Respiratory Protective Equipment (RPE) for Clinical Staff Policy

(Version 1.0)

Health and Safety Department

Document Author: Respiratory Protection Coordinator
Approved by: Health & Safety Committee
Approval Date: TBC
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Swansea Bay University Health Board (SBU HB)

Respiratory Protective Equipment (RPE) Policy

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1. Introduction

1.1 Respiratory Protective Equipment (RPE) must be used when (despite other reasonable controls being in place and there is a residual risk) it is not reasonably practical to prevent exposure of the respiratory tract to substances hazardous to health. Examples include:

- Exposure to suspected or confirmed airborne micro-organisms.
- Exposure to dust, mist, vapour, gas or fume
- Exposure to certain drugs given by nebuliser
- Exposure to a product containing volatile solvents. .
- Workers exposed to asbestos and other environmental particles

1.2 In these instances, the hazard must be adequately controlled by applying protection measures appropriate to the activity and consistent with the assessment of risk.

1.3 Under Health & Safety legislation, when RPE is used as a control measure the selected RPE must be adequate and suitable as outlined in the HSE Respiratory Equipment at Work Guidance (2013). It must reduce exposure to as low as is reasonably practicable and to an acceptable level as stated in Operational Circular 228/28 (HSE)

1.4 RPE must be considered when a patient is admitted with a known or suspected infectious disease/agent spread by the airborne route and when aerosol generating procedures (see Point 6) are undertaken on patients with a known or suspected infectious agent spread by the airborne route or droplet route

1.5 **It is important to note that in instances of new and emerging infections (including novel coronavirus infections such as SARS CoV 2),** the advice relating to RPE issued by PHE and PHW may be, initially, at a higher level than is usually considered commensurate with the type of organism in question. As more epidemiological information is established and more is understood about the organism's virulence and mode of spread the level of protection advised may be reduced or increased. Staff must be guided by the Infection Prevention and Control Team who will, in turn, base their advice on the most current guidance published by PHW and PHE.

1.6 Appendix 11 of the NIPCM indicates the TBPs required for common organisms and Appendix 16 of the NIPCM shows the RPE required (where appropriate).

2. How to Use this Policy

2.1 Pages 4 – 6 of the policy has information on the scope, aims and staff responsibilities in relation to Respiratory Protective Equipment (RPE).

2.2 Section 6 has a table of Acronyms, Abbreviations and a glossary of terms used in the policy.

2.3 The remainder of the document has more detailed information on RPE, Fit testing Requirements and the equipment available in the Health Board.

2.4 **Please read the index page so that you are familiar with the content of the entire policy.**

3. Scope of Policy

3.1 This policy is applicable to all healthcare workers employed by Swansea Bay University Health Board including locum staff, agency staff and external contractors.

3.2 It is supported by the National Infection Prevention & Control Manual (NIPCM). It should be read in conjunction with the following SBU HB policies and protocols:

- **SBU HB Infection Prevention and Control Policy**
- **SBU HB Health and Safety Policy**
- **Swansea Bay 4D Decontamination Process**

3.3 If practice falls outside the actions described in this policy, the reason for this must be discussed with a senior member of the Service Delivery Unit team and with staff from the Health and Safety Department. The outcomes and actions must be documented and held with the Health and Safety Department. It may be necessary to involve staff from the Occupational Health Department also.

4. Aims

This policy aims to:

- provide guidance to staff and managers on organisational arrangements in relation to RPE;
- Clarify the requirements for fit testing of FFP3 masks that are to be used as part of personal protective equipment to protect staff from infection.
- Outline alternative means of providing respiratory protection when a “fit” cannot be achieved with the standard FFP3.

5. Responsibilities (in addition to those outlined in the Health Board's Infection Prevention & Control Policy).

- The Health Board is responsible for ensuring that resources are available, and that staff are adequately trained, where necessary, to use RPE (and other PPE) appropriately and safely.
- There is at least one competent fit tester in post who has current accreditation by the British Safety Industry Federation.

5.1 Chief Executive

The Chief Executive has overall responsibility for ensuring that the Health Board meets it statutory obligations and that there are effective arrangements for Health and Safety are in place. This responsibility is delegated to the Assistant Director of Health and Safety.

