

Northern Ireland Regional Infection Prevention & Control Manual: Addendum on High Consequence Infectious Disease (HCID) Personal Protective Equipment (PPE)

Endorsed by the Advisory Committee on
Dangerous Pathogens (ACDP)

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High Consequence Infectious Disease (HCID) Personal
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Version history

Date	Version	Summary of change
21.10.2025	V1.0	First publication

Introduction

The aim of this guidance is to describe the personal protective equipment (PPE) required for clinical staff caring for individuals with contact or airborne high-consequence infectious diseases (HCIDs), both suspected and, if subsequently confirmed. The PPE described in this guidance is referred to as the “HCID assessment PPE ensemble” throughout. It is expected that this ensemble will be worn by staff in contact with a patient with a suspected HCID, or with a confirmed HCID, before transfer to an HCID treatment centre or where transfer to an HCID treatment centre may not be feasible. The key principles of the recommended ensemble are total body coverage to minimise exposure of skin or mucous membranes, and filtering inhaled air with a respirator. The HCID assessment PPE ensemble and PPE specification has been agreed by the Health and Safety Executive (HSE), the Advisory Committee on Dangerous Pathogens (ACDP), NHS England, UK Health Security Agency (UKHSA), ARHAI Scotland, Public Health Wales, and Public Health Agency Northern Ireland (see appendix 1).

It is expected that this unified HCID assessment PPE ensemble will be implemented in all relevant settings across Northern Ireland. Organisations that currently stock and train staff to use an alternative ensemble(s) should plan to transition to the new unified HCID assessment ensemble as soon as possible.

This guidance must be read in conjunction with the ACDP: [Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence.](#)

Audience and target groups

This guidance applies to staff responsible for PPE, including respiratory protective equipment (RPE), procurement (stockage and storing), PPE training, RPE (FFP3) fit testing, and clinical staff in all settings where it is reasonable to expect that undiagnosed HCID cases may present. This includes (but is not limited to) emergency department clinical staff, acute medical teams, infection specialists and critical care staff.

Scope

Guidance contained within this addendum relates only to the use of PPE for HCIDs. PPE is just one part of a safe system of working and is the least effective instrument in the hierarchy of controls that can be applied to an infectious pathogen. This guidance should be used in conjunction with [Standard](#) and [Transmission based precautions](#).

Further information on HCIDs is published by UKHSA [High consequence infectious diseases \(HCID\)](#).

This guidance **applies only to acute settings** where assessment of HCID cases occurs. Primary care and outpatient settings are not in the scope of this guidance.

The HCID assessment PPE ensemble is intended for use when providing direct care for all suspected or confirmed cases of a HCID prior to transfer to a dedicated HCID treatment centre in NHS England.

The requirements for suitable and adequate PPE in the ambulance service may differ due to the settings and conditions in which they operate. The ambulance service should continue to follow advice on HCID PPE set out by the National Ambulance Resilience Unit (NARU).

Acknowledgements

Produced with thanks to NHSE and members of the NHS England HCID Networks for their role in developing the content of this addendum.

When an organisation (for example, an NHS trust) uses products or adopts practices that differ from those stated in this addendum, it is responsible for ensuring safe systems of work, including the completion of a risk assessment approved through local governance procedures.

1. HCID pathogens and definitions

1.1 Definitions

In the UK, a high-consequence infectious disease (HCID) is defined according to the following criteria:

- acute infectious disease
- typically has a high case-fatality rate
- may not have effective prophylaxis or treatment
- often difficult to recognise and detect rapidly
- ability to spread in the community and within healthcare settings
- requires an enhanced individual, population and system response to ensure it is managed effectively, efficiently and safely.

1.2 List of pathogens classified as HCIDs

HCIDs are further divided into contact and airborne groups. Contact HCIDs are usually spread through direct contact with an infected patient, infected fluids, tissues, and other materials, or by indirect contact with contaminated materials and fomites. Airborne HCIDS are spread by respiratory droplets or aerosol transmission, in addition to contact routes of transmission. 'Airborne' refers to the specific, standardised IPC precautions taken, which here is protection against aerosol exposure or transmission, even if some airborne HCIDs may spread naturally by droplets rather than aerosols.

