Washington State Department of Health

Utilizing the State Lab for Everyday Community Health and Emergency Response

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Northwest Tribal Public Health Emergency Preparedness Training & Conference

June 14, 2019

Utilizing the State Lab for Everyday Community Health and Emergency Response

*Are the oysters safe from **Vibrio** to eat?*

How does Newborn Screening and blood spots protect our babies?

*Multiple people have nausea, diarrhea, and are vomiting after all visiting the casino – is this an outbreak? How do we respond?What's the **pathogen**?*

*Do the clams, mussels, oysters have **biotoxins**?*

*A bat was found at the playground while children were playing – could the bat have **rabies**?*

*A person was just seen at the clinic who might have **measles** – how do we know for sure, and know quickly to protect the community?*

Section 2: Steps of an Outbreak Investigation

Once the decision to conduct a field investigation of an acute outbreak has been made, working quickly is essential — as is getting the right answer. In other words, epidemiologists cannot afford to conduct an investigation that is "quick and dirty." They must conduct investigations that are "quick and clean."(*22*) Under such circumstances, epidemiologists find it useful to have a systematic approach to follow, such as the sequence listed in Table 6.2. This approach ensures that the investigation proceeds without missing important steps along the way.

Table 6.2 Epidemiologic Steps of an Outbreak Investigation

1. Prepare for field work
2. Establish the existence of an outbreak
3. Verify the diagnosis
4. Construct a working case definition
5. Find cases systematically and record information
6. Perform descriptive epidemiology
7. Develop hypotheses
8. Evaluate hypotheses epidemiologically
9. As necessary, reconsider, refine, and re-evaluate hypotheses
10. Compare and reconcile with laboratory and/or environmental studies
11. Implement control and prevention measures
12. Initiate or maintain surveillance
13. Communicate findings

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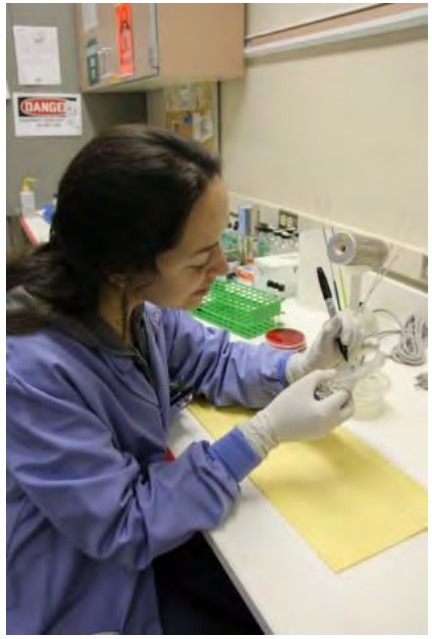
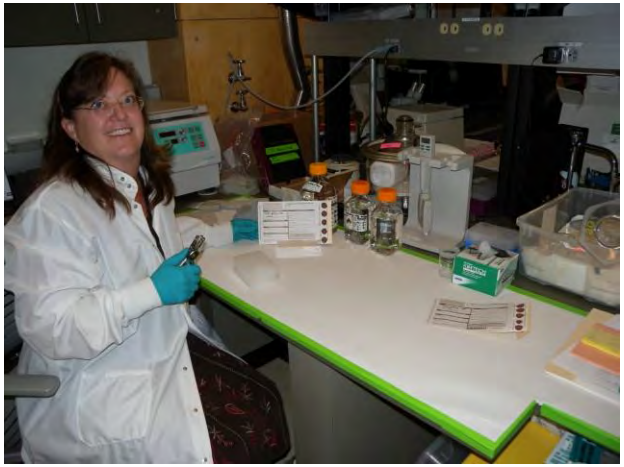
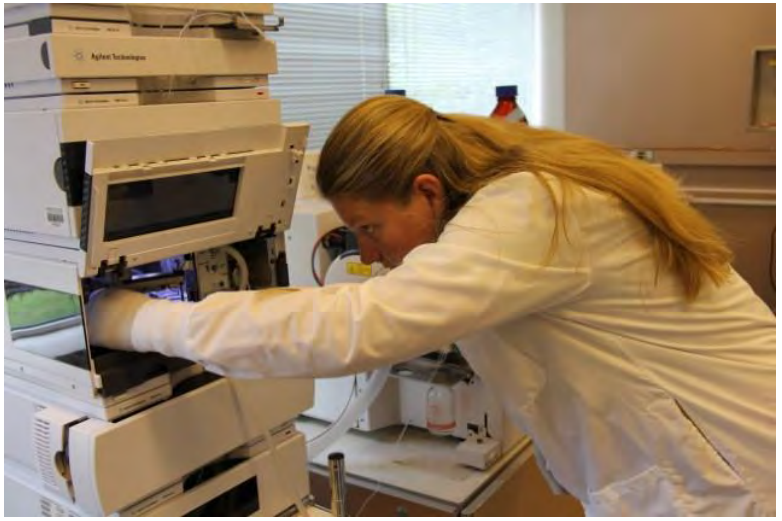
Step 2: Establish the existence of an outbreak
Step 3: Verify the diagnosis

- To make sure appropriate response and control measures.
- To confirm lab testing (rule out lab error or misdiagnosis).
- To determine the common source and spread of outbreak using molecular testing (connect geographically far apart cases).

Utilizing the State Lab for Everyday Community Health and Emergency Response







In the next 30 minutes….

- Overview of Washington State Public Health Laboratories.
- Video highlights of laboratory science and services.
  - Newborn Screening for rare, life-threatening but treatable diseases.
  - Testing oysters for bacteria *Vibrio.*
  - Testing clinical specimens for measles.
  - Testing shellfish for biotoxins.
  - Testing radioactive chemicals.
  - Testing bats for rabies.
  - Testing for potential bioterrorism agents.
- Resources at Washington State Public Health Laboratories.

