CAPSCA

Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation

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ARREGLO DE COLABORACIÓN PARA LA PREVENCIÓN Y GESTIÓN DE EVENTOS DE SALUD PÚBLICA EN LA AVIACIÓN CIVIL (CAPSCA)

Seminario Regional FAL

Lima, 9 al 12 de Septiembre del 2014

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Introducción (1)

El objetivo de esta presentación es brindar a los asistentes al presente Seminario información sobre los objetivos, organización y logros de CAPSCA.

Así como demostrar la necesidad de la cooperación y trabajo en equipo de los Estados, Autoridades Internacionales, Nacionales, Regionales y Locales.

Introducción (2)

La coordinación de la respuesta de la aviación civil internacional frente a los riesgos de salud pública (prevención y gestión), es una función clave de la OACI.

Gestión que es realizada por medio de CAPSCA.

Organigrama

http://www.capsca.org/GlobalOrgChart.html

http://www.capsca.org/Americas.html

Organizaciones Aliadas

Aspectos Generales

Causa humanitaria para proteger la salud pública.

Colaboración Multisectorial: Agencias de Naciones Unidas, Autoridades de los Estados y Proveedores de Servicios.

Cooperación Internacional entre los Estados y las Organizaciones.

Objetivos (1)

Protección de la salud pública: público en general, pasajeros y personal del medio aeronáutico.

Asistencia a los Estados – Territorios para establecer el Plan Nacional de Aviación frente a pandemias.

Sensibilización de los requisitos de OACI y OMS para Emergencias de Salud Pública (PHE) para el sector aviación.

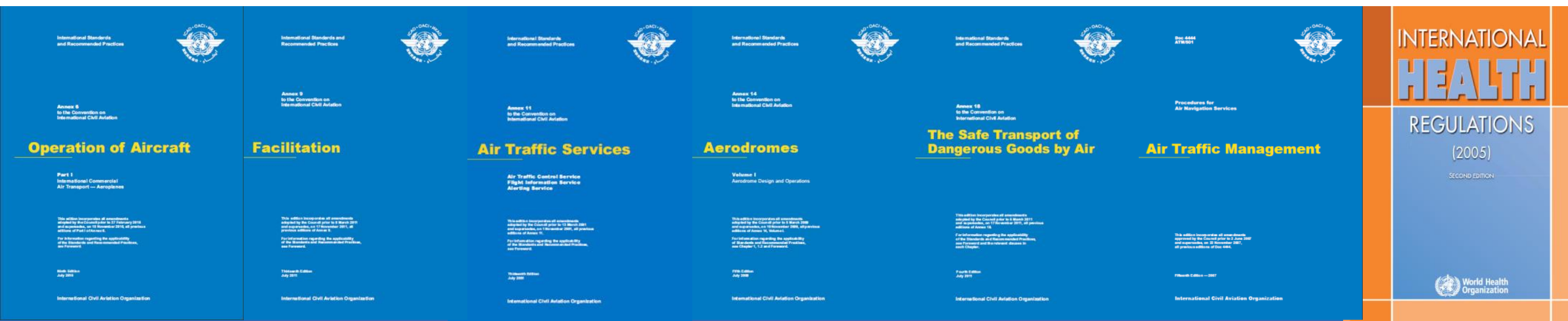
Promoción y facilitación de la comunicación y colaboración entre la aviación y sectores de salud pública.

Objetivos (2)

- Promoción y facilitación de la comunicación y colaboración Regional entre los Estados y Territorios (compartiendo información y experiencias).
- Entrenamiento de los evaluadores de aeropuertos, evaluación de aeropuertos, desarrollo de capacidades y análisis del faltante.
- Provisión de Asesores Técnicos a los Estados y Territorios.
- Desarrollo y mejora de las directrices para el sector aviación.

Referencias

- OACI Anexos 6, 9, 11, 14, 18 SARPs, PANS-ATM (Doc 4444) & Manual de Facilitación (Doc. 9957).
- OMS RSI (2005).
- Material Guía de OACI, OMS, ACI & IATA.
- www.capsca.org



Alcance

Sistema de Aviación Civil.

Todos las partes involucradas en la respuesta a una PHE en el sistema de aviación.

Voluntario y confidencial.

Herramientas

- Material Guía.
- Lista de Verificación
- Plantilla de Informe.
- http://www.capsca.org/CAPSCARefs.html#StateAssistance

Miembros del Equipo

- Coordinador Regional. CAPSCA OACI.
- Líder del Equipo de Asesores Técnicos.
- Asesor(es) Técnicos capacitados por OACI (***no solo médicos!***).
- Representante de la OMS/OPS (cuando se encnuentre disponible).
- Por lo menos un miembro de cada sector (Autoridades de Aviación & Salud Pública).
- OJT para Asesor Técnico (opcional).

Organizaciones participantes del Estado

AAC Aeropuerto	Turismo Agencia de Respuesta a Emergencias	Explotadores Aéreos Operaciones
SNA Policía	Manejo de Crisis Medios de Comunicación	AVSEC SEI
Aduanas Migraciones	Salud Pública Sanidad Aeroportuaria	OTROS

Documentos de Trabajo Específicos para revisar previamente

- Plan de Emergencia del Aeródromo.
- Plan Nacional de Emergencia.
- Legislación y administración del Estado.
- Plano del Aeródromo y la Lista de Verificación.

Pautas Generales Para Evaluar Una Tarea

¿NECESITA INSTRUCCIONES ESCRITAS?
- NO → CONFORME
- SI → ¿EXISTEN?
  - NO → NO CONFORME
  - SI → ¿CONFORME INSTRUCCIONES?
    - NO → NO CONFORME
    - SI → ¿ALCANZA OBJETIVOS?
      - SI → **Conforme**
      - NO → NO CONFORME O **NO ADAPTADA**

En Resumen

1. PLANIFICACIÓN DEL PROCESO
- Etapas
- Responsabilidades
- Objetivos

2. DESARROLLO DEL PROCESO
- Realización tareas
- Toma de datos

3. VERIFICACIÓN DEL PROCESO
- Inspección
- Auditoría
- Análisis

4. CORRECCIONES Y MEJORAS DEL PROCESO A PARTIR DE RESULTADOS

CICLO DE MEJORA CONTINUA DEL PROCESO

Brechas frecuentemente observadas (1)

Dificultades para que las Autoridades de Salud trabajen con las Autoridades de Aviación Civil.

Dificultades para que los explotadores aeroportuarios trabajen con la Autoridad de Salud y la Autoridad de Aviación Civil.

Las regulaciones de la AAC no han sido actualizadas según lo establecido en los SARPs relacionados a PHE.

Insuficiente comunicación, cooperación, coordinación y colaboración entre los sectores de aviación y de salud pública.

Brechas frecuentemente observadas (2)

- Inadecuado conocimiento de los estándares y regulaciones.
- Poca participación de las autoridades para armonizar sus planes de emergencia y contingencia.
- Duplicación de esfuerzos de las autoridades de salud y la aviación civil.
- Los Estados no consideran que el problema de PHE puede originarse en su país.
- El Plan de Emergencia de Salud pública no ha incorporado el Plan de Emergencia del Explotador Aeroportuario o no hay suficiente conciencia situacional o faltan los simulacros.
- La notificación de los casos sospechosos detectados en vuelo, no se realizan por medio de los ATC.

Brechas frecuentemente observadas (3)

Los métodos de despistaje de pasajeros interfieren con el flujo normal de los mismos.

Mezcla del flujo de los pasajeros de llegada y salida.

Inadecuada asignación de estacionamiento de las aeronaves, que dificulta el acceso para completar el proceso de evaluación.

No adopción de la Declaración General de Salud y/o de la Cartilla de Localización de pasajeros.

Inadecuada difusión de la información (pasajeros, tripulación, personal del aeropuerto).

Recomendaciones frecuentes

Las Autoridades de Salud Pública y de Aviación Civil deben de establecer procedimientos y documentos formales para trabajar de manera conjunta.

Las regulaciones de la AAC deben de considerar los SARPs relacionados a PHEs.

El Plan de Emergencia de los Aeropuertos debe de considerar los protocolos y procedimientos armonizados con el Plan de Emergencia de Salud y ser revisados de manera conjunta.

El personal necesita entrenamiento periódico sobre el Plan de Emergencia del Aeropuerto. Y es necesario una adecuada difusión a la sociedad.

Noticias sobre CAPSCA

Hasta Julio del 2014, 100 Estados participan en CAPSCA y se han llevado a cabo 54 visitas de asistencia.

Actividades CAPSCA 2014:

Colombo – Sri Lanka: 20 al 23de abril.

Nouakchott– Mauritania: 14 al 18 de julio.

Egipto: 17 al 20 de noviembre.

Se exhorta a los Estados a unirse al CAPSCA y recibir visitas de apoyo, así como donar fondos al programa.

Enfermedad por el virus del Ébola (EVE)

Introducción (1)

El virus se detectó por vez primera en 1976 en dos brotes simultáneos ocurridos en Nzara (Sudán) y Yambuku (República Democrática del Congo).

La aldea en que se produjo el segundo de ellos está situada cerca del río Ébola, **que da nombre al virus.**

Introducción (2)

La EVE es una enfermedad vírica aguda grave que se suele caracterizar por la aparición súbita de fiebre, debilidad intensa y dolores musculares, de cabeza y de garganta, lo cual va seguido de vómitos, diarrea, erupciones cutáneas, disfunción renal y hepática y, en algunos casos, hemorragias internas y externas.

El período de incubación oscila entre 2 y 21 días.

Aspectos Generales EVE

Los brotes de EVE se producen principalmente en aldeas remotas de África central y occidental, cerca de la selva tropical.

Se considera que los huéspedes naturales del virus son los murciélagos frugívoros de la familia Pteropodidae.

No hay tratamiento específico ni vacuna para las personas ni los animales.

El virus del Ébola causa en el ser humano la EVE, cuya tasa de letalidad puede llegar al 90%.

El virus es transmitido al ser humano por animales salvajes y se propaga en las poblaciones humanas por transmisión de persona a persona.

Transmisión

Se introduce en la población humana por contacto estrecho con órganos, sangre, secreciones u otros líquidos corporales de animales infectados.

Las ceremonias de inhumación en las cuales los integrantes del cortejo fúnebre tienen contacto directo con el cadáver también pueden ser causa de transmisión.

Los hombres pueden seguir transmitiendo el virus por el semen hasta siete semanas después de la recuperación clínica.

El virus es transmitido al ser humano por animales salvajes y se propaga en las poblaciones humanas por transmisión de persona a persona.

Declaración de la Dra. Chan OMS (12 de agosto 2014)

Nos encontramos ante una emergencia de salud pública de importancia internacional.

El brote no tiene precedentes por sus dimensiones, gravedad y complejidad.

La EVE puede propagarse a través de los viajes internacionales, poniendo a toda ciudad con un aeropuerto internacional en riesgo de tener algún caso importado.

Hasta la fecha se han infectado cerca de 2000 personas y más de 1000 han fallecido.

El número de profesionales sanitarios infectados no tiene precedentes. Se han infectado 170 y fallecido 80.

Declaración de la Dra. Chan OMS (12 de agosto 2014)

Quede claro que las prohibiciones de los viajes no detendrán el brote, pero sí las medidas preventivas.

La EVE puede propagarse a través de los viajes internacionales, poniendo a toda ciudad con un aeropuerto internacional en riesgo de tener algún caso importado.

Hasta la fecha se han infectado cerca de 2000 personas y más de 1000 han fallecido.

El número de profesionales sanitarios infectados no tiene precedentes. Se han infectado 170 y fallecido 80.

Brotes de EVE (OMS – Julio 2014)

EBOLA VIRUS OUTBREAKS BY YEAR

SURVIVED
DEATHS FROM CASES

800
640
480
320
160
0

1976
1977
1979
1994
1995
1996
2000
2001-2002
2003
2004
2005
2007
2008
2011
2012
2014

Source: World Health Organization, July 1

Template message for travellers and EVD

- Ebola Virus Disease is rare.
- Infection is by contact with blood or body fluids of an infected person or an animal infected or by contact with contaminated objects.
- Symptoms include fever, weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, and in some cases, bleeding.
- Cases of Ebola have recently been confirmed in XXX and YYY.
- Persons who come into direct contact with body fluids of an infected person or animal are at risk.
- There is no licenced vaccine.
- Practice careful hygiene.
- Avoid all contact with blood and body fluids of infected people or animals.
- Do not handle items that may have come in contact with an infected person's blood or body fluids.
- If you stayed in the areas where Ebola cases have been recently reported seek medical attention if you feel sick (fever, headache, achiness, sore throat, diarrhoea, vomiting, stomach pain, rash, or red eyes).

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Distribución geográfica de los murciélagos

Geographic distribution of Ebola virus disease outbreaks in humans and animals

Location of reported Ebola Reston outbreaks in animals
Location of reported Ebola outbreaks or isolated cases
Home range of Pteropodidae family of fruit bats
Country with serological evidence
Country reported Ebola imported case in human
Country reported Ebola Virus Disease outbreaks
Country reported Ebola Reston outbreaks in imported monkeys from Philippines
Country reported Ebola Reston outbreaks in monkeys or domestic pigs
Not applicable

0 1,250 2,500 5,000 Kilometers

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

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Reducción del riesgo de transmisión

Mecanismos de detección muy sensibles.

Ante la sospecha se debe reportar a la Autoridad de Salud.

Hay que considerar la historia del viaje y exposición.

Búsqueda de contactos 21 días atrás. En la aeronave a los pasajeros adyacentes.

Si el contacto está en tránsito, se notificará a la Autoridad de Salud del destino final.

Conclusiones

Debemos de informarnos de fuentes oficiales. La EVE es un enfermedad rara.

Debemos informar a la comunidad aeronáutica y a la población en general.

Capacitar al personal sobre las medidas de precaución universal.

Dar cumplimiento a las normas establecidas.

Solicitar la asesoría de CAPSCA.

ICAO

Uniting Aviation on

Safety | Security | Environment

GRACIAS POR SU ATENCION!

Organización Panamericana de la Salud
Organización Mundial de la Salud
OFICINA REGIONAL PARA LAS Américas

Enfermedad por el virus del Ébola, implicaciones de la introducción en las Américas

Corrección[1] - 13 de agosto del 2014

Considerando la situación actual de la enfermedad por el virus de Ébola (EVE) en el África Occidental, la Organización Panamericana de la Salud / Organización Mundial de la Salud (OPS/OMS) recomienda a los Estados Miembros permanecer vigilantes ante la potencial introducción del EVE en las Américas, concientizar y ampliar el conocimiento de la enfermedad en los trabajadores de la salud, y fortalecer la implementación de las medidas prevención y control de infecciones, en todos los niveles de atención de los servicios de salud.

