Ebolavirus Response Plan

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I. Introduction

A. Purpose

The purpose of the *Ebolavirus* Response Plan (ERP) is to provide a mechanism for coordinated local assistance to meet local public health and medical care needs, based on the hazards that *Ebolavirus* presents. It describes provisions for accomplishing necessary actions related to:

1) lifesaving;
2) evacuation;
3) isolation of the ill;
4) treatment of the injured;
5) care of the dead;
6) assessment of health and medical needs;
7) public health surveillance;
8) provision of public health and medical –related services, supplies and personnel;
9) identification of areas where public health problems could occur;
10) provision of medical-related information releases and public health recommendations and related releases to the public;
11) Research and consultation on potential health hazards and medical problems;
12) Behavioral health assistance and care;
13) Environmental sampling and analysis;
14) Sampling for infectious diseases;
15) Sampling products for testing prior to public consumption;
16) Assistance and support for mass casualty and mass fatality incidents;
17) Coordination with Ohio Homeland Security North East Central (NECO) Region #5, state and federal partners.

B. Scope

This plan discusses the provision for Public Health and Medical related services and needs during emergency situations. Factors such as disease detection, monitoring, control and prevention, health education and awareness, liquid and solid waste sanitation, and vector control are considered. In addition, provisions for medical-related information releases and public health recommendations and related releases to the public, behavioral health assistance and care, and assistance and support for mass casualty and mass fatality incidents, and coordination with the North East Central Ohio (NECO) Region 5 Ohio Homeland Security, state and federal partners are outlined.

II. Situation

A. This plan is to serve the entire Ashland County population across the life span. Resources and service coordination during an Ebolavirus event will address not only the population in general, but also populations with special needs. These populations will include but will not be limited to senior citizens, people with disabilities, people with special medical or dietary needs, people with limited socio-economic resources, people who are non-English speaking, pregnant women, children and infants and chronically ill, but uninjured individuals, who may have difficulty obtaining daily medications, medical supplies and/or equipment.

B. Complications may include general health and mental problems, traumatic injury, communicable disease, and contaminated water ailments.

C. This necessitates public health advisories and interventions including disease control measures. Townships and villages in Ashland County and the City of Ashland may become overwhelmed addressing the medical needs of Ebolavirus victims.

D. Disasters impact the provision of health services in community health settings and Samaritan Regional Health System (SRHS). Providers in these settings will be called upon to provide health services to the affected population in accordance with any advisories issued. In addition, providers will give general information to Ashland County-City Health Department (ACCHD) officials about the health status of the population they serve [i.e., disease reporting (e.g. ODRS, (Ohio Disease Reporting System); syndromic surveillance (e.g. Real-time Outbreak and Disease Surveillance (RODS) system); and specimen submission (sputum, stool, etc.)]. A large-scale emergency situation may significantly increase demand for public health, behavioral health, medical, and mortuary requirements in Ashland County.

E. During declared emergencies, the ACCHD may obtain crisis augmentation of personnel from Ashland County-City Medical Reserve Corps Unit #1181 (ACCMRC), Medical Reserve Corps units in Ohio, neighboring health departments, SRHS, the Ashland Chapter of the American National Red Cross, the Salvation Army, etc.

F. In the event of a mass fatality occurrence, Ashland County area funeral directors will be available to assist the ACCHD Registrar in the issuance of burial permits and death certificates. The Ashland County area funeral directors will be available to assist the County Coroner in the identification, care, and disposition of remains.

III. Assumptions

A. An Ebolavirus event may render the existing resources of the ACCHD inoperable, however, the ACCHD has a mutual-aid agreement with the other health departments in NECO Region #5 for staffing and equipment resources.

B. Although an Ebolavirus event may not initiate a public health emergency, secondary events stemming from the initial event may do so.

C. The ACCHD will notify the Ashland County Office of Homeland Security and Emergency Management Agency (ACOHSEMA) of Ebolavirus events in our jurisdiction and vice versa.

D. Disruption of sanitation services and facilities, loss of power and massing of people in shelters may increase the potential for increased disease transmission and injury.

E. There will be an immediate overload from requests for emergency medical aid.

F. An Ebolavirus event may exceed the resources of the ACCHD and Ashland area medical community and regional, state and federal emergency resources may be required.

G. General requests for support/resources will be coordinated through the ACOHSEMA.

H. Additional assistance for health and medical personnel may be available from the Ashland County-City Medical Reserve Corps Unit #1181, Medical Reserve Corps units in U.S. Region 5, Mount Vernon Nazarene College, Nursing Department, North Central State College Nursing Department, and/or Ashland University College of Nursing.

I. Ashland County emergency operation procedures and resource manual(s) describe the medical resources of the extended care facilities, Samaritan Hospital, EMS squads, ambulance services, primary and emergency morgue, and mutual-aid agreements for EMS and public health.

J. Medical supplies of any kind from outside the affected area may be delayed from several hours to several days, making mandatory the rationing of available supplies.

K. Samaritan Hospital, any extended care facility, or other medical facilities evacuating patients or residents to other facilities within Ashland County or a neighboring county will provide the medical records of patients, professional staff, and as many supplies and resources as practicable.

L. Required medications used to counteract the effects of Ebolavirus, may be in short supply or not available through local resources.

M. Response in any emergency will follow the Incident Management System.

IV. Concept of Operations

A. Overview – Public Health Functions

1) The ACOHSEMA will notify Primary and Support organizations when an Ebolavirus event requires their presence in the Ashland County EOC.

2) During a declared local public health and/or medical emergency, the ACCHD serves as the lead agency for an Ebolavirus event and will coordinate health, medical and social services. During a Type 5 incident (local village and township level) and/or a Type 4 incident (city or county level) – the leadership of the health department trained to serve in Command and General Staff positions during the first 6-12 hours of an Ebolavirus event may serve as Incident Command Team with support agencies serving in Branches, Task Forces, or Strike Teams in the Incident Command System.

3) When the Incident Commander in an Ebolavirus event determines that the incident will transition to a Type 3, 2, or 1, (major) the ACCHD will coordinate with the primary and support agencies in this event to form a Unified Command, with health, behavioral health, medical, and mortuary requirements and outside assistance for health and medical emergency operations coordinated in an Ashland County EOC Incident Command Post. In a Unified Command, the ACCHD Incident Commander will be stationed at the Ashland County EOC Incident Command Post. The needs of the affected areas may include the following:

- Public health assessments of conditions at the site of the emergency to determine health needs and priorities.
- Population surveillance and investigations to determine Ebolavirus patterns and implement prevention and control strategies.
- Coordination among various health organizations at the site(s) of the emergency.
- Supply, restocking, and prioritization of health-related equipment and supplies.
- Assess and make recommendations concerning the public health needs of emergency responders.
- Provision of behavioral health assistance to Ebolavirus victims and responders.
- Provision of public health advisories and related information to the general public.
- Assistance in assessing potable water, wastewater, and solid waste disposal issues and coordination to provide potable water, wastewater, and solid

waste disposal equipment.

- Assignment of missions to the State of Ohio ESF-8 desk.

4) All support agencies/organizations will be notified and assigned to provide 24-hour representation as needed and within the limits of their staff.

5) As needed, special advisory groups of health/medical/social subject matter experts will be assembled and consulted.

6) Internal resources of all operating departments will be managed by individual departmental procedures and policies. All primary and support agencies/organizations are to fully document what resources (personnel and equipment) their agency/organization uses from the beginning of an incident so that the ICS Finance/Administration Chief can seek compensation for resources used.

7) Activities of fire department emergency medical service (EMS) units in Ashland County are directed by fire chiefs.

8) First responders at the scene coordinate EMS and request assistance through the ACOHSEMA.

9) The ACOHSEMA reports requests for state emergency assistance to the State Emergency Operations Center (Ohio EOC) where they are coordinated with State of Ohio ESF-8 representatives.

10) The Ashland County Coroner has jurisdiction over the deceased and is responsible for preparing temporary morgues and coordinating with the Ohio Funeral Directors Association when necessary.

11) Samaritan Hospital and other medical care facilities requiring state assistance coordinate their requests through the ACOHSEMA.

V. Organization and Assignment of Responsibilities

Public Health

1) During an Ebolavirus event, the Health Commissioner and/or his/her designee serves as the Incident Commander and is responsible for implementing core public health functions at the time of an incident under authority listed in Tab C. These functions include:

a) Assessing the hazard relating to any existing or anticipated public health threats and the environment impact of an accident;
b) Assuring that the ACCHD provides services during all phases of emergency management;
c) Developing policies and procedures that guide the provision of such services.

2) The Health Commissioner, or designated representative, will report to the Ashland County EOC upon its activation to coordinate response efforts for health-related activities and to advise decision-makers.

3) ACCHD staff will be activated on an as-needed basis with the Director of Public Health Preparedness, Health Education, PIO, & ACCMRC; Communicable Disease Nurse; Nursing Director, and Environmental Health Director directing health department response under the Incident Commander. The ACCHD PIO will form a Joint Information System with a Joint Information Center in cooperation with the PIOs of the support agencies for release of public information related to health concerns. Prior to the release of public information related to health concerns, the information will be approved by the Incident Commander(s). The Incident Commander(s) will determine the spokesperson(s).

4) Support agencies will be activated based on the response operations being conducted.

5) ACCMRC Unit #1181 will assist in providing medical and non-medical personnel and equipment to address incident needs as resources allow. The ACCMRC, depending upon staffing, may provide personnel to operate the 12-line emergency call center to answer questions from the general public; may assist in processing information in the Joint Information Center; may perform data-entry or IT assistance as needed during the incident/disaster; may provide medical care as needed during the incident/disaster. If the Ohio Citizens Corps establishes a Volunteer Reception Center, spontaneous volunteers can be processed for service into the ACCMRC. The ACCMRC Director will administer the oath of service to ACCMRC volunteers in the absence of the ACOHSEMA Director.

6) Each support agency will be expected to maintain its own operational capability and follow the Incident Command System.

7) Following the Incident Command System, personnel may request additional general public health and medical resources as needed through the NECO Region #5 Public Health Coordinator and subsequently through the Ohio Department of Health (ODH) after consultation with the ACOHSEMA.

8) Epidemiology and Communicable Disease investigation of an incident/disaster will be conducted by the lead ACCHD Communicable Disease Nurse with the

assistance of the contract Epidemiologist and may include other health departments.

9) Medications and Ventilators

If the State of Ohio cache of Medication and Materiel is required, the request will come from the ACCHD Incident Commander to the Director of the ACOHSEMA. In turn, the Ashland County EOC will request these materials from the State EOC, and upon their arrival at the designated drop point, their distribution will be coordinated locally through the ACCHD.

10) Isolation of the Ill and Quarantine of the Exposed Well:

a) The use of quarantine and isolation will be required to help control the spread of Ebolavirus and will be implemented following the quarantine and isolation procedures of the ACCHD.
b) Both isolation and quarantine may be conducted on a voluntary basis or compelled on a mandatory basis through legal authority.
c) If isolation and quarantine is conducted on a voluntary basis:

- Residents will be encouraged to stay home if possible.
- It will be requested that schools and other large public gatherings be cancelled to control spread of disease.
- Social distancing of > 3 feet will be strongly encouraged.
- Covering cough will be strongly encouraged.
- Use of N-95 masks when working with contagious persons will be strongly encouraged.

VI. Resource Requirements–Pre-Incident Actions of Primary and Support Organizations

A. Primary and support organizations maintain organizational Standard Operating Procedures (SOPs), and Suggested Operating Guidelines (SOGs) to handle small and large Ebolavirus events. This includes:

1) Developing and maintaining emergency call-out lists of personnel.