Table 1: list of contact and airborne HCIDs

Contact HCID	Airborne HCID
Argentine haemorrhagic fever (Junin virus)	Andes virus infection (hantavirus)
Bolivian haemorrhagic fever (Machupo virus)	Avian influenza A H7N9 and H5N1
Crimean Congo haemorrhagic fever (CCHF)	Avian influenza A H5N6 and H7N7*
Ebola virus disease (EVD)	Middle East respiratory syndrome (MERS)
Lassa fever	Nipah virus infection
Lujo virus disease	Pneumonic plague (Yersinia pestis)
Marburg virus disease (MVD)	Severe acute respiratory syndrome (SARS)**
Severe fever with thrombocytopenia syndrome (SFTS)	

*Human-to-human transmission has not been described to date for avian influenza A(H5N6). Human-to-human transmission has been described for avian influenza A(H5N1), although this was not apparent until more than 30 human cases had been reported. Both A(H5N6) and A(H5N1) often cause severe illness and fatalities. Therefore, A(H5N6) has been included in the airborne HCID list despite not meeting all of the HCID criteria.

**No cases reported since 2004, but SARS remains a notifiable disease under the International Health Regulations (2005), hence its inclusion here.

The list of HCIDs is agreed by the UK 4 nations public health agencies, with ACDP input as required. Novel pathogens identified may be added and may be removed subsequently. Hence, the [UKHSA](#) website should be accessed for up-to-date information on HCID classifications.

2. Stocking and storage of PPE

Acute healthcare providers must ensure that they have sufficient stocks of all components in the HCID assessment PPE ensemble. As a minimum, volumes required to care for a suspected (or subsequently confirmed) HCID case for up to 72hrs should be available (to cover time for testing and arranging transfer). PPE stocks must include both:

- a sufficient range of available sizes to accommodate most staff (for example, surgical gowns for healthcare staff who are above and below average height)
- makes and models of PPE that staff have been trained in and RPE that staff have been fit-tested for.

It is expected that, with the exception of hoods and wellington boots, most components will be available as standard equipment in any NI hospital. Components meeting the specifications in section 4.3 should be available through regional procurement and may be available from other UK suppliers. Appendix 4 provides details on PPE products that meet the required specification and may assist purchasing.

Note: Assignment of responsibility for PPE/RPE stock monitoring and storage at the provider level will be important to ensure the constant availability of all components of the HCID PPE ensemble.

3. Education and training

It is essential that senior clinical medical and nursing staff who may be required to wear PPE for the assessment and care of suspected or confirmed HCID cases are trained, practised, and competent in the HCID assessment ensemble. This includes staff who will act as buddies. Clinical staff must be trained and assessed as competent in putting on the PPE ensemble (donning), removing the PPE ensemble (doffing), and in the procedures to follow in the event of a PPE breach. This training and confirmation of competence must be completed before using the ensemble to care for a patient for the first time. Competence is described as independently donning and doffing the PPE without prompts when observed. Once competence is achieved HCWs should attend a refresher training session a minimum of yearly, but ideally 6 monthly, where confirmation of competence will be re-assessed. All educators involved in this programme are expected to attend an HCID PPE train-the-trainer course within 3 years of this programme being set up and to revalidate their training every 3 years.

A sufficient number of senior clinical staff should be trained and competent in the use of this PPE to ensure that a patient suspected of having an HCID can be assessed and managed safely at any time.

Before using the ensemble described in this addendum, Healthcare workers must first complete the TURAS [HCID Assessment PPE eLearning Module](#).

Training and educational resources for the HCID assessment PPE ensemble are available at [HCID-training UK](#).

4. Personal protective equipment (PPE)

Only clinical staff who are trained and competent in the use of this PPE (section 3) should enter the at-risk clinical environment. They may be required to undertake additional tasks or procedures that would routinely be done by other staff groups, such as environmental cleaning.

4.1 HCID assessment PPE ensemble

The components are:

- filtering face piece 3 (FFP3) respirator
- hood
- longer-length visor
- long rear-fastening fluid-resistant surgical gown tied to the side
- medium thickness apron
- inner gloves
- middle gloves taped to the gown with microporous tape
- outer gloves
- wellington boots

All these components are required for the HCID assessment ensemble.

Specifications are provided for each component in section 4.3. The order and process for putting on and removing this ensemble are detailed in Section 4.4. Each of the individual components of the PPE ensemble should be compatible with each other to achieve protection; to enable this, a range of sizes of some components should be provided.

4.2 Buddy PPE requirements

A buddy refers to a healthcare worker who supports the staff member providing HCID care during donning and doffing of PPE.

