Peninsula Dental Social Enterprise (PDSE)

Decontamination, Storage, Maintenance & Transportation of Reusable Respirators

Version 2.0

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Policy will be updated as required in response to a change in national policy or evidence-based guideline.

Contents:

Decontamination, Storage and Maintenance of Reusable Respirators

1. Introduction

The associated procedures for the decontamination, storage and maintenance of reusable respirators are set out in this standard operating procedure. This procedure applies to any persons that have been issued with a personal half face respirator or powered air unit, working in an environment where aerosol generating procedures are taking place.

The guidance set out in this policy should be used in conjunction with the associated PDSE policies:

- Hand hygiene policy
- Waste policy
- Disposal of clinical waste SOP
- Infection prevention and control policy

Version changes to this policy are highlighted in yellow and will remain highlighted until the next version update.

2. Reusable Respirators

Prior to being issued with a personal respirator, all users must have completed the relevant fit testing procedure with a competent fit tester. Users will be issued with either:

- P3 Stealth half mask respirator (click here for manufacturers information)
- JSP Force 8 half mask respirator (click here for manufacturers information)
- 3M Versaflo M-306 Helmet (click here for manufacturers information) and TR-315 Powered Air (click here for manufactures information)
- 3M Versaflo S-133 respirator hood (Click here for manufacturers instruction)

3. Appropriate Selection

Respirators should be worn by all clinicians, assisting clinicians, dental nurses or supervisors in any environment where an Aerosol Generating Procedure is being carried out. Exposure to aerosol and the appropriate personal protective equipment to be worn should be assessed by the clinician prior to the appointment. Please refer to *Aerosol and Non-Aerosol Generating Procedures* (appendix 2)

3M Versaflo M-306 Helmet and TR-315 Powered Air will only be provided for individuals that have had an unsuccessful attempt at fitting a single use or reusable half mask respirator. Further information regarding the suitability of 3M Versaflo M-306 Helmet and TR-315 Powered Air can be accessed here

PPE Overview Table:

4. Pre-Use Checks, Donning and Doffing Instructions

Prior to wearing any type of personal respirator, it is the responsibility of the wearer to conduct thorough pre-use checks to ensure the mask is in a usable condition and is being worn correctly.

	Non-Aerosol Generating Procedures	Aerosol Generating Procedures
Hand Washing	X	**X**
Forearm & Elbow Washing	**X**	
Gloves	**X**	**X**
Plastic Apron	**X**	
Plastic Sleeves		
Fluid Resistant Full Length Gown		**X**
Eye Protection	**X**	**X**
Face Visor	**X**	**X**
Fluid Resistant IIR Face Mask	**X**	
FFP3 Respirator Mask		**X**

Pre-Use Instructions: All Reusable Respirators

- Carefully remove the mask from the storage container
- Visually inspect elasticated straps for any visual wear and tear. Check for any deterioration in elasticity
- Check all filters and valves are seated correctly
- Before donning, the user should ensure that they are not wearing heavy facial make up or any heavy moisturising creams. Where applicable, users must also be cleanly shaven. Any facial hair that protrudes beyond the borders of the mask will render the seal ineffective

Donning: Stealth P3 Respirator

- Grasp the mask in one hand and the elasticated, upper headband in another. Put the mask to your face and place the headband over the crown of the head
- Pull the straps evenly and simultaneously at each buckle to ensure a comfortable and sealed fit
- When in position, cup the respiratory valve in your hands and breathe out. If the mask is correctly fitted, the mask will bulge a little. If air escapes from the mask, it will need to be re-adjusted and this check should be repeated until an adequate seal is achieved.

Donning: JSP Force 8 mask

- Grasp the mask in one hand and the elasticated, upper headband in another. Put the mask to your face and place the headband over the crown of the head
- Pull the straps evenly and simultaneously at each buckle to ensure a comfortable and sealed fit
- Press the front and backs of both filter covers together to stop air entering the mask through the filters
- Inhale. No air should come through the mask. Air entering the mask is an indicator that the mask is not fitted correctly. Adjust the mask and repeat the test until no air is entering the mask at point of inhaling.
- When a suitable seal has been established, release both filters to allow air into the mask

Doffing: All reusable respirators

- Masks should be doffed in a pre-defined area
- Wearing clean gloves, grasp the front of the mask in one hand, upper headband in another and pull away from the face
- Place the mask down on a clean surface