1. Enfermedad por el virus del Ébola (EVE) – Puntos claves

La EVE (anteriormente conocida como fiebre hemorrágica del Ébola) es una enfermedad grave, con una tasa de letalidad de hasta un 90%. No existe un tratamiento específico aprobado, ni vacuna con licencia disponible para el uso en seres humanos o animales.

El género Ébolavirus es 1 de los 3 grupos de la familia *Filoviridae (filovirus)* junto con los géneros *Marburgvirus* y *Cuevavirus*. El género Ébolavirus comprende 5 especies distintas: *Bundibugyo Ébolavirus* (BDBV), *Zaire Ébolavirus* (EBOV), *Reston Ébolavirus* (RESTV), *Sudán Ébolavirus* (SUDV) y *Bosque Tai Ébolavirus* (TAFV).

El período de incubación de la EVE varía de 2 a 21 días, con un promedio de 8 a 10 días. Tras la introducción del virus Ébola en la población humana, a través de la transmisión humano-animal, la transmisión persona a persona mediante el contacto directo con fluidos y/o secreciones corporales de las personas infectadas se considera como el principal modo de transmisión. La transmisión también puede ocurrir a través de contacto indirecto con el medio ambiente y fómites contaminados con fluidos corporales (por ejemplo, agujas). No se ha documentado transmisión por aerosoles durante los brotes anteriores de EVE.

No existe riesgo de transmisión durante el período de incubación.

Los síntomas más comunes que presentan las personas infectadas con el virus Ébola son: fiebre de inicio repentino, debilidad intensa, dolor muscular, dolor de cabeza y dolor de garganta, seguido por vómitos, diarrea, erupción cutánea, deterioro de la función renal y

[1] Se rectifica el texto relacionado a la búsqueda de contactos a bordo de una aeronave (pag 4, apartado 3.2, tercer párrafo). El texto corregido se indica en negritas y señala que se incluye como contacto a todos los **pasajeros sentados en un asiento adyacente al paciente en todas las direcciones incluyendo al lado, delante, detrás, y también los asientos al otro lado del pasillo,** así como a la tripulación a bordo.

hepática, y en una fase avanzada, hemorragias tanto internas como externos. Los hallazgos de laboratorio incluyen leucopenia, trombocitopenia y enzimas hepáticas elevadas.

2. EVE en África Occidental – Resumen de la situación

Tabla 1. Número de casos y defunciones de Enfermedad por el virus del Ébola en Guinea, Liberia, Nigeria y Sierra Leona, al 31 de julio del 2014*.

País	Casos	Defunciones	Tasa de letalidad (%)	Trabajadores de salud afectados (Casos/Defunciones)
Guinea	472	346	73	(33/20)
Liberia	360	181	50	(47/28)
Nigeria	1	1	100	0
Sierra Leona	574	215	37	(44/23)
Total	1407	743	53	(124/71)

* Nota: estos números requieren ser interpretados con cautela, dado que son provisionales y podrían no reflejar exactamente la situación actual en terreno.

La información actualizada sobre la situación del evento está disponible en la página web de Brotes Epidémicos de la OMS: http://www.who.int/csr/don/archive/disease/ebola/en/

La propagación de la EVE dentro y entre de los tres países vecinos que registran la mayoría de los casos - Guinea, Liberia y Sierra Leona - se debe a la alta circulación transfronteriza de personas, por lo que la introducción de EVE en otros países vecinos de la sub-región no puede ser excluida, debido a la existencia de fronteras terrestres con características similares de alta circulación de personas.

Además de la gran cantidad de movimientos transfronterizos, existen otros hechos que han dificultado la detección temprana, el aislamiento de los casos, la identificación y seguimiento de contactos - piedra angular para el control de la EVE -, y que constituyen un desafío para la contención y control del brote. Estos hechos son: la ocurrencia de varios ; la detección de casos en áreas urbanas; las creencias y prácticas culturales profundamente arraigadas en las comunidades afectadas, las cuales favorecen la propagación y que incluso ponen en peligro la seguridad de los equipos de respuesta; la pérdida de una masa crítica de trabajadores de atención de salud afectados por EVE, debido a prácticas no óptimas de prevención y control de infecciones; y la existencia de cadenas de transmisión que no han sido detectadas ni caracterizadas adecuadamente.

Históricamente, varios casos de fiebre hemorrágica han sido diagnosticados despúes de viajes de larga distancia, pero ninguno de ellos desarrolló síntomas durante los viajes internacionales. Los viajeros de larga distancia (por ejemplo intercontinentales) infectados en zonas con circulación del virus podrían llegar incubando la enfermedad y desarrollar síntomas compatibles con EVE, después de su llegada.

Aunque la mayoría de los países de las Américas no tienen vuelos directos con los países donde se ha documentado la transmisión del virus del Ébola, la introducción del virus en la Región puede darse a través de viajeros internacionales, preferentemente por la vía aérea.

Por lo tanto, a la luz del actual contexto epidemiológico y social del brote de EVE en el África Occidental, se justifican los esfuerzos de preparación que las autoridades nacionales de la Región realicen para hacer frente a la posible introducción de casos de EVE en las Américas.

Con el fin de evaluar si el actual brote de Ébola en África Occidental constituye una "emergencia de salud pública de importancia internacional" (ESPII) y, en caso así se considere, evaluar la necesidad de implementar recomendaciones temporales para reducir la propagación internacional del virus, la Directora General de la OMS convocó la reunión del Comité de Emergencia, la cual se realizará entre el 6 y el 7 de agosto de 2014.

Orientaciones para las autoridades nacionales

Considerando la situación actual, la OPS/OMS alienta a los Estados Miembros a implementar las siguientes medidas:

3. Vigilancia

3.1 Detección de casos compatibles con EVE

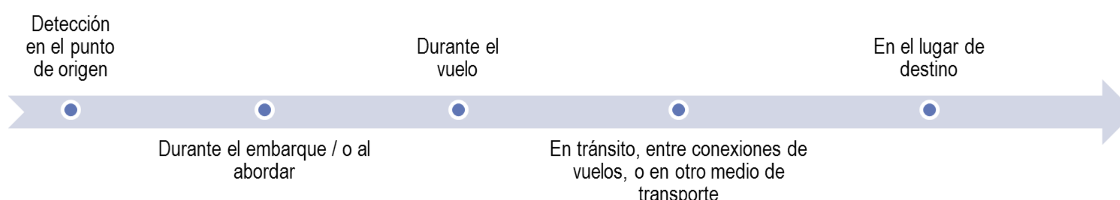
En un escenario -como el actual- en el que lo mas probable es la introducción de pocos casos y a fin de evitar la diseminación posterior del virus, es importante que los mecanismos de detección sean muy sensibles, para que ante la menor sospecha que un individuo pueda ser infectado por el virus Ébola, se reporte esta situación a las autoridades de salud pública y de allí a la comunidad internacional, a través de los canales establecidos por el Reglamento Sanitario Internacional (RSI), dado que el evento es considerado como inusual para las Américas.

Todo caso compatible de EVE o evento inusual asociado a infección por el virus Ébola o caso confirmado de EVE deberá ser notificado a través de los canales establecidos por el RSI.

Para la identificación de un caso importado de infección por el virus Ébola se deberá tomar en cuenta tanto las manifestaciones clínicas, la historia de viaje y la historia de exposición reportada por el paciente u obtenida a través de la investigación epidemiológica.

La detección de estos eventos inusuales de salud posiblemente asociados con la introducción del virus Ébola puede ocurrir en diferentes puntos, tal como se describe en la figura de abajo. Por lo tanto, es importante que el personal que trabaje a lo largo de esta línea de puntos, esté debidamente capacitado e informado. Se deberá mantenerlos actualizados sobre la situación de la dispersión de la EVE. Adicionalmente, se deberá capacitarlos a fin de que puedan reconocer los síntomas compatibles con EVE, recoger información sobre la historia de viaje y actualizarlos sobre los protocolos para informar a las autoridades correspondientes.

Figura 1. Diferentes puntos de posible detección de pacientes con EVE.



El personal de los establecimientos de salud, aeropuertos y otros puntos de entrada deberá estar alerta sobre la posibilidad de introducción, sobre la necesidad de seguir adecuadamente las medidas de protección y la notificación a las autoridades correspondientes.

3.2 Búsqueda de contactos

Se define como contacto a toda persona que haya tenido contacto con el virus Ébola en los 21 días anteriores a la aparición de los síntomas, en al menos una de las siguientes formas:

- Haber dormido en la misma casa.
- Haber tenido contacto físico directo con el paciente (vivo o muerto) durante la enfermedad.
- Haber tenido contacto físico directo con el paciente (muerto) en el funeral.
- Haber tenido contacto con sangre o fluidos corporales durante la enfermedad.
- Haber tocado la vestimenta o ropa de cama.
- Haber sido amamantado por el paciente (bebé).

Cuando se identifiquen individuos con clínica compatible con EVE y antecedentes epidemiológicos o viajeros fallecidos sin causa aparente con historia clínica compatible con EVE y antecedente epidemiológicos, se deberá proceder a la identificación y monitoreo de contactos (aun cuando el diagnóstico confirmatorio este pendiente). El monitoreo de contactos deberá realizarse por 21 días (después de la última exposición conocida al virus Ébola).

Si el paciente con enfermedad compatible con EVE desarrolló síntomas en el avión, habrá de realizarse el contacto según el protocolo de Evaluación de Riesgo para enfermedades transmitidas en transporte aéreo (RAGIDA[2], por sus siglas en inglés), el cual indica que se deberá realizar el seguimiento de contactos a todos aquellos **pasajeros sentados en un asiento adyacente al paciente en todas las direcciones incluyendo al lado, delante, detrás, y también los asientos al otro lado del pasillo**, así como a la tripulación a bordo. Si la limpieza de la aeronave es realizada por personal sin protección, también deberá considerarse como contacto. Los contactos deberán ser evaluados en el área designada dentro del aeropuerto, de acuerdo al plan de contingencia del aeropuerto.

Cuando entre los contactos se encuentren viajeros internacionales en tránsito, las autoridades nacionales deberán determinar la manera más aceptable y menos disruptiva para darles seguimiento. Si los viajeros considerados contactos continúan el viaje, se deberá informar a las autoridades del país receptor sobre la llegada de estos viajeros a los que habrá que hacer monitoreo por 21 días. La información a las autoridades del país al que se dirige el viajero puede realizarse directamente o bien a través de la OPS/OMS.

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[2] Guía para la evaluación de riesgo de enfermedades transmitidas en aviones (RAGIDA). Parte 2: Guías operacionales. Segunda edición. Noviembre 2009. Disponible en: http://www.ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=332

Tanto el personal de salud involucrado en el cuidado directo del paciente bajo investigación o del caso confirmado de EVE, así como el como el personal de laboratorio, deberán ser registrados como contactos y mantenidos bajo monitoreo hasta 21 días después de la última posibilidad de exposición a material contaminado.

Como parte del seguimiento de contactos, se sugiere recopilar la siguiente información: nombre, dirección, relación con el paciente, la fecha de la última exposición, tipo de exposición. Los países deberán contar con herramientas para el manejo eficiente del monitoreo de contactos. Para los países que no cuenten con dicha herramienta la OPS/OMS pone a su disposición la herramienta conocida como Sistema de Manejo de Información en el Terreno (FIMS, por sus siglas en inglés). Para el entrenamiento en dicha herramienta, contactar a la Oficina País de OPS/OMS en el país.

El seguimiento diario de contactos podrá realizarse a través de visitas o bien en forma virtual, siempre que se permita la visualización del individuo (por ejemplo video cámaras). El contacto deberá ser instruido para acudir a un servicio de salud en caso presente síntomas. Para las visitas domiciliarias a contactos asintomáticos, no se requiere el uso de equipos de protección personal (EPP) por parte del personal de salud que realiza la visita.

Los individuos identificados como contactos, mientras permanezcan asintomáticos, no requieren el uso de EPP, podrán continuar en sus actividades cotidianas y deberán permanecer disponibles para el monitoreo por parte del personal de salud, informándoles sobre cualquier desplazamiento que pueda implicar la falta de monitoreo diario. Por razones operativas, se desaconseja los viajes no esenciales de los contactos durante el periodo de monitoreo.

Los contactos que desarrollaron síntomas compatibles con EVE deben ser remitidos a la sala de aislamiento en el hospital designado, a fin de realizar una evaluación médica y para investigación posterior. En este momento se debe desencadenar la búsqueda activa de casos sospechosos tanto en la comunidad como en los establecimientos de salud.

En el caso que se establezca la trasmisión local, se proporcionaran lineamientos adicionales.

4. Diagnóstico por laboratorio

Una vez se identifique un individuo con enfermedad compatible con EVE, se deberá tomar muestra (sangre total y/o suero) para el diagnóstico. La muestra deberá ser tomada por personal de salud entrenado, extremando las medidas de bioseguridad, y con equipo de protección adicional (guantes, mascarillas, protectores oculares preferiblemente con visor anti-empañante, delantal o mandil impermeable y en lo posible desechable). Esta muestra idealmente deberá ser tomada en el hospital designado para el manejo de casos compatibles con EVE y enviada al laboratorio nacional de referencia.

El tratamiento del paciente se inicia en forma empírica hasta tanto se reciba una confirmación definitiva.

Se destaca que la confirmación de infección por virus Ébola solo puede ser realizada en pacientes que ya han desarrollado síntomas. La confirmación por laboratorio no es posible durante el periodo de incubación.

Cuando se trate de un paciente fallecido con historia clínica y epidemiológica compatible con EVE, se sugiere tomar un hisopado oral. En estas situaciones, **la autopsia está contraindicada**.

El virus Ébola está clasificado como patógeno de riesgo Grupo 4, por lo que requiere ser manipulado en un nivel de bioseguridad equivalente (BSL-4).

Sin embargo, los ensayos moleculares (para diagnóstico de Ébola y otros patógenos) pueden ser realizados en condiciones de bioseguridad nivel 3 (BSL-3, por sus siglas en inglés), e inclusive BSL-2, siempre que la muestra haya sido inactivada. Para minimizar el riesgo de exposición en los laboratorios, se sugiere realizar el diagnóstico presuntivo y diferencial únicamente con técnicas moleculares.

Por su baja especificidad, el uso de las pruebas rápidas no está indicado, ni para confirmar ni para descartar casos, por lo que se desaconseja su uso.