It is important to identify zones in the care area designated for care of a suspected or confirmed HCID. A red zone is an area where there is a risk to healthcare workers of direct exposure to a patient suspected or confirmed with HCID, for example, within the patient room where direct care is provided. An amber zone is an area situated in the vicinity of the individual with suspected or confirmed HCID and therefore poses a potential threat of indirect exposure to healthcare workers from infectious particles in the environment, on equipment during doffing of PPE or from doffed and discarded PPE (waste), for example an ante room or an area demarcated as the amber zone outside an isolation room. A green zone is any area separated from the individual with suspected or confirmed HCID by a physical barrier, where no clinical care or doffing practices take place and where no contaminated equipment and/or waste associated with the suspected or confirmed HCID case is present, therefore posing no threat of HCID exposure to healthcare workers.

Contact HCID: the buddy does not require PPE if they are in the green zone of the doffing area.

When in the amber zone of the doffing area, assisting a HCW or cleaning equipment, the buddy must wear:

- single-use disposable longer-cuffed nitrile gloves
- fluid-resistant gown
- fluid-resistant surgical mask (FRSM)
- visor
- wellington boots

In airborne HCID, all rooms (patient or doffing) have a negative pressure environment (in line with [HTM-03 01](#) part 1 and part 2). The buddy does not require PPE if they are in the green zone of the doffing area.

When in the amber zone of the doffing area assisting a HCW or cleaning equipment, the buddy must wear:

- single-use disposable longer-cuffed nitrile gloves
- fluid-resistant gown
- fluid-resistant surgical mask (FRSM)
- visor
- wellington boots

Airborne HCID where **any** room (patient or doffing) **does not** have a negative pressure environment (in line with HTM 03-01 part 1 and part 2): Due to the possible risk of aerosols from the patient room there **cannot** be a Green Zone in the doffing area and the buddy must wear additional PPE:

- single-use disposable longer-cuffed nitrile gloves
- fluid-resistant gown
- filtering face piece (FFP3) respirator
- visor
- wellington boots

4.3 Component specifications of the HCID assessment PPE ensemble and instructions for use

FFP3 respirator

- Single-use disposable FFP3 respirator conforming to BS EN 149:2001 and fit-tested to the user.
- The mask's seal must not be disrupted by the hood.
- The elastic straps should be configured according to the manufacturer's instructions.
- In addition, each time an FFP3 respirator is worn, the wearer should perform a fit check (according to the manufacturer's guidance) to ensure that the mask is fitted correctly and that an adequate seal has been achieved.

Hood

- Single-use disposable hood that covers the head, neck, and shoulders should be made of fluid-resistant, moisture-vapour permeable material with bound seams, and conform to BS EN 14126:2003.
- The neck of the hood may be closed or may open at the front, with closure achieved with Velcro fastenings.
- The hood's face opening must be in close contact with the face and gaps must be avoided.
- The hood must be compatible with the FFP3 respirator.

Visor

- Single-use disposable full-face visor, with wide elasticated headband to facilitate removal.
- The bottom of the visor must be a minimum of 2 cm below the chin and the visor must be compatible with the FFP3 respirator that is being used.

Gown

- Single-use disposable, rear-fastening, reinforced surgical gown made of fluid-resistant material conforming to BS EN 13795:2019.
- The gown must be long enough to overlap the wellington boots by 10 to 15 cm, but not be so long as to trail on the floor and cause a trip hazard.
- A range of sizes should be provided to accommodate differences in height and arm length.

Apron

- Single-use disposable, wide, extra-long, medium-thickness plastic apron, such as aprons worn for endoscopy.
- The apron must be thick enough to remain in place and not be affected by air currents, but thin enough for the ties to be torn by pulling during PPE removal.
- The apron must not be so long as to cause a trip hazard.
- The top of the apron must be at the level of the clavicles; this may be achieved by breaking the neck loop and re-tying it to make the neck length shorter.

Inner gloves

- Standard single-use disposable, short, non-sterile nitrile gloves.
- The cuff of each inner glove should be worn under the cuff of the gown.

Middle gloves

- Single-use disposable longer-cuffed nitrile gloves.
- The cuff of each middle glove should be worn over the cuff of the gown.
- Each middle glove cuff must be attached to the corresponding sleeve of the gown by applying 4 lengths (approximately 10 cm each) of microporous tape.
- Taping ensures that the middle gloves are removed simultaneously as the gown is removed.

Outer gloves

- Glove choice will depend on the activities being undertaken.
- For basic care, venepuncture and planned medical procedures, use single-use, disposable, standard nitrile gloves.
- Use sterile gloves if indicated for any aseptic medical procedure.
- For heavier duties, such as environmental cleaning and dealing with body fluid spills, use single-use, disposable, heavy-duty (domestic) gloves.
- The outer gloves may be removed and replaced as required during patient care.