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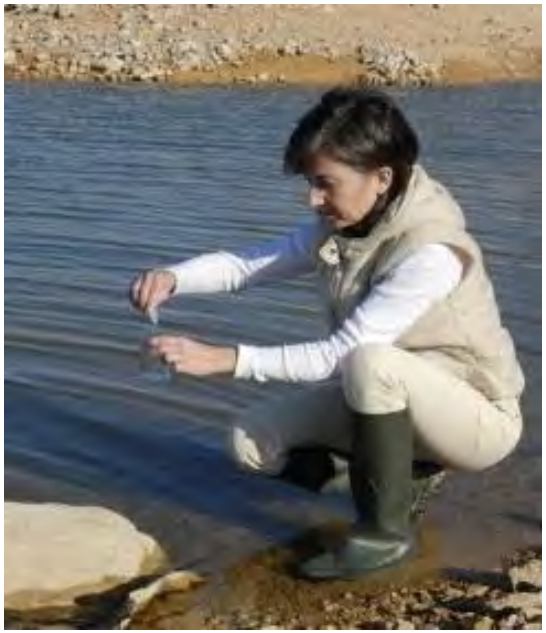
December 27, 2006
Created with ArcGIS 9.1
craig.erickson@doh.wa.gov

Washington Public Health Laboratories



Environmental Sciences

Microbiology

Newborn Screening

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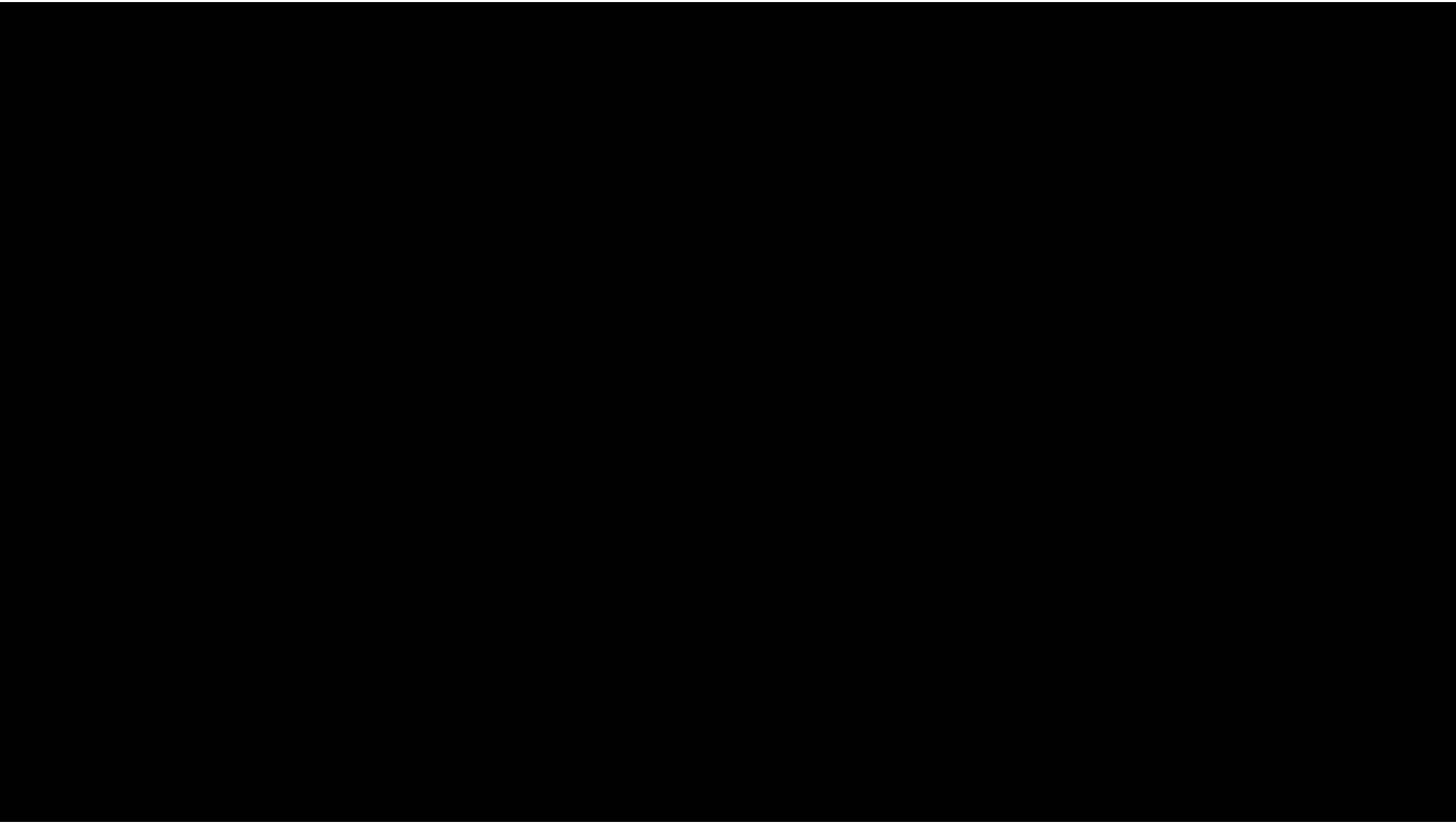
Newborn Screening

28 *treatable* rare but serious health disorders screened at Washington state lab.