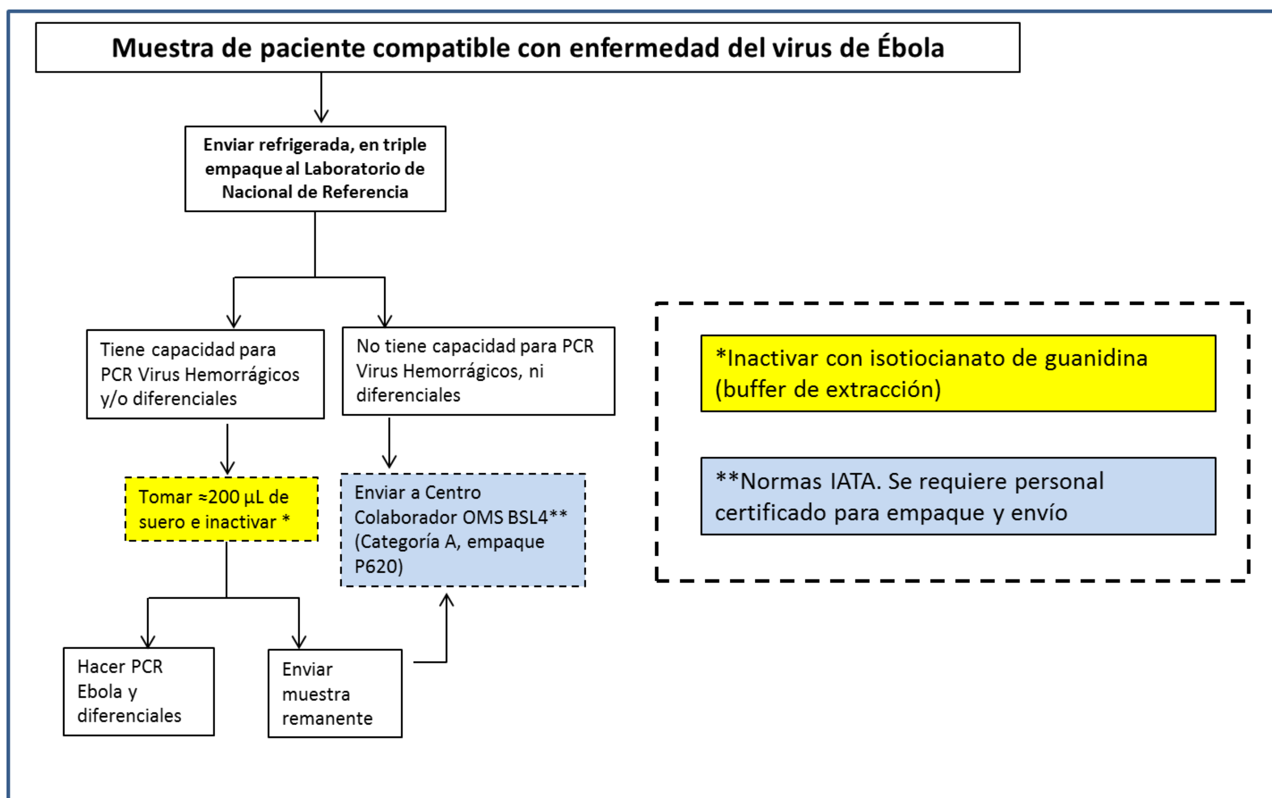
El personal de laboratorio que maneje muestras de paciente con EVE, bajo condiciones de BSL-2, deberá utilizar, además de los equipos de protección personal de rutina (guantes, protectores oculares preferiblemente con visor anti-empañante), una protección adicional (mascarillas N-95, delantal o mandil impermeable y de ser posible desechables), independientemente del tipo de muestra y del ensayo a realizar.

La confirmación definitiva de infección por virus Ébola debe ser realizada por algún Centro Colaborador de la OMS. Las muestras deberán ser enviadas a dicho centro, por el laboratorio nacional de referencia, como material infeccioso de categoría A (según normas IATA[3]) y empacadas por personal que cuente con certificación internacional IATA para empaque y envío.

El envío de las muestras presupone canales funcionales de envío a través de una empresa certificada (Courier). Las autoridades competentes deberán asegurarse *a priori* de que la empresa está disponible para el envío de muestra.

A continuación se propone un algoritmo para el flujo de muestras de pacientes con síntomas compatibles con EVE.

[3] International Air Transport Association – IATA, por sus siglas en ingles.



Los laboratorios de la Región que pueden recibir muestras para confirmación por laboratorio de EVE son:

- **Los Centros para el Control y la Prevención de Enfermedades de los Estados Unidos**[4]
  Rama de Patógenos Virales Especiales (VSPB), División de Patógenos de Alta Consecuencia y Patología (DHCPP), Centro Nacional de Enfermedades Infecciosas Emergentes zoonóticas (NCEZID)

- **Laboratorio Nacional de Microbiología**[5]
  Enfermedades zoonóticas y Patógenos Especiales,
  Enfermedades Infecciosas y Preparación para Emergencias
  Agencia de Salud Pública de Canadá

5. Manejo de casos

5.1 Servicios de salud

Reconociendo que los pacientes con sintomatología compatible con EVE pueden ser detectados en diferentes niveles de atención del sistema de salud o en los puntos de entrada, en los que deberán ser manejados aplicando las precauciones estándares para el control de infecciones, se recomienda lo siguiente:

El paciente debe ser transferido y manejado en un establecimiento de salud designado el cual debe cumplir con las siguientes características:

[4] Información disponible en: http://apps.who.int/whocc/Detail.aspx?cc_ref=USA-155&cc_city=atlanta&
[5] Información disponible en: http://apps.who.int/whocc/Detail.aspx?cc_ref=CAN-22&cc_city=winnipeg&

- Condiciones para el aislamiento por contacto,
- Provisión adecuada de equipos de protección personal, y
- Personal de salud capacitado en prevención y control de infecciones.

Idealmente, se deberá mantener a los pacientes en habitaciones individuales; en caso de que esto no sea posible, se deberá colocar a los pacientes por cohortes, aislando por separado a aquellos en los que se haya confirmado EVE, de aquellos aún bajo investigación por EVE.

El país deberá considerar el contar con un número de establecimientos de salud designados, que sea compatible con su administración geográfica y administrativa.

En el caso que el país no cuente actualmente con hospitales designados para el aislamiento de pacientes que presentan síntomas compatibles con EVE, se sugiere considerar utilizar aquellos servicios que ya fueron identificados para aislamiento de pacientes durante la pandemia por influenza y/o aquellos utilizados para aislamiento de pacientes con tuberculosis multi-drogo resistente.

Cuando se detecte un paciente con síntomas compatibles con EVE en un avión o en las instalaciones aeroportuarias, se deberá encaminar el paciente en el espacio de las instalaciones identificado para aislamiento y evaluación por personal de salud (según el plan de contingencia del aeropuerto) y antes de su transferencia al hospital designado.

5.2 Traslado del paciente

El traslado del paciente con síntomas compatibles de EVE al hospital designado deberá ser realizado por profesional de salud capacitado y en un vehículo adecuado para el traslado de pacientes. En el vehículo solo deberá viajar el personal esencial para el cuidado del paciente.

Uso de EPP durante el traslado:

- El personal de cuidado directo de paciente deberá utilizar guantes, batas impermeables, mascarillas quirúrgicas, protectores oculares (preferiblemente con visor anti-empañante), y zapatos cerrados.
- El conductor no necesita utilizar EPP a menos que este previsto un posible contacto directo con el paciente.

Limpieza del vehículo utilizado para el traslado: después de que el vehículo haya sido utilizado para el traslado deberá ser limpiado y posteriormente desinfectado con solución de hipoclorito al 0.05%. Los profesionales que realizan la limpieza deberán utilizar equipo de protección personal (guantes, batas impermeables, mascarillas quirúrgicas, protectores oculares -preferiblemente con visor anti-empañante, y zapatos cerrados).

6. Prevención y control de infecciones

La vía principal de transmisión persona a persona de la EVE es a través del contacto directo o indirecto con fluidos corporales y hemáticos. La transmisión a los trabajadores de salud ha ocurrido cuando no se han implementado adecuadamente las medidas de prevención y control de infecciones.

6.1 Precauciones estándares

No siempre es posible identificar de forma precoz casos de EVE, porque los síntomas iniciales pueden ser no específicos. Por esta razón, es importante que los trabajadores de salud apliquen las precauciones estándar de manera consistente con todos los pacientes – sin tener en cuenta su diagnóstico – y en todo momento durante su práctica de trabajo. Estas precauciones estándares incluyen:

- Lavado de manos.
- Manipulación segura de instrumentos punzo-cortantes.
- Uso de EPP de acuerdo al riesgo.
- Limpiar y desinfectar derrames de secreciones, medio ambiente y los equipos de seguridad reutilizables.

6.2 Precauciones en el contacto directo con el paciente

- Restringir el número de personal dedicado al cuidado del paciente.
- Limitar el número de visitas.
- Mantener un libro de registro tanto del personal a cargo del cuidado del paciente como de las visitas.
- Uso de EPP tanto por parte del personal de salud como las visitas.
- Lavado de manos.
- Uso de mascarillas quirúrgicas, protectores oculares-preferiblemente con visor anti-empañante, delantal impermeable, guantes y zapatos cerrados, antes del ingreso a la habitación del paciente.
- Retirar el EPP antes de salir del área de aislamiento. Se deberá tener especial cuidado en el momento de remover el EPP para evitar contacto con los ojos y las mucosas.
- Designar personal dedicado a la supervisión del uso correcto del EPP tanto en el personal de salud como en las visitas.
- En general, se recomienda utilizar EPP desechables. Cuando no sea posible obtener, o no se cuente con equipos desechables, los siguientes ítems pueden ser reutilizados después de proceder con su desinfección:
    - Protectores oculares: deberán ser lavados previamente con agua y jabón y posteriormente desinfectados con alcohol al 70%.

- Delantales o batas impermeables que no pueden ser enviadas a la lavandería del hospital deberán ser desinfectados con hipoclorito al 0.05%.

6.3 Limpieza del ambiente hospitalario y del hogar con pacientes sintomáticos compatibles con EVE

En el hogar: si un paciente desarrolla síntomas en el hogar antes de ser aislado, deberá desinfectarse el hogar. La vestimenta del paciente y de cama deberá ser incinerada.

Desinfección del ambiente:

- Limpiar las superficies con sangre u otros fluidos corporales con agua y detergente antes de proceder a la desinfección.

- La desinfección se deberá realizar con solución de hipoclorito al 0.05%.

- Utilizar guantes, batas y zapatos cerrados para la limpieza y desinfección de superficies con sangre y/o fluidos corporales.

En el hospital: Tanto la ropa de cama como la vestimenta del paciente deberán ser colocadas en una bolsa antes de su lavado y encaminada por canales separados a la lavandería del hospital donde habrá personal debidamente protegido. Se desaconseja el lavado a mano de esta ropa.

6.4 Manejo de residuos en el ámbito hospitalario

- Los objetos punzo-cortantes deben ser desechados en contenedor resistente a punción. Estas cajas deben ser desechadas cuando alcance el 75% de su capacidad.
- Todos los residuos sólidos no punzo-cortantes debe ser desechados en bolsas plásticas apropiadas para desecho de residuos hospitalarios.
- Todos los residuos sólidos y punzo-cortantes de pacientes bajo investigación y confirmados para EVE deben ser incinerados

6.5 Control de infecciones en aeronaves

En caso de sospechar la presencia de un individuo compatible con EVE, a bordo de una aeronave, la tripulación tendrá que aplicar las recomendaciones elaboradas por la IATA con respecto al control de infecciones[6], así como cumplir los requerimientos de la Organización de Aviación Civil Internacional (OACI) con respecto a la notificación. La tripulación de cabina deberá utilizar el Kit de precauciones universales, tal como el recomendado por la OACI[7]

Limpieza y desinfección de aeronaves afectadas:

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[6] Guía de la IATA para el manejo de casos sospechosos de enfermedad transmisible y otra emergencia de salud publica Disponible en: IATA guidelines for air crew to manage a suspected communicable disease or other public health emergency on board. Guía de la IATA para el personal de limpieza de una aeronave que llega con un caso sospechoso de enfermedad contagiosa. Disponible en: http://www.iata.org/whatwedo/safety/health/Pages/index.aspx

[7] Disponible en: http://www.capsca.org/Documentation/ICAOHealthRelatedSARPsandguidelines.pdf

Dado que la desinfección de las superficies de las aeronaves depende de la compatibilidad del producto desinfectante con el material de la superficie a desinfectar, se recuerda consultar a los fabricantes de dichas aeronaves.

Reconociendo que hay un alto volumen de navíos comerciales y cruceros en la Región de las Américas, las medidas para control de infecciones a bordo de un crucero o un buque están disponibles en (versión disponible en ingles únicamente)[8].

6.6 Disposición segura de cadáveres

El cadáver deberá mantenerse integro y se deberá limitar su manipulación.

Reconociendo la existencia de rituales y prácticas funerarias profundamente arraigadas en diferentes contextos culturales y religiosos, es crucial asegurar la eliminación segura de los cadáveres para limitar la propagación de EVD. El cadáver no deberá ser embalsamado. El mismo deberá ser desinfectado con solución de hipoclorito al 0.5%, colocado en bolsas mortuorias resistentes a la filtración de líquidos, las cuales deberán ser debidamente cerradas y colocadas en un féretro cerrado antes de ser sepultado.

El personal para el manejo y disposición de cadáveres deberá ser designado, equipado, entrenado y supervisado por las autoridades nacionales de salud pública a fin de que realicen el manejo de cadáveres bajo condiciones de bioseguridad. Durante la manipulación y disposición del cadáver, el personal deberá utilizar el EPP en todo momento, el cual incluye guantes, capucha, overol, batas impermeables, mascarillas quirúrgicas, protectores oculares (preferiblemente con visor anti-empañante) y zapatos cerrados.

7. Manejo clínico

Actualmente, no existe ningún tratamiento específico que haya demostrado eficacia en el tratamiento de EVE.

El soporte clínico general es crítico. Los pacientes graves requieren atención en cuidados intensivos, con aislamiento estricto. Los pacientes con frecuencia están deshidratados y requieren rehidratación oral con soluciones que contengan electrolitos o por vía intravenosa.

Se deberá limitar los procedimientos invasivos tanto en casos confirmados de EVE como en pacientes bajo investigación por EVE.

Criterios para suspensión del aislamiento paciente:

La duración de las precauciones de aislamiento del paciente deberán ser determinadas caso a caso, una vez que desaparezcan los síntomas y considerando la información de laboratorio.

Consideraciones especiales

[8] WHO Aviation Guide which includes information on sanitizing of aircraft

- Amamantamiento: dado que el virus se transmite a través del amamantamiento, se recomienda que no amamanten las mujeres sintomáticas bajo investigación por EVE o casos confirmados de EVE.