Boots

- Reusable surgical wellington boots must have a leg that is long enough to allow the gown and apron to overlap the top of the boot by at least 10cm.

- Boots that are a half- to one-size larger than the wearer's shoe size facilitate easier removal with a 'step-out' removal technique.

4.4 Putting on (donning) and removing (doffing) PPE

Putting on (donning) PPE

Prior to donning PPE and caring for a patient with a suspected HCID, all staff should ensure that they feel well, are well hydrated and have been to the toilet. Change into surgical scrubs (if not already wearing). Long hair must be tied back, all jewellery and ID badges or lanyards must be removed.

A member of staff (buddy) trained and competent in the use of the PPE ensemble must assist in putting on (donning) the PPE and must perform a final visual inspection of the ensemble, making any necessary adjustments. Before entering the patient care area, a check of the doffing area should be performed to ensure all necessary supplies for doffing are available and the zones of the doffing area are demarcated correctly.

- [HCID assessment PPE donning training video](#)

An illustrated step-by-step guide to putting on the individual components is provided here: [HCID Assessment PPE donning poster](#). Copies of illustrated guidance should be displayed in the area where PPE is put on.

Removing (doffing) PPE

A buddy system is essential for the entire PPE removal process (doffing) to ensure that this is performed safely. A member of staff (buddy) who is trained and competent in the use of this PPE must assist staff removing PPE by providing instructions, visual cues, and reminders as necessary.

The staff member removing PPE and the buddy must observe a strict no-touch policy and maintain a separation of at least 1 metre during the PPE removal process.

- [HCID assessment PPE doffing training video](#)

An illustrated step-by-step guide to removing the individual PPE components is provided in the [HCID Assessment PPE doffing poster](#). Copies of illustrated guidance should be displayed in the PPE removal area, but this does not replace the need for a buddy.

4.5 Management of used HCID assessment PPE

Large volumes of waste may be generated by frequent use of PPE. Seek advice from the local waste management team in advance on how to manage this.

All components are disposable and are intended for single use, except for wellington boots, which may only be reused once the HCID of concern has been excluded. Disposable PPE components contaminated with HCID pathogens must be disposed of as Category A waste (unless alternative, pathogen-specific advice has been issued). PPE used during assessment of a suspected case may either be disposed of as Category A waste immediately or quarantined in Category A-compliant conditions pending the results of HCID diagnostic testing. If results are negative, quarantined waste may be disposed of as standard clinical waste.

Surgical wellington boots are the only potentially reusable PPE component. Once removed, boots must be placed in an appropriate container located within a designated, restricted-access area and not rework while awaiting results of diagnostic tests. If the results of diagnostic tests are negative, the used boots may be cleaned according to local protocols and returned to general use. If the patient is confirmed to have a HCID, all used boots must be sent for safe disposal as Category A clinical waste. Where suitable facilities exist, boots may be autoclaved or decontaminated using methods suitable for HCIDs, such as the [HCID boot decontamination protocol \(poster\)](#).

These principles also apply to the designated container which must be decontaminated between uses, or disposed of as Category A clinical waste where diagnostic tests are positive and suitable facilities for their decontamination are not available.

Healthcare providers must ensure that a sufficient number of boots are available to staff working in relevant areas of the hospital, and that there is a sufficient variety of boot sizes.

Appendix 1: Guidance development

The HCID assessment PPE ensemble, including specifications, and donning and doffing protocols in this guidance are based on evidence provided by simulation experiments undertaken by HSE in conjunction with academic institutions and NHS providers.^{1,2,3} The recommendations within this guidance were developed with the expert input of:

- UKHSA
- NHSE HCID Networks
- HSE
- ACDP
- NHSE
- ARHAI Scotland
- Public Health Agency Northern Ireland
- Public Health Wales

A stakeholder engagement exercise was also conducted in December 2023 that included the NIPCM for England consensus group and NHSE regional IPC leads.

This addendum has been developed by consensus, rather than a formal review of the literature. As per the NIPCM for England [methodology](#), the evidence base to inform this guidance will be monitored, and a formal review of the evidence will be scheduled by NHSE IPCT. In the interim, this guidance is endorsed by the ACDP and is aligned to the ACDP guidance on the management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence.

