

High Consequence Infectious Diseases (HCID): PPE Myths, Do's, Do Nots and the Basics

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Understanding key PPE practices for infectious disease safety

Introduction and Aims

Challenge PPE Myths

Dispel the myth that more or complex PPE always means greater safety; improper use can increase risk.

Good PPE Practices

Emphasise consistent, correct selection and adherence to protocols rather than improvisation in PPE use.

Common Errors in PPE

Highlight frequent donning and doffing errors caused by stress, time pressure, and cognitive overload.

Infection Prevention Basics

Reinforce core infection control measures like hand hygiene, communication, teamwork, and environment control.



What Do We Mean by HCID?

Definition of HCID

HCIDs are infections with high fatality rates and limited treatment options requiring specialist care and management.

Examples of HCID

Examples include Ebola, Lassa fever, MERS-CoV, and certain avian influenza strains, all requiring strict precautions.

Safety and Management

Managing HCIDs requires early identification, isolation, PPE use, trained staff, and strict protocols to prevent spread.

Importance of Protocol Adherence

Strict adherence to protocols ensures patient and staff safety and maintains public confidence during HCID outbreaks.



Population Served: 69.3 Million



Adult Airborne ●

- Liverpool University Hospital Trust
- Sheffield Teaching Hospital
- Newcastle Hospital Trust
- Oxford University Hospital
- University Hospital Bristol
- Royal Free Hospital
- Guys & St Thomas's Hospital

Paediatric Airborne ○

- Alder Hey Children's Hospital
- Newcastle Hospital Trust
- Evalina Children's Hospital
- Oxford University Hospital
- St Mary's Paediatric Hospital
- *Sheffield Children's 2027



Adult C-HCID ●

- Royal Free Hospital
- Newcastle Hospital Trust

Paediatric C-HCID ○

- St Mary's Children's Hospital
- Newcastle Hospital Trust

Adult surge C-HCID ●

- Liverpool Foundation Hospital Trust
- Sheffield Teaching Hospital

9 Hospital Trusts providing High Consequence Infectious Diseases Care in England

Why PPE Matters

PPE as Physical Barrier

PPE reduces contact with infectious materials by acting as a protective barrier on skin and clothing.

Proper Use and Integration

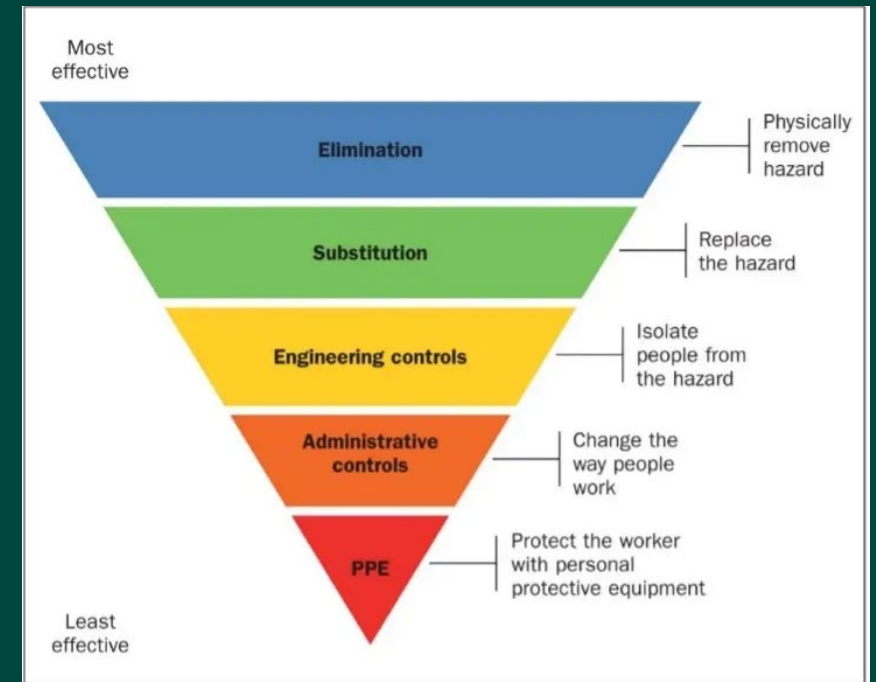
Effectiveness depends on correct selection, use, and combining PPE with infection control measures like isolation and cleaning.

Supporting Staff Confidence

PPE enables healthcare staff to provide care confidently without fear infectious disease scenarios.

Limitations and Risks

Poorly used PPE can create false security and increase risk through complacency or unsafe behaviors.



