

# Update from the California Department of Public Health's Occupational Health Branch

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*California Industrial Hygiene Council*  
December 3, 2014 – San Diego



# Overview

- Intro to the Occupational Health Branch
- New authority under Senate Bill 193
- Highlights of 2014 projects – by hazard type
  - Chemical
  - Physical
  - Ergonomic
  - Biological
- How you can stay in touch & use our resources

# Who's in the audience?



# Workplace hazards

- Chemical
- Physical
- Ergonomic
- Biological



## Occupational Health Branch

Hazard Evaluation  
System &  
Information  
Service (HESIS)

Occupational  
Health  
Surveillance &  
Evaluation  
Program

Occupational  
Lead Poisoning  
Prevention  
Program

California  
Safe Cosmetics  
Program



# Promoting safe & healthy workplaces



# OHB values

- Utilize & contribute to the science
- Collaborate across disciplines
- Mentor future occupational health workforce
- Partner with others





SB 193: New authority to facilitate  
“early warning” on chemical hazards

# What was the need?

- Rapid warning can limit exposure
- MSDSs often deficient
- No systems exist that identify where a chemical is in use
- Voluntary requests not complied with



# New authority for HESIS-OHB

effective January 1, 2016

New info on a chemical prompts a Hazard Alert

CDPH & DIR confer on use of authority

CA customer lists must be provided to HESIS on request

- Chemical used in workplaces
- Poses serious new or unrecognized health hazard

- Exempt from disclosure except to gov't agencies

# Significant chemical policy success

- First state law of its kind
- Took 12 years from 1<sup>st</sup> identification of need
- Appreciation to Senator Monning, supporters & Governor Brown
- In 2015, we will be promoting awareness & considering candidate chemicals
- Your ideas are welcome

# Chemical hazards

# New isocyanates fact sheet

## Isocyanates: Working Safely

**Isocyanates are chemicals used in many products, including polyurethane foams and automotive paint.** Exposure to isocyanates at work can cause asthma. Occupational asthma has overtaken asbestosis as the leading cause of new work-related lung disease. Employers can make product selections and encourage work practices that minimize isocyanate exposure. Cal/OSHA regulations mandate that workers be protected.

### Do you work with isocyanates?

*You probably do if you...*

- Paint at an auto body shop
- Apply spray polyurethane foam (SPF) for insulation or on roofs
- Apply spray-on truck bed linings or industrial coatings
- Apply orthopedic casts
- Make packaging using expanding foam
- Make polyurethane cushioning
- Weld polyurethane materials
- Make polyurethane molds, or
- Paint airplanes.

### Isocyanates can make you sick.

*Do you have any of these symptoms?*

- Wheezing
- Chest tightness
- Cough
- Shortness of breath
- Skin rash or irritation



Worker applying spray-on polyurethane truck bed liner. Source: Wikimedia / Creative Commons



*This Isocyanate Factsheet is an Information Alert from HESIS.*

**HAZARD EVALUATION SYSTEM & INFORMATION SERVICE**  
California Department of Public Health, Occupational Health Branch  
850 Marina Bay Parkway, Building F 3rd Floor, Richmond, CA 94804  
510-620-5757 • [www.cdph.ca.gov/programs/ohb](http://www.cdph.ca.gov/programs/ohb)

MAY 2014

California Department of Public Health • California Department of Industrial Relations





# Updated NMP health advisory

- Earlier version ID'd NMP hazards & uses
  - Reproductive harm in animals
  - Skin absorption
- Now Cal/OSHA has PEL of 1 ppm 8 hr-TWA, with skin notation

## N-Methylpyrrolidone (NMP)

**N-Methylpyrrolidone (NMP) harms the developing fetus when tested in pregnant animals. It is toxic to the reproductive system of male and female test animals. The reproductive effects of NMP have not been studied in humans. Based on the animal tests, you should treat NMP as a potential human reproductive hazard. Overexposure to NMP irritates the eyes, skin, nose, and throat. It can also affect the central nervous system or brain causing symptoms of drunkenness similar to the effects of drinking alcohol. NMP is easily absorbed through the skin. It is widely used to replace methylene chloride and other chlorinated solvents that harm the environment and health. HESIS revised this Health Hazard Advisory to inform workers and employers that Cal/OSHA has adopted a Permissible Exposure Limit for this substance.**

**Health Hazard Advisory**

### Products and processes that use NMP

NMP is a solvent (a liquid that dissolves solids). It is used for many different purposes.