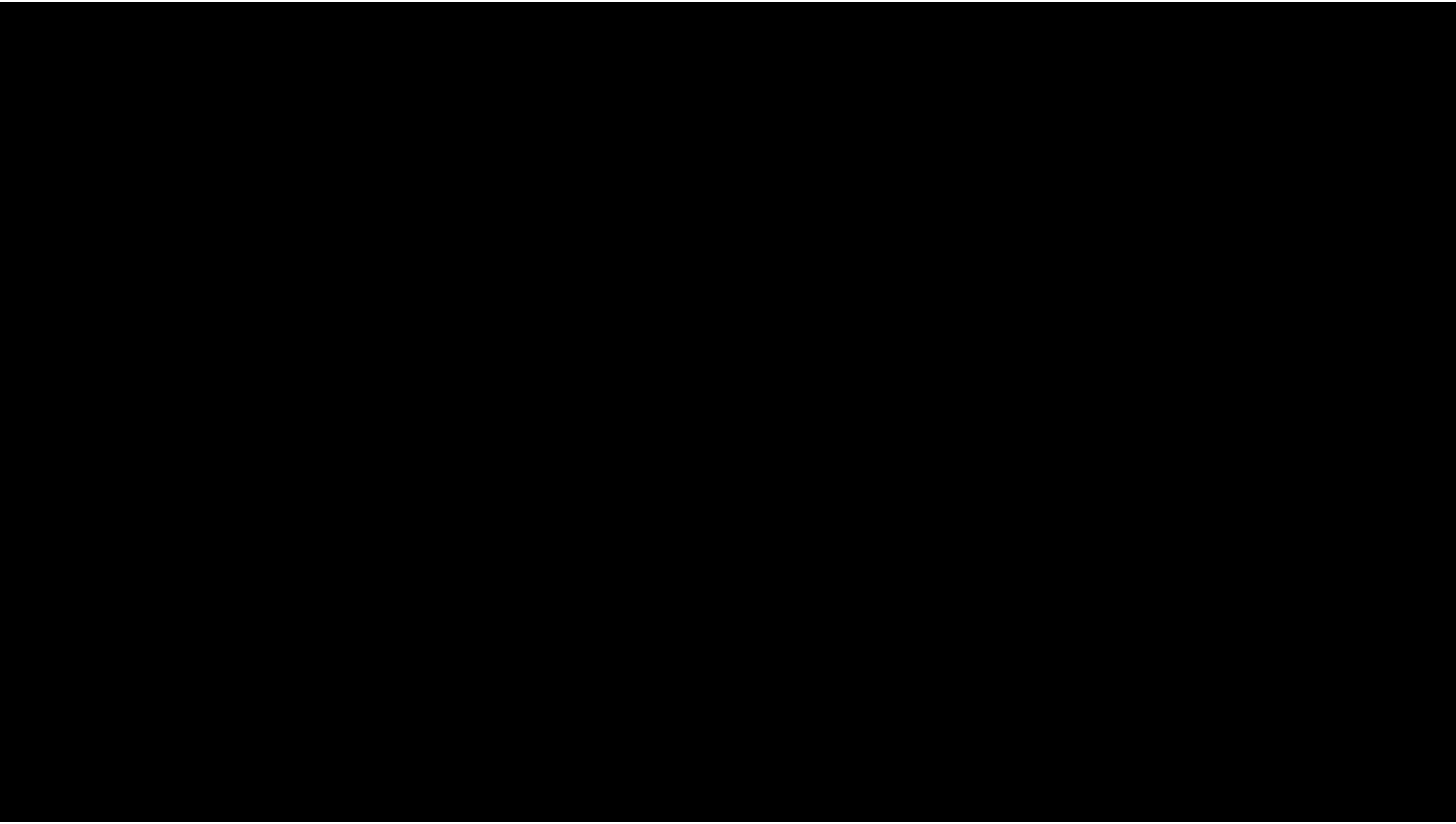
Amino Acid Disorders	Organic Acid Disorders
Argininosuccinic acidemia (ASA)	3-hydroxy-3-methylglutaric aciduria (HMG)
Citrullinemia (CIT)	Beta-ketothiolase deficiency (BKT)
Homocystinuria (HCY)	Glutaric acidemia type I (GA-1)
Maple syrup urine disease (MSUD)	Isovaleric acidemia (IVA)
Phenylketonuria (PKU)	Methylmalonic acidemias (CBIA, B, and MUT)
Tyrosinemia type 1 (TYR)	Multiple carboxylase deficiency (MCD)
	Propionic acidemia (PROP)
Fatty Acid Disorders	**Other Disorders**
Carnitine uptake deficiency (CUD)	Biotinidase deficiency (BIO)
Long-chain L-3-hydroxy acyl-CoA dehydrogenase deficiency (LCHAD)	Congenital adrenal hyperplasia (CAH)
Medium-chain acyl-CoA dehydrogenase deficiency (MCAD)	Congenital hypothyroidism (CH)
Trifunctional protein deficiency (TFP)	Cystic fibrosis (CF)
Very-long chain acyl-CoA dehydrogenasedeficiency (VLCHAD)	Galactosemia (GALT)
	Sickle cell diseases and Hemoglobinopathies (HGB)
	Severe combined immunodeficiency (SCID)
	X-linked adrenoleukodystrophy (X-ALD)