- Dado que el virus del Ébola pueden transmitirse por el semen hasta por siete semanas después de la recuperación del paciente, las autoridades de salud deberán recomendar a los hombres convalecientes que se abstengan de actividades sexuales o que utilicen preservativos.

8. Concientización y comunicación

8.1 Personal de salud

Todas las instituciones, en los diferentes niveles del sistema sanitario, así como todos los trabajadores de salud (clínicos, profesional de salud pública, laboratorio, personal de limpieza, entre otros) deberán ser informados constantemente sobre:

- La evolución del brote de EVE en África Occidental, así como sobre las recomendaciones emitidas a nivel internacional.

- Sobre las características y modalidades de transmisión de la enfermedad.

- Sobre cualquier tipo de protocolo que el país ha desarrollado, está desarrollando o está modificando para todo tipo de respuesta o requerimiento.

En base a su experticia, el personal de salud deberá ser entrenado para dar respuesta a la situación con prioridad sobre la implementación de medidas de prevención y control de infecciones y la recolección sistemática y exhaustiva de la historia de viaje completa del paciente.

8.2 Otros sectores

Considerando que el escenario más probable para la introducción del virus Ébola en la Región de las Américas seria a partir de viajeros internacionales que utilizan transporte aéreo, se sugiere:

- Enlazar y establecer mecanismos estrechos de coordinación con las autoridades de aviación civil, las autoridades de los aeropuertos y las líneas aéreas que operan en el país; a fin de aumentar y coordinar las actividades de detección de casos en viajeros, manejo de los contactos y acceso a la información que permita la ubicación y el seguimiento. Por lo cual es imprescindible involucrar, en todo momento a las autoridades gubernamentales responsables del transporte, así como las autoridades de inmigración.

- Coordinar con las autoridades arriba mencionadas para:

    - Determinar la procedencia exacta del caso: a través de inmigración (con los pasaportes) y las líneas aéreas (con su itinerario completo).

    - Facilitar la ubicación exacta de potenciales contactos tanto dentro como fuera del país: A través de inmigraciones, para los que se encuentran en el

país, a través del manifiesto para conocer el destino final de los contactos y poder informar a las autoridades nacionales correspondientes.

  - Activar el plan de contingencia aeroportuario dentro del aeropuerto en caso se requiera responder a una emergencia de salud pública.
  - Enfatizar al personal que trabaja en el sector de viajes, sobre la importancia de implementar las medidas de prevención y control de infecciones.
  - Reiterar la necesidad de que las líneas aéreas se adhieran al cumplimiento de los lineamientos elaborados por la IATA[9].
  - Diseminar información a fin de que el viajero con síntomas tenga presente los sitios a donde dirigirse para buscar atención clínica inmediata.

- Conjuntamente con el Ministerio de Turismo, convocar a los operadores turísticos relevantes (hoteles, cruceros, agencias de viajes, entre otros) para informarles sobre la evolución del brote, sobre las medidas recomendadas a nivel internacional y sobre los esfuerzos de preparación del gobierno.

- Enlazar, conjuntamente con cancillería, Ministerio de Defensa y otros Ministerios relevantes, con la industria o instituciones nacionales, o instituciones sin fines de lucro que tienen personal u operaciones (comerciales, científicas, militares, humanitarias, de cooperación, u otras) en los países en donde se ha documentado la transmisión del EVE, para informarles sobre:
  - La evolución del brote.
  - Las medidas recomendadas a nivel internacional.
  - La necesidad de proporcionar información básica sobre las modalidades de transmisión y los arreglos para el tratamiento de casos que puedan ocurrir en este grupo de expatriados.

8.3 Población general

Se recomienda implementar el plan de comunicación existente para asegurar la transparencia sobre las actividades de preparación realizadas por el gobierno, así como la detección de casos compatibles con EVE y/o casos confirmados. Habrá de construir la comunicación con el público, a fin de facilitar la comunicación sobre la eventual implementación de medidas de salud pública que pudieran impactar tanto a nivel social como individual.

Se alienta a las autoridades nacionales de salud a identificar las prácticas y creencias culturales y religiosas que puedan tener el potencial de prevenir la aceptación de las

[9] Guía de la IATA para el manejo de casos sospechosos de enfermedad transmisible y otra emergencia de salud publica Disponible en: IATA guidelines for air crew to manage a suspected communicable disease or other public health emergency on board. Guía de la IATA para el personal de limpieza de una aeronave que llega con un caso sospechoso de enfermedad contagiosa. Disponible en: http://www.iata.org/whatwedo/safety/health/Pages/index.aspx

medidas de salud pública para controlar la EVE por la comunidad, en caso se identifiquen casos compatibles o confirmados de EVE.

8.4 Información para los viajeros

A la luz de la evolución del brote y de las recomendaciones internacionales publicadas, las autoridades nacionales, deberán informar y asesorar a los viajeros que deseen dirigirse hacia los países con transmisión documentada del virus Ébola, sobre la oportunidad de realizar el viaje, las características de la enfermedad y vías de transmisión y las medidas de protección personal.

Esta información deberá ser diseminada a través de las clínicas u oficinas de atención al viajero y/o páginas web dedicadas al efecto.

8.5 Información a comunidades de inmigrantes (de países en donde se ha documentado la transmisión del virus Ébola)

Se alienta a las autoridades competentes para tomar contacto con los líderes comunitarios, a fin de mantener el acceso en un clima de confianza a estas comunidades y facilitar las potenciales operaciones de monitoreo sanitario y facilitar el acceso a los servicios de salud.

8.6 Medios de prensa

Se invita a las autoridades sanitarias nacionales a contactar a los medios de comunicación para informarles acerca de los modos de transmisión y presentación clínica de la EVE; acerca de los esfuerzos realizados por las autoridades nacionales para prepararse para la introducción y de buscar de antemano su colaboración y cooperación para la entrega y difusión de mensajes de salud a la población, especialmente en caso de sospecha o confirmación de casos de EVE en los países.

Enlaces Relacionados

- OMS. Brote de enfermedad del virus de Ébola
- Enfermedad del virus de Ébola. OMS. Datos de la enfermedad
- Recomendaciones de definición de caso de Ébola o virus Marburg
- Preguntas frecuentes sobre la enfermedad del virus de Ébola
- Brotes epidémicos de la OMS sobre Ébola
- OMS manual provisional – Epidemias virales de Enfermedad del virus de Ébola y Marburg: preparación, alerta, control y evaluación
- Evaluación de Riesgo de la OMS. Infecciones humanas causadas por virus Ébola.

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- Guía de aviación de la OMS, que incluye información sobre desinfección de aeronaves. Disponible en: http://www.who.int/water_sanitation_health/publications/aviation_guide/en/

- Guías de la IATA dirigida al personal aéreo para el manejo de enfermedades contagiosas sospechosas u otra emergencia de salud pública a bordo. Disponible en: http://www.iata.org/whatwedo/safety/health/Documents/health-guidelines-cabin-crew-2011.pdf

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- Guía para la evaluación de riesgo de enfermedades transmitidas en aviones (RAGIDA). Parte 2: Guías operacionales. Segunda edición. Noviembre 2009. Disponible en: http://www.ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=332

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Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Haemorrhagic Fever in Health-Care Settings, with Focus on Ebola

August 2014

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Key messages for infection prevention and control to be applied in health-care settings

- Strengthen and carefully apply standard precautions when providing care to ALL patients regardless of the signs and symptoms they present with.

- Isolate suspected or confirmed hemorrhagic fever (HF) cases in single isolation rooms or cohort them in specific confined areas while rigorously keeping suspected and confirmed cases separate. Assure restricted access and dedicated equipment to these areas.

- Exclusively assign clinical and non-clinical personnel to HF patient care areas.

- Prior to entering the patient isolation rooms/areas, ensure that all visitors and health-care workers rigorously use personal protective equipment (PPE) and perform hand hygiene as indicated in this document. PPE should include at least: gloves, gown, boots/closed shoes with overshoes, mask, and eye protection for splashes.

- Ensure safety of injections and phlebotomy procedures and management of sharps.

- Ensure regular and rigorous environmental cleaning, decontamination of surfaces and equipment, management of soiled linen and of waste as indicated in this document.

- Ensure safe processing of laboratory samples from suspected or confirmed patients with HF.

- Ensure that the infection prevention and control measures indicated in this document are followed while handling dead bodies or human remains of suspected or confirmed patients with HF for post-mortem examination and burial preparation.

- Promptly evaluate, care for, and if necessary, isolate health-care workers or any person exposed to blood or body fluids from suspected or confirmed patients with HF.

INTRODUCTION

This document provides a summary of infection prevention and control (IPC) measures for those providing direct and non-direct care to patients with suspected or confirmed cases of Filovirus haemorrhagic fever (HF), including Ebola or Marburg haemorrhagic fevers, in health-care facilities (HCFs). It also includes some instructions and directions for those managing the implementation of IPC activities. These IPC measures should be applied not only by health-care professionals but by anyone in direct contact with patients (e.g., visitors, family members, volunteers), as well as by those not in contact with patients but potentially exposed the virus through contact with the environment (e.g., cleaners, laundry, house-keepers, security).

This document represents a rapid update of the WHO 2008 *"Interim Infection Control Recommendations for Care of Patients with Suspected or Confirmed Filovirus (Ebola, Marburg) Haemorrhagic Fever"*. This update is based upon review of WHO and other international reference documents being used in the current Ebola outbreak (see references) and consensus from international experts.

Ebola virus disease is a severe illness caused by Ebola Filovirus (http://www.who.int/csr/disease/ebola/en/). It is highly infectious, rapidly fatal, with a death rate of up to 90%, ***but can be prevented.*** It is spread through ***direct contact*** with body fluids (blood, saliva, urine, sperm, etc.) of an infected person and by contact with contaminated surfaces or equipment, including linen soiled by body fluids from an infected person. The Ebola virus can be eliminated relatively easily with heat, alcohol-based products, and sodium hypochlorite (bleach) or calcium hypochlorite (bleaching powder) at appropriate concentrations.

If carefully implemented, IPC measures will reduce or stop the spread of the virus and protect health-care workers (HCWs) and others. It is advised that in the affected area(s), a subcommittee for clinical case management is established;[1] as part of this committee, a coordinator(s) should be named to oversee adherence to the IPC measures in each HCF and acts as a focal person to coordinate activities and advise. If available, this person should be the professional in charge of IPC in the HCF.

Case identification and detection, contact tracing and patient clinical assessment and management are not the object of this Guidance document and instructions can be found elsewhere.[1, 2] However, regarding IPC measures to be implemented during interviews for contact tracing and case finding in the community, the following principles should be kept in mind: 1) shaking hands should be avoided; 2) a distance of more than one metre (about 3 feet) should be maintained between interviewer and interviewee; 3) PPE is not required if this distance is assured and when interviewing asymptomatic individuals (e.g., neither fever, nor diarrhoea, bleeding or vomiting) and provided there will be no contact with the environment, potentially contaminated with a possible/probable case; 4) it is advisable to provide workers undertaking contact tracing and case finding in the community with alcohol-based hand rub solutions and instructions to appropriately perform hand hygiene.

1. GENERAL PATIENT CARE

Strengthen and carefully apply ***standard precautions***[2-4] (Annex 1) when providing care to ALL patients regardless of the signs and symptoms they present with. This is especially important because the initial manifestations of HF may be non-specific. Hand hygiene is the most important measure. Gloves should be worn for any contact with blood or body fluid. Medical mask and goggles or face shield should be used if there is any potential for splashes of blood or body fluids to the face, and cleaning of contaminated surfaces is paramount.

2. DIRECT PATIENT CARE (FOR SUSPECTED OR CONFIRMED PATIENTS WITH HAEMORRHAGIC FEVER)

PATIENT PLACEMENT, STAFF ALLOCATION AND VISITORS

- Put suspected or confirmed cases in single ***isolation rooms*** with an adjoining dedicated toilet or latrine, showers, sink equipped with running water, soap and single-use towels, alcohol-based hand rub dispensers, stocks of personal protective equipment (PPE), stocks of medicines, good ventilation, screened windows, doors closed and restricted access;[2] if isolation rooms are unavailable, ***cohort*** these patients in specific confined areas while rigorously ***keeping suspected and confirmed cases separate*** and ensure the items listed here for isolation rooms are readily available. Make sure that there is at least 1 meter (3 feet) distance between patient beds.
- Ensure that clinical and non-clinical personnel are assigned exclusively to HF patient care areas and that members of staff do not move freely between the HF isolation areas and other clinical areas during the outbreak.
- Restrict all non-essential staff from HF patient care areas.
- Stopping visitor access to the patient is preferred, but if this is not possible, limit their number to include only those necessary for the patient's well-being and care, such as a child's parent.
- Do not allow other visitors to enter the isolation rooms/areas and ensure that any visitors wishing to observe the patient do so from an adequate distance (approximately 15 m or 50 feet).
- Before allowing visitors to HF patients to enter the HCF, screen them for signs and symptoms of HF.

HAND HYGIENE, PERSONAL PROTECTIVE EQUIPMENT AND OTHER PRECAUTIONS

- Ensure that all visitors use PPE and perform hand hygiene as indicated below and are provided with related instructions (Annexes 2, 3, 4)[2, 5, 6] prior to entry into the isolation room/area.
- Ensure that all HCWs (including aides and cleaners) wear PPE (Annexes 2, 3, 4) as appropriate according to the expected level of risk before entering the isolation rooms/areas and having contacts with the patients and/or the environment.
- Personal clothing should not be worn for working in the patient areas. Scrub or medical suits should be worn.

- ***Carefully apply the following precautions***[3, 7] to avoid any possible unprotected direct contact with blood and body fluids when providing care to any patient with HF, including suspected cases:

  ➔ Perform ***hand hygiene:***
  - before donning gloves and wearing PPE on entry to the isolation room/area,
  - before any clean/aseptic procedures being performed on a patient,
  - after any exposure risk or actual exposure with the patient's blood and body fluids,
  - after touching (even potentially) contaminated surfaces/items/equipment in the patient's surroundings,
  - after removal of PPE, upon leaving the care area.