**NMP is used in:**

- Painting (solvent), stripping or removing paint
- Removing graffiti
- Semiconductor manufacturing
- Silk-screen printing
- Construction adhesives and solvents
- Laboratory reagents
- Pharmaceutical solvents
- Polymer materials manufacturing
- Petrochemical solvents for extractions
- Insecticide, fungicide, and herbicide products.

### How NMP enters your body

NMP enters your body when it touches your skin, and when you breathe its vapors or droplets of spray in the air.

Your risk of health effects depends on the amount of NMP that enters your body. That depends mainly on the amount (the concentration) of NMP you breathe, how much touches your skin, and how long you are exposed to NMP.



Paint and paint strippers may contain NMP.

**HEALTH HAZARD ADVISORY**  
**HESIS**  
HAZARD EVALUATION SYSTEM & INFORMATION SERVICE  
California Department of Public Health  
Occupational Health Branch  
850 Marina Bay Parkway, Building P, 3rd Floor, Richmond, CA 94804  
510-620-5757 • [www.cdph.ca.gov/programs/hesis](http://www.cdph.ca.gov/programs/hesis)

JUNE 2014 California Department of Public Health • California Department of Industrial Relations

# Promoting safer alternatives



Please Post

## Paint Stripping Products: Safer, Less Toxic Choices

Paint strippers containing methylene chloride are extremely toxic.



Chemical Stripper Type	Hazard	Precautions
<p><b>Preferred:</b></p> <ul style="list-style-type: none"> <li>Benzyl alcohol</li> <li>Soy-based</li> <li>Dibasic esters</li> </ul>	Eye, nose, throat, & lung Irritation Skin irritation	Chemical goggles Gloves <i>Asthmatics should not use these products</i>
<p><b>Use with Caution:</b></p> <ul style="list-style-type: none"> <li>Sodium hydroxide</li> <li>Magnesium hydroxide</li> <li>Calcium hydroxide</li> </ul>	Eye injuries Chemical burns	Chemical goggles and face shield Apron Gloves: • Caustic-resistant
<p><b>Extreme Caution:</b></p> <ul style="list-style-type: none"> <li>N-Methyl pyrrolidone (NMP)*</li> </ul>	Reproductive harm	Chemical goggles Gloves: • Ethylene-vinyl alcohol laminate Respirator: • Organic vapor cartridge
<p><b>Not recommended:</b></p> <ul style="list-style-type: none"> <li>Methylene chloride</li> <li>Toluene*</li> <li>Methanol*</li> </ul>	Neurological effects Heart attacks Death	Chemical Goggles Gloves: • Ethylene-vinyl alcohol laminate Ventilation: • Mechanical Respirator: • Supplied-air if used indoors

### Minimum Personal Protective Equipment Required for Paint Stripping

Refer to the Safety Data Sheet (or SDS) for information on composition of the chemical stripper and protective equipment needed

In enclosed areas, use of volatile solvents such as methylene chloride produces very high exposures, which may result in death. The California Department of Public Health, Occupational Health Branch, recommends minimizing exposures to chemicals that cause cancer and reproductive effects. See: [www.cdph.ca.gov/3300PaintSafety](http://www.cdph.ca.gov/3300PaintSafety) for a description of paint stripping products and their potential health hazards.

