

Not everything  
is as it first  
appears!

L. P. Caid  
Rio Rico Fire

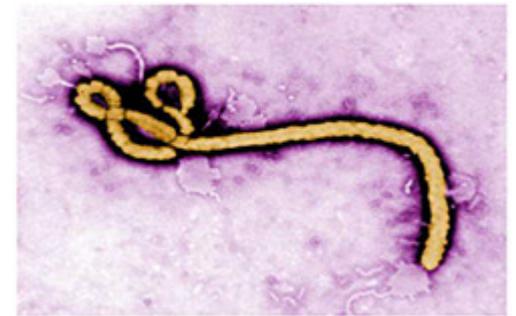


# Education is the Antidote to Fear!



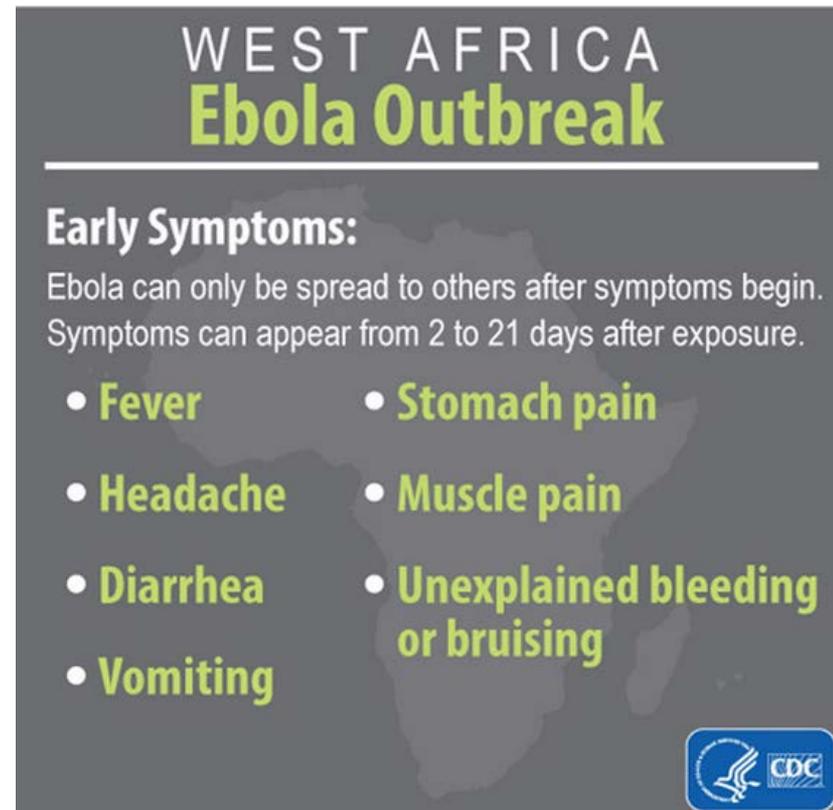
# Charge to all Health Care Providers:

- Formalize Response Protocol
- Effectively screen suspect Ebola patients
- Confirm Ebola diagnosis
- Isolate immediately
- Initial medical management



# A walk through the process

- Identification
- Isolation
- Careful Care



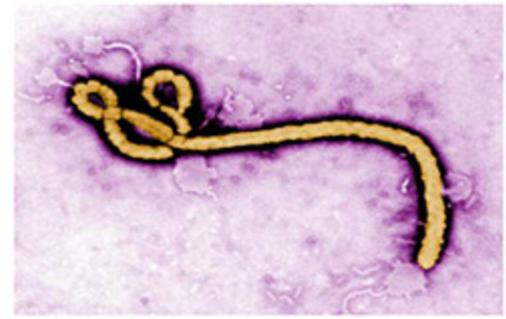
**WEST AFRICA**  
**Ebola Outbreak**

**Early Symptoms:**  
Ebola can only be spread to others after symptoms begin. Symptoms can appear from 2 to 21 days after exposure.