  Hand hygiene should be performed within the isolation rooms/areas every time it is needed according to the above indications during care to a patient, along with change of gloves. When caring for patients in the same room, it is essential to organize the complete care to each patient before moving to the next

and to perform hand hygiene between touching the patients. Furthermore, neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the protective equipment.
To perform hand hygiene, either use an ***alcohol-based hand rub or soap and running water*** applying the correct technique recommended by WHO (Annex 3).[5] Always perform hand hygiene with soap and running water when hands are visibly soiled. Alcohol-based hand rubs should be made available at every point of care (at the entrance and within the isolation rooms/areas) and are the standard of care. However, if alcohol-based hand rubs are unavailable, perform hand hygiene with soap and running water every time necessary according to the above indications. Alcohol-based hand rubs can be produced locally at the HCF level by following the WHO recommendations and instructions (Annex 5).[8]

➔ Before entering the isolation rooms/areas, put on ***PPE*** in dedicated changing zone as follows and according to the sequence illustrated in Annex 2:
- Correctly sized ***gloves*** (non-sterile examination gloves) when entering the patient care area (Annex 3).[6] Consider changing gloves if heavily soiled with blood or any body fluids while providing care to the same patient (perform careful hand hygiene immediately after removal). Always change gloves and perform hand hygiene immediately after removal, when moving from one patient to another while caring for patients in the same room. Consider double gloving when the quality of gloves appears to be poor (e.g., if holes and tears form rapidly during use).
- A disposable, impermeable ***gown*** to cover clothing and exposed skin.
- A medical ***mask*** and ***eye protection*** (eye visor, goggles or face shield) to prevent splashes to the nose, mouth and eyes.
- Closed, puncture and fluid resistant ***shoes*** (e.g. ***rubber boots***) to avoid contamination with blood or other body fluids or accidents with misplaced, contaminated sharp objects. If boots are not available, overshoes should be used but these must be removed while still wearing gloves and with caution to avoid hand contamination (Annex 2).

➔ When undertaking any strenuous activity (e.g. carrying a patient) or tasks in which contact with blood and body fluids is anticipated (e.g., the patient has symptoms like diarrhoea, bleeding or vomiting and/or the environment could be contaminated with blood or body fluids), in addition to the above-mentioned PPE also use ***double gloving***, and wear a ***waterproof apron*** over the gown if for any reasons your gown is non-impermeable, and disposable overshoes and leg coverings, if boots are not available.

➔ Avoid aerosol-generating procedures if possible. Wear a ***respirator*** (FFP2 or EN certified equivalent or US NIOSH-certified N95), if any procedures that stimulate coughing or promote the generation of aerosols (e.g., aerosolized or nebulized medication administration, diagnostic sputum induction, bronchoscopy, airway suctioning, endotracheal intubation, positive pressure ventilation via face mask) is planned to be performed.[7]

➔ Before exiting the isolation room/area, ***carefully remove and dispose of PPE*** (including boots) into waste containers and perform hand hygiene (Annex 2).[2]

➔ When removing PPE, be careful to avoid any contact between the soiled items (e.g. gloves, gowns) and any area of the face (i.e. eyes, nose or mouth) or non-intact skin.

➔ ***Do not recycle any single-use disposable PPE.*** However, if the decontamination of goggles and visors is necessary, it is essential that these items should be cleaned with water (± detergent) to remove any organic matter and then immersed fully in a 0.5% chlorine solution or a solution containing 1000 ppm (parts per million) available free chlorine for a minimum of 30 mins (preferably overnight) for decontamination. After decontamination, they should be thoroughly rinsed with water (to remove irritating hypochlorite residues and salt deposits) before re-use. The wipes used for the initial cleaning should be treated as infectious waste; the disinfectant can be safely poured down a sink or drain.[9]

➔ Carefully ***clean and decontaminate*** reusable equipment (as described below).

➔ Rigorously use ***dedicated equipment*** (e.g. stethoscopes) for each patient. However, if this is not possible, decontaminate the items between each patient contact. For instance, if the stethoscope has to be used on different patients, it is essential that the full stethoscope (i.e. staff hand contact as well as patient contact surfaces) be thoroughly cleaned first with water and soap using appropriate PPE to remove organic matter and then wiped with alcohol.[9] All waste generated during this decontamination process should be treated as infectious waste (see below).

→ Items and equipment should not be moved between isolation rooms/areas and other areas of the HCF, unless they are appropriately discarded and disposed. For instance, the patient charts and records should be kept outside the isolation rooms/areas to avoid their contamination.

INJECTION SAFETY AND MANAGEMENT OF SHARPS

- Each patient should have ***exclusively dedicated injection and parenteral medication equipment*** which should be disposed of at the point of care. Syringes, needles or similar equipment should never be reused.
- Limit the use of needles and other sharp objects as much as possible.
- Limit the use of phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.[9]
- If the use of sharp objects cannot be avoided, ensure the following precautions are observed:[10]
  - Never replace the cap on a used needle.
  - Never direct the point of a used needle towards any part of the body.
  - Do not remove used needles from disposable syringes by hand, and do not bend, break or otherwise manipulate used needles by hand.
  - Dispose of syringes, needles, scalpel blades and other sharp objects in appropriate, puncture-resistant containers.
- Ensure that puncture-resistant containers for sharps objects are placed as close as possible to the immediate area where the objects are being used ('point of use') to limit the distance between use and disposal, and ensure the containers remain upright at all times. If the sharps container is far, never carry sharps in your hand but place them all in a kidney dish or similar to carry to the sharps container.
- Ensure that the puncture-resistant containers are securely sealed with a lid and replaced when 3/4 full.
- Ensure the containers are placed in an area that is not easily accessible by visitors, particularly children (e.g. containers should not be placed on floors, or on the lower shelves of trolleys in areas where children might gain access).

3. ENVIRONMENTAL CLEANING AND MANAGEMENT OF LINEN

PERSONAL PROTECTIVE EQUIPMENT

- ***Wear heavy duty/rubber gloves, impermeable gown and closed shoes (e.g. boots)*** when cleaning the environment and handling infectious waste.
- In addition, wear facial protection (mask and goggle or face shield) and overshoes if boots are unavailable, when undertaking cleaning activities with increased risk of splashes or in which contact with blood and body fluids is anticipated (e.g., cleaning surfaces heavily soiled with vomit or blood or cleaning areas closer than 1 meter/3 feet from a patient with symptoms like diarrhoea, bleeding or vomiting, etc.).

CLEANING PROCESS

- Environmental surfaces or objects contaminated with blood, other body fluids, secretions or excretions should be cleaned and disinfected as soon as possible using standard hospital detergents/disinfectants (e.g. a 0.5% chlorine solution or a solution containing 1 000 ppm available free chlorine)[11]. ***Application of disinfectants should be preceded by cleaning*** to prevent inactivation of disinfectants by organic matter.
- If locally prepared, prepare cleaning and disinfectant solutions every day. Change cleaning solutions and refresh equipment frequently while being used during the day, as they will get contaminated quickly (follow your hospital protocols if available). For preparing chlorine-based solutions, see instructions in Annex 6.
- Clean floors and horizontal work surfaces at least once a day with clean water and detergent. Cleaning with a moistened cloth helps to avoid contaminating the air and other surfaces with air-borne particles. Allow surfaces to dry naturally before using them again.
- Dry sweeping with a broom should never be done. Rags holding dust should not be shaken out and surfaces should not be cleaned with dry rags.
- Cleaning should always be carried out from "clean" areas to "dirty" areas, in order to avoid contaminant transfer.
- ***Do not spray*** (i.e. fog) occupied or unoccupied clinical areas with disinfectant. This is a potentially dangerous practice that has no proven disease control benefit.

MANAGEMENT OF LINEN

- Linen that has been used on patients can be heavily contaminated with body fluids (e.g. blood, vomit) and splashes may result during handling. When handling soiled linen from patients, ***use gloves, impermeable gown, closed shoes (e.g., boots) and facial protection (mask and goggle or face shield).***
- Soiled linen should be placed in clearly-labelled, leak-proof bags or buckets at the site of use and the container surfaces should be disinfected (using an effective disinfectant) before removal from the isolation room/area. If there is any solid excrement such as faeces or vomit, scrape off carefully using a flat firm object and flush it down the toilet or in the sluice before linen is placed in its container. If the linen is transported out of the patient room/area for this procedure it should be put in a separate containter – it should never be carried against the body.
- Linen should be then transported directly to the laundry area in its container and laundered promptly with water and detergent.
- For low-temperature laundering, wash linen with detergent and water, rinse and then soak in 0.05% chlorine for approximately 30 minutes. Linen should then be dried according to routine standards and procedures.
- Washing contaminated linen by hand should be discouraged. However, if washing machines are not available or power is not ensured, take the soiled linen out of the container and empty it into a large drum container of hot water and soap. Soak the linen in this drum and make sure it is totally covered with water. Use a stick to stir; then throw out the water and refill the drum with clean water and add bleach 1000ppm and allow to soak for 10–15 minutes. Remove the linen and then rinse in clean water. Remove excess water and spread out to dry. Avoid as much splashing as possible.
- If safe cleaning and disinfection of heavily soiled linen is not possible or reliable, it may be prudent to burn the linen to avoid any unnecessary risks to individuals handling these items.

4. WASTE MANAGEMENT

PERSONAL PROTECTIVE EQUIPMENT

- ***Wear heavy duty/rubber gloves, impermeable gown, closed shoes (e.g. boots) and facial protection (mask and goggle or face shield)***, when handling infectious waste (e.g. solid waste or any secretion or excretion with visible blood even if it originated from a normally sterile body cavity). Goggles provide greater protection than visors from splashes that may come from below when pouring liquid waste from a bucket. Avoid splashing when disposing of liquid infectious waste.

WASTE MANAGEMENT PROCEDURES

- Waste should be segregated at point of generation to enable appropriate and safe handling.
- Sharp objects (e.g. needles, syringes, glass articles) and tubing that has been in contact with blood or body fluids should be placed inside puncture resistant waste containers (as described above). These should be located as close as practical to the patient care area where the items are used, similarly in laboratories.
- Collect all solid, non-sharp, infectious waste using leak-proof waste bags and covered bins. Bins should never be carried against the body (e.g. on the shoulder).
- Waste should be placed in a designated pit of appropriate depth (e.g. 2 m or about 7 feet) and filled to a depth of 1–1.5 m (or about 3–5 feet). After each waste load, the waste should be covered with a layer of soil 10–15 cm deep.
- An incinerator may be used for short periods during an outbreak to destroy solid waste. However, it is essential to ensure that total incineration has taken place. Caution is also required when handling flammable material and when wearing gloves due to the risk of burn injuries if gloves are ignited.
- Placenta and anatomical samples should be buried in a separate pit.
- The area designated for the final treatment and disposal of waste should have controlled access to prevent entry by animals, untrained personnel or children.
- Waste, such as faeces, urine and vomit, and liquid waste from washing, can be disposed of in the sanitary sewer or pit latrine. No further treatment is necessary.

Table. Summary table for implementation of IPC best practices during direct patient care and related activities

What?	How?	Who is responsible?
Create isolation rooms or areas.	- Identify single rooms and prioritise these for patients with known or suspected Ebola virus. - Refer to guidance on setting up an isolation area.[2]	- Coordinator or IPC staff to identify areas/rooms for patient placement. - Health workers to adhere to recommendations and report to the coordinator when a patient is not placed in an isolation room/area.
Restrict all non-essential staff from HF patient care rooms/areas.	- Ensure that clinical and non-clinical personnel are assigned exclusively to patient care areas and that members of staff do not move freely between these areas and other clinical areas during the outbreak. - Cohort staff between areas with suspected and those with confirmed HF patients. - Use signage to alert restrictions of staff. - Maintain a log of persons entering the room.	- Coordinator and/or IPC staff.
Limit the number of visitors allowed access to the patient.	- Use signage and other communications to alert restrictions of visitors. Make simple messages understandable for the public but also be careful to avoid stigmatization. - Maintain a log of persons entering the room.	- Coordinator and/or IPC staff - Involve patient or community representatives, if available. - Health workers to adhere to recommendations and report to the coordinator when they are not followed.
Ensure that all staff and visitors correctly use and remove recommended personal protective equipment (PPE).	- Ensure the equipment is always available and promptly at the isolation rooms/areas entry. - Provide staff and visitors with instructions on the use and correct removal of PPE through training and reminder posters.	- Coordinator and/or IPC staff - Involve patient or community representatives, if available. - Health workers to adhere to recommendations and report to the coordinator when they are not followed. - Another staff member should be assigned to supervise the sequence of putting on and removing PPE by his/her colleague.

What?	How?	Who is responsible?
Ensure that all staff and visitors perform hand hygiene according to the above recommendations. These hand hygiene actions should be performed when recommended even if PPE is worn.	- Provide staff and visitors with instructions on the importance of hand hygiene best practices through training and reminder posters. - Ensure continuous availability of alcohol-based handrub and soap, water and single-use towels at the isolation room/areas entry and at the point of care.	- Coordinator and/or IPC staff. - Involve patient or community representatives, if available. - Health workers to adhere to recommendations and report to the coordinator when they are not followed.
Limit the use of needles and other sharp objects as much as possible. If this cannot be avoided see instructions in the text.	- Provide staff and carers with instructions on the essential use of needles and sharps through training and reminder posters. - Ensure the equipment is available to do this.	- Health workers to adhere to recommendations.
Dispose of needles and other sharp objects safely.	- Provide staff and carers with instructions on the safe disposal of sharps through training and reminder posters. - Ensure the equipment is available to do this.	- Health workers to adhere to recommendations and report to the coordinator when they are not followed.
Create system of safe management of waste and linen.	- Provide staff and visitors/carers with instructions on the safe management and disposal of waste and linen through training and reminder posters. - Ensure the equipment is available to do this.	- Health workers to adhere to recommendations and report to the coordinator when they are not followed.
Limit the use of phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.	- Provide staff with training and visual instructions on the need for essential phlebotomy and lab testing.	- Health workers to adhere to recommendations.
Only take a patient out of their room/care area if they are free of virus, or for essential, life-saving tests.	- Provide staff with training and visual instructions on the appropriate times to take the patient from their care area and on precautions to take.	- Health workers to adhere to recommendations and report to the coordinator when they are not followed.
Undertake cleaning of the environment and patient care equipment safely following recommendations in the text.	- Provide staff and visitors/carers with instructions on cleaning through training and reminder posters. - Ensure the equipment is available to undertake recommended cleaning.	- Health workers to adhere to recommendations and report to the coordinator when they are not followed.