Common Myths About PPE

More PPE Isn't Always Better

Excessive PPE can cause heat stress, fatigue, and increase errors, especially during removal.

Comfort Does Not Equal Safety

Comfortable PPE does not guarantee proper fit or protection from hazards.

PPE Must Be Task-Specific

PPE requirements should match the pathogen, transmission route, and clinical task involved.

Doffing Is High-Risk Stage

Removing PPE poses the highest risk for self-contamination, needing careful attention.



Unified PPE

What Good PPE Practice Looks Like

Proper PPE Selection

Select PPE based on current guidelines considering pathogen, transmission mode, and clinical activity.

Training and Competency

Staff must be trained and fit tested to ensure proper use of respiratory and other protective equipment.

Buddy System Usage

Implement a buddy system during donning and doffing to enhance safety and reduce errors.

Regular Practice and Vigilance

Conduct regular drills and promptly report damaged or ill-fitting PPE to maintain safety.



The Don'ts

Improvised PPE Risks

Improvising PPE due to unfamiliarity or perceived inadequacy can introduce untested and dangerous risks.

Rushing PPE Procedures

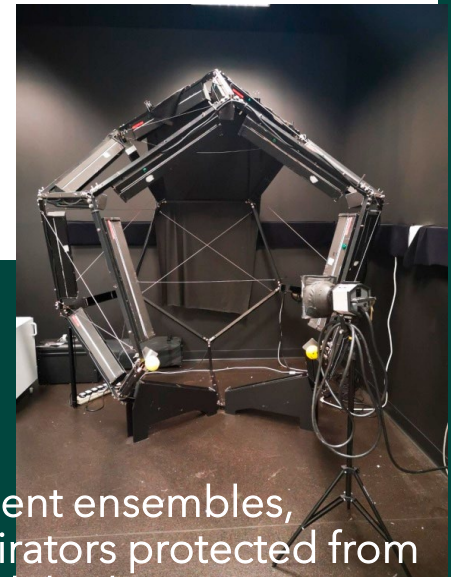
Hurrying donning or doffing PPE increases the risk of self-contamination, especially under time constraints.

Lack of Buddy System

Working alone in HCID PPE scenarios removes essential safety checks provided by a buddy system.

Ignoring Protocols and Concerns

Deviating from protocols and not voicing concerns about PPE fit or instructions undermines safety consistency



Validation of personal protective equipment ensembles, incorporating powered air-purifying respirators protected from contamination, for the care of patients with high-consequence infectious diseases

<https://pubmed.ncbi.nlm.nih.gov/36716796/>

The Do



Rome 1656



Unified HCID PPE

Follow National Guidance

Donning and Doffing

Preparation Before Donning

Remove personal items, perform hand hygiene, and inspect PPE for defects before putting it on.

Correct Donning Sequence

Follow the proper order to ensure full protection without compromising any PPE components.

Fit and Comfort Assessment

Ensure respiratory protection fits well and closures are secured to minimize skin exposure.

Buddy System Verification

A trained buddy confirms proper donning to prevent errors before patient contact.

High Risk of Self-Contamination

Doffing PPE carries the highest risk of transferring pathogens to hands, face, or clothing during removal.

Step-by-Step Removal Process

A strict removal sequence with hand hygiene between steps is essential to prevent contamination.

Buddy-Led and Controlled Environment

Doffing should be performed with buddy oversight and in a designated, distraction-free area.

Awareness of Fatigue and Safety

Staff fatigue increases risk of errors; doffing must be treated as a critical clinical procedure.

Back to Basics

Hand Hygiene Importance

Hand hygiene remains the most effective way to prevent infection transmission between PPE steps.

Communication and Role Allocation

Clear communication and defined roles reduce errors and confusion in high-pressure healthcare settings.

Environmental Controls

Proper cleaning, waste disposal, and room layout support safe PPE use and movement in healthcare areas.

Staff Wellbeing and Fatigue

Managing hydration, wellbeing, and fatigue is essential to maintain effective PPE practices and cognitive function.

National infection prevention and control manual (NIPCM) for England
Addendum on high consequence infectious disease (HCID) personal protective equipment (PPE)

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Addendum on high consequence infectious disease (HCID) personal protective equipment (PPE)

Hand-washing technique with soap and water



Key Take-Home Messages

Correct and Consistent PPE Use

PPE is effective only when used correctly and consistently within a wider infection control system.

Myths Increase Risk

False assumptions about PPE can increase infection risk rather than reduce it.

Fundamentals Remain Crucial

Hand hygiene, communication, and teamwork are essential even in specialised HCID settings.

Training and Safety Culture

Ongoing training and supportive culture maintain high safety standards in healthcare.