2) Maintaining current listings of local private contractors who can provide support during emergencies.

3) Participating in the development and exercising of the Ashland County Emergency Operations Plan (EOP) so that local response to incidents and disasters is coordinated.

4) Development of mutual aid agreements between agencies, as appropriate.

B. Provide appropriate training to personnel on disaster response, self-preservation techniques, the National Incident Management System (NIMS), and the Incident Command System (ICS) in disaster response.

C. Ensure personnel within their agency are trained and certified in safety and health practices, including the use of personal protective equipment (PPE) for designated personnel.

D. Ensure that employees fully understand their obligation as emergency responders to report to work as soon as possible in the event of an incident/disaster.

E. Participate in hazard and risk assessments for Ashland County.

F. Conduct a capacity assessment defining the resources for public health and medical for their agency and those resources that may be available through mutual-aid agreements.

VII. Plan Development and Maintenance

The ACCHD Director of Public Health Preparedness is responsible for reviewing this plan and submitting new or updated information to the ACCHD Leadership Team, Health Commissioner, and, subsequently, to the Boards of Health and the ACOHSEMA. The ACOHSEMA will publish and forward all revisions to primary and support organizations.

VIII. List of Tabs

Tab A: Procedure for Requesting the Ohio Stockpile of Medications and Materiels
Tab B: Obligation of Ebolavirus Disease Reporting To the ACCHD and Local Investigation by the ACCHD
Tab C: Communicable Disease Investigation Procedure -ACCHD Nursing Division
Tab D: Tightened Guidance for U. S. Healthcare Workers on Personal Protective Equipment for Ebola
Tab E: Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease, Including Procedures for Putting On (Donning) and Removing (Doffing)
Tab F: OSHA Respiratory Protection Standard, 29 CFR 1910.134
Tab G: Temperature Monitoring -ODH protocol
Tab H: ODH Crosswalk for Ebola Exposure and Risk
Tab I: Legal Basis for ACCHD Core Public Health Functions in an Ebolavirus Event

IX. Authorities

Reference Ohio Administrative Code Rule 4501:3-6-01 Emergency operations plans and exercises.

X. Authorization

-----signed----

Rebecca Cawrse, DVM, President
Ashland County Board of Health

----signed----

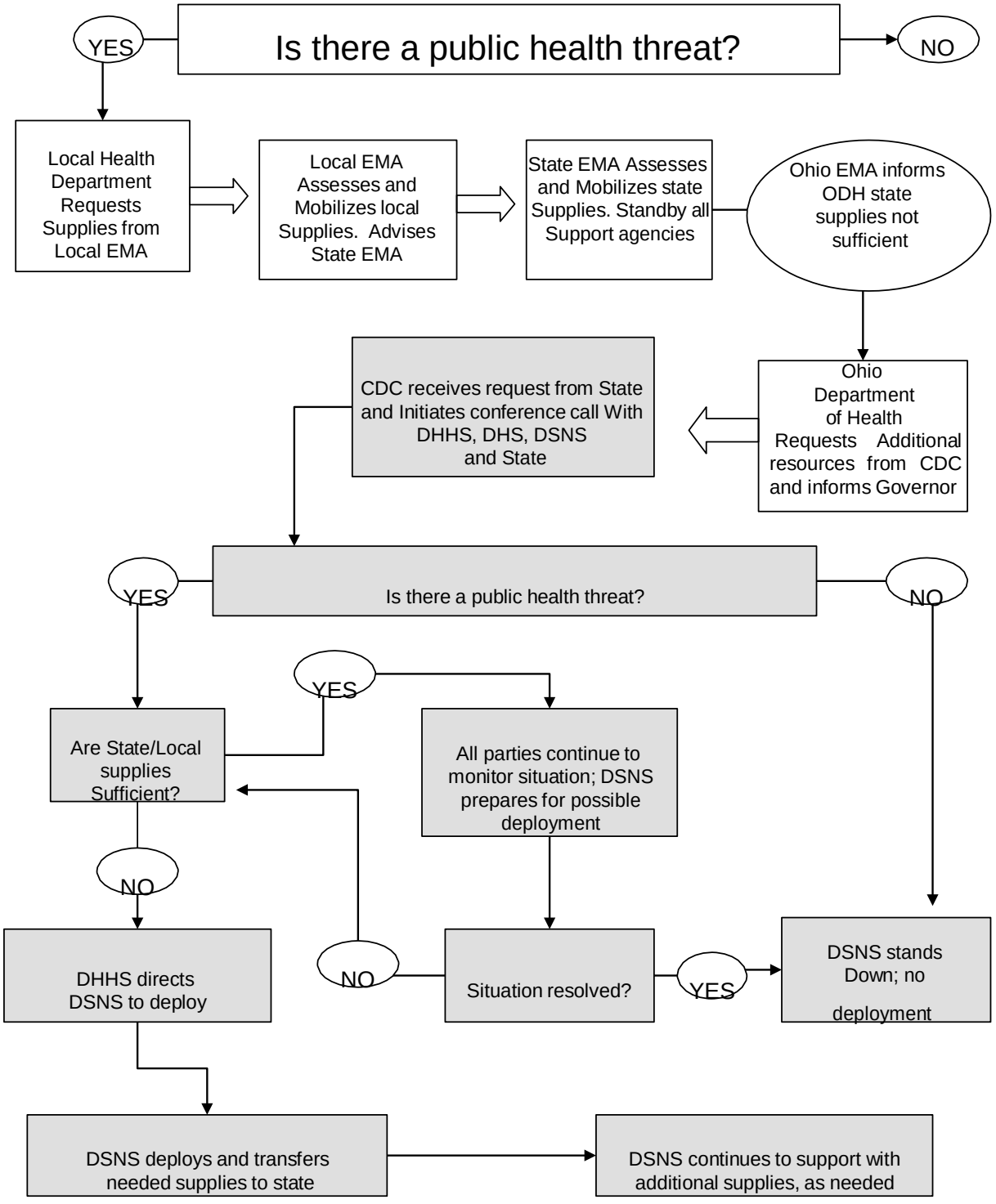
William Latham, DPM, President *Pro tempore*
Ashland City Board of Health

-----signed-----

Jelayne Dray, RN, MSN, Health Commissioner
Secretary, Ashland County Board of Health
Secretary, Ashland City Board of Health

Tab A
Ashland County-City Health Department (ACCHD) Procedure For Requesting Strategic National Stockpile Materials from the State of Ohio

Date	Time	Initials	Done	**Action Steps**
				1. The ACCHD Incident Commander has determined that a public health emergency has occurred, resulting in the possibility of overwhelming depletion of local, regional, and/or state pharmaceutical and medical materiel response assets.
				2. The SNS Request Justification has been completed.
				3. The ACCHD Incident Commander requests resources from the ACOHSEMA (see attached algorithm).
				4. The ACOHSEMA contacts the Ohio Emergency Management Agency (OEMA).
				5. OEMA, in consultation with the Ohio Department of Health (ODH), determines state supplies are not sufficient. State health officials recommend that the governor request the deployment of SNS assets by calling the U.S. Centers for Disease Control Director's Emergency Operations Center (DEOC) at **770-488-7100**.
				6. Confirmation of SNS request is received by OEMA from ODH. OEMA provides confirmation to the ACOHSEMA.


Is there a public health threat?
YES
NO
Local Health Department Requests Supplies from Local EMA
Local EMA Assesses and Mobilizes local Supplies. Advises State EMA
State EMA Assesses and Mobilizes state Supplies. Standby all Support agencies
Ohio EMA informs ODH state supplies not sufficient
Ohio Department of Health Requests Additional resources from CDC and informs Governor
CDC receives request from State and Initiates conference call With DHHS, DHS, DSNS and State
Is there a public health threat?
YES
NO
YES
Are State/Local supplies Sufficient?
All parties continue to monitor situation; DSNS prepares for possible deployment
NO
DHHS directs DSNS to deploy
NO
Situation resolved?
YES
DSNS stands Down; no deployment
DSNS deploys and transfers needed supplies to state
DSNS continues to support with additional supplies, as needed

Tab B

Ebolavirus Requires Reporting and Local Investigation by the Ashland County-City Health Department (ACCHD)

Class A Diseases

"(1) Diseases of major public health concern because of the severity of disease or potential for epidemic spread--report by telephone immediately upon recognition that a case, a suspected case, or a positive laboratory result exists**:"** **Example:**

Viral Hemorrhagic fever (VHF) such as Ebolavirus

Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern, because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.

Ohio Administrative Code Rule 3701-3-13 which reads in part,

A person infected with one of the following specified diseases or conditions shall be isolated as set forth below:…

(DD) Viral hemorrhagic fever (VHF): a person with confirmed or suspected viral hemorrhagic fever shall be placed in airborne isolation until no longer considered infectious…..

Tab C

Communicable Disease Investigation Procedure
ACCHD Nursing Division

Two United States Centers for Disease Control documents and one U.S. Occupational Health and Safety document will serve as the basis for safely performing communicable disease investigation of persons suspected of having come into contact with or having contracted Ebolavirus. The names of these documents are: Tightened Guidance for U. S. Healthcare Workers on Personal Protective Equipment for Ebola dated October 21, 2014, (TAB D), Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease, Including Procedures for Putting On (Donning) and Removing (Doffing) dated October 20, 2014, (TAB E), and OSHA Respiratory Protection Standard, 29 CFR 1910.134 (TAB F) will be utilized.

The buddy system of donning and doffing protective gear will be utilized.

The practice of donning and doffing protective gear according to Tabs D, E, and F will be done and practiced prior to the first visit with the suspected case.

The ACCHD Division of Nursing standard procedure and protocol will be to first try to make contact by phone for potentially exposed contacts. If it is not possible to contact the suspect case by phone or the contact does not have a working phone, a Trac™ phone or similar device will be purchased by the ACCHD and taken to the home of the potentially exposed or exposed by an employee of the ACCHD without entering the home. Phone call(s) will then be made to the suspect case or client without entry into the home until it is determined to be a necessity.

The need for temperature checks will happen twice daily and will proceed per ODH protocol. (Tab G). The designated ACCHD employee(s) performing the temperature assessment(s) and communicable disease investigation will also be monitored per the ODH Crosswalk for Ebola Exposure and Risk (Tab H)

If the suspect Ebola client lives in another county, the ACCHD will contact the local health department communicable disease nurse in that county or jurisdiction and advise them of the situation and need for contact interview. ODH will be contacted for additional guidance and resources as needed.

Intervention will be followed.

Aspects of the ACCHD Isolation and Quarantine Plan will be considered.

The ACCHD will find an Alternate Housing Facility for Public Servants within an Ashland County political subdivision who become exposed to a suspect Ebolavirus case.

Tab D

Tightened Guidance for U. S. Healthcare Workers on Personal Protective Equipment for Ebola

The Centers for Disease Control and Prevention (CDC) is tightening previous infection control guidance for healthcare workers caring for patients with Ebola, to ensure there is no ambiguity. The guidance focuses on specific personal protective equipment (PPE) health care workers should use and offers detailed step by step instructions for how to put the equipment on and take it off safely.

Recent experience from safely treating patients with Ebola at Emory University Hospital, Nebraska Medical Center and National Institutes of Health Clinical Center are reflected in the guidance.

The enhanced guidance is centered on three principles:

- All healthcare workers undergo rigorous training and are practiced and competent with PPE, including putting it on and taking it off in a systemic manner
- No skin exposure when PPE is worn
- All workers are supervised by a trained monitor who watches each worker putting PPE on and taking it off.

All patients treated at Emory University Hospital, Nebraska Medical Center and the National Institutes of Health Clinical Center have followed the three principles. None of the workers at these facilities have contracted the illness.

