.

Before carrying out a qualitative fit-test using a distinctive taste, the taste threshold of the wearer must be established. This is often referred to as a 'sensitivity test'. This screening test is carried out to check that the wearer can detect the taste of the test aerosol. If the wearer cannot detect the taste during the screening test, then the fit-test method cannot be used, and a different method should be chosen. The fit-test should be carried out in accordance with the manufacturer's instructions.

Ensure that the sensitivity solution is used during the sensitivity test and that the more concentrated fit test solution is used during the actual fit-test.

The nebuliser may clog during use and stop delivering the test aerosol; the test operator should make periodic checks of the nebuliser to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid. Regular cleaning of the nebuliser should help to prevent clogging.

Qualitative Bitter / Sweet Tasting Aerosol Fit-Test Method

The person is fit-tested while wearing the respirator inside a hood while the test solution (either bitter or sweet) is sprayed into the hood. If the wearer detects the taste of the aerosol during the test, then the fit is unsatisfactory and the fit-test is failed. During this test the wearer will carry out a number of specified exercises.

The bitter tasting test solution is the testing solution of choice at HDdUHB.

The types of respirators that can be fit-tested with this method include:

- Filtering facepieces FFP1, FFP2, FFP3;
- Half facemask respirators fitted with a particulate or combined filter.

The fit-test procedure should be carried out in accordance with the manufacturer's documented instructions but following the standard fit-test exercises.

For a reminder of the correct procedure for undertaking the sensitivity test and the fit-test, please see the Memory Jogger in [Appendix 6](#).

Prior to the test the nebuliser(s) should be physically tested to check that they are atomising the fluids correctly. Aiming towards a window may help to see the atomised fluid.

Fit-Test Exercises

For qualitative methods the test protocol should comprise of a minimum of 7 exercises; each test exercise should be performed for at least one minute with the wearer breathing through their mouth, not their nose. The exercises are:

Exercise	Description
(i) Normal breathing	The wearer should breathe normally with no head movements or talking.
(ii) Deep breathing	The wearer should breathe slowly and deeply, taking care so as not to hyperventilate. (At the end of this exercise, normal breathing should be resumed).
(iii) Turning head side to side	The wearer should slowly turn their head from side to side between the extreme positions on each side (approximately 15-20 times per minute). The head shall be held at each extreme momentarily so the wearer can inhale at each side.
(iv) Moving head up and down	The wearer should slowly move their head up and down (approximately 15-20 times per minute). The wearer should be instructed to inhale in the up position (i.e. when looking toward the ceiling).
(v) Talking	The wearer should talk out loud slowly and loud enough so as to be heard clearly by the fit tester. The wearer should read from a prepared text such as the Rainbow Passage or count down from 100.
(vi) Bending over	The wearer should stand and bend at the waist as if to touch their toes, and then return to an upright position. Repeat approximately 10-15 times per minute.
(vii) Normal breathing	Same as exercise (i).

At the end of the test, the nebuliser(s) should be physically tested again to check that they continue to atomise the fluids correctly.

In addition to the above, ask the person to reach their hand up inside the test hood and break the face seal with their fingers and take a breath through the mouth. Although this is not part of the documented test, it does act as a good double-check for the fit-tester that the nebulisers have been functioning properly throughout the test.

Rainbow Passage (talking exercise)

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colours. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

Note: When conducting a qualitative test inside a test hood, care should be taken to avoid catching the facepiece on the test hood.

Appendix 4: Fit-Test Report

(Adapted from Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, HSE (2012))

A record of the fit-test shall be produced. The fit-test report should clearly identify the following (where applicable):

- 1) The name and date of birth of the person fit-tested and where they work;
- 2) The make, model, material and size of the face-piece;
- 3) Whether the subject's own facepiece, a pool facepiece or a test facepiece was used;
- 4) The test exercises performed during the fit-test;
- 5) The fit-test method employed, i.e. taste test agents;
- 6) The result of the fit-test in terms of a pass or fail;
- 7) The date of the fit-test;
- 8) The details of who performed the test.

And also where possible:

- 1) If a reusable respirator is used, the condition of the wearer's own facepiece;
- 2) Whether the wearer required assistance donning and fit checking the facepiece before the fit-test;
- 3) How many repeat tests were needed to obtain a pass and the reasons why; and
- 4) The serial number or other means of identifying the equipment employed in the fit-test.

The form also asks the assessor to confirm that they have checked the integrity of the test hood and ensured that it has been thoroughly cleaned. Hoods must be cleaned between each staff assessment with a Clinell wipe. Both the inside and the outside must be cleaned (using two separate wipes).

Fit-test records should be stored for at least five years by the employer. These records must be kept available by the line manager for inspection on request and a copy given to the employee. A second copy should be sent to the Health and Safety Department, care of the Estates Department in Glangwili General Hospital. The Health and Safety Department will ensure that the fit-test record is entered into the Health Board-wide fit-test database and the paper copy kept for a minimum of 5 years.

A copy of the HDdUHB Respirator Fit-Test Report can be found on the next page. This report must be used for all fit-tests conducted at HDdUHB.

Respirator Facepiece Fit-Test Report

Staff surname		Date of birth	
Staff first name		Test date/...../.....
Hospital site		Test time	: hours
Ward or dept.			