Video for Newborn Screening Program

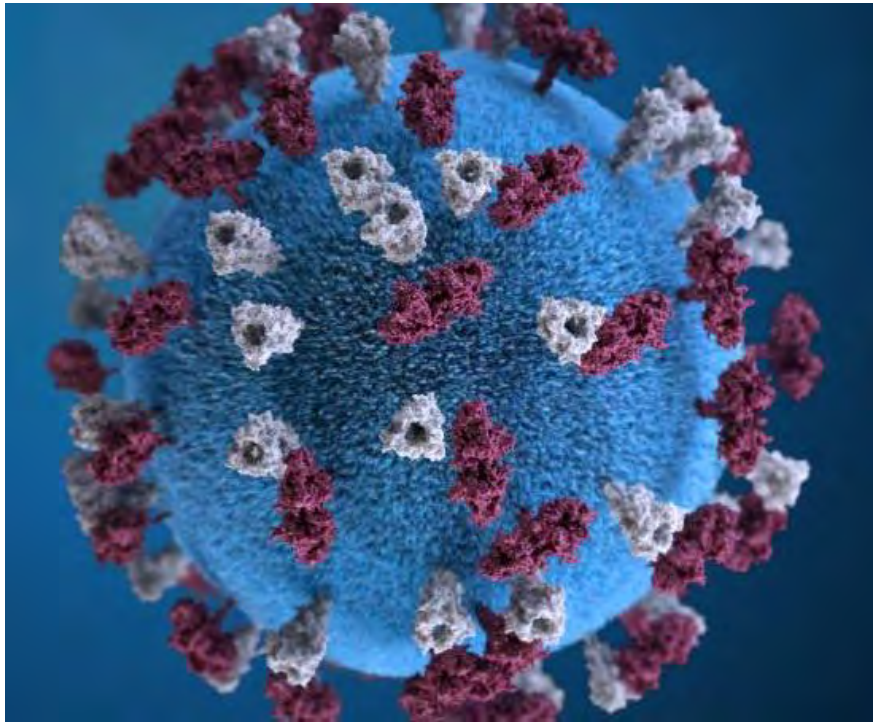


Testing for *Vibrio* bacteria

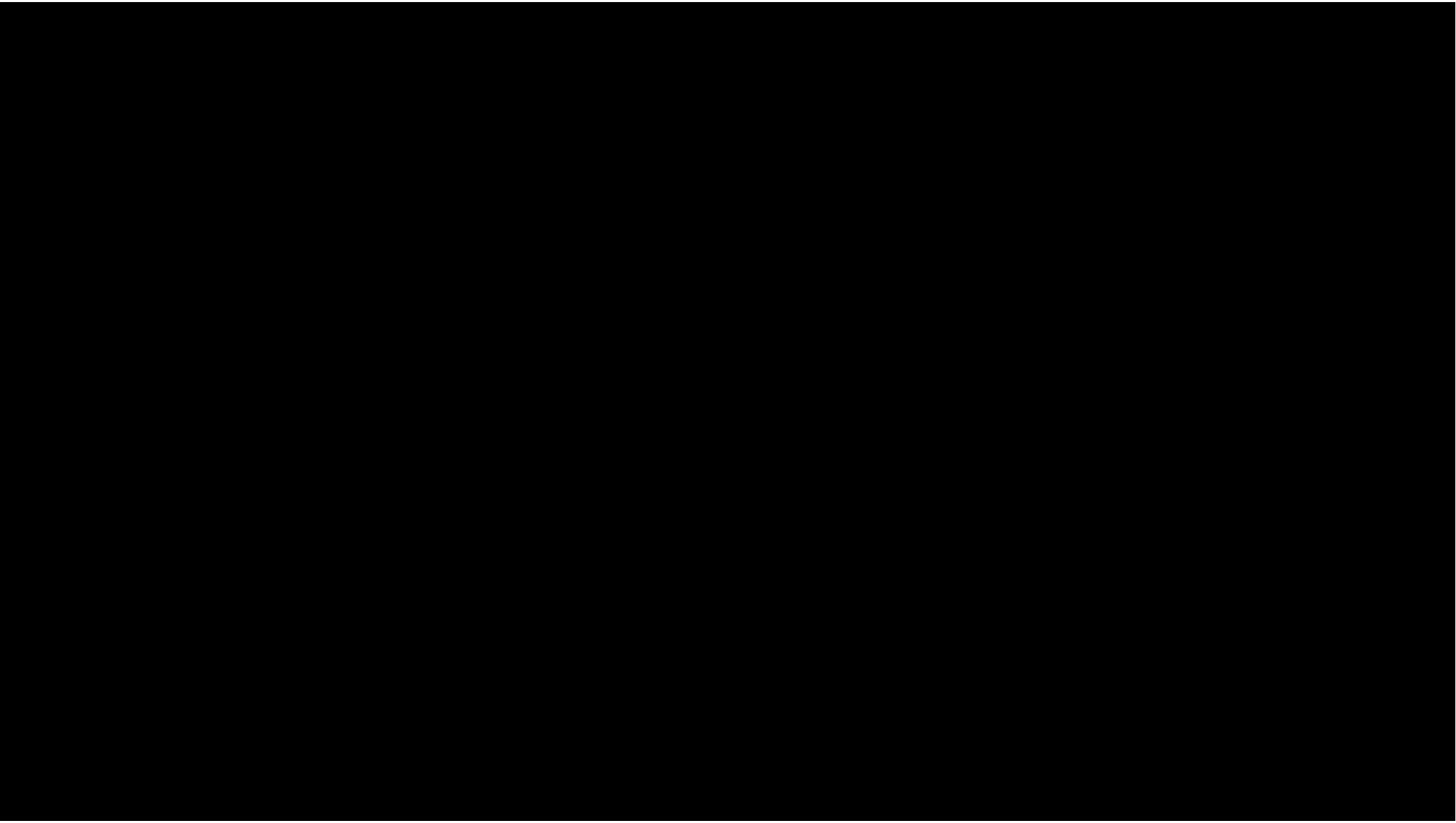
Video for *Vibrio* Testing



Testing for Measles Virus