Principle #1: Rigorous and repeated training

Focusing only on PPE gives a false sense of security of safe care and worker safety. Training is a critical aspect of ensuring infection control. Facilities need to ensure all healthcare providers practice numerous times to make sure they understand how to appropriately use the equipment, especially in the step by step putting on and taking off of PPE. CDC and partners will ramp up training offerings for healthcare personnel across the country to reiterate all the aspects of safe care recommendations.

Principle #2: No skin exposure when PPE is worn

Given the intensive and invasive care that U.S. hospitals provide for Ebola patients, the tightened guidelines are more directive in recommending no skin exposure when PPE is worn.

CDC is recommending all of the same PPE included in the August 1, 2014 guidance, with the addition of coveralls and single-use, disposable hoods. **Goggles are no longer recommended as they may not provide complete skin coverage in comparison to a single-use, disposable full-**

face shield. Additionally, goggles are not disposable, may fog after extended use, and healthcare workers may be tempted to manipulate them with contaminated gloved hands.

PPE recommended for U.S. healthcare workers caring for patients with Ebola includes:

- Double gloves
- Boot covers that are waterproof and go to at least mid-calf or leg covers
- Single-use fluid resistant or impermeable gown that extends to at least mid-calf ***or*** coverall without integrated hood.
- Respirators, including either N95 respirators or powered air purifying respirator (PAPR)
- Single-use, full-face shield that is disposable
- Surgical hoods to ensure complete coverage of the head and neck
- Apron that is waterproof and covers the torso to the level of the mid-calf (and that covers the top of the boots or boot covers) should be used if Ebola patients have vomiting or diarrhea.

The guidance describes different options for combining PPE to allow a facility to select PPE for their protocols based on availability, healthcare personnel familiarity, comfort and preference while continuing to provide a standardized, high level of protection for healthcare personnel.

The guidance includes having:

- **Two specific, recommended PPE options** for facilities to choose from. Both options provide equivalent protection if worn, put on and removed correctly.
- **Designated areas for putting on and taking off PPE.** Facilities should ensure that space and layout allows for clear separation between clean and potentially contaminated areas
- **Trained observer to monitor PPE** use and safe removal
- **Step-by-step PPE removal instructions** that include:
- Disinfecting visibly contaminated PPE using an EPA-registered disinfectant wipe prior to taking off equipment
- **Disinfection of gloved hands** using either an EPA-registered disinfectant wipe or alcohol-based hand rub between steps of taking off PPE.

Principle #3: Trained monitor

CDC is recommending a trained monitor actively observe and supervise each worker putting PPE on and taking it off. This is to ensure each worker follows the step by step processes, especially to disinfect visibly contaminated PPE. The trained monitor can spot any missteps in real-time and immediately address.

PPE is Only One Aspect of Infection Control

It is critical to focus on other prevention activities to halt the spread of Ebola in healthcare settings, including:

- Prompt screening and triage of potential patients

- Designated site managers to ensure proper implementation of precautions
- Limiting personnel in the isolation room
- Effective environmental cleaning

Think Ebola and Care Carefully

The CDC reminds health care workers to "Think Ebola" and to "Care Carefully." Health care workers should take a detailed travel and exposure history with patients who exhibit fever, severe headache, muscle pain, weakness, diarrhea, vomiting, stomach pain, unexplained hemorrhage. If the patient is under investigation for Ebola, health care workers should activate the hospital preparedness plan for Ebola, isolate the patient in a separate room with a private bathroom, and to ensure standardized protocols are in place for PPE use and disposal. Health care workers should not have physical contact with the patient without putting on appropriate PPE.

CDC's Guidance for U.S. Healthcare Settings is Similar to MSF's (Doctors Without Borders) Guidance

Both CDC's and MSF's guidance documents focus on:

- **Protecting skin and mucous membranes** from all exposures to blood and body fluids during patient care
- **Meticulous, systematic strategy for putting on and taking off PPE** to avoid contamination and to ensure correct usage of PPE
- **Use of oversight and observers** to ensure processes are followed
- **Disinfection of PPE prior to taking off:** CDC recommends disinfecting visibly contaminated PPE using an EPA-registered disinfectant wipe prior to taking off equipment. Additionally, CDC recommends disinfection of gloved hands using either an EPA-registered disinfectant wipe or alcohol-based hand rub between steps of taking off PPE. Due to differences in the U.S. healthcare system and West African healthcare settings, MSF's guidance recommends spraying as a method for PPE disinfection rather than disinfectant wipes.

Five Pillars of Safety

CDC reminds all employers and healthcare workers that PPE is only one aspect of infection control and providing safe care to patients with Ebola. Other aspects include five pillars of safety:

- **Facility leadership has responsibility** to provide resources and support for implementation of effective prevention precautions. Management should maintain a culture of worker safety in which appropriate PPE is available and correctly maintained, and workers are provided with appropriate training.
- **Designated onsite Ebola site manager** responsible for oversight of implementing precautions for healthcare personnel and patient safety in the healthcare facility.

- **Clear, standardized procedures** where facilities choose one of two options and have a back-up plan in case supplies are not available.
- **Trained healthcare personnel**: facilities need to ensure all healthcare providers practice numerous times to make sure they understand how to appropriately use the equipment.

Oversight of practices are critical to ensuring that implementation protocols are done accurately, and any error in putting on or taking off PPE is identified in real-time, corrected and addressed, in case potential exposure occurred

Tab E

Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease, Including Procedures for Putting On (Donning) and Removing (Doffing)

The following procedures provide detailed guidance on the types of personal protective equipment (PPE) to be used and on the processes for donning and doffing (i.e., putting on and removing) PPE for all healthcare workers entering the room of a patient with Ebolavirus. The guidance in this document reflects lessons learned from the recent experiences of U.S. hospitals caring for Ebola patients and emphasizes the importance of **training, practice, competence, and observation** of healthcare workers in correct donning and doffing of PPE.

This guidance contains the following key principles:

Prior to working with Ebola patients, all healthcare workers involved in the care of Ebola patients must have received repeated training and have demonstrated competency in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE.

While working in PPE, healthcare workers caring for Ebola patients should have no skin exposed.

The overall safe care of Ebola patients must be overseen by an onsite manager at all times, and each step of every PPE donning/doffing procedure must be supervised by a trained observer to ensure proper completion of established PPE protocols.

In healthcare settings, Ebola is spread through direct contact (e.g., through broken skin or through mucous membranes of the eyes, nose, or mouth) with blood or body fluids of a person who is sick with Ebola or with objects (e.g., needles, syringes) that have been contaminated with the virus. For all healthcare workers caring for Ebola patients, PPE with full body coverage is recommended to further reduce the risk of self-contamination.

To protect healthcare workers during care of an Ebola patient, healthcare facilities must provide onsite management and oversight on the safe use of PPE and implement administrative and environmental controls with continuous safety checks through direct observation of healthcare workers during the PPE donning and doffing processes.

Recommended Administrative and Environmental Controls for Healthcare Facilities

Protecting healthcare workers and preventing spread of Ebola requires that proper administrative procedures and safe work practices be carried out in appropriate physical settings. These controls include the following:

- At an administrative level, the facility's infection prevention management system, in collaboration with the facility's occupational health department, should
- Establish and implement triage protocols to effectively identify patients who may have Ebola and institute the precautions detailed in this document.
- Designate individuals as site managers responsible for overseeing the implementation of precautions for healthcare workers and patient safety. A site manager's sole responsibility is to ensure the safe and effective delivery of Ebola treatment. These individuals are responsible for all aspects of Ebola infection control including supply monitoring and evaluation with direct observation of care before, during, and after staff enter an isolation and treatment area.
- At least one site manager should be on-site at all times in the location where the Ebola patient is being cared for.
- Identify critical patient care functions and essential healthcare workers for care of Ebola patients, for collection of laboratory specimens, and for management of the environment and waste ahead of time.
- Ensure healthcare workers have been trained in all recommended protocols for safe care of Ebola patients before they enter the patient care area.
- Train healthcare workers on all PPE recommended in the facility's protocols. Healthcare workers should practice donning and doffing procedures and must demonstrate during the training process competency through testing and assessment before caring for Ebola patients.
- Use trained observers to monitor for correct PPE use and adherence to protocols for donning and doffing PPE, and guide healthcare workers at each point of use using a checklist for every donning and doffing procedure.
- Document training of observers and healthcare workers for proficiency and competency in donning and doffing PPE, and in performing all necessary care-related duties while wearing PPE.
- Designate spaces so that PPE can be donned and doffed in separate areas.
- Key safe work practices include the following:
- Identify and isolate the Ebola patient in a single patient room with a closed door and a private bathroom as soon as possible.
- Limit the number of healthcare workers who come into contact with the Ebola patient (e.g., avoid short shifts), and restrict non-essential personnel and visitors from the patient care area.
- Monitor the patient care area at all times, and log at a minimum entry and exit of all healthcare workers who enter the room of an Ebola patient.
- Ensure that a trained observer watches closely each donning and each doffing procedure, and provides supervisory assurance that donning and doffing protocols are followed.
- Ensure that healthcare workers have sufficient time to don and doff PPE correctly without disturbances.
- Ensure that practical precautions are taken during patient care, such as keeping hands away from the face, limiting touch of surfaces and body fluids, preventing needlestick and

sharps injuries, and performing frequent disinfection of gloved hands using an alcohol-based hand rub (ABHR), particularly after handling body fluids.

- Disinfect immediately any visibly contaminated PPE surfaces, equipment, or patient care area surfaces using an *EPA-registered disinfectant wipe.
- Perform regular cleaning and disinfection of patient care area surfaces, even absent visible contamination.
- This should be performed only by nurses or physicians as part of patient care activities in order to limit the number of additional healthcare workers who enter the room.
- Implement observation of healthcare workers in the patient room, if possible (e.g., glass-walled intensive care unit [ICU] room, video link).
- Establish a facility exposure management plan that addresses decontamination and follow-up of an affected healthcare worker in case of any unprotected exposure. Training on this plan and follow-up should be part of the healthcare worker training.

Principles of PPE

Healthcare workers must understand the following basic principles to ensure safe and effective PPE use, which include that no skin may be exposed while working in PPE:

- Donning
- PPE must be donned correctly in proper order before entry into the patient care area and not be later modified while in the patient care area. The donning activities must be directly observed by a trained observer.
- During Patient Care
- PPE must remain in place and be worn correctly for the duration of exposure to potentially contaminated areas. PPE should not be adjusted during patient care.
- Healthcare workers should perform frequent disinfection of gloved hands using an ABHR, particularly after handling body fluids.
- If during patient care a partial or total breach in PPE (e.g., gloves separate from sleeves leaving exposed skin, a tear develops in an outer glove, a needlestick) occurs, the healthcare worker must move immediately to the doffing area to assess the exposure.

Implement the facility exposure plan, if indicated by assessment.

- Doffing
- The removal of used PPE is a high-risk process that requires a structured procedure, a trained observer, and a designated area for removal to ensure protection
- PPE must be removed slowly and deliberately in the correct sequence to reduce the possibility of self-contamination or other exposure to Ebola virus
- A stepwise process should be developed and used during training and daily practice
  Double gloving provides an extra layer of safety during direct patient care and during the PPE removal process. Beyond this, more layers of PPE may make it more difficult to perform patient care duties and put healthcare workers at greater risk for percutaneous injury (e.g., needlesticks), self-contamination during care or doffing, or other exposures to Ebola. If healthcare facilities decide to add additional PPE or modify this PPE

guidance, they must consider the risk/benefit of any modification, and train healthcare workers on correct donning and doffing in the modified procedures.

