




The Bugs We Thought We Would Never See !!



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The Bugs We Thought We Would Never See

Please note that this is an abbreviated version of the presentation.

Some pictures, audio and video do not copy well.

I will be happy to provide a full version if you provide an email address after the presentation.





The Bugs We Thought We Would Never See

- AIDS
- Legionnaires
- Lyme
- Toxic Shock
- Cryptosporidium
- Campylobacter
- E. coli 0157: h7
- Flesh Eating Strep
- WNV
- EEE
- Hantavirus
- SARS
- MERS
- Zika




The Bugs We Thought We Would Never See

A to Z



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Naegleria fowleri



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Giardia lamblia

CRYPTOSPORIDIUM

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Hafnia species

- *Hafnia alveyi* is only species
- Has been isolated from many anatomical sites in humans and the environment
- Occasionally isolated from stools
- Delayed citrate reaction is major characteristic

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V. Cholerae

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When a good bug goes bad !!

Escherichia coli

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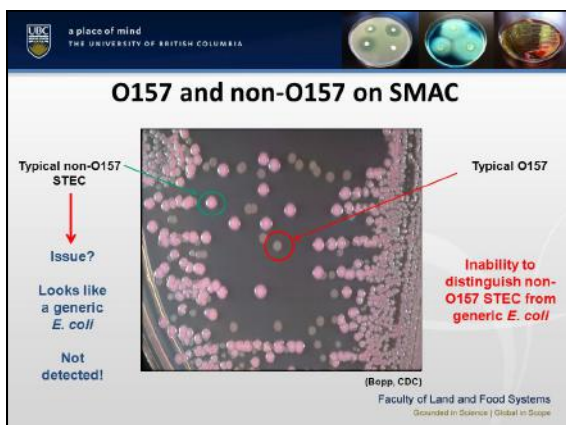
- EHEC Enterohemorrhagic
- ETEC Enterotoxigenic
- EPEC Enteropathogenic
- EAEC Enteroadherent
- EaggEC Enteroaggregative
- EIEC Enteroinvasive
- STEC Shiga Toxin

Jack in the Box



- Washington reported 602 patients with bloody diarrhea
- 477 were culture-confirmed with *E. coli* infections
- 4 children died

■ Jack in the Box reported that in the 18 months following the outbreak the company lost approximately \$160 million



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The intentional or threatened use of *microorganisms* or *biologic toxins* to kill or incapacitate people, animals or crops.

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BIOTERRORISM AGENTS

Bacillus anthracis
Yersinia pestis
Francisella tularensis
Clostridium botulinum
Smallpox
Viral Hemorrhagic fever, Ebola
etc.

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BIOTERRORISM AGENTS

Brucella species
Clostridium perfringens
Burkholderia mallei, pseudomallei
Chlamydia psittaci
Coxiella burnetii – Q fever
Ricin communis – Ricin toxin
Staphylococcal enterotoxin B
Rickettsia prowazekii – Typhus fever
Viral encephalitis – VEE, EEE, WEV
Food Safety Threats – Salmonella, EC0157:h7
Water Safety Threats – Vibrio cholerae, Cryptosporidium

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Biosafety
Biosecurity
Packaging/Shipping
Select Agent Rule
Rule In/Rule Out
New Proficiency Tests

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Money
Popsicles
Detergents
Cheap paper
Pills
Dunkin Donuts

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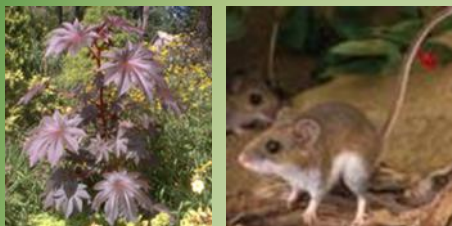


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- *Bacillus anthracis*
- *Francisella tularensis*
- *Yersinia sp.*, not *pestis*
- *Botulinum*
- *Blastomyces*
- *Varicella*
- *Salmonella*
- *SARS*
- *Cryptosporidium*
- *Toxoplasma gondii*
- *Ebola virus*
- *Vibrio cholerae*
- *Shigella*
- *Hantavirus*
- *Yersinia pestis*
- *Burkholderia*
- *Ricin*
- *CA-MRSA*
- *Baylisascaris procyonis*
- *SEB*
- *Norovirus*
- *Pollen*
- *Bacillus cereus*
- *Leishmania sp.*
- *Histoplasma capsulatum*
- *Shiga Toxin*
- *Legionella*
- *Cryptococcus gattii*

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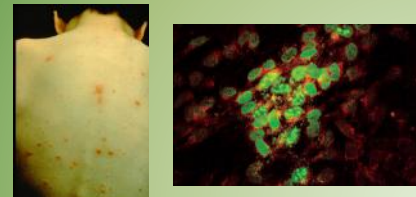
**MAINE HEALTH & ENVIRONMENTAL
TESTING LABORATORY
Sentinel Laboratory
Proficiency Test
2007 - A**



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Case History 2004-06


A 12 year-old boy is brought to the local health clinic. He had a moderate fever for a few days, and exhibited a rash. The retro pharynx is erythematous and several small papular lesions are noted on the palate. He has a faint maculopapular rash over his anterior shoulders and neck. Castle Rock Hospital, a small community hospital on the coast, is seeing an unusually large number of community members, ages 10-12 presenting with non-specific complaints—headache, backache, stuffy nose and vesicular rash on the face. The local Little League team had returned from Boston 14 days ago where they watched the RED SOX win game 7 in the World Series. The ER doctor wants to rule small pox.




Case History 2006-01


Crystal Violet joined the Peace Corps after graduating from college. She has just returned from Africa for a short visit home before going to her next assignment. She did not feel well on the flight home but attributed it to jet lag. Twenty-four hours after being home she developed symptoms of fever, fatigue, dizziness, muscle aches, loss of strength. She was admitted to your hospital and her condition progressively deteriorated. She began to bleed under her skin. She became delirious and went into a coma. She died two days later. What do you suspect the causative agent is?

Site of Peace Corps Trip



Electron Micrograph





SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. **GOWNS**

- Put the gown longer than, reach the knees, open at the neck, and wrap around the back
- Fasten at back of neck and wrist

2. **MASK OR RESPIRATOR**

- Carry the mask or respirator in the middle of the back of the neck
- Fit the mask or respirator to the face
- Fit snugly to face and head
- Fit snugly to face and head

3. **GOGGLES OR FACE SHIELD**

- Place the goggles or face shield over the eyes and nose

4. **GLOVES**

- Put the gloves over the wrist of the other glove

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Do not touch your face
- Do not touch your face
- Do not touch your face

CDC



CDC confirms: Ebola is in Texas

SEPTEMBER 30, 2014

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ZIKA VIRUS

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CLOSING REMARKS & QUESTIONS