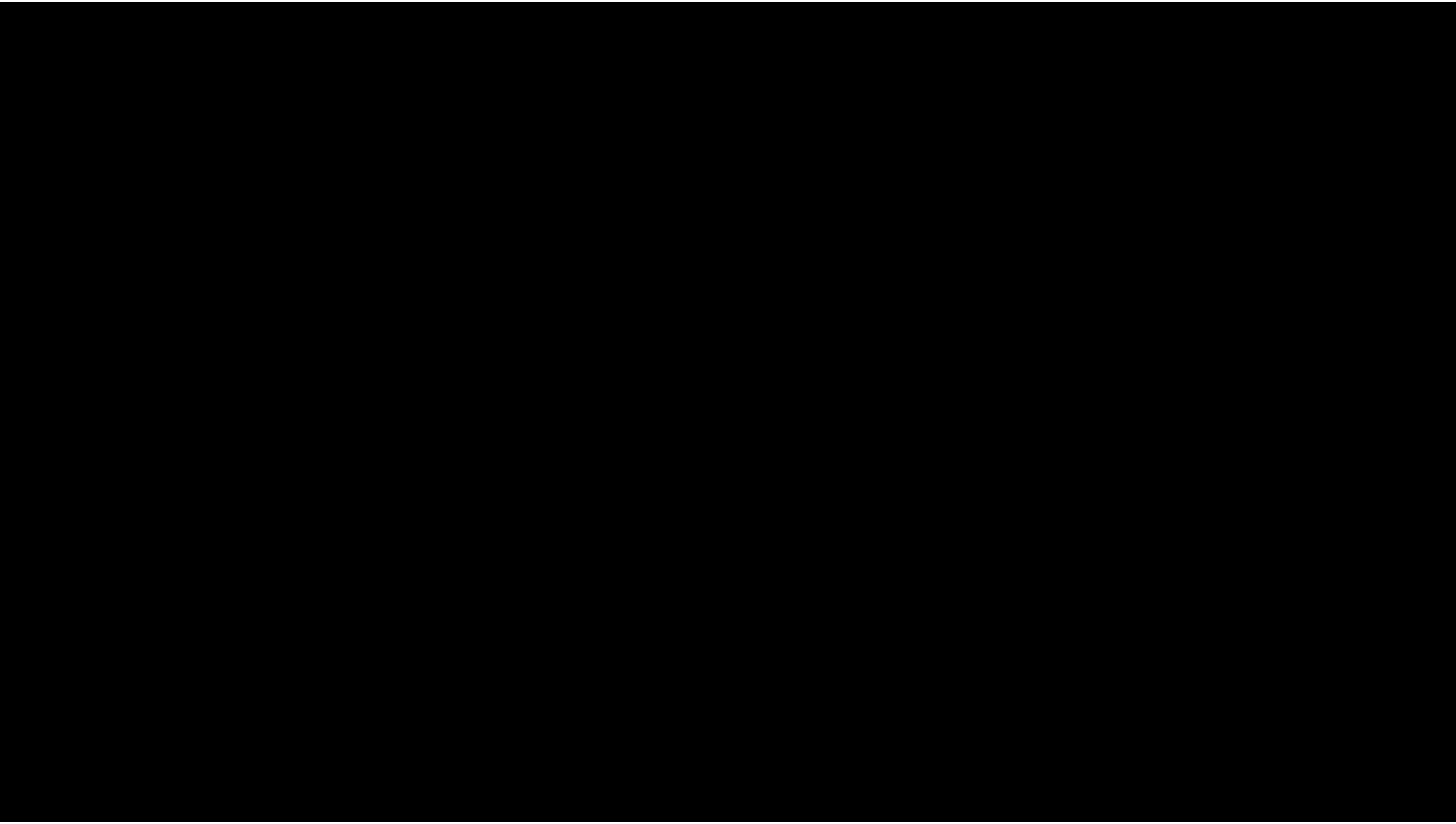


Video for Measles Testing

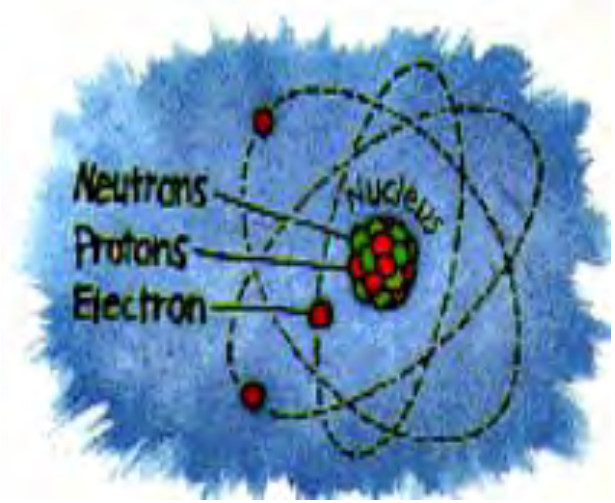


Testing for Biotoxins

Video for Marine Biotoxins in Shellfish Testing