Training on Correct Use of PPE

Training ensures that healthcare workers are knowledgeable and proficient in the donning and doffing of PPE prior to engaging in management of an Ebola patient. Comfort and proficiency when donning and doffing are only achieved through repeated practice on the correct use of PPE.

Healthcare workers should be required to demonstrate competency in the use of PPE, including donning and doffing while being observed by a trained observer, before working with Ebola patients. In addition, during practice, healthcare workers and their trainers should assess their proficiency and comfort with performing required duties while wearing PPE. Training should be available in formats accessible to individuals with disabilities or limited English proficiency. Target training to the educational level of the intended audience.

Use of a Trained Observer

Because the sequence and actions involved in each donning and doffing step are critical to avoiding exposure, a trained observer will read aloud to the healthcare worker each step in the procedure checklist and visually confirm and document that the step has been completed correctly. The trained observer is a dedicated individual with the sole responsibility of ensuring adherence to the entire donning and doffing process. The trained observer will be knowledgeable about all PPE recommended in the facility's protocol and the correct donning and doffing procedures, including disposal of used PPE, and will be qualified to provide guidance and technique recommendations to the healthcare worker. The trained observer will monitor and document successful donning and doffing procedures, providing immediate corrective instruction if the healthcare worker is not following the recommended steps. The trained observer should know the exposure management plan in the event of an unintentional break in procedure.

Designating Areas for PPE Donning and Doffing

Facilities should ensure that space and layout allow for clear separation between clean and potentially contaminated areas. It is critical that physical barriers (e.g., plastic enclosures) be used where necessary, along with visible signage, to separate distinct areas and ensure a one-way flow of care moving from clean areas (e.g., area where PPE is donned and unused equipment is stored) to the patient room and to the PPE removal area (area where PPE is removed and discarded).

Post signage to highlight key aspects of PPE donning and doffing, including:

- Designating clean areas vs. potentially contaminated areas
- Reminding healthcare workers to wait for a trained observer before removing PPE

- Reinforcing need for slow and deliberate removal of PPE to prevent self-contamination
- Reminding healthcare workers to perform disinfection of gloved hands in between steps of the doffing procedure, as indicated below.

Designate the following areas with appropriate signage:

PPE Storage and Donning Area

This is an area outside the Ebola patient room (e.g., a nearby vacant patient room, a marked area in the hallway outside the patient room) where clean PPE is stored and where healthcare workers can don PPE before entering the patient's room. Do not store potentially contaminated equipment, used PPE, or waste removed from the patient's room in this area. If waste must pass through this area, it must be properly contained.

Patient Room

This is a single-patient room. The door is kept closed. Any item or healthcare worker exiting this room should be considered potentially contaminated.

PPE Removal Area

This is an area in proximity to the patient's room (e.g., anteroom or adjacent vacant patient room that is separate from the clean area) where healthcare workers leaving the patient's room can doff and discard their PPE. Alternatively, some steps of the PPE removal process may be performed in a clearly designated area of the patient's room near the door, provided these steps can be seen and supervised by a trained observer (e.g., through a window such that the healthcare worker doffing PPE can still hear the instructions of the trained observer). Do not use this clearly designated area within the patient room for any other purpose. Stock gloves in a clean section of the PPE removal area accessible to the healthcare worker while doffing.

In the PPE removal area, provide supplies for disinfection of PPE and for performing hand hygiene and space to remove PPE, including a place for sitting that can be easily cleaned and disinfected, where the healthcare workers can remove boot covers. Provide leak-proof infectious waste containers for discarding used PPE. Perform frequent environmental cleaning and disinfection of the PPE removal area, including upon completion of doffing procedure by healthcare workers.

If a facility must use the hallway outside the patient room as the PPE removal area, construct physical barriers to close the hallway to through traffic and thereby create an anteroom. In so doing, the facility should make sure that this hallway space complies with fire-codes. Restrict access to this hallway to essential personnel who are properly trained on recommended infection prevention practices for the care of Ebola patients.

Facilities should consider making showers available for use by healthcare workers after doffing of PPE.

Selection of PPE for Healthcare Workers during Management of Ebola patients

This section outlines several PPE combinations and how they should be correctly worn. The key to all PPE is consistent implementation through repeated training and practice. A facility should select and standardize the PPE to be used by all essential healthcare workers directly interacting with Ebola patients and provide a written protocol outlining procedures for donning and doffing of this PPE, which will be reviewed and monitored by the trained observer.

CDC recommends facilities use a powered air-purifying respirator (PAPR) or an N95 or higher respirator in the event of an unexpected aerosol-generating procedure.

For healthcare workers who may spend extended periods of time in PPE while caring for Ebola patients, safety and comfort are critical. Standardizing attire under PPE (e.g., surgical scrubs or disposable garments and dedicated washable footwear) facilitates the donning and doffing process and eliminates concerns of contamination of personal clothing.

If facilities elect to use different PPE from what is outlined below (e.g., coveralls with either an integrated hood or a surgical hood with integrated full face shield), they must train healthcare workers in this use and ensure that donning and doffing procedures are adjusted and practiced accordingly.

Recommended Personal Protective Equipment

- PAPR **or** N95 Respirator. If a NIOSH-certified PAPR and a NIOSH-certified fit-tested disposable N95 respirator is used in facility protocols, ensure compliance with all elements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134,**** including fit testing, medical evaluation, and training of the healthcare worker.
- **PAPR**: A PAPR with a full face shield, helmet, or headpiece. Any reusable helmet or headpiece must be covered with a single-use (disposable) hood that extends to the shoulders and fully covers the neck and is compatible with the selected PAPR. The facility should follow manufacturer's instructions for decontamination of all reusable components and, based upon those instructions, develop facility protocols that include the designation of responsible personnel who assure that the equipment is appropriately reprocessed and that batteries are fully charged before reuse.
- A PAPR with a self-contained filter and blower unit integrated inside the helmet is preferred.
- A PAPR with external belt-mounted blower unit requires adjustment of the sequence for donning and doffing, as described below.
- **N95 Respirator**: Single-use (disposable) N95 respirator in combination with single-use (disposable) surgical hood extending to shoulders and single-use (disposable) full face shield.** If N95 respirators are used instead of PAPRs, careful observation is required to

ensure healthcare workers are not inadvertently touching their faces under the face shield during patient care.

- Single-use (disposable) fluid-resistant or impermeable gown that extends to at least mid-calf or coverall without integrated hood. Coveralls with or without integrated socks are acceptable.

Consideration should be given to selecting gowns or coveralls with thumb hooks to secure sleeves over inner glove. If gowns or coveralls with thumb hooks are not available, personnel may consider taping the sleeve of the gown or cover-all over the inner glove to prevent potential skin exposure from separation between sleeve and inner glove during activity. However, if taping is used, care must be taken to remove tape gently. Experience in some facilities suggests that taping may increase risk by making the doffing process more difficult and cumbersome.

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- Single-use (disposable) nitrile examination gloves with extended cuffs. Two pairs of gloves should be worn. At a minimum, outer gloves should have extended cuffs.
- Single-use (disposable), fluid-resistant or impermeable boot covers that extend to at least mid-calf or single-use (disposable) shoe covers. Boot and shoe covers should allow for ease of movement and not present a slip hazard to the worker.
- Single-use (disposable) fluid-resistant or impermeable shoe covers are acceptable only if they will be used in combination with a coverall with integrated socks.
- Single-use (disposable), fluid-resistant or impermeable apron that covers the torso to the level of the mid-calf should be used if Ebola patients have vomiting or diarrhea. An apron provides additional protection against exposure of the front of the body to body fluids or excrement. If a PAPR will be worn, consider selecting an apron that ties behind the neck to facilitate easier removal during the doffing procedure.

Recommended PPE for Trained Observer during Observations of PPE Doffing

The trained observer should not enter the room of a patient with Ebola, but will be in the PPE removal area to observe and assist with removal of specific components of PPE, as outlined below. The observer should not participate in any Ebola patient care activities while conducting observations. The following PPE are recommended for trained observers:

- Single-use (disposable) fluid-resistant or impermeable gown that extends to at least mid-calf or coverall without integrated hood.
- Single-use (disposable) full face shield.
- Single-use (disposable) nitrile examination gloves with extended cuffs. Two pairs of gloves should be worn. At a minimum, outer gloves should have extended cuffs.
- Single-use (disposable) fluid-resistant or impermeable shoe covers. Shoe covers should allow for ease of movement and not present a slip hazard to the worker.

Trained observers should don and doff selected PPE according to same procedures outlined below. Of note, if the trained observer assists with PPE doffing, then the trained observer should disinfect outer-gloved hands with an *EPA-registered disinfectant wipe or ABHR immediately

after contact with healthcare worker's PPE.

Donning PPE, PAPR Option – This donning procedure assumes the facility has elected to use PAPRs. An established protocol facilitates training and compliance. Use a trained observer to verify successful compliance with the protocol.

Engage Trained Observer: The donning process is conducted under the guidance and supervision of a trained observer, who confirms visually that all PPE is serviceable and has been donned successfully. The trained observer uses a written checklist to confirm each step in donning PPE and can assist with ensuring and verifying the integrity of the ensemble. No exposed skin or hair of the healthcare worker should be visible at the conclusion of the donning process.

Remove Personal Clothing and Items: Change into surgical scrubs (or disposable garments) and dedicated washable (plastic or rubber) footwear in a suitable clean area. No personal items (e.g., jewelry, watches, cell phones, pagers, pens) should be brought into patient room.

Inspect PPE Prior to Donning: Visually inspect the PPE ensemble to be worn to ensure that it is in serviceable condition, that all required PPE and supplies are available, and that the sizes selected are correct for the healthcare worker. The trained observer reviews the donning sequence with the healthcare worker before the healthcare worker begins the donning process and reads it to the healthcare worker in a step-by-step fashion.

Perform Hand Hygiene: Perform hand hygiene with ABHR. When using ABHR, allow hands to dry before moving to next step.

Put on Inner Gloves: Put on first pair of gloves.

Put on Boot *or* Shoe Covers.

Put on Gown *or* Coverall: Put on gown *or* coverall. Ensure gown or coverall is large enough to allow unrestricted freedom of movement. Ensure cuffs of inner gloves are tucked under the sleeve of the gown *or* coverall

If a PAPR with a self-contained filter and blower unit that is integrated inside the helmet is used, then the belt and battery unit must be put on prior to donning the impermeable gown *or* coverall so that the belt and battery unit are contained under the gown *or* coverall.

If a PAPR with external belt-mounted blower is used, then the blower and tubing must be on the outside of gown *or* coverall to ensure proper airflow.

Put on Outer Gloves: Put on second pair of gloves (with extended cuffs). Ensure the cuffs are pulled over the sleeves of the gown *or* coverall

Put on Respirator: Put on PAPR with a full face-shield, helmet, or headpiece

If a PAPR with a self-contained filter and blower unit integrated inside the helmet is used, then a single-use (disposable) hood that extends to the shoulders and fully covers the neck must also be used. Be sure that the hood covers all of the hair and the ears, and that it extends past the neck to the shoulders.

If a PAPR with external belt-mounted blower unit and attached reusable headpiece is used, then a single-use (disposable) hood that extends to the shoulders and fully covers the neck must also be used. Be sure that the hood covers all of the hair and the ears, and that it extends past the neck to the shoulders.

Put on Outer Apron (if used): Put on full-body apron to provide additional protection to the front of the body against exposure to body fluids or excrement from the patient.