Donning: 3M Versaflo M-306 Helmet and TR-315 Powered Air

- Place headpiece on with the visor in the raised position and adjust sizing by turning the ratchet. The height of the headband can also be adjusted by adjusting the relevant straps
- When fit has been established, remove the headpiece and connect the breathing tube
- Place the headpiece on with the visor in the raised position, switch on the air supply and pull the visor down over the face, ensuring the seal fits around the face

Doffing: 3M Versaflo M-306 Helmet and TR-315 Powered Air

- Wearing clean gloves, switch off the air supply
- Immediately break the face seal and lift the visor into the up position
- Carefully remove the headpiece and place it down onto a clean surface

5. Infection Control and Maintenance

Half mask respirators and 3M Versaflo M-306 Helmet and TR-315 Powered Air units must be decontaminated appropriately after each use. Deep cleaning and filter changes should be completed and recorded as specified by the manufacturer. In order to prevent damage to the protective integrity, all reusable respirators and PAPR units should be disinfected using a disinfectant effective against viruses, bacteria and fungi to EN standard 14476 for viricidal activity. All decontamination procedures should be completed wearing standard PPE:

- Apron
- Fluid resistant surgical mask
- Eyewear/Visor
- Gloves

Stealth P3 Respirator

Immediately after use:

- Remove the filters and place to one side for re-insertion after cleaning.
- Using a non-alcohol surface wipe, thoroughly wipe the respirator to remove any debris or residue
- Allow mask to air dry
- Once dry, reinsert or replace filters as required

Deep cleaning and filter changing – After 37 days of clinic use

- Remove the grill, filters, head and neck strap from the mask body. Filters must be discarded as clinical waste.
- Wipe the mask body with a non-alcohol surface wipe.
- Immerse the mask body and grill in a neutral detergent solution as per manufacturers instruction
- After contact time with solution, remove components and rinse with clean water. Allow to air-dry
- Reassemble and replace with new filters

JSP Force 8 mask

Immediately after use:

- Using a non-alcohol surface wipe, thoroughly wipe the main body of the respirator and the exterior of the filter housing to remove any debris or residue
- Allow mask to air-dry

Deep cleaning and Filter changing – After 28 days of use or before use by another individual

- Remove the filters attached to the Force™8 Half-Mask and dispose of as clinical waste. Remove the exhalation cover allowing you to remove the mask's harness and diaphragm.
- Wash the main body, exhalation valve and diaphragm using non-alcohol surface wipes. Once you are confident that all of these parts are clean then dry them off using a lint-free cloth.
- After cleaning, reassemble the mask. Start by re-inserting the diaphragm, thread through the front of the mask and pull the diaphragm through until it is in place. Then place the harness over the front of the mask (make sure it is the correct way up), and finally lock it into place with the valve cover.
- Place the valve cover onto the front of the mask and twist to lock.

3M Versaflo M-306 Helmet and TR-315 Powered Air unit

Immediately after use:

- Using a non-alcohol surface wipe, thoroughly wipe the entire unit to remove any debris or residue
- Allow all components to air dry

Deep cleaning – After the end of each sessional use:

- Detach the battery pack, breathing tube and headgear from the motor/blower.
- Motor/blower: Clean the outer surfaces of the assembly and battery pack with a non-alcohol surface wipe
  Do not immerse the motor/blower or battery pack in water.
- Breathing tube: Clean the connection sites on the breathing tube with a non alcohol surface wipe. The breathing tube can be immersed in a solution of neutral detergent and water for cleaning. The inside of the tube must be completely dried prior to use or storage.
- HE filter: Open the filter cover and inspect the HE filter Replace if excessively dirty, wet or damaged. Each user is assigned their own filter which must be stored in a designated area. The filter is not interchangeable between individuals. The personal filter must be changed after 30 days of clinical use. The HE and TR-3600 pre-filter cannot be cleaned and must be properly disposed of according to local regulations.
- The TR-362 spark arrestor/pre-filter can be cleaned using the water and detergent solution. Completely dry the spark arrestor with a clean cloth. If the spark arrestor cannot be cleaned, or is damaged, replace with a new spark arrestor

3M Versaflo S-133 Respirator Hood

In addition to the pre-user checks specified above, the following should be conducted prior to every use:

- Examine the condition of the fabric, head suspension, visor, outer shroud, inner shroud, collar, or elasticized face seal. Check that there are no cracks, rips, dents, holes, tears, or other damage.