IPC = infection prevention and control; PPE = personal protective equipment

5. NON-PATIENT CARE ACTIVITIES (FOR SUSPECTED OR CONFIRMED PATIENTS WITH HAEMORRHAGIC FEVER)

A. DIAGNOSTIC LABORATORY ACTIVITIES

- For procedures to safely collect blood or other samples from persons suspected or confirmed to be infected, follow the instructions provided by WHO.[9]
- All laboratory sample processing must take place under a safety cabinet or at least a fume cabinet with exhaust ventilation. Do not carry out any procedure on the open bench.
- Activities such as micro-pipetting and centrifugation can mechanically generate fine aerosols that might pose a risk of transmission of infection through inhalation as well as the risk of direct exposure.
- Laboratory personnel handling potential HF clinical specimens should wear closed shoes with overshoes or boots, gloves, a disposable, impermeable gown, eye protection or face shields, and particulate respirators (e.g., FFP2, or EN certified equivalent, or US NIOSH-certified N95), or powered air purifying respirators (PAPR) when aliquotting, performing centrifugation or undertaking any other procedure that may generate aerosols.
- When removing PPE, avoid any contact between the soiled items (e.g. gloves, gowns) and any area of the face (i.e. eyes, nose or mouth).
- Do not hang up the apron or gown for reuse. Discard immediately.
- Perform hand hygiene immediately after the removal of PPE used during specimen handling and after any contact with potentially contaminated surfaces even when PPE is worn.
- Place specimens in clearly-labelled, non-glass, leak-proof containers and deliver directly to designated specimen handling areas.
- Disinfect all external surfaces of specimen containers thoroughly (using an effective disinfectant) prior to transport.

B. MOVEMENT AND BURIAL OF HUMAN REMAINS

- The coordinator and/or the IPC staff should be consulted for any decision making on movement and burial of human remains.
- For this topic, see also the WHO "Interim manual-Ebola and Marburg virus disease epidemics: preparedness, alert, control, and evaluation".[1]
- The handling of human remains should be kept to a minimum. The following recommendations should be adhered to in principle, but may need some adaptation to take account of cultural and religious concerns:
  - ***Wear PPE*** (impermeable gown, mask, eye protection and double gloves) ***and rubber boots or closed puncture or fluid resistant shoes and overshoes*** to handle the dead body of a suspected or confirmed case of HF. Plug the natural orifices. Place the body in a double bag, wipe over the surface of each body bag with a suitable disinfectant (e.g., 0.5% chlorine solution) and seal and label with the indication of highly-infectious material. Immediately move the body to the mortuary.
  - PPE should be put on at the site of collection of human remains, worn during the process of collection and placement in body bags, and should be removed immediately after. Hand hygiene should be performed immediately following the removal of PPE.
  - Remains should not be sprayed, washed or embalmed. Any practice of washing the remains in preparation of "clean burials" should be discouraged.
  - Only trained personnel should handle remains during the outbreak.
  - PPE is not required for individuals driving or riding a vehicle to collect human remains, provided that drivers or riders will not be handling a dead body of a suspected or confirmed case of HF.
  - After wrapping in sealed, leak-proof material, remains should be placed inside a coffin if possible, and buried promptly.

C. POST-MORTEM EXAMINATIONS

- The coordinator and/or the IPC staff should be consulted for any decision making on post-mortem examinations.
- Post-mortem examination of HF patient remains should be limited to essential evaluations only and should be performed by trained personnel.

- Personnel examining remains should ***wear eye protection, mask, double gloves, disposable, impermeable gowns, and closed shoes or boots.***
- In addition, personnel performing autopsies of known or suspected HF patients should wear a particulate respirator (e.g., FFP2, or EN certified equivalent, or US NIOSH-certified N95) or a PAPR.
- When removing PPE, avoid any contact between soiled gloves or equipment and the face (i.e. eyes, nose or mouth).
- Hand hygiene should be performed immediately following the removal of PPE.
- Place specimens in clearly-labelled, non-glass, leak-proof containers and deliver directly to designated specimen handling areas.
- All external surfaces of specimen containers should be thoroughly disinfected (using an effective disinfectant) prior to transport.
- Tissue or body fluids for disposal should be carefully placed in clearly marked, sealed containers for incineration.

D. MANAGING EXPOSURE TO VIRUS THROUGH BODY FLUIDS INCLUDING BLOOD

- Persons including HCWs with percutaneous or muco-cutaneous exposure to blood, body fluids, secretions, or excretions from a patient with suspected or confirmed HF should ***immediately and safely*** *stop any current tasks, leave the patient care area, and safely remove PPE.* Remove PPE carefully according to the steps indicated in this document (Annex 2) because exposure during PPE removal can be just as dangerous for nosocomial transmission of HF. Immediately after leaving the patient care area, ***wash*** the affected skin surfaces or the percutaneous injury site with soap and water . Accordingly, irrigate mucous membranes (e.g. conjunctiva) with copious amounts of water or an eyewash solution, and not with chlorine solutions or other disinfectants.
- Immediately report the incident to the local coordinator. This is a time-sensitive task and should be performed as soon as the HCW leaves the patient care unit.
- Exposed persons should be ***medically evaluated*** including for other potential exposures (e.g., HIV, HCV) and ***receive follow-up care***, including fever monitoring, twice daily for 21 days after the incident. Immediate consultation with an expert in infectious diseases is recommended for any exposed person who develops fever within 21 days of exposure.
- HCWs suspected of being infected should be cared for/isolated, and the same recommendations outlined in this document must be applied until a negative diagnosis is confirmed.
- Contact tracing and follow-up of family, friends, co-workers and other patients, who may have been exposed to Ebola virus through close contact with the infected HCW is essential.

REFERENCES

1 Interim manual - Ebola and Marburg virus disease epidemics: preparedness, alert, control, and evaluation World Health Organization, Geneva, 2014; Available from: http://www.who.int/csr/disease/ebola/manual_EVD/en/

2 Clinical Management of Patients with Viral Haemorrhagic Fever: A pocket Guide for the Front-line Health Worker. World Health Organization, Geneva, 2014.

3 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Centers for Disease Control and Prevention, Atlanta, GA, 2007; Available from: http://www.cdc.gov/HAI/prevent/prevent_pubs.html

4 Standard precautions in health care AIDE-MEMOIRE. World Health Organization, Geneva, 2007; Available from: http://www.who.int/csr/resources/publications/standardprecautions/en/.

5 Hand Hygiene Posters. World Health Organization, Geneva, 2009. ; Available from: http://www.who.int/gpsc/5may/tools/workplace_reminders/en/

6 Glove Use Information Leaflet. World Health Organization, Geneva, 2009.; Available from: http://www.who.int/gpsc/5may/tools/training_education/en/

7 Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Hemorrhagic Fever in U.S. Hospitals. Centers for Disease Control and Prevention, Atlanta, GA; Available from: http://www.cdc.gov/vhf/ebola/hcp/infection-prevention-and-control-recommendations.html

8 Guide to Local Production: WHO-recommended Handrub Formulations. World Health Organization, Geneva, 2010; Available from: http://www.who.int/gpsc/5may/tools/system_change/en/.

9 Hoffman PN, Bradley C, Ayliffe GAJ, Health Protection Agency (Great Britain). Disinfection in healthcare. 3rd ed. Malden, Mass: Blackwell Pub.; 2004.

10 How to safely collect blood samples from persons suspected to be infected with highly infectious blood-borne pathogens (e.g. Ebola) World Health Organization.

11 WHO best practices for injections and related procedures toolkit. World Health Organization, Geneva, 2010; Available from: http://www.who.int/injection_safety/toolbox/9789241599252/en/

12 Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence. Department of Health, United Kingdom, 2012; Available from: http://www.dh.gov.uk/publications.

Annex 1. Standard Precautions in Health Care – AIDE MEMOIRE
KEY ELEMENTS AT A GLANCE

1. Hand hygiene[1]

How to perform hand hygiene:

- Clean your hands by **rubbing them with an alcohol-based formulation**, as the preferred mean for routine hygienic hand antisepsis if hands are not visibly soiled. It is faster, more effective, and better tolerated by your hands than washing with soap and water.
- **Wash your hands with soap and water** when hands are visibly dirty or visibly soiled with blood or other body fluids or after using the toilet.

Summary technique:[1]

- Hand washing (40–60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single use towel; use towel to turn off faucet.
- Hand rubbing (20–30 sec): apply enough product to cover all areas of the hands; rub all surfaces until dry.

Summary indications:[1]

1. Before touching a patient: Clean your hands before touching a patient when approaching him/her*
2. Before clean / aseptic procedure: Clean your hands immediately before accessing a critical site with infectious risk for the patient (e.g. a mucous membrane, non-intact skin, an invasive medical device)*
3. After body fluid exposure risk: Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal)*
4. After touching a patient: Clean your hands when leaving the patient's side after having touched the patient*
5. After touching patient surroundings: Clean your hands after touching any object or furniture when living the patient surroundings, without having touched the patient*

2. Gloves

- Wear GLOVES when touching blood, body fluids, secretions, excretions, mucous membranes, nonintact skin.
- Change GLOVES between tasks and procedures on the same patient after contact with potentially infectious material.
- Remove THEM after use, before touching non-contaminated items and surfaces, and before going to another patient. Perform hand hygiene immediately after removal.

3. Facial protection (eyes, nose, and mouth)

- Wear (1) a surgical or procedure mask and eye protection (eye visor, goggles) or (2) a face shield to protect mucous membranes of the eyes, nose, and mouth during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.

4. Gown

- Wear to protect skin and prevent soiling of clothing during activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.
- Remove soiled gown as soon as possible, and per-form hand hygiene.

5. Prevention of needle stick and injuries from other sharp instruments[2]

Use care when:

- Handling needles, scalpels, and other sharp instruments or devices.

6. Respiratory hygiene and cough etiquette

Persons with respiratory symptoms should apply source control measures:

- Cover their nose and mouth when coughing/sneezing with tissue or mask, dispose of used tissues and masks, and perform hand hygiene after contact with respiratory secretions.

Health-care facilities should:

- Place acute febrile respiratory symptomatic patients at least 1 metre (3 feet) away from others in common waiting areas, if possible.
- Post visual alerts at the entrance to health-care facilities instructing persons with respiratory symptoms to practise respiratory hygiene/cough etiquette.
- Consider making hand hygiene resources, tissues and masks available in common areas and areas used for the evaluation of patients with respiratory illnesses.

7. Environmental cleaning

- Use adequate procedures for the routine cleaning and disinfection of environmental and other frequently touched surfaces.

8. Linens

Handle, transport, and process used linen in a manner which:

- Prevents skin and mucous membrane exposures and contamination of clothing.
- Avoids transfer of pathogens to other patients and or the environment.

9. Waste disposal

- Ensure safe waste management.
- Treat waste contaminated with blood, body fluids, secretions and excretions as clinical waste, in accordance with local regulations.
- Human tissues and laboratory waste that is directly associated with specimen processing should also be treated as clinical waste.
- Discard single use items properly.

10. Patient care equipment

- Handle equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of pathogens to other patients or the environment.
- Clean, disinfect, and reprocess reusable equipment appropriately before use with another patient.
- Cleaning used instruments.
- Disposing of used needles and other sharp instruments.

Source: Modified from: Standard precautions in health care AIDE-MEMOIRE. World Health Organization, Geneva, 2007; Available from: http://www.who.int/csr/resources/publications/standardprecautions/en/.

1 For more details, see:1) WHO Guidelines on Hand Hygiene in Health Care, 2009, available at: http://www.who.int/gpsc/5may/tools/en/. 2) "Hand Hygiene: Why, How & When?", available at http://www.who.int/gpsc/5may/tools/training_education/en/

2 The SIGN Alliance at: http://www.who.int/injection_safety/sign/en/

***NOTE:** Hand hygiene must be performed in all indications described regardless of whether gloves are used or not.

Annex 2.
Steps to Put on Personal Protective Equipment (PPE)

1 Always put on essential required PPE when handling either a suspect, probable or confirmed case of viral haemorrhagic fever (eg. Ebola Virus Disease). Gather all the necessary items of the PPE beforehand.

2 The dressing and undressing of PPE should be supervised by another trained member of the team. These instructions should be displayed on the wall in the dressing and undressing room. Steps to put on essential required PPE.

3 Put on the scrub suit in the changing room.

HAND RUB

4 Put on gum boots; If not available, make sure you have closed, puncture and fluid resistant shoes and put on overshoes.

OR, IF BOOTS UNAVAILABLE

5 Place the gown over the scrubs.

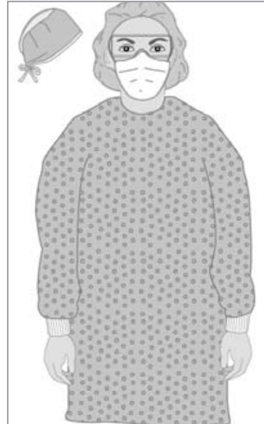
6 Put on face protection:

6a Put on a medical mask.

6b Put on goggles or a face shield

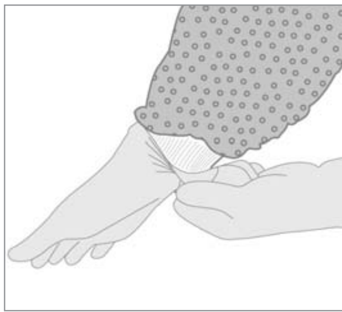
OR

7 If you have any abrasions on your scalp or you have concern for splashing fluids, also place a head cover at this time.



8 Perform hand hygiene.

9 Put on gloves* (over cuff).



10 If a impermeable gown is not available and you expect to undertake any strenuous activity (e.g. carrying a patient) or tasks with contact with blood and body fluids, place waterproof apron over gown.

While wearing PPE:

- Avoid touching or adjusting PPE
- Remove gloves if they become torn or damaged
- Change gloves between patients
- Perform hand hygiene before donning new gloves

* Use ***double gloves*** if any strenuous activity (e.g. carrying a patient or handling a dead body) or tasks in which contact with blood and body fluids are anticipated. Use ***heavy duty/rubber gloves*** for environmental cleaning and waste management.

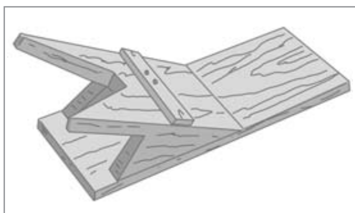
Steps to remove PPE

1 Peel off plastic apron and dispose of safely (if the apron is to be reused, place in a container with disinfectant)

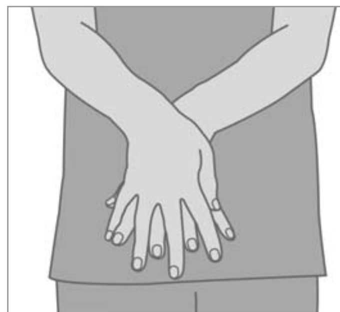
2 If wearing protective overshoes, please remove them with your gloves still on (If wearing gum boots, see step 4).

3 Remove gown and gloves and roll inside-out and dispose of safely.

4 If wearing rubber boots, remove them (ideally using the boot remover) without touching them with your hands. Place the removed boots into a container with disinfectant.