Delivery Service Unit (SDU) Directors and Managers must:

5.1.1 Ensure that all staff comply with this policy as outlined "Roles and Responsibilities" section of the Swansea Bay University Health Board Infection Control Policy.

5.1.2 Identify staff who may be required to use RPE.

5.1.3 Ensure that adequate and suitable RPE is available for staff when required.

5.1.4 Ensure that staff can access RPE.

5.1.5 Ensure that RPE is worn in conjunction with other PPE.

5.1.6 Ensure that staff are trained/competent in the use of RPE.

5.1.7 Ensure that staff are fit tested every two years or more often if necessary (see Section 9.3 below).

5.1.8 Ensure that staff who require respiratory hoods are identified and trained appropriately.

5.1.9 Ensure records are maintained.

5.1.10 Ensure that staff wear RPE as required in accordance with Transmission-based precautions as outlined in the NIPCM

5.1.11 Ensure that staff report breaches of safe practice/safety incidents using an IR1 form.

5.2 All Health Board staff must:

5.2.1 Comply with this policy as outlined in the "Roles and Responsibilities" section of the Swansea Bay University Health Board Infection Control Policy.

5.2.2 Ensure that they wear RPE as required in accordance Transmission-based precautions as identified in the NIPCM.

5.2.3 Ensure that RPE is worn in conjunction with other PPE.

5.2.4 Know how to access RPE when required and that supplies are kept in a clean designated area.

5.2.5 Ensure that they have fit test training at least every two years or more often if necessary (see Section 9.3 below) and are competent in the use of RPE

5.2.6 Advise their line manager and/or Fit Tester when they are due for fit test training.

5.2.7 Be aware of the specific Make and Model of FFP3 mask that they have been fit tested to and understand that they must use this make and model of mask or be re-fit tested before using another make and model of FFP3.

5.2.8 Undertake a Fit Check each time they wear an FFP3 mask.

5.2.9 Keep accurate records of the duration of use.

5.2.10 Report faults, problems or inadequacies to their line manager.

5.2.11 Report breaches of safe practice/safety incidents using an IR1 form.

5.2.12 If issued with a respiratory hood - ensure that it is always available for use and is decontaminated after use.

5.2.13 If used, decontaminate powered units after use.

5.3 Health Board Respiratory Protection Coordinator must:

5.3.1 Be accredited with the BSIF.

5.3.2 Train identified staff in fit testing using cascade model – accredit trainers every 2 years.

5.3.3 Provide instruction on fitting, removal, disposal, cleaning and storage of RPE

5.3.4 Fit test staff who have been identified as requiring fit testing and re-fit testing staff as necessary.

5.3.5 Inform managers when fit testing has been undertaken on their staff.

5.3.6 Keep records of fit testing passes and failures.

5.3.7 Monitor and maintain adequate supplies of RPE for routing day to day use across the Health Board (Overall supplies will be managed locally and monitored corporately through the health & safety team).

5.3.8 Monitor the filtering capacity of filters used with the Respiratory hood packs and replace as appropriate.

5.4 Infection Prevention and Control Team must:

5.4.1 Ensure that the NIPCM is accessible to staff via the Infection Prevention and Control SharePoint site.

5.4.2 Provide guidance on the appropriate use, disposal, decontamination and storage of RPE.

5.4.3 Support clinical staff with risk assessments.

5.5 Health & Safety Staff must:

5.5.1 Lead on the provision of Fit Testing within the organisation.

5.5.2 Hold a list of competent fit testers.

5.5.3 Monitor compliance with this policy

5.5.4 Review IR1 forms and advise/action accordingly

5.5.5 Support clinical staff and the IPCT with risk assessments.

5.5.6 Provide guidance on matters relating to Health and Safety Legislation and guidance issued by the HSE.

6 Abbreviations, Acronyms and Glossary

AGPs	Aerosol Generating Procedures: medical or patient care activities that result in the release of airborne particles (aerosols) and create a risk of airborne transmission. AGPs include (but are not limited to): • Tracheal Intubation • Tracheal Care • Extubation • Cardiopulmonary Resuscitation • Bronchoscopy • Non-invasive ventilation including CPAP and BIPAP • Manual Ventilation • Open suction & Sputum induction • Surgical & Post mortem procedure involving high speed devices • Some dental procedure involving high speed drills.
Airborne transmission	Spread of infection from one person to another by airborne particles (aerosols) containing infectious agents.
Aerosols	Very small particles that may contain infectious agents. Aerosols can remain in the air for long periods of time and be carried over long distances by air currents. They can be released during AGPs
BSIF	British Safety Industry Federation