Paint Stripper Type	Gloves*		Eye Protection	Respirator*
	Less durable/Less expensive	More durable/More expensive		
Benzyl Alcohol	Laminate of EVOH/PE (i.e. SilverShield®/AH by North)	or Nitrile	Indirectly vented or unvented chemical goggles and face shield	For typical exposures by brush, generally no respirator is needed. If semi-enclosed or if occupational exposures could cause any concerns, use full face NIOSH-certified respirator with organic vapor cartridge or half mask with two cartridges and dust/acid protection.
Caustics	Laminate of EVOH and PE (i.e. SilverShield®/AH by North)	or neoprene, or Nitrile	Indirectly vented or unvented chemical goggles and face shield	If spray-applied, use full face NIOSH-certified respirator with dust filters or half mask with eye protection.
N-Methyl-2-Pyrrolidone (NMP)	Laminate of EVOH and PE (i.e. SilverShield®/AH by North)	or Butyl Rubber	Indirectly vented chemical goggles	NIOSH-certified respirator with organic vapor (OV) cartridge. If spray-applied, use OV cartridge with dust/mist protection.
Methylene Chloride-based	Laminate of EVOH and PE (i.e. SilverShield®/AH by North)	or Polyvinyl Alcohol (PVA)	Indirectly vented chemical goggles unless full-face respirator worn.	Supplied-air (airline) respirator



# Now testing & promoting safer alternatives



# New lead warning signs & labels





# Tracking work-related asthma

Two types:

- New onset asthma caused by exposures at work, and
- Existing asthma made worse by exposures at work



# Asthma related to cleaning products

**20%**



1 in 5  
worked as  
a cleaner.

**80%**



4 of 5 of workers did not clean but were around  
during cleaning or after cleaning just happened.

**50%**

Half had new asthma that started after they began work.  
On-the-job exposures likely caused their asthma.

# Cleaning for Asthma-Safer Schools (CLASS)

- To help schools transition to cleaning products free of asthma-causing chemicals
- 3<sup>rd</sup>-party certified safer alternatives are available
- Using safer products protects custodians, staff & students



# Asthma from disinfectant, floor stripper





# Healthy Cleaning & Asthma-Safer Schools Guide and Video

Released November 2014



[cdph.ca.gov/programs/ohsep/Pages/ClassGuide.aspx](http://cdph.ca.gov/programs/ohsep/Pages/ClassGuide.aspx)

# Physical hazards



# California FACE program

- Fatality Assessment and Control Evaluation, in NIOSH & 9 states
- Track & investigate work-related fatalities (primarily in Los Angeles County)
- Develop prevention recommendations
- Laura Styles & team create “digital stories”



# Palm tree trimmer crushed by fronds



# FACE Investigation Report

## Hispanic Male Tree Trimmer

# Digital Story

## Roberto Garcia



### Incident description

Fronds started to collapse around him, pressing him against the tree trunk.



### Preferred climbing technique

Thread an approved climbing line through the block and haul the block into the canopy, above the skirt of dead fronds.






# YouTube Channel: @CAPublicHealth

 **CAPublicHealth** @CAPublicHealth · Apr 28

VIDEO: A palm tree trimmer's tragic death and how to avoid similar incidents  
[bit.ly/face-palmtree](https://bit.ly/face-palmtree)

 YouTube



# Preventing falls in construction: Digital stories + tailgate training materials



## FALL RESTRAINT OR FALL ARREST SYSTEMS

4A  
SKYLIGHT  
VIDEO

### Introduction:

#### Why are we talking about fall restraint or arrest systems?

- ✓ Today, we will start the tailgate training by showing a video about a Joe. Joe was a roofer and foreman, and he died when he fell through a skylight. After the video we will talk about why Joe fell. While the video is about working around skylights, we will talk about our own fall hazards on this jobsite and how we can prevent them by using personal fall protection equipment.
- ✓ Falls are the leading cause of construction worker injury and death.
- ✓ Falls are not only deadly but can cause serious injuries that result in many days off work or long-term disabilities.