Testing for Radioactive Chemicals



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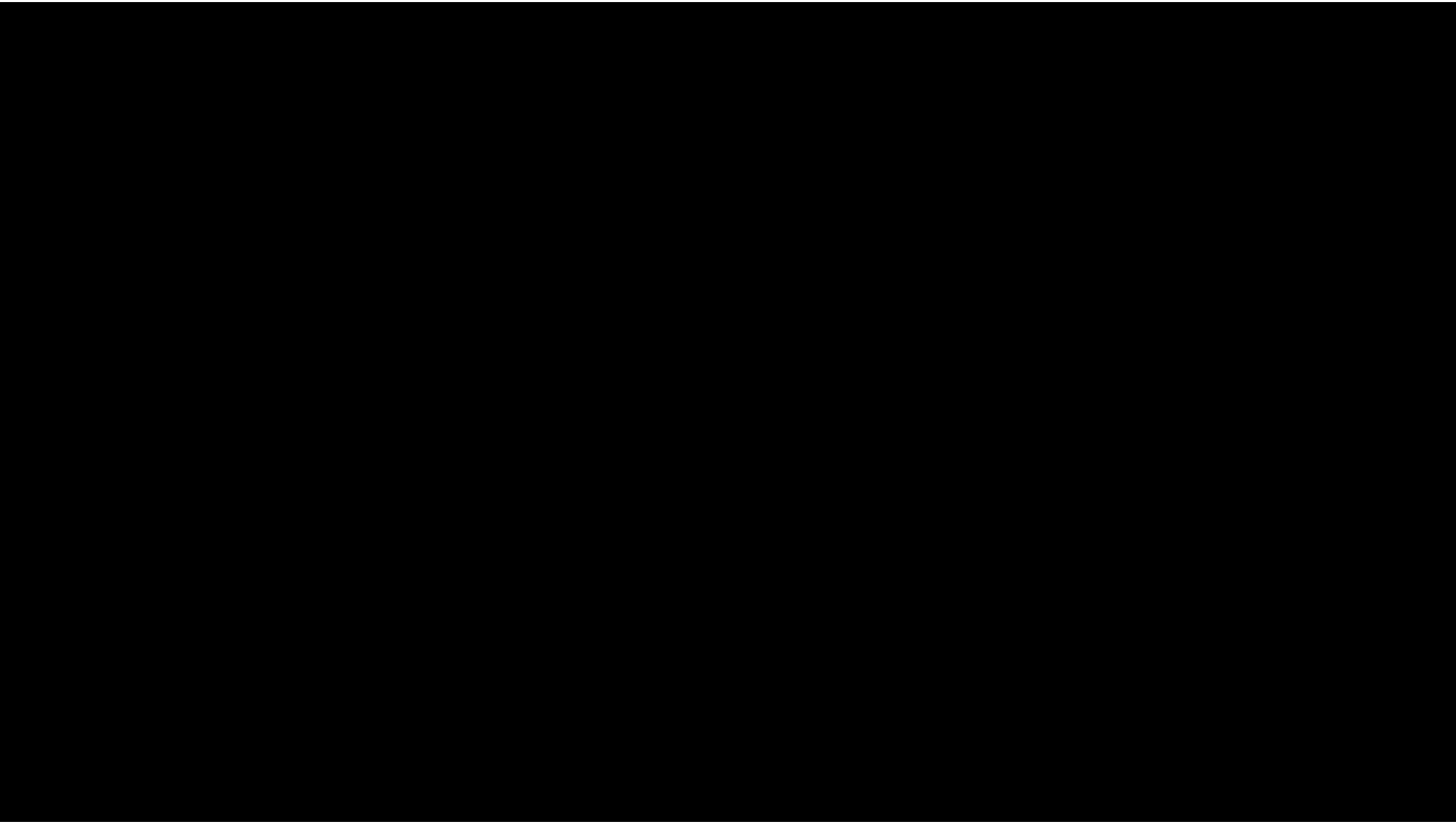
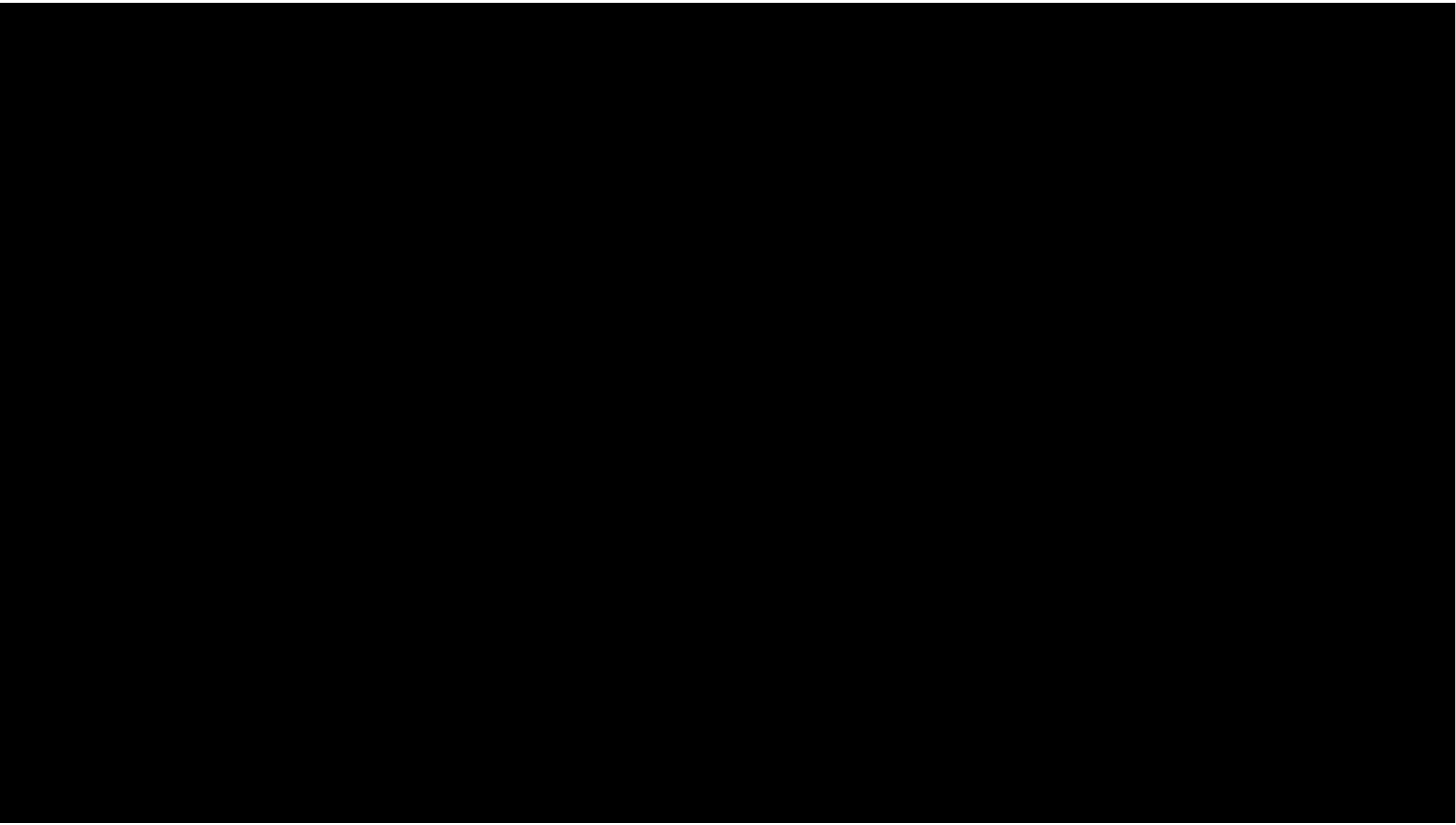
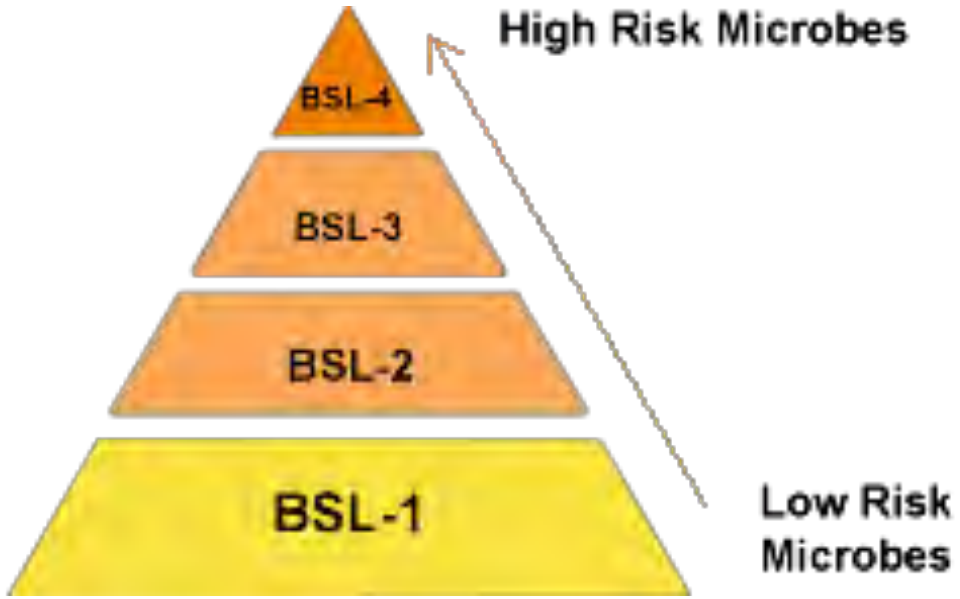