Droplet transmission	Spread of infection from one person to another by droplets containing infectious agents.
FFP3	Face Filtering Piece Class 3
FPSM	Fluid repellent Surgical Mask (must be Standard IIR)
HSE	Health and Safety Executive
NIPCM	National Infection Prevention and Control Manual
PHE	Public Health England
PHW	Public Health Wales
PPE	Personal Protective Equipment
RPC	Respiratory Protection Coordinator
RPE	Respiratory Protective Equipment
SICPs	Standard Infection Control Precautions
TBPs	Transmission based precautions

7 Respiratory Protective Equipment for Clinical Staff

Appendix 11 of the NIPCM provides a framework indicating the PPE (including RPE) required for a wide range of organisms and infections. SICPs are required for all patients. However, as outlined in Appendix 11 of the NIPCM, when Droplet precautions or Airborne precautions are required in addition to SICPs, RPE must be considered.

7.1 For RPE to be suitable it must be matched to the job, the environment, the anticipated airborne contaminant and the wearer.

- RPE must be adequate – right for the hazard and reduce exposure to the level required to protect the wearer's health.
- RPE must be suitable – right for the wearer, task and environment enabling the wearer to work freely and without additional risk caused by the RPE

7.2 **Droplet transmission** is the spread of infection from one person to another by droplets containing infectious agents which are greater than 5 microns in size and travel less than

one metre. Droplet transmission involves contact with the conjunctivae or mucous membranes of the nose or mouth. Droplet Precautions are used to reduce the risk of droplet transmission of infectious agents that are spread by droplet and include the use of a Fluid repellent Surgical mask (FRSM) and eye protection (e.g. for patients with influenza or whooping cough).

7.3 **Airborne transmission** is the spread of infectious agents by infectious droplet nuclei (small particles 5 microns or smaller in size) - aerosols that may suspend in the air for long periods of time and travel widely on air currents. Particles may be inhaled by, or deposited on, a susceptible host. Airborne precautions are used to reduce the risk of airborne transmission of infectious organisms spread by the airborne route and include the use of an FFP3 (EN149:2001) or alternative method of protection (and other PPE including eye protection as indicated in Appendix 11 of the NIPCM).

7.4 **When a patient requiring Droplet Precautions is undergoing an aerosol generating procedure (AGP) airborne precautions are required (see Appendix 11 of the NIPCM).**

7.5 For all patients PPE as indicated in Appendix 11 and Appendix 16 of the NIPCM must be used. RPE is always worn in conjunction with the other components of the PPE required.

8 Types of Equipment available for respiratory protection from infection in SBU HB

- Fluid Repellent Surgical masks.
- Tight–fitting face pieces (masks) that rely on having a good seal with the wearer's face (FFP3 masks). A "fit" test and fit check is required – see Point 9 below.
- Loose-fitting face pieces (hoods) relying on filtered air provided by a battery powered unit.

9 Requirement for Fit testing for FFP3 masks

9.1 The performance of an FFP3 is dependent on the quality of fit of the face piece to the wearer's face and depends on having good contact between the wearer's skin (the face seal of the face piece). An inadequate fit will significantly reduce the protection provided to the wearer. Facial hair in the region of the face seal will significantly reduce the protection provided (see references). Therefore, there is a requirement for men to be clean shaven to wear a FFP3 although some types of facial hair is acceptable (see Appendix C). When beards cannot be shaven due to religious or

other reasons the Respiratory Protection Coordinator (RPC) will advise on the use of alternative respiratory protection equipment (powered hoods).