Verify: After completing the donning process, the integrity of the ensemble is verified by the trained observer. The healthcare worker should be comfortable and able to extend the arms, bend at the waist, and go through a range of motions to ensure there is sufficient range of movement while all areas of the body remain covered. A mirror in the room can be useful for the healthcare worker while donning PPE.

Disinfect Outer Gloves: Disinfect outer-gloved hands with ABHR. Allow to dry prior to patient contact.

Donning PPE, N95 Respirator Option – This donning procedure assumes the facility has elected to use N95 respirators. An established protocol facilitates training and compliance. Use a trained observer to verify successful compliance with the protocol.

Engage Trained Observer: The donning process is conducted under the guidance and supervision of a trained observer who confirms visually that all PPE is serviceable and has been donned successfully. The trained observer will use a written checklist to confirm each step in donning PPE and can assist with ensuring and verifying the integrity of the ensemble. No exposed skin or hair of the healthcare worker should be visible at the conclusion of the donning process.

Remove Personal Clothing and Items: Change into surgical scrubs (or disposable garments) and dedicated washable (plastic or rubber) footwear in a suitable, clean area. No personal items (e.g., jewelry, watches, cell phones, pagers, pens) should be brought into patient room.

Inspect PPE Prior to Donning: Visually inspect the PPE ensemble to be worn to ensure it is in serviceable condition, all required PPE and supplies are available, and that the sizes selected are correct for the healthcare worker. The trained observer reviews the donning sequence with the healthcare worker before the healthcare worker begins and reads it to the healthcare worker in a step-by-step fashion.

Perform Hand Hygiene: Perform hand hygiene with ABHR. When using ABHR, allow hands to dry before moving to next step.

Put on Inner Gloves: Put on first pair of gloves.

Put on Boot *or* Shoe Covers.

Put on Gown *or* Coverall: Put on gown *or* coverall. Ensure gown *or* coverall is large enough to allow unrestricted freedom of movement. Ensure cuffs of inner gloves are tucked under the sleeve of the gown *or* coverall.

Put on N95 Respirator: Put on N95 respirator. Complete a user seal check.

Put on Surgical Hood: Over the N95 respirator, place a surgical hood that covers all of the hair and the ears, and ensure that it extends past the neck to the shoulders. Be certain that hood completely covers the ears and neck.

Put on Outer Apron (if used): Put on full-body apron to provide additional protection to the front of the body against exposure to body fluids or excrement from the patient.

Put on Outer Gloves: Put on second pair of gloves (with extended cuffs). Ensure the cuffs are pulled over the sleeves of the gown *or* coverall.

Put on Face Shield: Put on full face shield over the N95 respirator and surgical hood to provide additional protection to the front and sides of the face, including skin and eyes.

Verify: After completing the donning process, the integrity of the ensemble is verified by the trained observer. The healthcare worker should be comfortable and able to extend the arms, bend at the waist and go through a range of motions to ensure there is sufficient range of movement while all areas of the body remain covered. A mirror in the room can be useful for the healthcare worker while donning PPE.

Disinfect Outer Gloves: Disinfect outer-gloved hands with ABHR. Allow to dry prior to patient contact.

Preparing for Doffing

The purpose of this step is to prepare for the removal of PPE. Before entering the PPE removal area, inspect and disinfect (using an *EPA-registered disinfectant wipe) any visible contamination on the PPE. As a final step, disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR, and allow to dry. Verify that the trained observer is available in the PPE removal area before entering and beginning the PPE removal process.

Doffing PPE, PAPR Option – PPE doffing should be performed in the designated PPE removal area. Place all PPE waste in a leak-proof infectious waste container.

Engage Trained Observer: The doffing process is conducted under the supervision of a trained observer, who reads aloud each step of the procedure and confirms visually that the PPE is

removed properly. Prior to doffing PPE, the trained observer must remind the healthcare worker to avoid reflexive actions that may put them at risk, such as touching their face. Post this instruction and repeat it verbally during doffing. Although the trained observer should minimize touching the healthcare worker or the healthcare worker's PPE during the doffing process, the trained observer may assist with removal of specific components of PPE, as outlined below. The trained observer disinfects the outer-gloved hands immediately after handling any healthcare worker PPE.

Inspect: Inspect the PPE to assess for visible contamination, cuts, or tears before starting to remove. If any PPE is potentially contaminated, then disinfect using an *EPA-registered disinfectant wipe. If the facility conditions permit and appropriate regulations are followed, an *EPA-registered disinfectant spray can be used, particularly on contaminated areas.

Disinfect Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR, and allow to dry.

Remove Apron (if used): Remove and discard apron taking care to avoid contaminating gloves by rolling the apron from inside to outside.

Inspect: Following apron removal, inspect the PPE ensemble to assess for visible contamination or cuts or tears. If visibly contaminated, then disinfect affected PPE using an *EPA-registered disinfectant wipe.

Disinfect Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR.

Remove Boot *or* Shoe Covers: While sitting down, remove and discard boot *or* shoe covers.

Disinfect and Remove Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR. Remove and discard outer gloves, taking care not to contaminate inner glove during removal process.

Inspect and Disinfect Inner Gloves: Inspect the inner gloves' outer surfaces for visible contamination, cuts, or tears. If an inner glove is visibly soiled, cut, or torn, then disinfect the glove with either an *EPA-registered disinfectant wipe or ABHR. Then remove the inner gloves, perform hand hygiene with ABHR on bare hands, and don a clean pair of gloves. If no visible contamination, cuts, or tears are identified on the inner gloves, then disinfect the inner-gloved hands with either an *EPA-registered disinfectant wipe or ABHR.

Remove Respirator (PAPR)***:
If a PAPR with a self-contained filter and blower unit integrated inside the helmet is used, then wait until Step 15 for removal and go to Step 11.

If a PAPR with an external belt-mounted blower unit is used, then all components must be removed at this step.

Remove and discard disposable hood.

Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR.

Remove headpiece, blower, tubing, and the belt and battery unit. This step might require assistance from the trained observer.

Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR.

Place all reusable PAPR components in an area or container designated for the collection of PAPR components for disinfection.

Remove Gown *or* Coverall: Remove and discard.

Depending on gown design and location of fasteners, the healthcare worker can either untie fasteners, receive assistance by the trained observer to unfasten the gown, or gently break fasteners. Avoid contact of scrubs or disposable garments with outer surface of gown during removal. Pull gown away from body, rolling inside out and touching only the inside of the gown.

To remove coverall, tilt head back and reach under the PAPR hood to reach zipper or fasteners.

Use a mirror to help avoid touching the skin. Unzip or unfasten coverall completely before rolling down and turning inside out. Avoid contact of scrubs with outer surface of coverall during removal, touching only the inside of the coverall.

Disinfect Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR

Disinfect Washable Shoes: Sitting on a new clean surface (e.g., second clean chair, clean side of a bench) use an *EPA-registered disinfectant wipe to wipe down every external surface of the washable shoes.

Disinfect Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR.

Remove Respirator (if not already removed): If a PAPR with a self-contained filter and blower unit that is integrated inside helmet is used, then remove all components.

Remove and discard disposable hood

Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR

Remove and discard inner gloves taking care not to contaminate bare hands during removal process

Perform hand hygiene with ABHR

Don a new pair of inner gloves

Remove helmet and the belt and battery unit. This step might require assistance from the trained observer.

Disinfect and Remove Inner Gloves: Disinfect inner-gloved hands with either an *EPA-registered disinfectant wipe or ABHR. Remove and discard gloves taking care not to contaminate bare hands during removal process.

Perform Hand Hygiene: Perform hand hygiene with ABHR.

Inspect: Perform a final inspection of healthcare worker for any indication of contamination of the surgical scrubs or disposable garments. If contamination is identified, immediately inform infection preventionist or occupational safety and health coordinator or their designee before exiting PPE removal area.
Scrubs: Healthcare worker can leave PPE removal area wearing dedicated washable footwear and surgical scrubs or disposable garments.

Shower: Showers are recommended at each shift's end for healthcare workers performing high-risk patient care (e.g., exposed to large quantities of blood, body fluids, or excreta). Showers are also suggested for healthcare workers spending extended periods of time in the Ebola patient room.

Protocol Evaluation/Medical Assessment: Either the infection preventionist or occupational safety and health coordinator or their designee on the unit at the time should meet with the healthcare worker to review the patient care activities performed to identify any concerns about care protocols and to record healthcare worker's level of fatigue.

Doffing PPE, N95 Respirator Option – PPE doffing is performed in the designated PPE removal area. Place all PPE waste in a leak-proof infectious waste container.

Engage Trained Observer: The doffing process is conducted under the supervision of a trained observer, who reads aloud each step of the procedure and confirms visually that the PPE has been removed properly. Prior to doffing PPE, the trained observer must remind healthcare workers to avoid reflexive actions that may put them at risk, such as touching their face. Post this instruction and repeat it verbally during doffing. Although the trained observer should minimize touching healthcare workers or their PPE during the doffing process, the trained observer may assist with removal of specific components of PPE as outlined below. The trained observer disinfects the outer-gloved hands immediately after handling any healthcare worker PPE.

Inspect: Inspect the PPE to assess for visible contamination, cuts, or tears before starting to remove. If any PPE is visibly contaminated, then disinfect using an *EPA-registered disinfectant wipe. If the facility conditions permit and appropriate regulations are followed, an *EPA-registered disinfectant spray can be used, particularly on contaminated areas.

Disinfect Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR.

Remove Apron (if used): Remove and discard apron taking care to avoid contaminating gloves by rolling the apron from inside to outside.

Inspect: Following apron removal, inspect the PPE ensemble to assess for visible contamination or cuts or tears. If visibly contaminated, then disinfect affected PPE using an *EPA-registered disinfectant wipe.

Disinfect Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR.

Remove Boot *or* Shoe Covers: While sitting down, remove and discard boot *or* shoe covers.

Disinfect and Remove Outer Gloves: Disinfect outer-gloved hands with either an *EPA-registered disinfectant wipe or ABHR. Remove and discard outer gloves taking care not to contaminate inner gloves during removal process.

Inspect and Disinfect Inner Gloves: Inspect the inner gloves' outer surfaces for visible contamination, cuts, or tears. If an inner glove is visibly soiled, cut, or torn, then disinfect the glove with either an *EPA-registered disinfectant wipe or ABHR. Then remove the inner gloves, perform hand hygiene with ABHR on bare hands, and don a clean pair of gloves. If no visible contamination, cuts, or tears are identified on the inner gloves, then disinfect the inner-gloved hands with either an *EPA-registered disinfectant wipe or ABHR.

Remove Face Shield: Remove the full face shield by tilting the head slightly forward, grabbing the rear strap and pulling it over the head, gently allowing the face shield to fall forward and discard. Avoid touching the front surface of the face shield.

Disinfect Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR.

Remove Surgical Hood: Unfasten (if applicable) surgical hood, gently remove, and discard. The trained observer may assist with unfastening hood.

Disinfect Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR.

Remove Gown *or* Coverall: Remove and discard.
Depending on gown design and location of fasteners, the healthcare worker can either untie fasteners, receive assistance by the trained observer to unfasten to gown, or gently break fasteners. Avoid contact of scrubs or disposable garments with outer surface of gown during removal. Pull gown away from body, rolling inside out and touching only the inside of the gown. To remove coverall, tilt head back to reach zipper or fasteners. Unzip or unfasten coverall completely before rolling down and turning inside out. Avoid contact of scrubs with outer

surface of coverall during removal, touching only the inside of the coverall.

Disinfect and Change Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR. Remove and discard gloves taking care not to contaminate bare hands during removal process. Perform hand hygiene with ABHR. Don a new pair of inner gloves.