**Show Video:** CDPH/FACE: Preventing Falls through Skylights (5-6 min)

### QUESTIONS TO ASK THE CREW AFTER SHOWING THE VIDEO:

1. In the video, the crew is working close to a skylight without protection. How often do you see this?
2. While Joe may not have been paying attention, what are the main reasons he fell through the skylight?
3. Have you or someone you know ever had a serious fall? Can you tell us about it?

#### Let's talk about fall restraint or fall arrest systems on this jobsite:

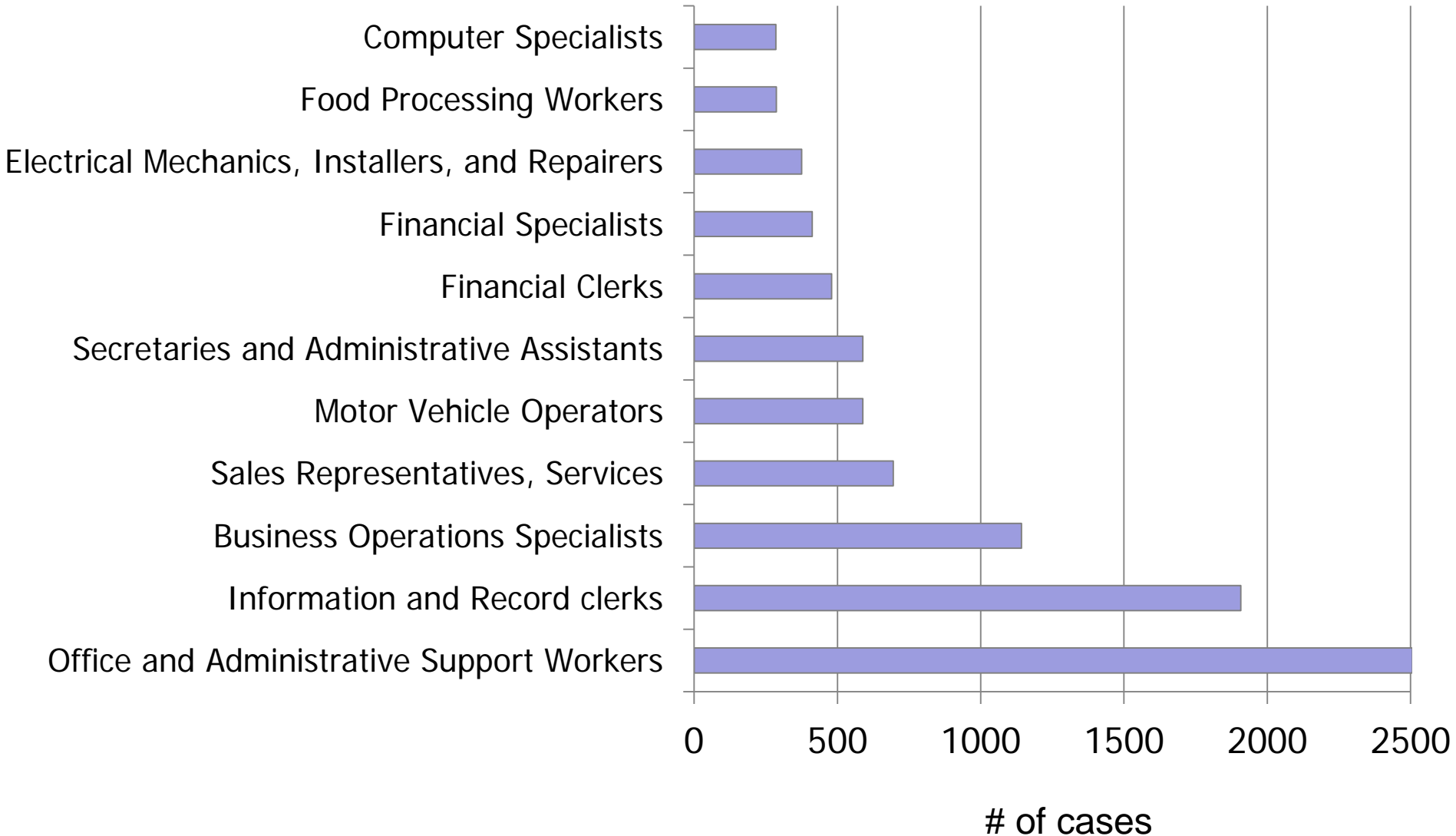
4. What's the difference between a fall restraint and a fall arrest system?
5. What's our company's fall protection rescue plan? What's not a rescue plan?
6. Have a worker demonstrate putting on and wearing the fall protection gear. Have the crew ask questions and provide suggestions while this is happening.