Testing for Rabies Virus

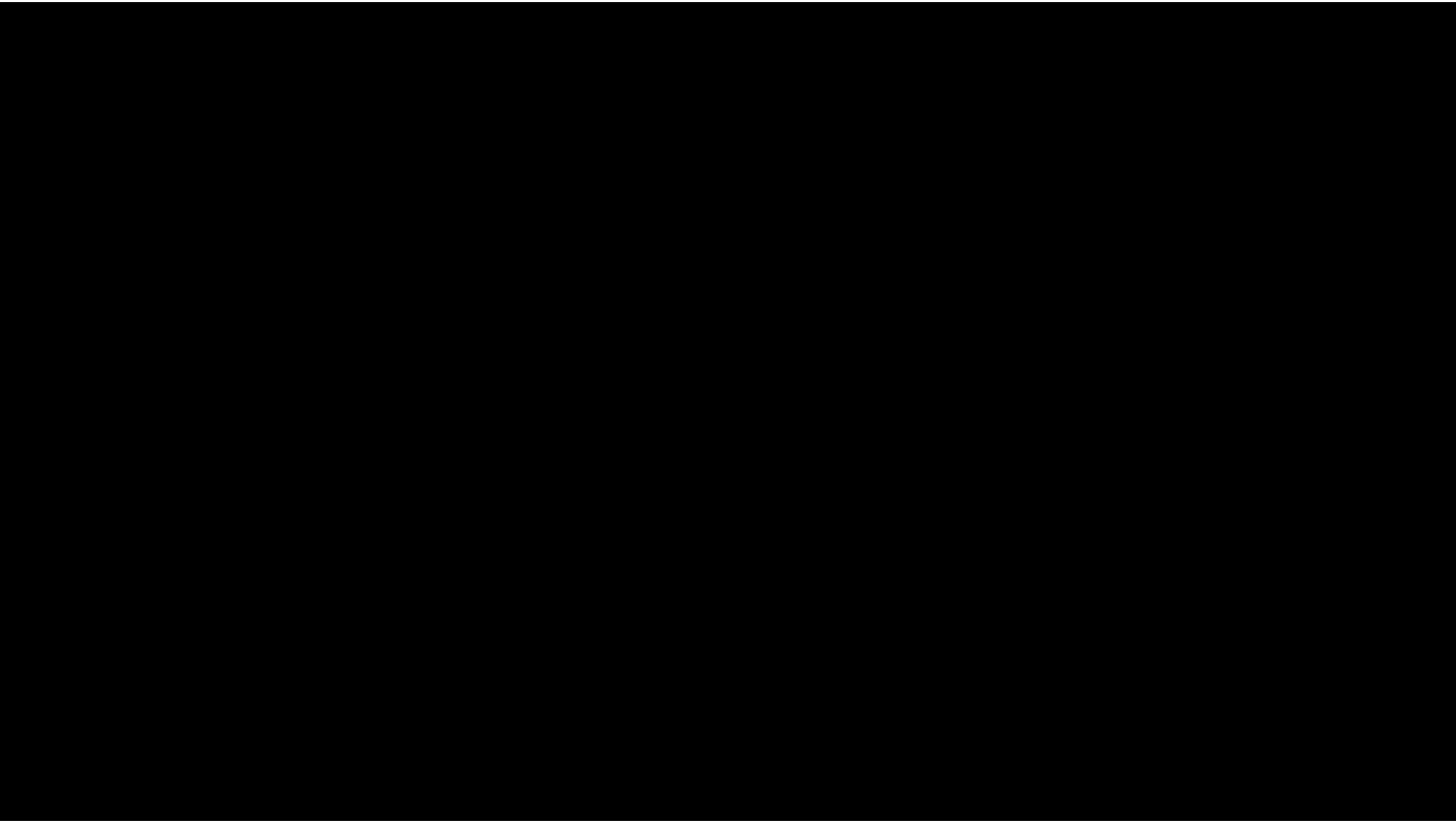
Video for Rabies Testing



Testing for Potential Bioterrorism Agents



Video for Potential Bioterrorism Agents Testing



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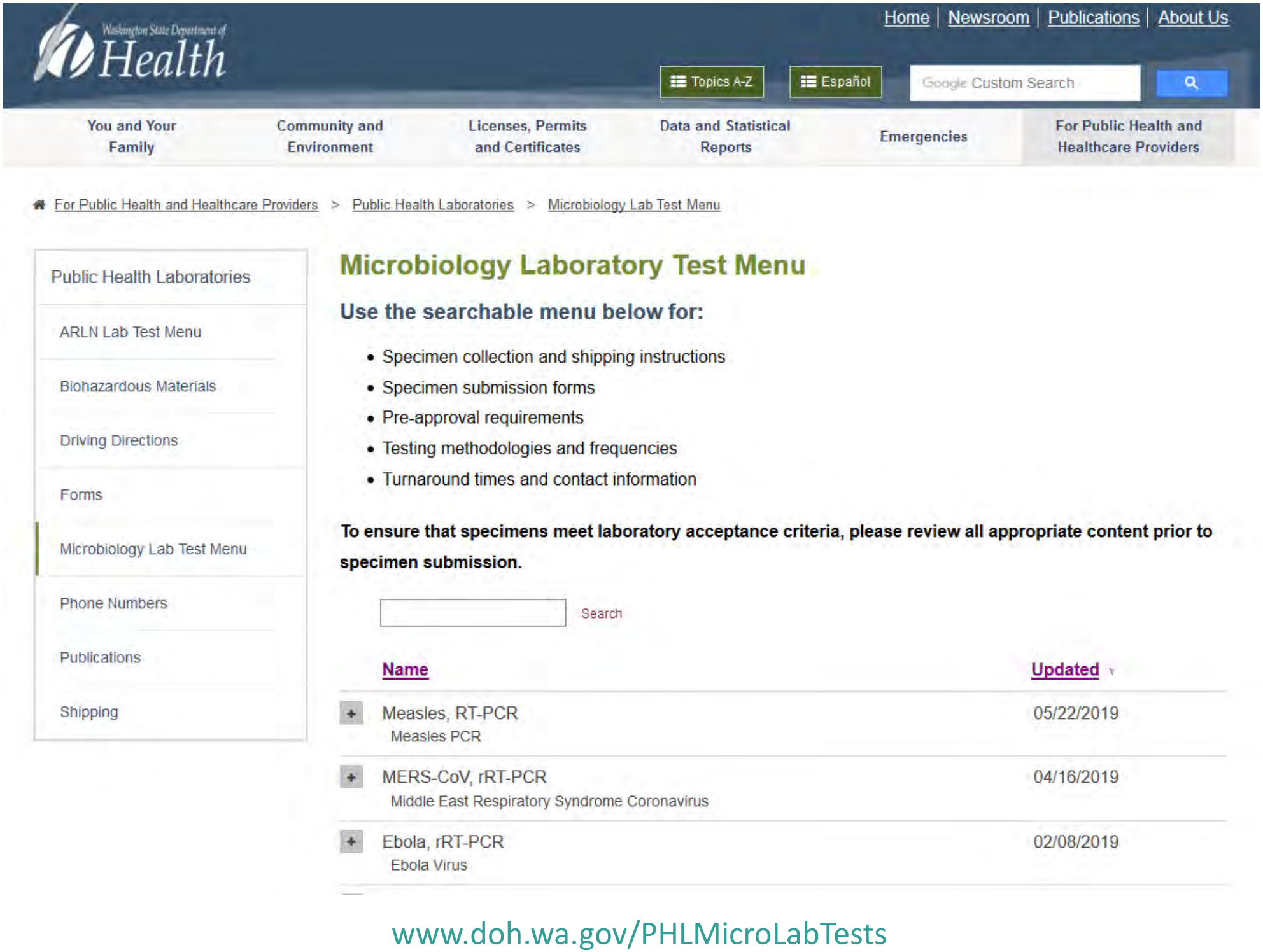


www.doh.wa.gov/PHLMicroLabTests

Washington State Department of Health
DOH 301-020

Specimen Collection and Submission Instructions
Measles, RT-PCR (Version 3)

Specimen Type	Collection Time	Collection Frequency	Collection Procedures	Transport Media	Shipping & Handling (S&H)**
Nasopharyn-geal Swab (NP)*	At illness. For optimal isolation, collect within 72 hours of symptom onset.	NA	• Collect only using synthetic tip swabs (ex. Dacron, Nylon, Polyester) with non-wooden shaft. • Immediately after collection, place swab directly in 2-3 ml of Viral Transport Media (VTM). • **Minimum volume**: 2 ml of VTM.	VTM	• **Transport device**: Sterile leak-proof container. • **Rejection Criteria**: Not transported in VTM. Swab on wooden shaft. • **Transport**: Ship cold (2 - 8°C) on ice packs to arrive at WAPHL during business hours **within** 72 hrs of collection. Otherwise or if previously frozen, ship on dry ice. Ship as Category B. • **Storage**: Refrigerate. If arriving at WAPHL after 72 hrs of collection, or if testing will not be completed within 72hrs, freeze at ≤ -70°C.
Oropharyngeal Swab					
Dual NP/THR					
Nasal Wash					
Culture Isolate			Isolate from culture.		
Urine+	Collect ≤ 10 days post symptom onset.		• Collect in sterile screw capped specimen container. • **Minimum volume**: 20 ml of urine (50ml preferred).	NA	• **Transport device**: Sterile leak-proof container. • **Rejection Criteria**: Insufficient specimen volume. Leaky specimen. • **Transport**: Ship cold (2 - 8°C) on ice packs to arrive at WAPHL during business hours **within** 72 hrs of collection. Otherwise or if previously frozen, ship on dry ice. Ship as Category B. • **Storage**: Refrigerate. If arriving at WAPHL after 72 hrs of collection, freeze at ≤ -70°C.