Remove N95 Respirator: Remove the N95 respirator by tilting the head slightly forward, grasping first the bottom tie or elastic strap, then the top tie or elastic strap, and remove without touching the front of the N95 respirator. Discard N95 respirator.

Disinfect Inner Gloves: Disinfect inner gloves with either an *EPA-registered disinfectant wipe or ABHR

Disinfect Washable Shoes: Sitting on a new clean surface (e.g., second clean chair, clean side of a bench) use an *EPA-registered disinfectant wipe to wipe down every external surface of the washable shoes.

Disinfect and Remove Inner Gloves: Disinfect inner-gloved hands with either an *EPA-registered disinfectant wipe or ABHR. Remove and discard gloves taking care not to contaminate bare hands during removal process.

Perform Hand Hygiene: Perform hand hygiene with ABHR.

Inspect: Perform a final inspection of healthcare worker for any indication of contamination of the surgical scrubs or disposable garments. If contamination is identified, immediately inform infection preventionist or occupational safety and health coordinator or their designee before exiting PPE removal area.

Scrubs: Healthcare worker can leave PPE removal area wearing dedicated washable footwear and surgical scrubs or disposable garments.

Shower: Showers are recommended at each shift's end for healthcare workers performing high risk patient care (e.g., exposed to large quantities of blood, body fluids, or excreta). Showers are also suggested for healthcare workers spending extended periods of time in the Ebola patient room.

Protocol Evaluation/Medical Assessment: Either the infection preventionist or occupational health safety and health coordinator or their designee on the unit at the time should meet with the healthcare worker to review the patient care activities performed to identify any concerns about care protocols and to record healthcare worker's level of fatigue.

Footnotes

*EPA-registered disinfectant wipe: Use a disposable wipe impregnated with a U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with a label claim of

potency at least equivalent to that for a non-enveloped virus (e.g., norovirus, rotavirus, adenovirus, poliovirus).

** Note: A full face shield may not provide full face protection in the setting of significant splashing.

***All facilities should have a protocol for removing their particular PAPR and preparing equipment for reprocessing (e.g., bagging for temporary storage before reprocessing, immediate reprocessing in the doffing area)

****This section applies to General Industry (part 1910), Shipyards (part 1915), Marine Terminals (part 1917), Longshoring (part 1918), and Construction (part 1926)

Tab F

OSHA Respiratory Protection Standard, 29 CFR 1910.134

1910.134(a)

Permissible practice.

1910.134(a)(1)

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.

1910.134(a)(2)

A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in paragraph (c) of this section. The program shall cover each employee required by this section to use a respirator.

1910.134(c)

Respiratory protection program. This paragraph requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. The Small Entity Compliance Guide contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the Small Entity Compliance Guide will be available on or about April 8, 1998 from the Occupational Safety and Health Administration's Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).

1910.134(c)(1)

In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable:

1910.134(c)(1)(i)

Procedures for selecting respirators for use in the workplace;

1910.134(c)(1)(ii)

Medical evaluations of employees required to use respirators;

1910.134(c)(1)(iii)

Fit testing procedures for tight-fitting respirators;

1910.134(c)(1)(iv)

Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations;

1910.134(c)(1)(v)

Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;

1910.134(c)(1)(vi)

Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;

1910.134(c)(1)(vii)

Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations;

1910.134(c)(1)(viii)

Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and

1910.134(c)(1)(ix)

Procedures for regularly evaluating the effectiveness of the program.

1910.134(c)(2)

Where respirator use is not required:

1910.134(c)(2)(i)

An employer may provide respirators at the request of employees or permit employees to use their own respirators, if the employer determines that such respirator use will not in itself create a hazard. If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard"); and

1910.134(c)(2)(ii)

In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of

filtering facepieces (dust masks).

1910.134(c)(3)

The employer shall designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

1910.134(c)(4)

The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

1910.134(d)

Selection of respirators. This paragraph requires the employer to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors. The paragraph also specifies appropriately protective respirators for use in IDLH atmospheres, and limits the selection and use of air-purifying respirators.

1910.134(d)(1)

General requirements.

1910.134(d)(1)(i)

The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.

1910.134(d)(1)(ii)

The employer shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.

1910.134(d)(1)(iii)

The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH.

1910.134(d)(1)(iv)

The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

1910.134(d)(2)

Respirators for IDLH atmospheres.

1910.134(d)(2)(i)

The employer shall provide the following respirators for employee use in IDLH atmospheres:

1910.134(d)(2)(i)(A)

A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or

1910.134(d)(2)(i)(B)

A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

1910.134(d)(2)(ii)

Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

1910.134(d)(2)(iii)

All oxygen-deficient atmospheres shall be considered IDLH. Exception: If the employer demonstrates that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in Table II of this section (i.e., for the altitudes set out in the table), then any atmosphere-supplying respirator may be used.

1910.134(d)(3)

Respirators for atmospheres that are not IDLH.

1910.134(d)(3)(i)

The employer shall provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.

1910.134(d)(3)(i)(A)

Assigned Protection Factors (APFs) Employers must use the assigned protection factors listed in Table 1 to select a respirator that meets or exceeds the required level of employee protection. When using a combination respirator (e.g., airline respirators with an air-purifying filter), employers must ensure that the assigned protection factor is appropriate to the mode of operation in which the respirator is being used.

Table 1. -- Assigned Protection Factors[5]

Type of respirator[1], [2]	Quarter mask	Half mask	Full facepiece	Helmet/ hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	[3]10	50	.....	.....
2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	[4]25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	[4]25/1,000	25
• Pressure-demand or other positive-	.....	50	1,000	.....	.....

pressure mode					
4. Self-Contained Breathing Apparatus (SCBA) • Demand mode • Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	....	10	50 10,000	50 10,000	....

Notes:

[1]Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

[2]The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

[3]This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

[4]The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

[5]These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

1910.134(d)(3)(i)(B)

Maximum Use Concentration (MUC)

1910.134(d)(3)(i)(B)(1)

The employer must select a respirator for employee use that maintains the employee's exposure to the hazardous substance, when measured outside the respirator, at or below the MUC.

1910.134(d)(3)(i)(B)(2)

Employers must not apply MUCs to conditions that are immediately dangerous to life or health (IDLH); instead, they must use respirators listed for IDLH conditions in paragraph (d)(2) of this standard.

1910.134(d)(3)(i)(B)(3)

When the calculated MUC exceeds the IDLH level for a hazardous substance, or the performance limits of the cartridge or canister, then employers must set the maximum MUC at that lower limit.

1910.134(d)(3)(ii)

The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

1910.134(d)(3)(iii)

For protection against gases and vapors, the employer shall provide:

1910.134(d)(3)(iii)(A)

An atmosphere-supplying respirator, or

1910.134(d)(3)(iii)(B)

An air-purifying respirator, provided that:

1910.134(d)(3)(iii)(B)(1)

The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or

1910.134(d)(3)(iii)(B)(2)

If there is no ESLI appropriate for conditions in the employer's workplace, the employer implements a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. The employer shall describe in the respirator program the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data.

1910.134(d)(3)(iv)

For protection against particulates, the employer shall provide:

1910.134(d)(3)(iv)(A)

An atmosphere-supplying respirator; or

1910.134(d)(3)(iv)(B)

An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84; or

1910.134(d)(3)(iv)(C)

For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

TABLE I. – listed above

TABLE II

Altitude (ft.)	Oxygen deficient Atmospheres (% 0_2) for which the employer atmosphere-may rely on supplying respirators

Less than 3,001	16.0-19.5
3,001-4,000	16.4-19.5
4,001-5,000	17.1-19.5
5,001-6,000	17.8-19.5
6,001-7,000	18.5-19.5
7,001-8,000[1]	19.3-19.5.

[1]Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.

1910.134(e)

Medical evaluation. Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Accordingly, this paragraph specifies the minimum requirements for medical evaluation that employers must implement to determine the employee's ability to use a respirator.

1910.134(e)(1)

General. The employer shall provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

1910.134(e)(2)

Medical evaluation procedures.

1910.134(e)(2)(i)

The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire.

1910.134(e)(2)(ii)

The medical evaluation shall obtain the information requested by the questionnaire in Sections 1 and 2, Part A of Appendix C of this section.

1910.134(e)(3)

Follow-up medical examination.

1910.134(e)(3)(i)

The employer shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of Appendix C or whose initial medical examination demonstrates the need for a follow-up medical examination.

1910.134(e)(3)(ii)

The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

1910.134(e)(4)

Administration of the medical questionnaire and examinations.

1910.134(e)(4)(i)

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content.

1910.134(e)(4)(ii)

The employer shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

1910.134(e)(5)

Supplemental information for the PLHCP.

1910.134(e)(5)(i)

The following information must be provided to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

1910.134(e)(5)(i)(A)

(A) The type and weight of the respirator to be used by the employee;

1910.134(e)(5)(i)(B)

The duration and frequency of respirator use (including use for rescue and escape);

1910.134(e)(5)(i)(C)

The expected physical work effort;

1910.134(e)(5)(i)(D)

Additional protective clothing and equipment to be worn; and

1910.134(e)(5)(i)(E)

Temperature and humidity extremes that may be encountered.

1910.134(e)(5)(ii)

Any supplemental information provided previously to the PLHCP regarding an employee need not be provided for a subsequent medical evaluation if the information and the PLHCP remain the same.

1910.134(e)(5)(iii)

The employer shall provide the PLHCP with a copy of the written respiratory protection program and a copy of this section.

Note to Paragraph (e)(5)(iii): When the employer replaces a PLHCP, the employer must ensure that the new PLHCP obtains this information, either by providing the documents directly to the PLHCP or having the documents transferred from the former PLHCP to the new PLHCP. However, OSHA does not expect employers to have employees medically reevaluated solely because a new PLHCP has been selected.

1910.134(e)(6)

Medical determination. In determining the employee's ability to use a respirator, the employer shall:

1910.134(e)(6)(i)

Obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation shall provide only the following information:

1910.134(e)(6)(i)(A)

Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;

1910.134(e)(6)(i)(B)

The need, if any, for follow-up medical evaluations; and

1910.134(e)(6)(i)(C)

A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

1910.134(e)(6)(ii)

If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, the employer shall provide a PAPR if the PLHCP's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer is no longer required to provide a PAPR.

1910.134(e)(7)

Additional medical evaluations. At a minimum, the employer shall provide additional medical evaluations that comply with the requirements of this section if:

1910.134(e)(7)(i)

An employee reports medical signs or symptoms that are related to ability to use a respirator;

1910.134(e)(7)(ii)

A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;

1910.134(e)(7)(iii)

Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or

1910.134(e)(7)(iv)

A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed

on an employee.

1910.134(f)

Fit testing. This paragraph requires that, before an employee may be required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. This paragraph specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.

1910.134(f)(1)

The employer shall ensure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as stated in this paragraph.

1910.134(f)(2)

The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

1910.134(f)(3)

The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

1910.134(f)(4)

If after passing a QLFT or QNFT, the employee subsequently notifies the employer, program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.

1910.134(f)(5)

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of this section.

1910.134(f)(6)

QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.

1910.134(f)(7)

If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.

1910.134(f)(8)

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit

testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

1910.134(f)(8)(i)

Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.

1910.134(f)(8)(ii)

Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.

1910.134(f)(8)(iii)

Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.

1910.134(g)

Use of respirators. This paragraph requires employers to establish and implement procedures for the proper use of respirators. These requirements include prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operation throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres or in interior structural firefighting situations.

1910.134(g)(1)

Facepiece seal protection.

1910.134(g)(1)(i)

The employer shall not permit respirators with tight-fitting facepieces to be worn by employees who have:

1910.134(g)(1)(i)(A)

Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or

1910.134(g)(1)(i)(B)

Any condition that interferes with the face-to-facepiece seal or valve function.