# Ergonomic hazards

# Industries with highest rates of CTS, California, 2006-2011

Rank	Industry Description	# Cases	Rate x 100,000 FTE
1	Textile and fabric finishing and coating mills	54	393
2	Animal slaughtering and processing	396	342
3	Sugar and confectionery products	148	326
4	Telecommunications	2674	325
5	Navigational and control instruments manufacturing	588	280
6	Public administration	4752	268
7	Insurance carriers and related activities	3632	262
8	Aluminum production and processing	67	252
9	Bus service and urban transit	808	238
10	Miscellaneous petroleum and coal products	27	234

# Prevalent occupations among the 10 industries with the highest CTS rates, California, 2006 - 2011

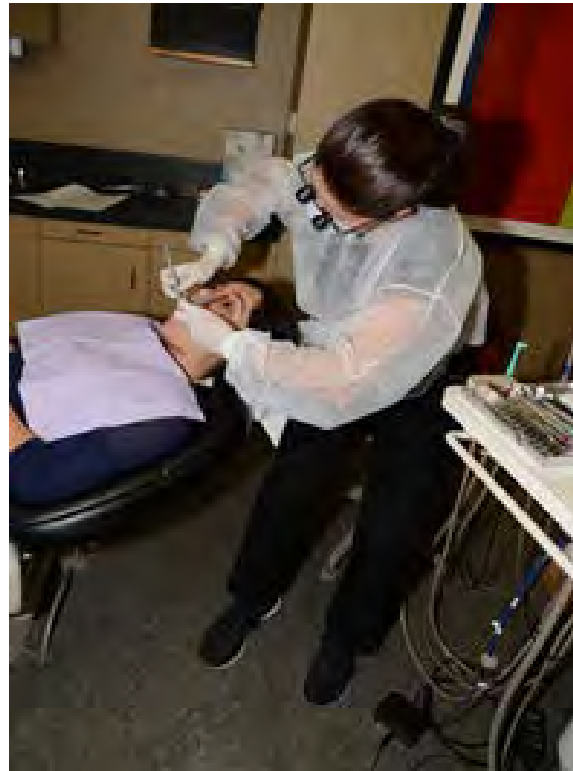
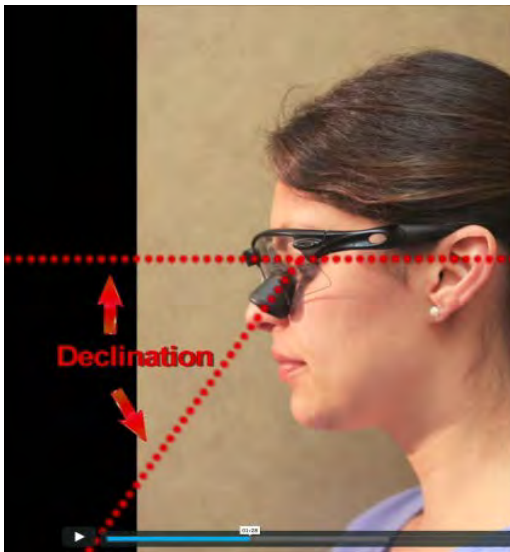