Assessor's surname	
Assessor's first name	

Medical checklist			
Allergies?	Yes / No	List	
Respiratory condition?	Yes / No	List	
During last 30 minutes had something to:	Eat?	Yes / No	Drink (except water)? Yes / No
	Chew gum?	Yes / No	Smoke or vape? Yes / No

RPE/Substances			
Mask Make/Model (& Size if applicable)		Provided? Yes / No	
Substance 1 (tick)		Bitrex Sensitivity Solution (h ₂ O, sodium chloride, denatonium benzoate)	
		Sweet Sensitivity Solution (saccharin sodium, purified water)	
Substance 2 (tick)		Bitrex Test Solution (h ₂ O, sodium chloride, denatonium benzoate)	
		Sweet Test Solution (saccharin sodium, purified water)	

Test Procedure				
Mask fit training	Yes / No			
Hood cleaned	Yes / No	Hood integrity checked	Yes / No	
Sensitivity test with Test Hood on (tongue slightly out)	Yes / No	Number of squeezes of nebuliser	1 - 10number
			11 - 20number
			21 - 30number
			31+	trial alternative

Face Fit Test with Test Hood on	Duration	Face Fit Test	Face Fit Re-Test
Normal breathing	1 minute	Result – Pass / Fail	Result – Pass / Fail
Deep breathing	1 minute	Result – Pass / Fail	Result – Pass / Fail
Head side to side	1 minute	Result – Pass / Fail	Result – Pass / Fail
Head up and down	1 minute	Result – Pass / Fail	Result – Pass / Fail
Talking	1 minute	Result – Pass / Fail	Result – Pass / Fail
Bending down	1 minute	Result – Pass / Fail	Result – Pass / Fail
Normal Breathing	1 minute	Result – Pass / Fail	Result – Pass / Fail
Comments			
Re-Test Comments			

TEST RESULT		PASS / FAIL	
Staff Signature		Date/...../.....
Assessor Signature		Date/...../.....
1 Copy of form be retained by the line manager & 1 Copy to go to Health & Safety (C/O Estates Dept. GGH)			

Appendix 5: Failures

(Adapted from Fit Testing of Respiratory Protective Equipment Facepieces, Operational Circular OC 282/28, HSE (2012))

Wearer Factors

The most obvious reason for a fit-test failure is that the facepiece is unsuitable for the wearer and is not capable of fitting their face. Certain facial features may lead to poor fit. Watch out for:

- Cleft chins;
- Scars on the face sealing area;
- Depressions around the temple/cheekbones;
- Unusual chin profiles (chisel feature);
- Unusual nose shapes;
- Very large/small or angular faces.

The fit-tester should inspect the fit of the facepiece before beginning the fit-test. Ask the wearer to move their head to look down whilst you check the fit around their nose or forehead. Similarly ask them to move their head to look up, then to each side to check the fit all around the facepiece. Obvious gaps indicate a poor fit and an alternative facepiece may be needed.

A fit check should be successfully carried out before beginning the fit-test.

It is possible that the fit-test exercises will result in the facepiece moving on the face creating a leak. Note at what stage in the test the failure occurred. If it was during the head movement exercises, this could mean that the facepiece could have moved on the face. Inspect the fit again for changes since the beginning of the test. Changes may be because the facepiece is unsuitable for the wearer's face or could be due to other factors. Watch out for:

- Sweating which can cause the facepiece to slip;
- Make-up, face-creams etc these can create sealing problems;
- Jewellery such as nose studs interfering with the fit.

The facepiece may need re-donning and the straps tightening to prevent slippage, however they should not be so tight as to make the facepiece uncomfortable. Re-test if the problem can be rectified or try a different facepiece.

Facepiece Problems

If there is no obvious reason for the fit-test failure it is worth examining the facepiece closely to check for defects. With reusable facepieces inspect generally and ensure that the exhalation valve is in good condition and clean.

Other Problems

Always check your fit-test equipment before use:

- The nebulisers should be checked during each test for correct functioning;
- Make sure you use the correct solution for the fit-test.

Is the wearer trying to smell the aerosol, rather than taste it? You may have to keep reminding the wearer to breathe through their mouth, not their nose.

Make sure the wearer does not eat, drink smoke or vape for at least 30 minutes before the test, otherwise their sense of taste may be affected.

Appendix 6: Memory Jogger

(Adapted from [Guide to using the 3M Qualitative Fit Test Kit](#), 3M Occupational Health and Environmental Safety Group)

Below is a reminder of the correct procedure for undertaking the sensitivity test and the fit-test.

Sensitivity Test

Use the sensitivity solution with the matching atomiser;

Remind person to breathe through mouth with tongue at front;

Say ... "Tell me immediately when you can taste it";

- 1-10 Squeezes - If not tasted, repeat;
- 11-20 Squeezes - If not tasted, repeat;
- 21–30 Squeezes - STOP if not tasted;

Note down which range the taste was detected = 10, 20 or 30. This provides the starting number for the Fit-test.

Fit-Test

Use the test solution with the matching atomiser;

Repeat again ... "Breathe through your mouth" and "Tell me immediately when you can taste it";

Start with 10, 20 or 30 squeezes (Based on the findings of the Sensitivity Test);

During test apply half of the start number (i.e. 5, 10 or 15) extra squeezes every 30 seconds for the duration of the test;

Change exercise every 60 seconds. 7 exercises: (See [Appendix 3](#) for details of each exercise)

- Breathe normally;
- Breathe more deeply;
- Head side to side;
- Up and down;
- Talking;
- Bending over;
- Breathe normally;

Finish – Ask the person to break the face seal with their fingers and take a breath through the mouth (explain what this shows).

Don't forget to record the results. One copy of the fit test record should be given to the manager of the ward / department and a second copy sent to Health & Safety, C/O Estates Department, GGH.