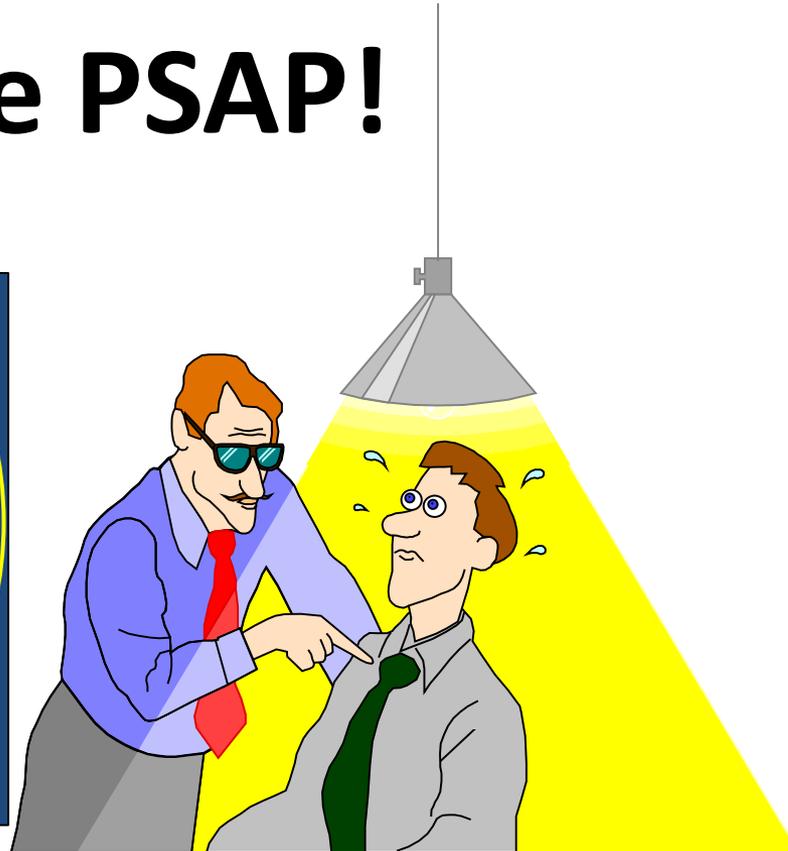
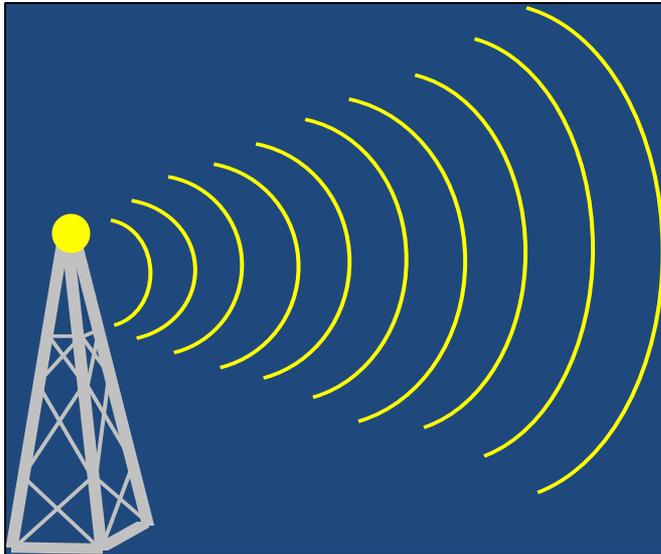
- **Fever**
- **Stomach pain**
- **Headache**
- **Muscle pain**
- **Diarrhea**
- **Unexplained bleeding or bruising**
- **Vomiting**



# Discovery



## Role of the PSAP!



# Identifying A Patient with Ebola

## 1. Travel to Africa in the last 21 days?

- Liberia
- Sierra Leone
- Guinea



## 2. Have you had a Fever?

# Symptoms

- Fever
- Headache
- Vomiting & Diarrhea
- Muscle pain
- Unexplained bleeding/bruising

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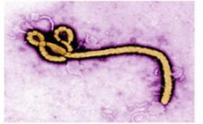
# Isolate The Patient