*Preferred specimen type, if applicable. +Nasopharyngeal swabs will be prioritized for testing during times of high specimen volume. Urine specimens will be tested if no NP swab is submitted. **All specimens must be shipped meeting IATA, OSHA, and USPS requirements. NA: Not Applicable

Washington State Department of Health
Public Health Laboratories

State of Washington
Department of Health
PUBLIC HEALTH LABORATORIES
1610 N.E. 150th Street
Shoreline, Washington 98155-9701
Phone: (206) 418-5400
Fax: (206) 364-0072
MTS #1327 CLIA #50D0661453

SEROLOGY/VIROLOGY/HIV

FOR PHL USE ONLY

Lab Number

Date/Time Received

Please Print Clearly

PATIENT

NAME (LAST)

(FIRST) (MI)

ADDRESS

CITY STATE ZIP CODE

MALE ○ FEMALE ○ DATE OF BIRTH MO DAY YEAR COUNTY

CHART OR PATIENT ID # SUBMITTER'S SPECIMEN #

PHYSICIAN PHYSICIAN'S PHONE # ( ) -

SUBMITTER

NAME OF PERSON COMPLETING THIS FORM PHONE # ( ) -

REPORT RESULTS TO:

FACILITY NAME:

ADDRESS:

ZIP CODE COUNTY

AREA CODE & PHONE # ( ) - FAX # ( ) -

MEN INFORMATION

ATTENTION: (See Instructions on Reverse Side of Form)

○ SYPHILIS SEROLOGY ○ VIRUS ○ HIV

SPECIFIC AGENT SUSPECTED/ TEST REQUESTED:

DATE COLLECTED MO DAY YEAR TIME OF DAY ___ : ___ ○ AM ○ PM

DATE OF ONSET MO DAY YEAR TIME OF DAY ___ : ___ ○ AM ○ PM

DATE SENT TO STATE MO DAY YEAR FATAL? ○ YES ○ NO

TYPE OF SPECIMEN

○ SERUM/BLOOD ○ CSF ○ NP/THR
○ BUCCAL ○ URINE ○ OTHER (SPECIFY) _____

VIRUS EXAMINATIONS

Chief Clinical Findings (check system involved and list chief symptoms)

○ Respiratory _____
○ Central Nervous System _____
○ Cutaneous Eruptions - Locations & Type _____
○ Other _____

Optimally, collect isolation specimen within 3 days of onset. Submit each specimen as soon as collected. Keep at refrigerator temperatures. 24-hour delivery is preferred.

SYPHILIS SEROLOGY

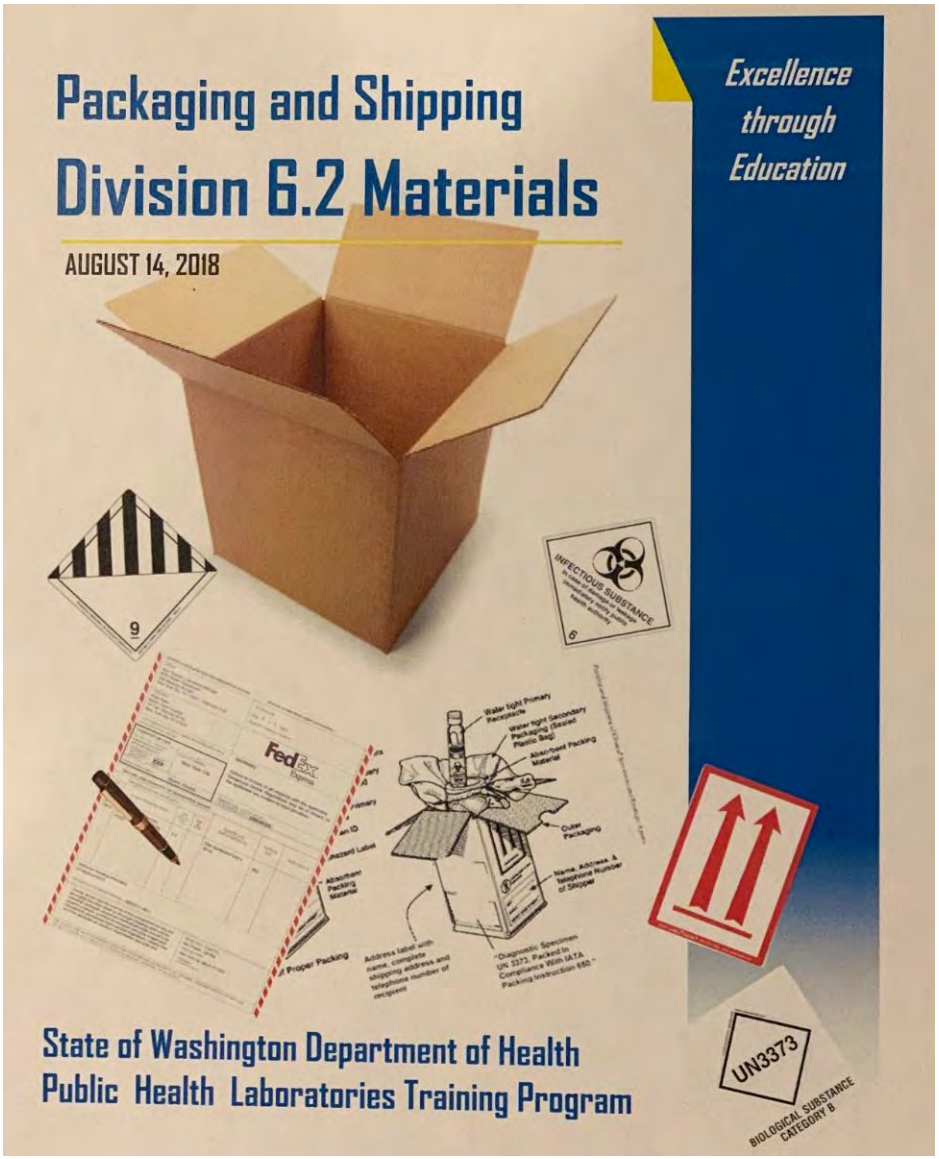
○ **Diagnostic: [Syphilis Status Unknown; EIA Screen, if reactive, RPR to confirm; reflexive TP-PA performed on EIA reactive/RPR non-reactive]**

○ **Reference: [Reactive syphilis specimens submitted to PHL for confirmatory**

Tribal Tour at Public Health Lab, 2018

Urban Indian Health Institute – AI/AN Public Health Internship Program

Properly Packaging and *Safely* Shipping Specimens to State Laboratory for Testing



Thank you and

Safe travels home

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@WADeptHealth

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