# Dental hygiene & ergonomics

- Dental hygienists at high risk for carpal tunnel syndrome
- Research shows effective solutions exist

*Loupes*



**NO!**

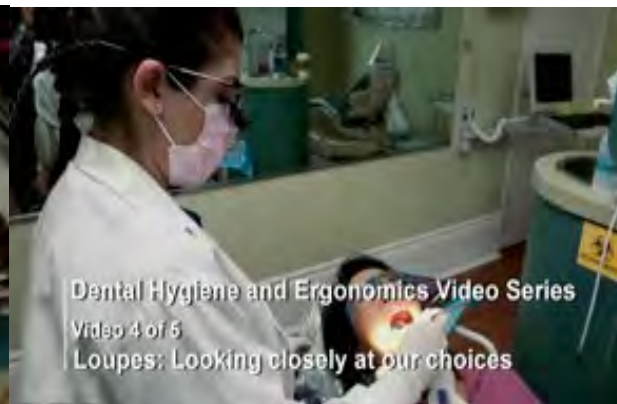
*Better positioning*



**YES!**



# Dental Hygiene and Ergonomics Video Series: Pain Is **NOT** in the Job Description



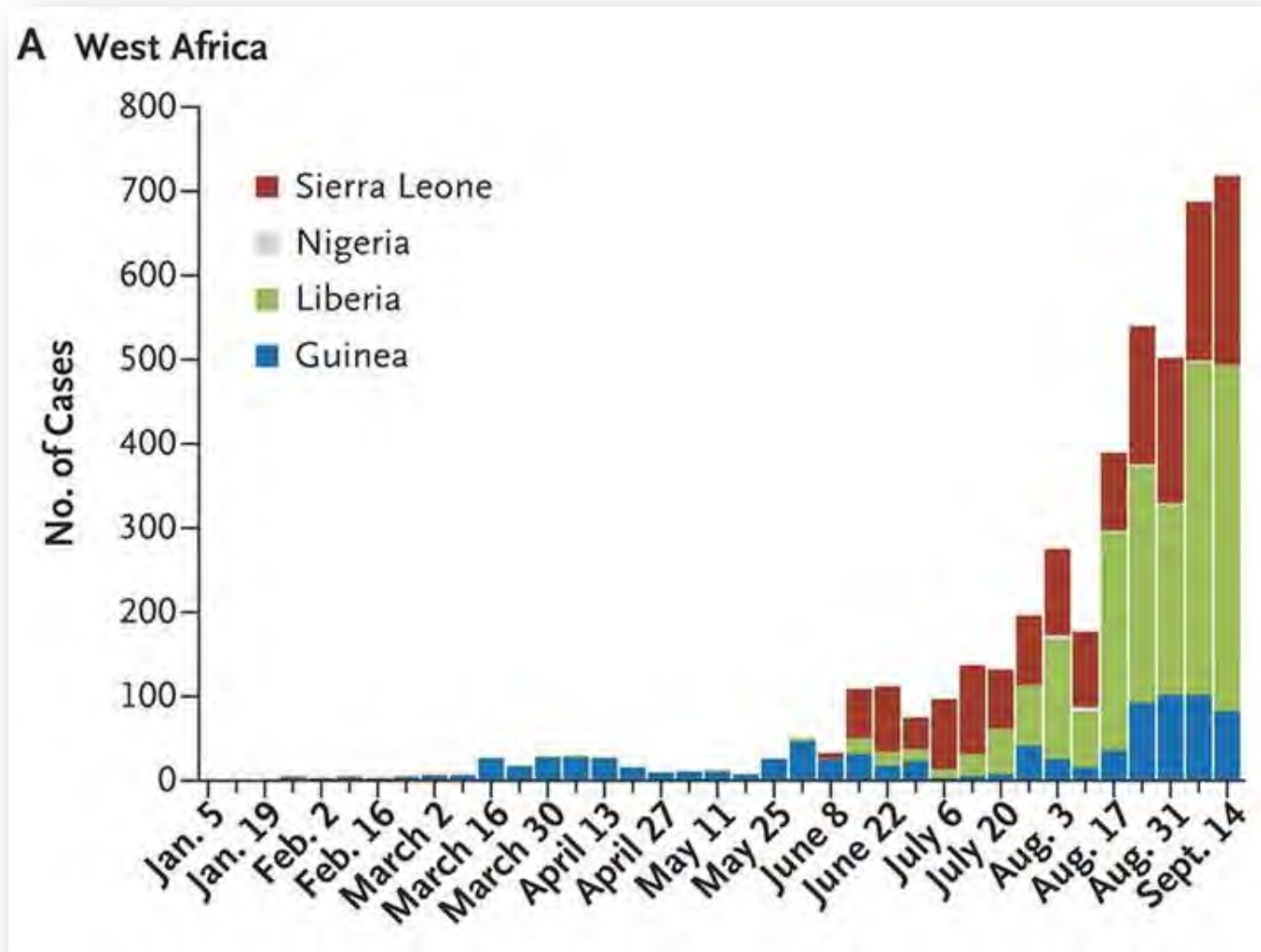
# Biological hazards

# Ebola Virus Disease, 2014



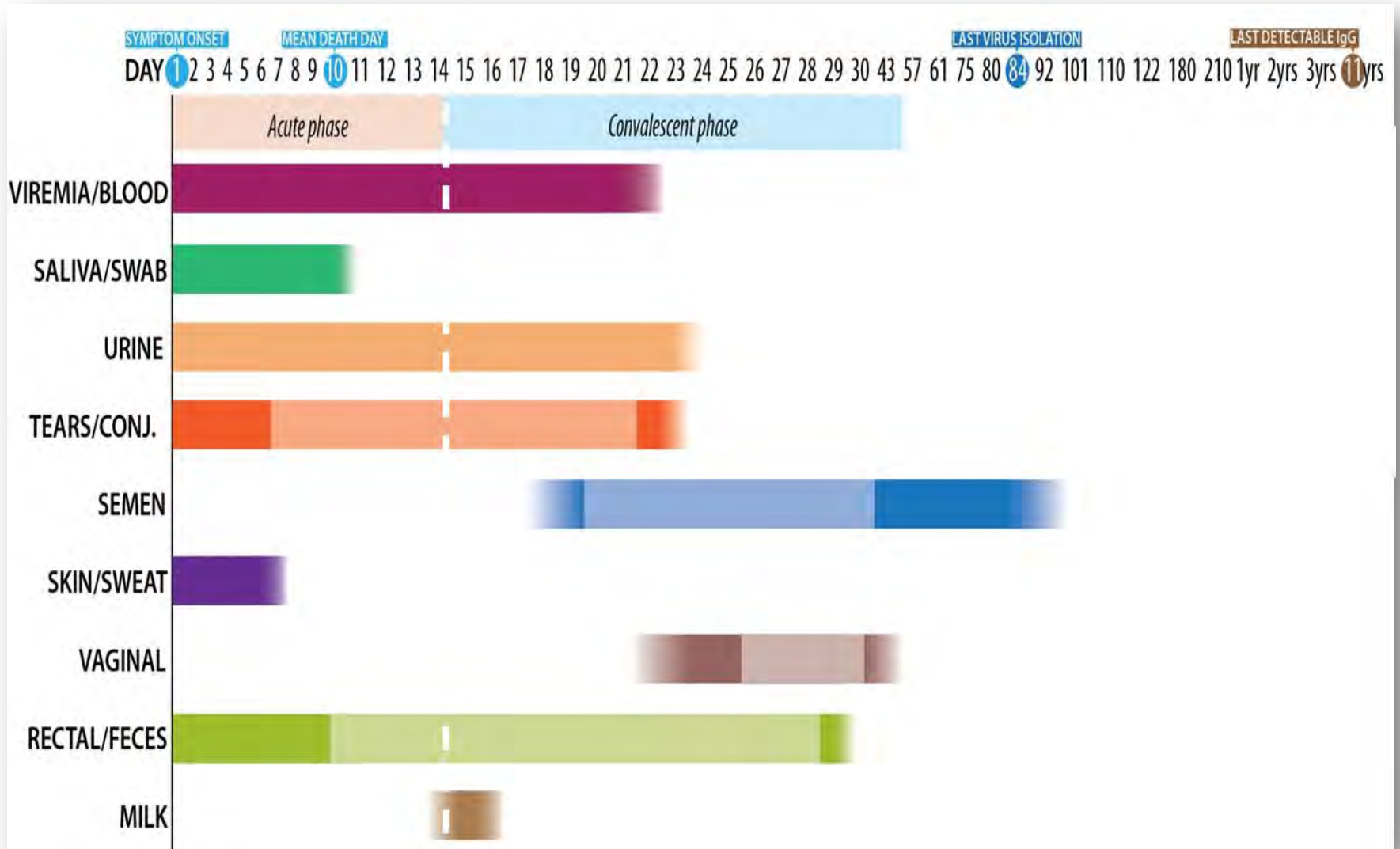


# 2014 Ebola Outbreak, West Africa



WHO Ebola Response Team. *N Engl J Med* 2014. DOI: 10.1056/NEJMoa1411100  
<http://www.nejm.org/doi/full/10.1056/NEJMoa1411100?query=featured Ebola#t=articleResults>

# Detection of Ebola virus in different human body fluids over time



# Worker protection in Africa: Lacking sufficient resources, there is a wide range.

SET EDITION: U.S. | INTERNATIONAL | MÉXICO | ARABIC  
TV: CNN | CNNI | CNN en Español | HLN

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## Two Liberian medical workers discharged after recovering from Ebola