1910.134(g)(1)(ii)

If an employee wears corrective glasses or goggles or other personal protective equipment, the employer shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

1910.134(g)(1)(iii)

For all tight-fitting respirators, the employer shall ensure that employees perform a user seal check each time they put on the respirator using the procedures in Appendix B-1 or procedures recommended by the respirator manufacturer that the employer demonstrates are as effective as those in Appendix B-1 of this section.

1910.134(g)(2)

Continuing respirator effectiveness.

1910.134(g)(2)(i)

Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the employer shall reevaluate the continued effectiveness of the respirator.

1910.134(g)(2)(ii)

The employer shall ensure that employees leave the respirator use area:

1910.134(g)(2)(ii)(A)

To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or

1910.134(g)(2)(ii)(B)

If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or

1910.134(g)(2)(ii)(C)

To replace the respirator or the filter, cartridge, or canister elements.

1910.134(g)(2)(iii)

If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, the employer must replace or repair the respirator before allowing the employee to return to the work area.

1910.134(g)(3)

Procedures for IDLH atmospheres. For all IDLH atmospheres, the employer shall ensure that:

1910.134(g)(3)(i)

One employee or, when needed, more than one employee is located outside the IDLH atmosphere;

1910.134(g)(3)(ii)

Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;

1910.134(g)(3)(iii)

The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;

1910.134(g)(3)(iv)

The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;

1910.134(g)(3)(v)

The employer or designee authorized to do so by the employer, once notified, provides necessary assistance appropriate to the situation;

1910.134(g)(3)(vi)

Employee(s) located outside the IDLH atmospheres are equipped with:

1910.134(g)(3)(vi)(A)

Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either

1910.134(g)(3)(vi)(B)

Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or

1910.134(g)(3)(vi)(C)

Equivalent means for rescue where retrieval equipment is not required under paragraph (g)(3)(vi)(B).

1910.134(g)(4)

Procedures for interior structural firefighting. In addition to the requirements set forth under paragraph (g)(3), in interior structural fires, the employer shall ensure that:

1910.134(g)(4)(i)

At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;

1910.134(g)(4)(ii)

At least two employees are located outside the IDLH atmosphere; and

1910.134(g)(4)(iii)

All employees engaged in interior structural firefighting use SCBAs.

Note 1 to paragraph (g): One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.

Note 2 to paragraph (g): Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.

1910.134(h)

Maintenance and care of respirators. This paragraph requires the employer to provide

for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees.

1910.134(h)(1)

Cleaning and disinfecting. The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures in Appendix B-2 of this section, or procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:

1910.134(h)(1)(i)

Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;

1910.134(h)(1)(ii)

Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals;

1910.134(h)(1)(iii)

Respirators maintained for emergency use shall be cleaned and disinfected after each use; and

1910.134(h)(1)(iv)

Respirators used in fit testing and training shall be cleaned and disinfected after each use.

1910.134(h)(2)

Storage. The employer shall ensure that respirators are stored as follows:

1910.134(h)(2)(i)

All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

1910.134(h)(2)(ii)

In addition to the requirements of paragraph (h)(2)(i) of this section, emergency respirators shall be:

1910.134(h)(2)(ii)(A)

Kept accessible to the work area;

1910.134(h)(2)(ii)(B)

Stored in compartments or in covers that are clearly marked as containing emergency respirators; and

1910.134(h)(2)(ii)(C)

Stored in accordance with any applicable manufacturer instructions.

1910.134(h)(3)

Inspection.

1910.134(h)(3)(i)

The employer shall ensure that respirators are inspected as follows:

1910.134(h)(3)(i)(A)

All respirators used in routine situations shall be inspected before each use and during cleaning;

1910.134(h)(3)(i)(B)

All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use; and

1910.134(h)(3)(i)(C)

Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

1910.134(h)(3)(ii)

The employer shall ensure that respirator inspections include the following:

1910.134(h)(3)(ii)(A)

A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and

1910.134(h)(3)(ii)(B)

A check of elastomeric parts for pliability and signs of deterioration.

1910.134(h)(3)(iii)

In addition to the requirements of paragraphs (h)(3)(i) and (ii) of this section, self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly.

1910.134(h)(3)(iv)

For respirators maintained for emergency use, the employer shall:

1910.134(h)(3)(iv)(A)

Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and

1910.134(h)(3)(iv)(B)

Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

1910.134(h)(4)

Repairs. The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with the following procedures:

1910.134(h)(4)(i)

Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;

1910.134(h)(4)(ii)

Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

1910.134(h)(4)(iii)

Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

1910.134(i)

Breathing air quality and use. This paragraph requires the employer to provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity.

1910.134(i)(1)

The employer shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

1910.134(i)(1)(i)

Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and

1910.134(i)(1)(ii)

Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

1910.134(i)(1)(ii)(A)

Oxygen content (v/v) of 19.5-23.5%;

1910.134(i)(1)(ii)(B)

Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;

1910.134(i)(1)(ii)(C)

Carbon monoxide (CO) content of 10 ppm or less;

1910.134(i)(1)(ii)(D)

Carbon dioxide content of 1,000 ppm or less; and

1910.134(i)(1)(ii)(E)

Lack of noticeable odor.

1910.134(i)(2)

The employer shall ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.

1910.134(i)(3)

The employer shall ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.

1910.134(i)(4)

The employer shall ensure that cylinders used to supply breathing air to respirators meet the following requirements:

1910.134(i)(4)(i)

Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 180);

1910.134(i)(4)(ii)

Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and

1910.134(i)(4)(iii)

The moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.

1910.134(i)(5)

The employer shall ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:

1910.134(i)(5)(i)

Prevent entry of contaminated air into the air-supply system;

1910.134(i)(5)(ii)

Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg.C) below the ambient temperature;

1910.134(i)(5)(iii)

Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.

1910.134(i)(5)(iv)

Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.

1910.134(i)(6)

For compressors that are not oil-lubricated, the employer shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.

1910.134(i)(7)

For oil-lubricated compressors, the employer shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.

1910.134(i)(8)

The employer shall ensure that breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.

1910.134(i)(9)

The employer shall use only the respirator manufacturer's NIOSH-approved breathing-gas containers,marked and maintained in accordance with the Quality Assurance provisions of the NIOSH approval for the SCBA as issued in accordance with the NIOSH respirator-certification standard at 42 CFR part 84.

1910.134(j)

Identification of filters, cartridges, and canisters. The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

1910.134(k)

Training and information. This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.

1910.134(k)(1)

The employer shall ensure that each employee can demonstrate knowledge of at least the following:

1910.134(k)(1)(i)

Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;

1910.134(k)(1)(ii)

What the limitations and capabilities of the respirator are;

1910.134(k)(1)(iii)

How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

1910.134(k)(1)(iv)

How to inspect, put on and remove, use, and check the seals of the respirator;

1910.134(k)(1)(v)

What the procedures are for maintenance and storage of the respirator;

1910.134(k)(1)(vi)

How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and

1910.134(k)(1)(vii)

The general requirements of this section.

1910.134(k)(2)

The training shall be conducted in a manner that is understandable to the employee.

1910.134(k)(3)

The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.

1910.134(k)(4)

An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph (k)(1)(i) through (vii) is not required to repeat such training provided that, as required by paragraph (k)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

1910.134(k)(5)

Retraining shall be administered annually, and when the following situations occur:

1910.134(k)(5)(i)

Changes in the workplace or the type of respirator render previous training obsolete;

1910.134(k)(5)(ii)

Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or

1910.134(k)(5)(iii)

Any other situation arises in which retraining appears necessary to ensure safe respirator use.

1910.134(k)(6)

The basic advisory information on respirators, as presented in Appendix D of this section, shall be provided by the employer in any written or oral format, to employees who wear respirators when such use is not required by this section or by the employer.

1910.134(l)

Program evaluation. This section requires the employer to conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly.

1910.134(l)(1)

The employer shall conduct evaluations of the workplace as necessary to ensure that the

provisions of the current written program are being effectively implemented and that it continues to be effective.

1910.134(l)(2)

The employer shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

1910.134(l)(2)(i)

Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);

1910.134(l)(2)(ii)

Appropriate respirator selection for the hazards to which the employee is exposed;

1910.134(l)(2)(iii)

Proper respirator use under the workplace conditions the employee encounters; and

1910.134(l)(2)(iv)

Proper respirator maintenance.

1910.134(m)

Recordkeeping. This section requires the employer to establish and retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the employer in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

1910.134(m)(1)

Medical evaluation. Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020.

1910.134(m)(2)

Fit testing.

1910.134(m)(2)(i)

The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including:

1910.134(m)(2)(i)(A)

The name or identification of the employee tested;

1910.134(m)(2)(i)(B)

Type of fit test performed;

1910.134(m)(2)(i)(C)

Specific make, model, style, and size of respirator tested;

1910.134(m)(2)(i)(D)

Date of test; and

1910.134(m)(2)(i)(E)

The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

1910.134(m)(2)(ii)

Fit test records shall be retained for respirator users until the next fit test is administered.

1910.134(m)(3)

A written copy of the current respirator program shall be retained by the employer.

1910.134(m)(4)

Written materials required to be retained under this paragraph shall be made available upon request to affected employees and to the Assistant Secretary or designee for examination and copying.

1910.134(n)

Effective date. Paragraphs (d)(3)(i)(A) and (d)(3)(i)(B) of this section become effective November 22, 2006.

1910.134(o)

Appendices. Compliance with Appendix A, Appendix B-1, Appendix B-2, Appendix C, and Appendix D to this section are mandatory.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998; 71 FR 16672, April 3, 2006; 71 FR 50187, August 24, 2006; 73 FR 75584, Dec. 12, 2008; 76 FR 33606, June 8, 2011]

Tab G

Temperature Monitoring- ODH protocol

Name: _____

Date of last exposure: _____

Quarantine release date: _____

Day: Date:	DAY 1		DAY 2		DAY 3		DAY 4		DAY 5		DAY 6		DAY 7	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Time of check:														
Symptoms														
Fever >100.4														
Headache														
Joint or muscle aches														
Weakness														
Diarrhea														
Vomiting														
Stomach pain														
Lack of appetite														
Rash														
Red eyes														

Day: Date:	DAY 8		DAY 9		DAY 10		DAY 11		DAY 12		DAY 13		DAY 14	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Time of check:														
Symptoms														
Fever >100.4														
Headache														
Joint or muscle aches														
Weakness														
Diarrhea														
Vomiting														
Stomach pain														
Lack of appetite														
Rash														
Red eyes														

Day: Date:	DAY 15		DAY 16		DAY 17		DAY 18		DAY 19		DAY 20		DAY 21	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Time of check:														
Symptoms														
Fever >100.4														
Headache														
Joint or muscle aches														
Weakness														
Diarrhea														
Vomiting														
Stomach pain														
Lack of appetite														
Rash														
Red eyes														

Tab H
ODH Crosswalk for Ebola Exposure and Risk-October 21, 2014

Tier	Exposure Category	Additional Detail	Interventions
1	**Any direct contact** Any direct skin to skin or mucus membrane contact or contact with blood and body fluids without personal protective equipment	3 page questionnaire or the more detailed standardized tool to evaluate risk	**Quarantine** Including active monitoring as below. No commercial conveyance for 21 days after last contact
2A*	**No direct contact, within risk zone** No direct skin to skin or mucus membrane contact or contact with blood and body fluids. within a 3 foot radius ("risk zone") of an infected individual greater than 1 hour		**Active monitoring*** (twice daily temperature taking once directly observed by public health official for 21 days after last contact) No commercial conveyance for 21 days after the last contact Any travel outside of the jurisdiction of the local health authority must be under mutual agreement of the health authority of jurisdiction and the public health official who will assume responsibility for daily observation.
2B	**No direct contact, not in risk zone** No direct contact (not in the "risk zone"), but in the same enclosed space of infected individual	≥ 1 hour	**Verified self-monitoring** (twice daily temperature taking reported daily to public health official) for 21 days after last contact No travel outside of the United States due to the inability to verify and act upon non-compliance with reporting requirements.
3	**No direct contact, not in risk zone** No direct contact (not in the "risk zone"), but in the same enclosed space of infected individual	< 1 hour	**Self-monitoring** (twice daily temperature taking, no reporting to public health) for 21 days after last contact No travel restrictions
	No direct contact, in broad vicinity No direct contact, but within broad vicinity		Provide education

All individuals shall be given written notice of their exposure category and the intervention and sign acknowledgement of the notice. The notice shall also apprise the individual of their responsibility to notify any first responder they come in contact with of their exposure category

and intervention.
*Additional restrictions may apply based on occupation or other situations in which skin-to-skin contact may occur.