9.2 **It is a legal requirement (Health and Safety Act, 1974, HSE 282/28 and HSG 53) that any Health Care Worker required to wear an FFP3 mask should have undertaken fit test training (on that particular make and model mask) prior to clinical use.**

9.3 **Fit Test Training**

Fit test training is a method for checking that a specific make/model of tight-fitting face piece matches the person's facial features and seals adequately to the wearer's face to ensure that the mask will protect the wearer. Correct fitting is vital to prevent exposure. It will also help to identify any unsuitable face pieces that should not be used. Qualitative fit testing is a pass/fail system based on the wearer's subjective assessment of any leakage through the face seal region by the detection of bitter or sweet testing aerosols as a test reagent.

9.3.1 Fit testing enables the assessor to check that a wearer can put on the face piece correctly.

9.3.2 Fit testing ensures that inadequately fitting face pieces are not selected for use.

9.3.3 Fit testing allows advice to be given by the RPC on alternative means of respiratory protection (when necessary).

9.3.4 Each ward/department should have two staff who have been trained to fit test staff.

9.3.5 Ward/department based fit test trainers will have received "Train the Trainer" training from the RPC

9.3.6 The RPC will assess the ward/department based trainers in their clinical area.

9.3.7 Ward/department based Fit Test Trainers must receive update training annually.

9.3.8 Staff who are required to wear FFPs masks must receive update "fit testing" biannually.

9.3.9 In addition to biannual updating, "fit testing" must be repeated if a new product is used or when the user's face shape has changed (e.g. due to weight gain, weight loss, injury or major dental work, scars/moles around the face seal area).

9.3.10 Ward/department based fit test trainers will have access to a Qualitative Fit Test Kit (with Bitter and or Sweet Taste solution).

9.3.11 Ward/department based fit test trainers will have access to a Training Resource Pack

9.3.12 Ward/department based trainers will complete documentation on staff they have trained (pass or fail) and forward this to the RPC.

9.3.13 The RPC will collate and keep records for the organisation.

9.3.14 Ward/department managers will also keep a register of staff who have been satisfactorily fit tested.

9.3.15 The RPC will provide “fit testing” on alternative masks when there has been a failure to “fit” to the standard FFP3 mask.

9.3.16 The RPC (or other suitably trained staff) will provide instruction on the use of Respiratory Hoods and Powered Units where this is necessary.

10 FFP3 masks

10.1 Must meet (EN149:2001) standard.

10.2 Are single use items and must be disposed of after use.

11 Powered Hoods

Powered hoods can be used if the wearer is unable to “fit” an FFP3 masks and where the wearer has facial hair that prevents the correct fitting of FFP3 masks.

11.1 Staff must have undergone training before wearing a powered hood

11.2 Staff will be issued with individual hoods and are responsible for cleaning the hood after use.

11.3 Staff who wear powered hoods are responsible for decontaminating the equipment after use and leaving the equipment in satisfactory condition in readiness for subsequent use.

11.4 The respiratory protection coordinator will check, calibrate and, where necessary, replace the filters used for the power packs on a regular basis as per Standard Operating Protocol.

11.5 The respiratory protection coordinator will train identified staff to be competent to check calibrate and, where necessary, replace the filters used for the power packs on a regular basis as per Standard Operating Protocol.

11.6 All staff using powered hoods must have undergone training led by the Respiratory Protection Coordinator or another competent person.