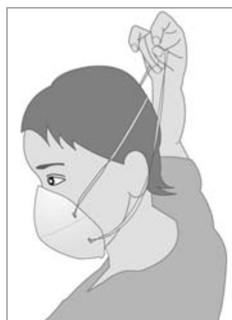
5 Perform hand hygiene.



6 If wearing a head covering, remove it now (from behind head).

7 Remove face protection:
7a Remove face shield or goggles (from behind head). Place eye protection in a separate container for reprocessing.

7b Remove mask from behind head. When removing mask, untie the bottom string first and the top string next.

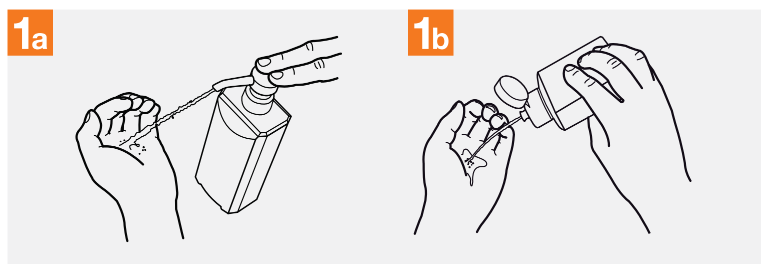


8 Perform hand hygiene.

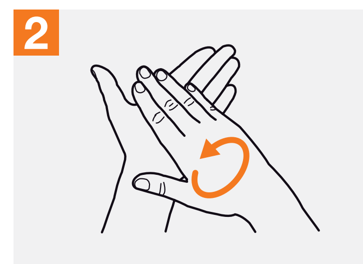
Source: Modified from Clinical Management of Patients with Viral Haemorrhagic Fever: A pocket Guide for the Front-line Health Worker. World Health Organization, 2014

How to Handrub?

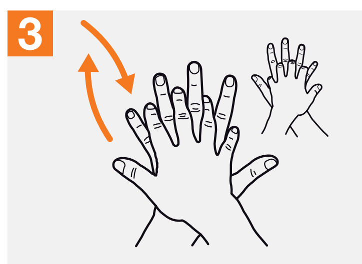
RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED



Apply a palmful of the product in a cupped hand, covering all surfaces;



Rub hands palm to palm;

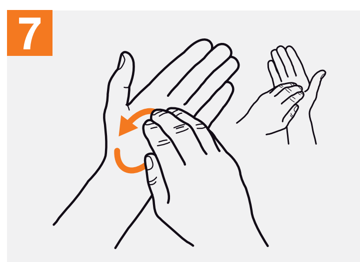


Right palm over left dorsum with interlaced fingers and vice versa;

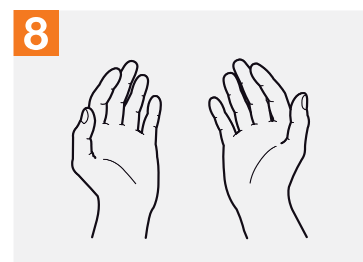
Palm to palm with fingers interlaced;

Backs of fingers to opposing palms with fingers interlocked;

Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

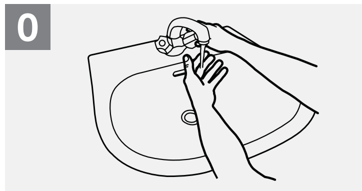


Once dry, your hands are safe.

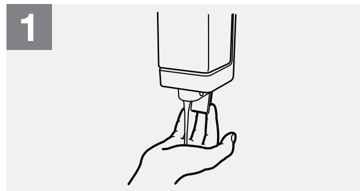
How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

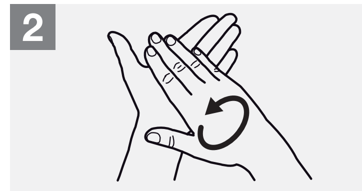
Duration of the entire procedure: 40-60 seconds



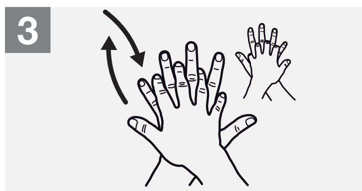
Wet hands with water;



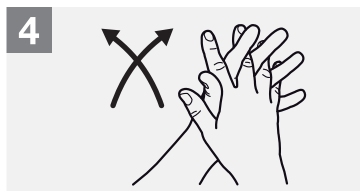
Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;

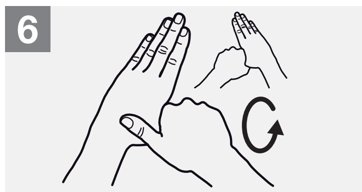


Right palm over left dorsum with interlaced fingers and vice versa;

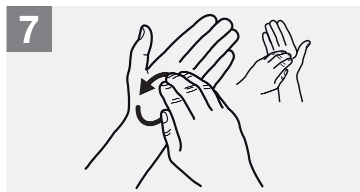


Palm to palm with fingers interlaced;

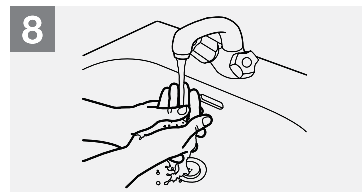
Backs of fingers to opposing palms with fingers interlocked;



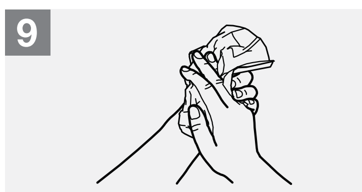
Rotational rubbing of left thumb clasped in right palm and vice versa;



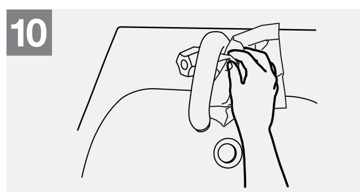
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



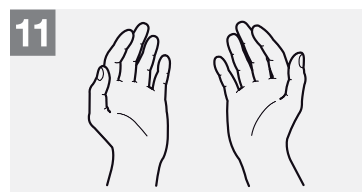
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

Source: Hand Hygiene Posters. World Health Organization, Geneva, 2009; Available from: http://www.who.int/gpsc/5may/tools/workplace_reminders/en/

Annex 4.
Technique for donning and removing non-sterile examination gloves

When the hand hygiene indication occurs before a contact requiring glove use, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water.

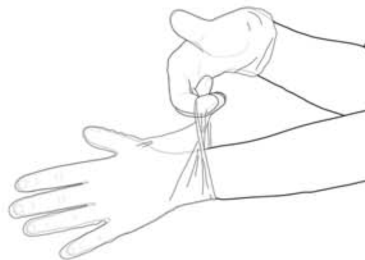
I. HOW TO DON GLOVES:

1. Take out a glove from its original box

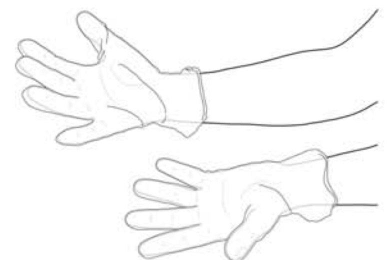
2. Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)

3. Don the first glove

4. Take the second glove with the bare hand and touch only a restricted surface of glove corresponding to the wrist

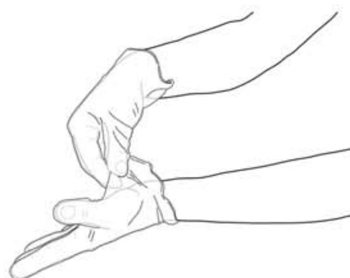


5. To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand

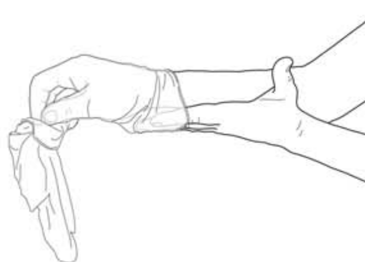


6. Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

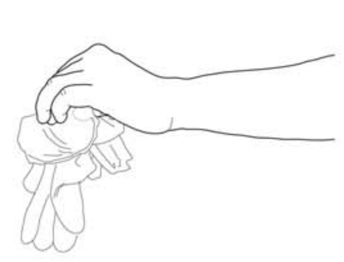
II. HOW TO REMOVE GLOVES:



1. Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out



2. Hold the removed glove in the gloved hand and slide the fingers of the unglo-ved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove



3. Discard the removed gloves

4. Then, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water

Source: Glove Use Information Leaflet. World Health Organization, Geneva, 2009. Available from: http://www.who.int/gpsc/5may/tools/training_educational/en/

GUIDE TO LOCAL PRODUCTION

This is intended to guide a local producer in the actual preparation of the formulation.

Materials required (small volume production)

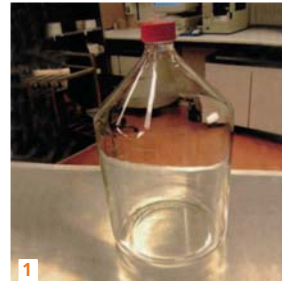
REAGENTS FOR FORMULATION 1:

- Ethanol 96%
- Hydrogen peroxide 3%
- Glycerol 98%
- Sterile distilled or boiled cold water

REAGENTS FOR FORMULATION 2:

- Isopropyl alcohol 99.8%
- Hydrogen peroxide 3%
- Glycerol 98%
- Sterile distilled or boiled cold water

- 10-litre glass or plastic bottles with screw-threaded stoppers (**1**), or
- 50-litre plastic tanks (preferably in polypropylene or high density polyethylene, translucent so as to see the liquid level) (**2**), or
- Stainless steel tanks with a capacity of 80–100 litres (for mixing without overflowing) (**3**, **4**)
- Wooden, plastic or metal paddles for mixing (**5**)
- Measuring cylinders and measuring jugs (**6**)
- Plastic or metal funnel
- 100 ml and 500 ml plastic bottles with leak-proof tops (**7**)
- An alcoholometer: the temperature scale is at the bottom and the ethanol concentration (percentage v/v and w/w) at the top (**8**)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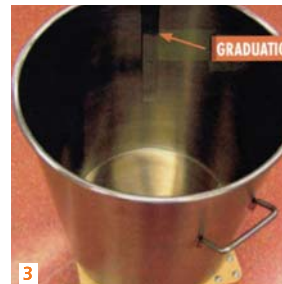

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NOTE

- Glycerol: used as humectant, but other emollients may be used for skin care, provided that they are cheap, widely available and miscible in water and alcohol and do not add to toxicity, or promote allergy.
- Hydrogen peroxide: used to inactivate contaminating bacterial spores in the solution and is not an active substance for hand antisepsis.
- Any further additive to both formulations should be clearly labelled and be non-toxic in case of accidental ingestion.
- A colorant may be added to allow differentiation from other fluids, but should not add to toxicity, promote allergy, or interfere with antimicrobial properties. The addition of perfumes or dyes is not recommended due to risk of allergic reactions.

General information

Labelling should be in accordance with national guidelines and should include the following:

- Name of institution, date of production and batch number
- WHO-recommended handrub solution
- For external use only
- Avoid contact with eyes
- Keep out of the reach of children
- Use: Apply a palmful of alcohol-based handrub and cover all surfaces of the hands. Rub hands until dry
- Composition: ethanol or isopropanol, glycerol and hydrogen peroxide
- Flammable: keep away from flame and heat

Production and storage facilities:

- Production and storage facilities should ideally be air conditioned or cool rooms. *No naked flames or smoking should be permitted in these areas*.
- WHO-recommended handrub formulations should not be produced in quantities exceeding 50-litres locally or in central pharmacies lacking specialised air conditioning and ventilation.
- Since undiluted ethanol is highly flammable and may ignite at temperatures as low as 10°C, production facilities should directly dilute it to the above-mentioned concentration. The flashpoints of ethanol 80% (v/v) and of isopropyl alcohol 75% (v/v) are 17.5°C and 19°C, respectively.
- National safety guidelines and local legal requirements must be adhered to the storage of ingredients and the final product.

METHOD: 10-LITRE PREPARATIONS

These can be prepared in 10-litre glass or plastic bottles with screw-threaded stoppers.

Recommended amounts of products:

FORMULATION 1:

- Ethanol 96%: **8333 ml**
- Hydrogen peroxide 3%: **417 ml**
- Glycerol 98%: **145 ml**

FORMULATION 2:

- Isopropyl alcohol 99.8%: **7515 ml**
- Hydrogen peroxide 3%: **417 ml**
- Glycerol 98%: **145 ml**

Final products:

FORMULATION 1:
Final concentrations:

- Ethanol 80% (v/v)
- Glycerol 1.45% (v/v)
- Hydrogen peroxide 0.125% (v/v)

FORMULATION 2:
Final concentrations:

- Isopropyl alcohol 75% (v/v)
- Glycerol 1.45% (v/v)
- Hydrogen peroxide 0.125% (v/v)

Step by step preparation:

1. The alcohol for the formula to be used is poured into the large bottle or tank up to the graduated mark.

2. Hydrogen peroxide is added using the measuring cylinder.

3. Glycerol is added using a measuring cylinder. As glycerol is very viscous and sticks to the wall of the measuring cylinder, it should be rinsed with some sterile distilled or cold boiled water and then emptied into the bottle/tank.

4. The bottle/tank is then topped up to the 10-litre mark with sterile distilled or cold boiled water.

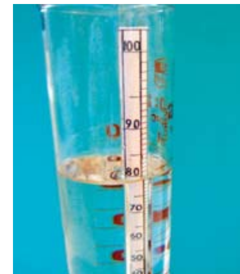
5. The lid or the screw cap is placed on the tank/bottle as soon as possible after preparation, in order to prevent evaporation.

6. The solution is mixed by shaking gently where appropriate or by using a paddle.

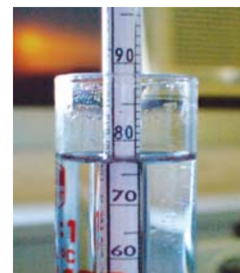
7. Immediately divide up the solution into its final containers (e.g. 500 or 100 ml plastic bottles), and place the bottles in quarantine for 72 hours before use. This allows time for any spores present in the alcohol or the new/re-used bottles to be destroyed.

Quality control

1. Pre-production analysis should be made every time an analysis certificate is not available to guarantee the titration of alcohol (i.e. local production). Verify the alcohol concentration with the alcoholmeter and make the necessary adjustments in volume in the preparation formulation to obtain the final recommended concentration.



2. Post-production analysis is mandatory if either ethanol or an isopropanol solution is used. Use the alcoholmeter to control the alcohol concentration of the final use solution. The accepted limits should be fixed to ± 5% of the target concentration (75%–85% for ethanol).



3. The alcoholmeter shown in this information pamphlet is for use with ethanol; if used to control an isopropanol solution, a 75% solution will show 77% (± 1%) on the scale at 25°C.