- Look closely at the stitching. Ensure stitching is intact and there is no unravelling or gaps in the seams. There should be no tears or holes that could permit contaminated air to enter the hood or head cover.

- Look for scratches or other visual distortions that could make it difficult to see through the visor.

- Examine the head suspension for cracks or other damage.

- Examine the entire breathing tube. Look for tears, holes or cracks. Bend the tube to verify that it is flexible.
- Breathing tube should fit firmly into the air source connection.

Immediately after use:

- Using a non-alcohol surface wipe, thoroughly wipe the entirety of the hood and visor to remove any debris or residue
- Allow to air-dry. Do not crush or fold the visor

General use and disposal

After use and disinfection, the S-133 should be hung using the loop that is sewn into the top of the head cover or stored flat, out of direct sunlight. The S-133 Respirator Hood should not be shared with other users and should be disposed if either;

- Evidence of damage/wear and tear is present Or
- After 50 clinical sessions

6. Storage

Reusable half mask respirators and the 3M Versaflo M-306 Helmet and TR-315 Powered Air unit must be fully decontaminated before storage.

All wearers will be issued with individual resalable, plastic containers for storage of respirators. Each container must be labelled with the following information:

- Wearers name
- Date filters were placed
- Number of clinical days worn
- Date of clean/last use

- Date of last deep clean

Respirators and powered air units should be stored in an appropriate area, ready for use as required.

Respirators or powered air units that are not assigned to a wearer are to be secured in an appropriate area until they are allocated to a wearer.

Respirators and powered air units can only be accessed and allocated by a fit test trained member of staff.

7. Transportation

Reusable respirators and/or PAPR units may only be removed from PDSE for use;

- At another dental education facility for use during clinical activity

Or

- At a specialist visit provider

If a reusable respirator or PAPR unit is used in an external setting for the purpose of a specialist visit, local policy and guidelines should be followed.

Prior to removing any item of reusable respirator equipment, all students must have signed the *reusable respirator declaration form*. Completed forms should be submitted to the Clinic Team Leader at the DEF the equipment is removed from.

In the event of loss or damage, this must be immediately incident reported. Students should continue to follow the PDSE Decontamination, Storage and maintenance of respirators SOP.

Transportation of reusable respirator

Students are responsible for transporting the reusable respirator as required. All respirators must be fully disinfected prior to transportation and must only be transported in the really useful box supplied by PDSE.

Transportation of PAPR Units

PDSE shall supply the specialist visit provider with 2x 3M Versaflo TR-315 Powered Air units to be used exclusively by undergraduate students when carrying out or observing aerosol generating procedures as part of their specialist visit.

After use, the student is responsible for disassembly, disinfection, storage and charging of the PAPR unit and must complete the associated usage log.

Students are responsible for transporting their hood and/or inserts and personal filters required for the duration of the visit. Hoods and accessories must be disinfected after use and prior to transportation. In order to minimise contamination, filters and hood accessories must be transported in separate really useful boxes.

Appendix 1

Respirator Log:

Name:

Date of Fit Test:

Date of filter installation:

Number of clinical days worn:

Date of last use:

Date of deep clean:

Appendix 2

Aerosol and Non-aerosol generating procedures

Dental procedure	AGP Classification	Considerations
Clinical Examination	Non-AGP / Low risk	○ Avoid use of high volume 3 in 1 ○ ○ Use low pressure water or air separately ○ Assessment of gag reflex ○ Natural respiratory exposures e.g. Hayfever
Intra-oral radiography	Non-AGP / Low risk	○ Assessment of gag reflex ○ Previous poor tolerance ○ Natural respiratory exposures e.g. Hayfever
Extra-oral radiography/CBCT	Non-AGP / Low risk	○ Previous poor tolerance ○ Natural respiratory exposures e.g. Hayfever
Dental photography Extra-Oral	Non-AGP / Low risk	○ Natural respiratory exposures e.g. Hayfever
Oral hygiene instruction	Non-AGP / Low risk	○ Natural respiratory exposures e.g. Hayfever ○ Avoid use of spittoon, use disposable cardboard bowl to be disposed of in the clinical waste. ○ Delivering Better Oral Health
Fluoride varnish application	Non-AGP / Low risk	○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control ○ Delivering Better Oral Health