12 References and Further Reading

Health and Safety Executive (2012) Operational Circular, 228/28

Control of Substances Hazardous to Health Regulations 2002

COSHH (1974) Approved Codes of Practice

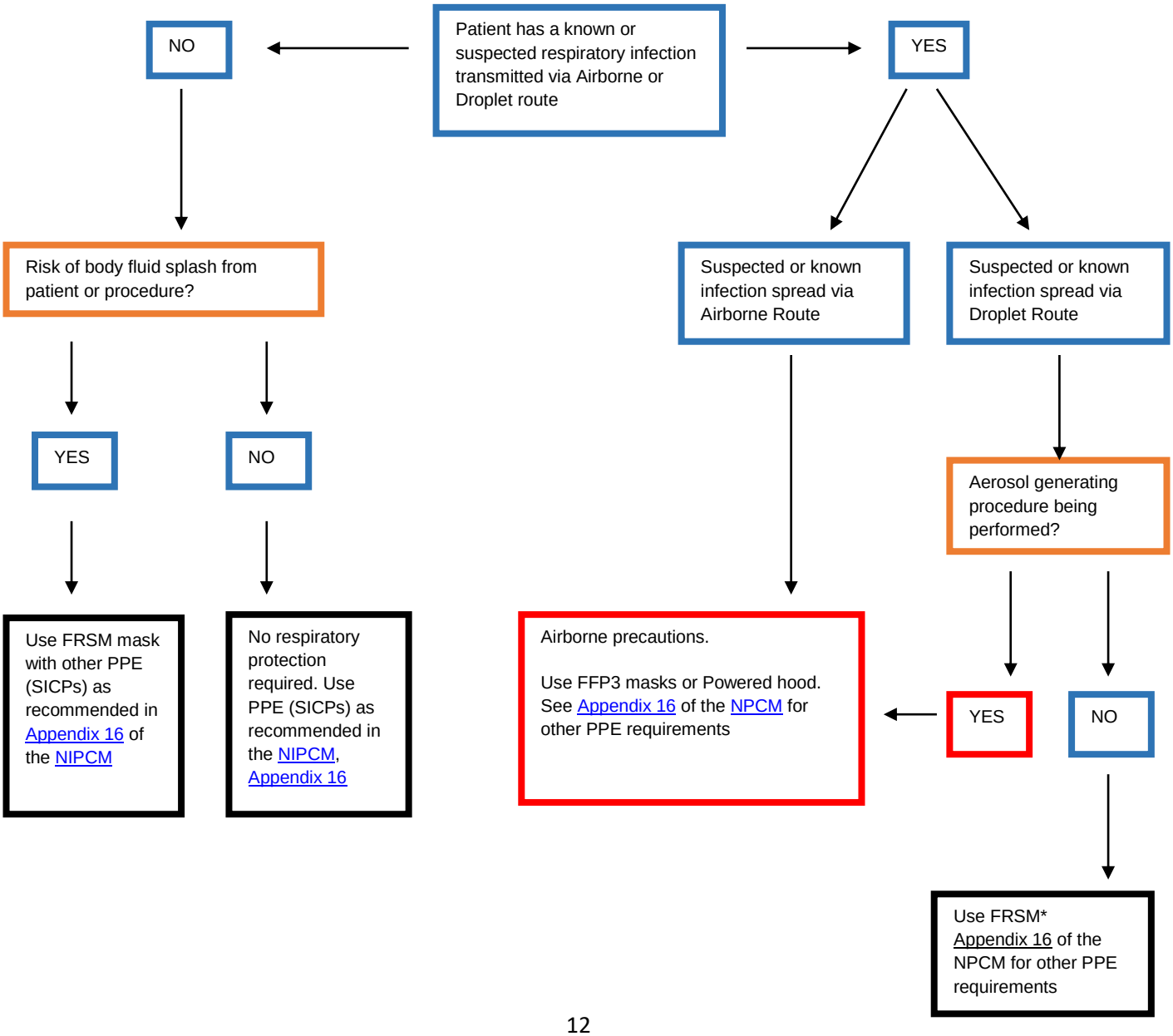
HSE (2015) The Effect of Wearer Stubble on the Protection given by Face Filtering Pieces Class 3 FFP3 and half masks