- Simple isolation is good
  - Place in room
  - Close the door
  - Call for help
- Advanced isolation makes it easier
  - Easily cleanable rooms
  - Anti-room to don and doff PPE
  - Dedicated equipment
  - In room testing capabilities

# What Is Careful Care?

- Identification
- Isolation
- **Use of PPE:**
  - Appropriate PPE
  - Tested PPE
  - Trained providers
- Care for Patients

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



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

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



Defence Research and  
Development Canada

Recherche et développement  
pour la défense Canada



Public Health  
Agency of Canada

Agence de la santé  
publique du Canada



**Sunnybrook**  
HEALTH SCIENCES CENTRE

# 1. Donned EVD/MERS Recommended PPE



- N95
- Face shield
- Goggles
- Water resistant surgical gown
- Gloves over cuff of gown

# Donned EVD/MERS Recommended PPE



- Recreated Cough Spray During Intubation using water mixed with glow germ
- Spray directed up towards face

# Assessed for contamination post spray



- Use UV Light to see where spray landed
- Found extensive contaminations of neck

# Assessed for contamination post spray



- Use UV Light to see where spray landed
- Found extensive contaminations of hair
- **Conclusion: Need Head and Neck Protection**

## 2. Spray Germ Test with Full body Suit



- Used tyvek chem suit: full body, hooded, high neck
- N95
- Goggles
- Face shield
- Gloves

## 2. Sprayed up towards face



## 2. Check for Spray Location with UV Light



- Found it suit, faceshield

## 2. Check for Spray Location with UV Light



- Removed the goggles and, face shield and checked
- NO SPRAY on Face
- Better Protection than previous combination

# Universal Precautions!

## Principles of PPE

- Healthcare workers must understand the following basic principles to ensure safe and effective PPE use, which include that **no skin may be exposed while working in PPE:**
- **Donning**
  - PPE must be donned correctly in proper order before entry into the patient care area and not be later modified while in the patient care area. **The donning activities must be directly observed by a trained observer.**

# During Patient Care

- PPE must remain in place and be worn correctly for the duration of exposure to potentially contaminated areas. PPE should not be adjusted during patient care.
- Healthcare workers should perform frequent disinfection of gloved hands using an ABHR, particularly after handling body fluids.
- If during patient care a partial or total breach in PPE (e.g., gloves separate from sleeves leaving exposed skin, a tear develops in an outer glove, a needlestick) occurs, the healthcare worker must move immediately to the doffing area to assess the exposure. Implement the facility exposure plan, if indicated by assessment.

# Doffing

- The removal of used PPE is a high-risk process that requires a structured procedure, a trained observer, and a designated area for removal to ensure protection
- PPE must be removed slowly and deliberately in the correct sequence to reduce the possibility of self-contamination or other exposure to Ebola virus
- A stepwise process should be developed and used during training and daily practice

# PPE for EMS



- Used tychem suit: full body (boot and hooded, high neck)
- N95
- Goggles
- Face shield
- Double Gloves

<i>Level</i>	<i>Health Hazard</i>	<i>Protection Needed</i>
0	Little or no hazard	None
1	Slightly hazardous	SCBA (level C suit) only
2	Slightly hazardous	SCBA (level C suit) only
3	Extremely hazardous	Full protection; with no exposed skin (level A or B suit)
4	Minimal exposure causes death	Special HazMat gear (level A suit)

# Hazardous Material

## Response

### Level A

Fully encapsulated,  
chemical-resistant protective  
clothing



### Level B

**Nonencapsulated  
protective clothing with  
respiratory protection**

# Ebola: To Worry OR Not to Worry

- YES its Deadly
- YES it can be transmitted

With careful care We ARE safe and can save lives

1976 -2006 CDC tracked Influenza  
3,000 to 49,000 people in the U.S.A. die q yr.

# The Process

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- Isolation
- Careful Care

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# Staying Safe

- Use of PPE:
  - Appropriate PPE
  - Tested PPE
  - Trained providers
- Avoid Mistakes
  - Work as a Team
  - Avoid Fatigue

Questions?