Tab I
Legal Basis for Ashland County-City Health Department (ACCHD) Core Public Health Functions in an Ebolavirus event

Ohio Revised Code §	Subject Title
3707.01	Powers of Board; Abatement of Nuisances
3707.02	Proceedings When Order of Board is Neglected or Disregarded
3707.02.1	Noncompliance; Injunctive Relief
3707.03	Correction of Nuisance or Unsanitary Conditions on School Property
3701.04	Quarantine Regulations
3707.06	Notice to be given of Prevalence of Infectious Disease
3707.07	Complaint Concerning Prevalence of Disease; Inspection by Health Commissioner
3707.08	Isolation of Persons Exposed to Communicable Disease; Placarding of Premises
3707.09	Board May Employ Quarantine Guards.
3707.10	Disinfection of House in Which There Has Been a Contagious Disease
3707.12	Destruction of Infected Property
3707.13	Compensation of Property Destroyed
3707.14	Maintenance of Persons Confined in Quarantine House.
3707.16	Attendance at Gatherings by Quarantined Person Prohibited
3707.17	Quarantine in Place other than that of Legal Settlement
3707.19	Disposal of Body of a Person Who Died of Communicable Disease
3707.23	Examination of Common Carriers by Board during Quarantine
3707.26	Board Shall Inspect Schools and May Close Them
3707.27	Board may Offer Vaccination Free or at Reasonable Charge; Fee Payable to State
3707.31	Establishment of Quarantine Hospital
3707.32	Erection of Temporary Buildings by Board of Health; Destruction of Property
3707.34	Board May Delegate Isolation and Quarantine Authority to Health Commissioner
3707.38	Inspectors, Other Employees
3707.48	Prohibition against Violation of Orders or Regulations of Board
3709.20	Orders and Regulations of Board of City Health District
3709.21	Orders and Regulations of Board of General Health District
3709.22	Duties of Board of City or General Health District
3709.36	Powers and Duties of Board of Health
731.231	Under ORC 3709.21

Ohio Administrative Code §	Subject Title
3701-3-02	Diseases to be reported
3701-3-02.1	Reporting of Occupational Diseases
3701-3-03	Reported Diseases Notification
3701-3-04	Laboratory Result Reporting
3701-3-05	Time of Report
3701-3-06	Reporting to the Ohio Department of Health
3701-3-08	Release of Patient's Medical Records

Ohio Jurisprudence 3rd Edition:	Health and Sanitation, Sections 15, 22, 23, 24, 33, 45, 46, 48, 49, 53.6, 59, 60, 60.1, 62, 63, 65, 66, 67
Ohio Jurisprudence 3rd Edition:	Public Welfare Sections 84, 170, Recovery from Public Authority
Ohio Jurisprudence 3rd Edition:	Habeas Corpus & Post Convict, Remedies Section 6, Confinement Under Quarantine and Health Regulations
Ohio Jurisprudence 3rd Edition:	Foods, Drugs, Poisons, and Hazardous Substances, Sections 8, 78, Regulations and Offenses
Ohio Jurisprudence 3rd Edition:	Physicians, Surgeons and Other Healers Section 201, Reporting Requirements
Ohio Jurisprudence 3rd Edition:	Cemeteries and Dead Bodies Section 53
Ohio Jurisprudence 3rd Edition:	Schools, Universities and Colleges Sections 320, 327, 330
Ohio Jurisprudence 3rd Edition:	Hospitals and Related Facilities; Health Care Pro. Section 92
Ohio Jurisprudence 3rd Edition:	Administrative Law Section 41
Ohio Jurisprudence 3rd Edition:	Environmental Protection Section 125

Corpus Juris Secundum	Dead Bodies Sections 4-11, 13, 22-26
Corpus Juris Secundum	Health and Environment Sections 9, 16-26, 28-45, 51-64, 66, 74, 95-97
Corpus Juris Secundum	Social Security and Public Welfare Sections 268, 269
Corpus Juris Secundum	Municipal Corporations Section 130

Koch, Administrative Law and Practice	Processes for information services—required reports, Text 2.42

1916 Ohio Attorney General Opinion Volume 1, page 953
1923 Ohio Attorney General Opinion page 355
1926 Ohio Attorney General Opinion 3758
1927 Ohio Attorney General Opinion 789
1929 Ohio Attorney General Opinions 262, 591, and 789
1932 Ohio Attorney General Opinions 4552 and 4641
1937 Ohio Attorney General Opinion 1121
1938 Ohio Attorney General Opinion 3435
1939 Ohio Attorney General Opinion 61
1942 Ohio Attorney General Opinions 4774 and 5091
1946 Ohio Attorney General Opinion 975
1949 Ohio Attorney General Opinion 926

1951 Ohio Attorney General Opinion 691
1952 Ohio Attorney General Opinion 1729
1954 Ohio Attorney General Opinion 4104
1956 Ohio Attorney General Opinion 6934- No duty rests upon sheriff to carry out the order of a district board of health
1956 Ohio Attorney General Opinions 7172 and 7436
1959 Ohio Attorney General Opinion 766
1962 Ohio Attorney General Opinion 3343
Ohio Attorney General Opinion 72-088
Ohio Attorney General Opinion 74-014
Ohio Attorney General Opinion 84-090

Biddle v. Warren Gen. Hosp. (Ohio, 19-15-1999) 86 Ohio State Reports, 3rd Series 395
Jones v. Stanko (Ohio 1928) 118 Ohio State Reports 147
Belden v. State (Ohio Appellate Reports 8 District 1917)
State, on behalf of: Weeks v. Krause, 18 Ohio Nisi Prius Reports, New Series 419
Brunner v. Rhodes (Franklin 1953) 95 Ohio Appellate Reports 259
State v. South (Clark 1967) Ohio Appellate Reports Second Series 187
D.A.B.E., Inc. v. Toledo-Lucas County Board of Health (Ohio 2002) 96 Ohio State Reports 3rd Ed. 250

FEDERAL:

Office for Civil Rights, U.S. Dept. of Health and Human Services, HIPAA Privacy Rule: Disclosures for Emergency Preparedness – A Decision Tool, http://www.hhs.gov/ocr/hipaa/decisiontool/ (assisting organizations to apply HIPAA in emergency situations and presenting avenues of information flow that apply to emergency preparedness activities).

45 CFR 164.510(b)(1)(ii)(2007). The HIPAA Privacy Rule permits disclosures as necessary to identify and locate family members, guardians, or anyone else responsible for the individual's care, and notify them of the individual's location, general condition, or death. In an emergency, a healthcare provider may notify the police, the press, or the public at large as appropriate.

45 CFR 164.510(b)(4)(2007). The HIPAA Privacy Rule permits covered healthcare providers to share information with disaster relief organizations that, like the American Red Cross, are authorized by law or by their charters to assist in disaster relief efforts. The healthcare provider is not required to obtain a patient's permission for the disclosure if doing so would interfere with the ability to respond to the emergency circumstances.

42 U.S.C. § 264 (2000, Supp. IV) Public Health Service Act, (granting the Sec. of Dept. of Health & Human Srvcs. responsibility for preventing the spread of communicable diseases); see also 42 C.F.R. Parts 70 and 71 (2007) (implementing 42 U.S.C. § 264 and empowering the CDC Division of Global Migration and Quarantine to detain, medically examine, or conditionally release any person suspected of carrying a communicable disease); Exec Order No. 13,375, 70 Fed. Reg. 17,299 (Apr. 5, 2005) (amending Exec. Order No. 13,295, 68 Fed. Reg. 17,255 (Apr. 9, 2003)) (pursuant to the President's authority in 42 U.S.C. § 264(b), adding "influenza caused by novel or re-emergent influenza viruses that are causing, or have the potential to cause, a pandemic" to the list of communicable diseases for which the CDC is authorized to detain individuals).

42 USC § 14503 - Limitation on liability for volunteers

USC Title 42 - CHAPTER 6A - PUBLIC HEALTH SERVICE, SUBCHAPTER XXVI - NATIONAL PREPAREDNESS FOR BIOTERRORISM AND OTHER PUBLIC HEALTH EMERGENCIES, Part B - Emergency Preparedness and Response, Sec. 300hh-11 - Coordination of preparedness for and response to bioterrorism and other public health emergencies

Public Readiness and Emergency Preparedness Act, Pub. L. No. 109-148, 42 U.S.C. § 247d-6d (2006) (preempting related state laws and granting immunity to a manufacturer, distributor, program planner, or "qualified person" (defined to include a licensed health professional or other individual authorized to prescribe, administer, or dispense a qualifying pandemic drug) for all actions caused by the administration or use, design, development, clinical testing or investigation, manufacture, labeling, distribution, formulation, packaging, marketing, promotion, sale, purchase, donation, dispensing, prescribing, or licensing of a qualifying pandemic drug (or other "countermeasure" as defined by 42 U.S.C. § 247d-6d(i)(1), except actions alleging willful misconduct)

42 U.S.C. § 5122(1) (2004) An "emergency" for purposes of obtaining federal funding is defined as "any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States."

42 U.S.C. § 1320b-5(b)(3) (2000, Supp. IV). The Secretary of DHHS can waive Emergency Medical Treatment and Labor Act (EMTALA) requirements during an emergency under certain circumstances.

45 CFR 164.512(b) The HIPAA Privacy Rule recognizes the legitimate need for public health authorities and others responsible for ensuring public health and safety to have access to protected health information to carry out their public health mission. The Rule also recognizes that public health reports made by covered entities are an important means of identifying threats to the health and safety of the public at large, as well as individuals. Accordingly, the Rule permits covered entities to disclose protected health information without authorization for specified public health purposes.

45 CFR Parts 160 and 164 Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under the Health Information Technology for Economic and Clinical Health Act and the Genetic Information Nondiscrimination Act; Other Modifications to the HIPAA Rules.

42 C.F.R. § 483.10(b)(11) A nursing facility must immediately consult with a resident's physician following: [a] significant change in the resident's physical….status (i.e., a deterioration in health… status in either life-threatening conditions…

42 C.F.R. § 483.13(a) (2011) Resident behavior and facility practices. (a) Restraints. The resident has the right to be free from any physical or chemical restraints imposed for purposes of discipline or convenience, and
not required to treat the resident's medical symptoms

42 C.F.R. §483.25(h) (2012) Quality of care

29 C.F.R. § 1977.12(b) (2) an employee's right to refuse to work under conditions the employee believes will subject him to serious injury or death.

From URL:
https://www.hhs.gov/ocr/privacy/hipaa/understanding/special/emergency/decisiontool.html