Health & Safety at Work etc. Act 1974

Management of Health & Safety at Work Regulations 1999

Personal Protective Equipment Regulations 2002

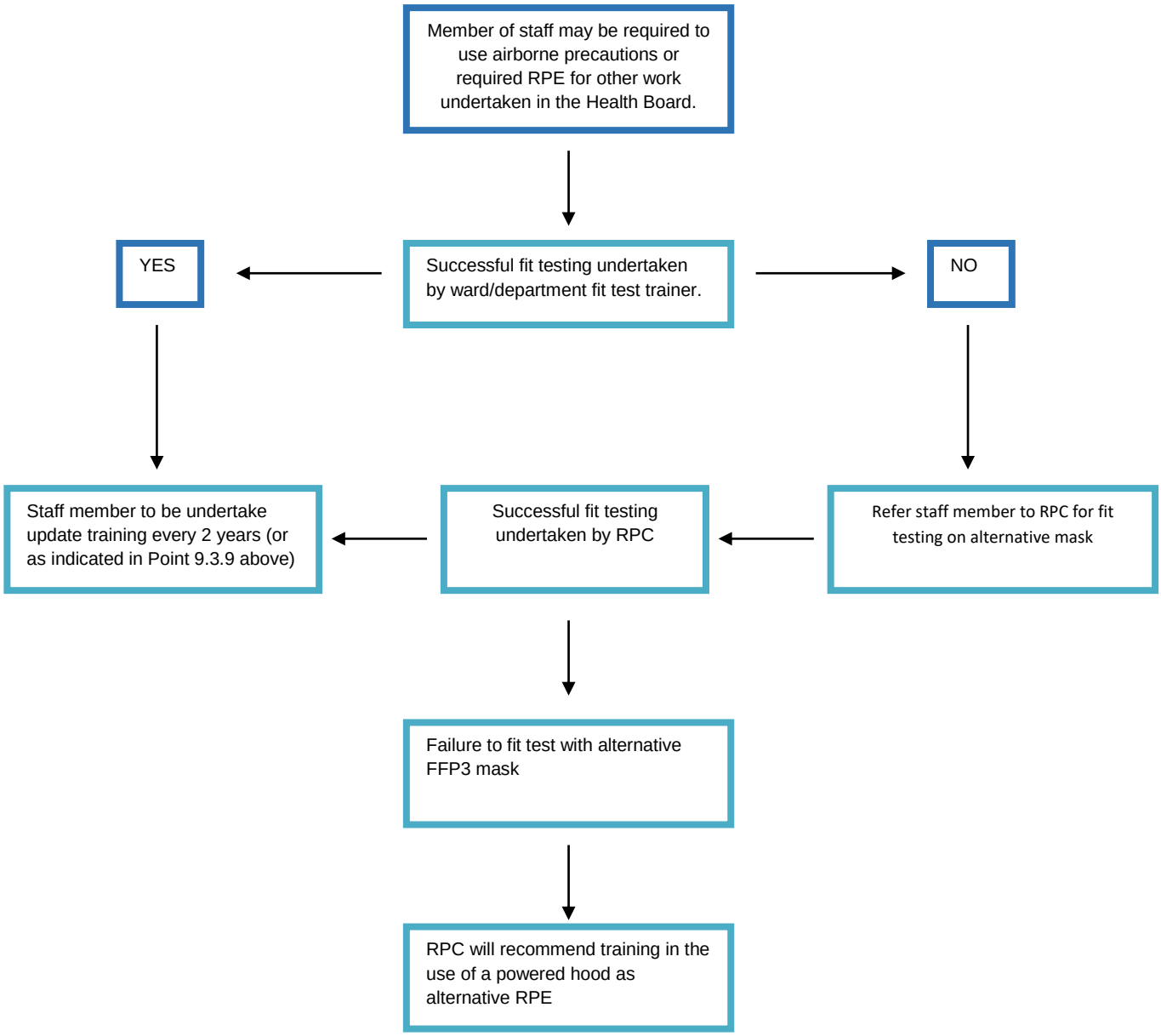
Appendix 1: Flow Chart for Choice of Respiratory Protective Equipment in Clinical Care



*FRSM – Fluid Repellent Surgical mask (IIR standard)

N.B : Eye protection – visor, goggles or mask with integral eye protection must be used whenever there is a risk of splash and ALWAYS with