1. Hall S, Poller B, Bailey C, et al. Use of ultraviolet-fluorescence-based simulation in evaluation of personal protective equipment worn for first assessment and care of a patient with suspected high-consequence infectious disease. *J Hosp Infect.* 2018; 99: 218-228.
 2. Poller B, Hall S, Bailey C, et al. 'VIOLET': a fluorescence-based simulation exercise for training healthcare workers in the use of personal protective equipment. *J Hosp Infect.* 2018; 99(2): 229-235.
 3. Poller B, Tunbridge A, Hall S, et al. A unified personal protective equipment ensemble for clinical response to possible high consequence infectious diseases: A consensus document on behalf of the HCID programme. *J Infect.* 2018; 77(6): 496-502.
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Appendix 2: HCID Assessment PPE components, specifications for purchasing.

The examples of PPE components for the assessment of HCIDs provided below are for illustrative purposes only. The list is not exhaustive and suitable alternatives may be available – refer to the component specifications when trying to identify suitable products. The stated examples do not represent any endorsements of particular products or manufacturers by the Public Health Agency – examples have been provided simply to assist healthcare providers in interpreting the specifications stated for each component of the PPE ensemble (examples below are recommended in the NHS England HCID addendum and those highlighted in **bold** are currently available in Northern Ireland).

FFP3 respirator

3M Aura 9300 FFP3 Foldable Respirator Mask (valved or unvalved), 3M UK Plc.
Easimask FSM16 duckbill FFP3 NR particulate respirator (unvalved), Full Support Healthcare Ltd.

3M 8833 Disposable Face Mask, FFP3, Valved Adjustable Nose Clips, 3M UK Plc.
(FFP3 Mask Denroy Denpro - stock code BCZ000550 / FFP3 Mask Unvalved Disposable 3M 9330+ - stock code BWG000206 / FFP3 Mask Disposable Fold Flat 3M 1863+ - stock code BWG000205 / FFP3 Respirator Mask 3M 8835+ - stock code BWG000039).

Hood

AlphaTec® 2500 Cape Hood - Model 507, Ansell Ltd. Order from direct Arco as Mediq have 3 month lead in time on orders via BSO.

AlphaTec® 2500 Cape Hood - Model 503, Ansell Ltd. Discontinued by Arco.

Visor

Crosstex 17.8 cm fluid resistant face shield, Crosstex International Inc.

Medline NONFS400 full length disposable face shield, Medline International B.V.

Face Shield (Visor) Type II (Pack of 40) VFS040420 Bloc - stock code BWG000201.

Gown

Easigown comfort surgical gown large 38210, Full Support Healthcare Ltd.

Easigown comfort surgical gown X- large X-long 30213, Full Support Healthcare Ltd.

Order Non-Stock Medline Reinforced Gowns size XLL and 2XLL

BWO000416 – XLL

BWO000417 2XLL.

Apron

BTB248 69 x 135cm heavy duty PE apron, Polyco Healthline

Shield A7/G 76 x 147cm heavy duty PE apron, HPC Healthline Ltd.

Order Non-Stock Apron Theatre Universal Green Mediguard

Non-Stock: Mediq (Supplier No 121611) UN440050.

Inner gloves

Sempercure Nitrile Skin2, Sempermed, Semperit Technische Produkte GmbH

Newton Sensitive Handsafe GN91 Blue Nitrile examination gloves, HPC Healthline Ltd.

Disposable Nitrile Exam Gloves, Non-Sterile, Powder Free - stock codes

Large FTE000194; Medium FTE000120; Small FTE000119 / also Standard

Examination Glove INTCO X Large - stock code FTE000102. Various other gloves available from PaLS.

Middle gloves (extended cuff)

Shieldskin orange nitrile 300, SHIELD Scientific B.V.

Nitrex Extra Length, Medicare Products Ltd.

Non contract item

Halyard Extra long (300mm) is available via JAC pharmacy system or directly from Arco Ltd.

Outer gloves

Sempercure Nitrile Skin2, Sempermed, Semperit Technische Produkte GmbH

Newton Sensitive Handsafe GN91 Blue Nitrile examination gloves, HPC Healthline Ltd.

Disposable Nitrile Exam Gloves, Non-Sterile, Powder Free - stock codes

Large FTE000194; Medium FTE000120; Small FTE000119 / also Standard

Examination Glove INTCO X Large - stock code FTE000102. Various other gloves available from PaLS.

Boots

Toffeln Ergoboot half boot 0900W, Toffeln Ltd.

Toffeln Ergoboot full boot 0153W. Toffeln Ltd.

**Order Non-stock from Toffeln LTD Toffeln Ergoboot half boot 0900W OR
Toffeln Ergoboot full boot 0153W in various sizes.**

Non-stock item

<https://www.toffeln.com/products/ergoboot>.