Source: Guide to Local Production: WHO-recommended Handrub Formulations, http://www.who.int/gpsc/5may/tools/system_change/en/

Annex 6.
How to make chlorine solutions for environmental disintection

Example I - Using Liquid Bleach

Chlorine in liquid bleach comes in different concentrations. Any concentration can be used to make a dilute chlorine solution by applying the following formula:

$$\left[\frac{\text{\% chlorine in liquid bleach}}{\text{\% chlorine desired}}\right] - 1 = \text{Total parts of water for each part bleach}^{\dagger}$$

Example: To make a 0.5% chlorine solution from 3.5%‡ bleach:

$$\left[\frac{3.5\%}{0.5\%}\right] - 1 = 7 - 1 = 6 \text{ parts water for each part bleach}$$

Therefore, you must add 1 part 3.5% bleach to 6 parts water to make a 0.5% chlorine solution.

† "Parts" can be used for any unit of measure (e.g. ounce, litre or gallon) or any container used for measuring, such as a pitcher.

‡ In countries where French products are available, the amount of active chlorine is usually expressed in degrees chlorum. One degree chlorum is equivalent to 0.3% active chlorine.

Example II - Using Bleach Powder

If using bleach powder, † calculate the amount of bleach to be mixed with each litre of water by using the following formula:

$$\left[\frac{\text{\% chlorine desired}}{\text{\% chlorine in bleach powder}}\right] \times 1\,000 = \text{Grams of bleach powder for each litre of water}$$

Example: To make a 0.5% chlorine solution from calcium hypochlorite (bleach) powder containing 35% active chlorine:

$$\left[\frac{0.5\%}{35\%}\right] \times 1\,000 = 0.0143 \times 1\,000 = 14.3$$

Therefore, you must dissolve 14.3 grams of calcium hypochlorite (bleach) powder in each litre of water used to make a 0.5% chlorine solution.

† When bleach powder is used; the resulting chlorine solution is likely to be cloudy (milky).

Example III - Formula for Making a Dilute Solution from a Concentrated Solution

$$\text{Total Parts (TP) } (H_2O) = \left[\frac{\text{\% Concentrate}}{\text{\% Dilute}}\right] -1$$

Example: To make a dilute solution (0.1%) from 5% concentrated solution.

$$\text{Calculate TP } (H_2O) = \left[\frac{5.0\%}{0.1\%}\right] -1 = 50-1 = 49$$

Take 1 part concentrated solution and add to 49 parts boiled (filtered if necessary) water.

Source:

AVSC International (1999). Infection Prevention Curriculum. Teacher's Manual. New York, p.267.

UN Medical Services Division
Clinical Assessment Form for UN Personnel EXITING OUT FROM Ebola-Affected Countries

(For details of current areas that have suspect / confirmed and their locations see http://www.who.int/csr/don/archive/disease/ebola/en/)

This form is to be used by UN health care providers to assess the risk of a UN personnel being exposed to or infected with the Ebola virus disease.

For UN duty stations in EBOLA-AFFECTED COUNTRIES:
- All UN personnel exiting and planning to travel from Ebola-affected countries to NON-Ebola-affected-countries, should have this form completed by their UN medical officer BEFORE they exit the Ebola-affected country.
- A copy of the completed form should be e-mailed to the Medical Officer at the UN personnel's final travel destination.

For all UN duty stations:
- UN medical staff may use this form to assess the Ebola risk of any UN personnel returning to their duty station after travel to an Ebola-affected country.
- All individuals who are planning to travel to an Ebola-affected country should be provided a copy of this form, and advised to have them completed before they exit and leave the Ebola-affected country.

PLEASE NOTE THAT PPE MUST BE USED AT ALL TIMES WHEN INTERACTING WITH INDIVIDUALS WHO ARE UNWELL. ALL INDIVIDUALS WHO ARE UNWELL AND HAVE BEEN IN CONTACT WITH A SUSPECTED OR KNOWN CASE NEED TO IMMEDIATELY BE PLACED IN ISOLATION[1].

Date and Time of this Assessment (dd/mm/yy): ______________________________ Duty station: ______________________________________

A) UN STAFF/PERSONNEL DETAILS

First Name: ________________________ Last Name: ________________________ Index No: ___________________ DOB (dd/mm/yy): _______________
Sex: M/F Current Duty Station: ___________________ Organization/Office: ________________________ Title: ________________________________
Email: ________________________________ Tel No: ________________________________
Emergency Contact -- Name: _______________________________ Tel No: _________________________________ Email: _________________________

B) TRAVEL HISTORY

In the last 3 weeks, has the individual travelled to a specific locality / area that currently has suspect/confirmed Ebola cases?
□ Yes □ No □ Unknown If yes or unknown, please specify which Country/City/Region/Town: ______________________________________

C) CURRENT HEALTH STATUS

Please check off whichever applies:
□ The individual is currently well, and has no signs or symptoms.
□ The individual is currently unwell, and has signs/symptoms.

D) SIGNS & SYMPTOMS ***(TO BE COMPLETED IF INDIVIDUAL IS UNWELL)***

Date of onset of first symptoms (dd/mm/yy):________________ Was onset of symptoms sudden or gradual? □ Sudden onset □ Gradual onset

Please indicate if the patient has the following signs and/or symptoms:

Fever >38C	□ Yes	□ No	□ Unknown	**Diarrhoea**	□ Yes	□ No	□ Unknown
History of fever	□ Yes	□ No	□ Unknown	**Restrosternal pain**	□ Yes	□ No	□ Unknown
Fever >38 persisting 72 hours after use of antimalarials or antimicrobials	□ Yes	□ No	□ Unknown	**Haematemesis**	□ Yes	□ No	□ Unknown
				Malaena	□ Yes	□ No	□ Unknown
Headache	□ Yes	□ No	□ Unknown	**Bleeding**	□ Yes	□ No	□ Unknown
Rash	□ Yes	□ No	□ Unknown	**Bruising**	□ Yes	□ No	□ Unknown
Myalgia	□ Yes	□ No	□ Unknown	**BP systolic <99 mmHg**	□ Yes	□ No	□ Unknown
Cough	□ Yes	□ No	□ Unknown	**Resp rate >20/min**	□ Yes	□ No	□ Unknown
Pharyngitis	□ Yes	□ No	□ Unknown	**Pulse >90 bpm**	□ Yes	□ No	□ Unknown
Vomiting	□ Yes	□ No	□ Unknown	**Other**	□ Yes	□ No	□ Unknown

If other symptoms, please specify: ____

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[1] Please refer to WHO's " ***Interim Infection prevention and control guidance for care of patients with Suspected or Confirmed Filovirus Haemorrhagic fever in health-care settings, with focus on Ebola*** " (August 2014), available at http://www.who.int/csr/bioriskreduction/filovirus_infection_control/en/

E) ASSESSMENT OF EPIDEMIOLOGICAL RISK FACTORS

The following table lists some potential epidemiological risk factors that might expose an individual to the Ebola virus. Did the individual encounter any of the following? (Please check off the boxes that apply):

	Yes	No	Unknown
In the past 21 days, came into contact with body fluids of a live or dead individual known or strongly suspected to have Ebola virus disease either directly, e.g. handled blood, urine, or indirectly, e.g. soiled clothes or bedding?			
In the past 21 days, have had close contact with a live or dead individual known or strongly suspected to have Ebola virus disease?			
In the past 21 days, been involved in the funeral preparations of an individual known or strongly suspected to have Ebola virus disease?			
In the past 3 months, have had sex with an individual known or strongly suspected to have Ebola virus disease?			
In the past 21 days, have handled clinical/laboratory specimens (blood, urine, faeces, tissues, laboratory cultures) from a live or dead individual or animal known or strongly suspected to have Ebola virus disease?			
In the past 21 days, came into contact with the body fluids of, or had direct contact with, a live or dead individual or animal, known or strongly suspected to have Ebola virus disease (e.g. routine patient care, transport of patient, resuscitation, autopsy)?			
In the past 21 days, received any intra-muscular or intra-venous injections in an Ebola outbreak area?			
In the past 21 days, handled or butchered dead primates or been involved in drying, smoking their meat or consuming their meat in an Ebola virus disease outbreak area?			
In the past 21 days, visited any health care facility/ies in the Ebola-affected country?			
In the past 21 days, visited or had casual contact with an Ebola patient? [Casual contact is defined as being within 3 feet of patient, or having brief direct contact (eg shaking hands) without wearing recommended PPE.]			
Does the individual have family or household members in this country who are suspect/confirmed Ebola cases?			

F) FINAL ASSESSMENT ON RISK

After interview/exam of the UN staff or personnel, my medical assessment is as follows:

RISK CATEGORY	CRITERIA
□ **Suspected Case**	Individual has a sudden onset of high fever or any other signs and symptoms + has at least one epidemiological risk factor (Section E); OR Individual has a sudden onset of high fever and at least three other signs and symptoms
□ **High/Moderate Risk**	Individual is ill, with at least **ONE** sign and symptom but declares they have **NO** epidemiological risk factors (Section E).
□ **Suspected Contact**	Individual has **NO** signs / symptoms, but has at least **ONE** epidemiological risk factor (Section E).
□ **Low Risk**	Individual is well with NO signs/symptoms and declares they have **NO** epidemiological risk factors (Section E).

If individual is determined as a "Suspected Case", "High/Moderate Risk" or "Suspected Contact", please discuss the individual's travel plans and movement with local Outbreak Management team/local health authorities. Please ensure that the individual complies with all public health directives from the Host country and WHO.

I certify that this clinical assessment has been completed and appropriate follow up actions taken for this individual. **Please Check here.** □

SIGNATURE OF HEALTH CARE PROVIDER: ________________________________ DATE SIGNED: __________________ Duty Station: ________________
Name: ____________________________ Title: ____________________________ Tel: ______________________ Email: __________________________

Please feel free to contact Dr Esther Tan at msdpublichealth@un.org or +1-917-353-5387 should you have any questions.

UN Medical Services Division

Travel Health Advisory for UN Staff or Personnel Travelling to Ebola-Affected Countries[1]

25 August 2014

The UN Medical Services Division (MSD) is monitoring closely the developments in the outbreak of Ebola Virus Disease (EVD) in West Africa and is supporting the preparedness and response efforts of our UN health facilities in affected countries.

In line with the World Health Organization's (WHO) recommendations, MSD does not recommend a general ban on international travel. Each UN organization should assess the risk of duty travel of their staff to areas affected by Ebola in keeping with their health and safety obligations to staff. These areas may expose workers to an increased risk, and due consideration should be taken of the criticality of the activity to be performed during the duty travel, and every effort made to ensure staff health and safety and to minimize the risks of infection.

For the most updated information and list of countries affected in this recent outbreak, please consult the WHO's Ebola website at http://www.who.int/csr/don/archive/disease/ebola/en/

Recommendations to all UN Staff and Personnel

Ebola virus disease is a rare and severe viral disease. The virus can infect both humans and non-human primates (monkeys, gorillas, etc.) When infected, people can get very sick, with fever, intense weakness, headache, sore throat and pains, and may bleed from different parts of the body (i.e., hemorrhage). There is currently no licensed vaccine or specific treatment for Ebola.

The risk of travelers becoming infected after a stay in Ebola outbreak areas is low because transmission can only occur in the context of direct contact with blood, secretions, organs or other body fluids of dead or living infected persons or animals. The risk may increase, however, for staff or personnel who in the course of their duties or personal dealings have direct contact with the bodily fluids of infected patients, infected animals, or bodies of persons or animals who died from Ebola virus disease.

The UN Medical Services Division recommends all UN staff and personnel travelling to an Ebola outbreak area to avoid all direct contact with a person or corpse infected with the Ebola virus. Staff should also avoid all physical contact with any person or animal suspected of having Ebola virus disease, and avoid all contact with body fluids from persons or animals suspected of having Ebola virus disease. Travelers should be reminded of the need to immediately seek medical attention at the first sign of illness.

For all travel, staff should consult a health care provider or visit a travel health clinic before travel, preferably at least six weeks before intended date of departure. If you are planning to visit a locality affected by or adjacent to the current Ebola outbreak, you should also have a discussion with your

[1] The latest figures and geographic location of the Ebola outbreak in parts of West Africa can be obtained here: http://www.who.int/csr/don/archive/disease/ebola/en/

healthcare provider the week before departure, to obtain the most up-to-date information about risks of your intended destination.

Individuals planning to visit an Ebola-affected country should ensure to carry the attached "Clinical Assessment Form" with them to their destination. At their destination, prior to leaving the country, they should have the form completed by that duty station's UN health care worker, before exiting the country.

Here are some important points about the transmission of Ebola and the precautions that should be taken to protect yourself and your family:

- **Avoid direct contact with blood and other bodily fluids of people with Ebola or unknown illnesses.**
  - Avoid direct contact with bodies of people who died of Ebola virus disease or unknown illnesses.
  - Avoid unprotected sexual intercourse with an infected person or a person recovering from Ebola virus disease.
  - Avoid contact with any objects, such as needles, that have been contaminated with blood or bodily fluids.
  - Health care workers should practice strict infection control measures including the use of personal protective equipment (PPE) (i.e. gowns, surgical/medical masks, goggles and gloves).
  - Regular hand washing (or the use of alcohol hand-rub) is required after visiting any patients in hospital, as well as after coming in contact with any sick individual, even if they do not have Ebola virus disease.
- **Avoid close contact with or handling of wild animals.**
  - The following animals may be carriers: chimpanzees, gorillas, monkeys, forest antelope, pigs, porcupines, duikers, and fruit bats.
  - Remember, both live and dead animals can spread the virus.
  - Avoid handling and eating wild meat.
- **Know the symptoms of Ebola virus disease and see a health care provider immediately if symptoms of the disease develop.**
  - The symptoms of Ebola virus disease include: Sudden onset of fever, intense weakness, muscle pain, headache and sore throat.
  - This is followed by vomiting, diarrhea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding.
  - Seek medical attention immediately if a fever and any of the above other symptoms arise during or after travel.
  - Be sure to tell your health care provider that you travelled to a region where Ebola virus disease was present.
- **Wherever possible, avoid receiving treatment in hospitals that are treating Ebola patients, unless you are referred to such a facility for isolation or treatment relating to Ebola virus disease.**

- Infected healthcare workers can transmit Ebola virus disease from one patient to another.
- Seek medical advice from your local UN clinic about where you can receive treatment for non-Ebola related illnesses or injuries.

For more information, please refer to the attached MSD Frequently Asked Questions on Ebola, or contact MSD at msdpublichealth@un.org if you have any questions related to this advisory. Please feel free to disseminate this information sheet as needed.