Appendix 2: Flow Chart for Fit Testing

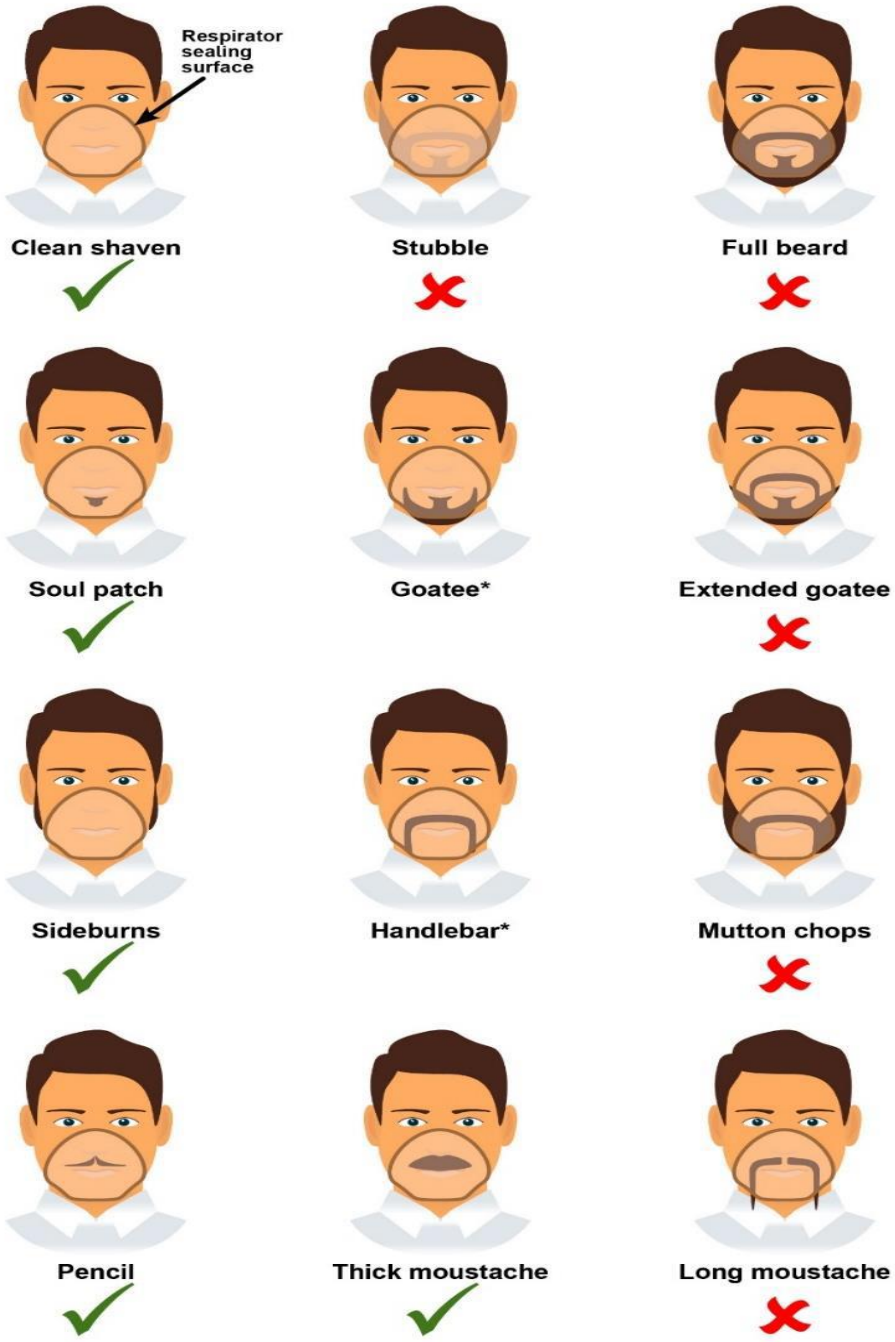


Staff who have "failed" to be fitted to wear an FFP3 mask must not undertake work that requires RPE at that level unless alternative suitable and adequate equipment is worn.

Refer to the NIPCM for other PPE required to manage and reduce infection risks

Refer to other HB policies to manage risks relating to RPE in other departments.

Appendix 3: Facial Hair and FFP3 respirators



- Ensure that hair does not cross the respirator sealing surface.
- For any style, hair should not cross or interfere with the respirator sealing surface. If the respirator has an exhalation valve, hair within the sealed mask area should not impinge upon or contact the valve.

*Adapted from The Centers for Disease Control and Prevention, The National Personal Protective Technology Laboratory (NPPTL), NIOSH. Facial Hairstyles and Filtering Facepiece Respirators. 2017. Available online at **https://www.cdc.gov/niosh/npptl/RespiratorInfographics.html .** Accessed 26/02/2020.