Impressions	Non-AGP / Low risk	○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Assessment of gag reflex / tolerance levels ○ Natural respiratory exposures e.g. Hayfever
Hand scaling and other periodontal procedures using hand instruments	Non-AGP / Low risk	○ Use hand instruments ONLY ○ Avoid use of the ultrasonic ○ Avoid polishing teeth ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use high volume suction ○ Assessment of gag reflex ○ Natural respiratory exposures e.g. Hayfever ○ Management of Periodontal Treatment (Non AGP)
Cavitron, Piezo or other sonic scaler	AGP / High risk	○ Only to be undertaken in single surgery / POD environment ○ Non-AGP methods should be attempted in first instance (as above) ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately
Fissure Sealants	Non-AGP / Low risk	○ Use of rubber dam – where possible / tolerated ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control ○ (AMIRD) Non-invasive prevention principles

Restoration	Non-AGP / Low risk if temporary restoration using hand instruments or slow speed including polishing	○ Use rubber dam ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control ○ (AMIRD) Caries Management
	AGP / High risk if permanent restoration using high-speed handpiece	○ Only to be undertaken in single surgery / POD environment ○ Use rubber dam ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control
Extraction (non-surgical)	Non-AGP / Low risk	○ Avoid use of surgical handpiece - bone removal and/or sectioning. ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control
Extraction (surgical using handpiece speed <60,000 RPM)	Non-AGP / Low risk if using slow speed handpiece or handpiece <60,000 RPM with high volume aspiration	○ Where possible, use slow-speed with saline irrigation ○ Use high volume aspiration ○ Consider temporisation and referral **Undergraduate Students** ○ If using surgical handpiece for bone removal and/or sectioning – treatment must be completed in single surgery or POD **Postgraduate Students** ○ If using surgical handpiece for bone removal and/or sectioning – treatment can be

		completed on an open bay with adequate spacing of 2m between treatment areas.
Extraction (surgical using handpiece speed >60,000 RPM)	AGP / High risk if using high speed handpiece or surgical hanpiece >60,000 RPM	○ Only to be undertaken in single surgery / POD environment ○ Use high-volume aspiration.

Endodontic procedures (Reference SOP cohort specific Endo protocol)	Non-AGP / Low risk if accessing carious tooth with hand excavation or removing temp dressing with slow speed	○ Pre-op mouthrinse with 1%–1.5% hydrogen peroxide for one minute ○ Avoid use of spittoon, use disposable cardboard bowl to be disposed of in the clinical waste. ○ Isolation of tooth using rubber dam placed prior to access covering oral cavity. ○ Use of caulking cement to improve seal (Oraseal/Opaldam) ○ High volume aspiration (HVA) is mandatory. ○ Removal of dentine to refine access cavity can be undertaken with slow speed handpiece with minimal or no coolant required. ○ Avoid use of 3 in 1 syringe, use of NaOCl in Monoject syringe to remove debris favourable. ○ Complete treatment as non AGP-hand filing only

	AGP / High risk if removal of restorative material / access through enamel with high speed electric or turbine	○ Only to be undertaken in single surgery / POD environment ○ Where possible, limit AGPs to the start of the appointment to minimise fallow period. ○ Removal of restorative material / access through enamel with high speed electric or turbine handpiece, reduced coolant can be used. ○ High volume aspiration (HVA) is mandatory. ○ Avoid use of 3 in 1 syringe, use of NaOCl in Monoject syringe to remove debris favourable.
Cementing or recementing a crown, bridge, veneer, inlay or onlay etc	Non-AGP / Low risk if temporary cementation using slow-speed	○ Use slow speed handpiece only ○ Use rubber dam – where possible ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control
	AGP / High risk if permanent cementation using high-speed	○ Only to be undertaken in single surgery / POD environment ○ Use rubber dam – where possible ○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately ○ Use of dry guards & cotton wool rolls to achieve moisture control
Incise and drain abscess	Non-AGP / Low risk	○ Use high-volume aspiration. ○ Avoid use of high volume 3 in 1, ○ Use low pressure water or air separately

Denture stages	Non-AGP / Low risk (avoiding use of highspeed)	○ Denture must be dry when trimming ○ Disinfect between alterations ○ Cutting rest seats with fast handpiece should be avoided ○ Assessment of gag reflex / tolerance ○ Natural respiratory exposures e.g. Hayfever