By **Nima Elbagir** and **Joshua Berlinger**, CNN  
updated 5:16 PM EDT, Sat August 30, 2014



GOVERNMENT / GETTY IMAGES / JIM COOPER

A health worker wearing a protective suit conducts an Ebola prevention drill at the port in Monrovia on Friday, August 29. Health officials say the current Ebola outbreak in West Africa is the deadliest ever.

**Ebola outbreak in Africa** HIDE CAPTION

<< < 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 > >>



# U.S. experience with Ebola

Starts August 2, 2014



**BREAKING NEWS**

**EBOLA-INFECTED DOCTOR ARRIVES IN ATLANTA**

**CNN**



# Role of public health agencies

- Provide basic information & guidance
  - Ebola websites: CDPH, CDC, NIOSH, Cal/OSHA
- Monitor travelers returning from affected countries; advise on risk, isolation
  - Done at local level, coordinated with CDPH & CDC
- Promote preparedness in hospital & pre-hospital settings

# CDPH & Cal/OSHA collaboration

- CDPH recommends **airborne infection isolation** for hospitalized suspected/confirmed Ebola patients
  - Aerosol-generating procedures/events unpredictable
  - Single location for full spectrum of care is best
- Triggers Ebola protections for “airborne infectious disease” under **Aerosol Transmissible Diseases Std.** \*
  - Screening for cases, source control & isolation
  - Powered air-purifying respirators for aerosol-generating procedures; minimum N95 FFP respirator

# Ca/OSHA: PPE for Ebola inpatient setting

Based on bloodborne pathogens, ATD & PPE standards\*

- Impermeable full-body covering (coverall)
- Head & neck protection (impermeable hood)
- 2+ pairs gloves w/extended cuffs
- PAPR with full cowl/hood in patient room
- Fluid-protective boot/shoe & leg coverings
- If NO risk of aerosol generating event:  
surgical N95 respirator + face shield



\*See Nov 14 guidance @ [www.dir.ca.gov/dosh/EbolaVirusInformation.htm](http://www.dir.ca.gov/dosh/EbolaVirusInformation.htm)

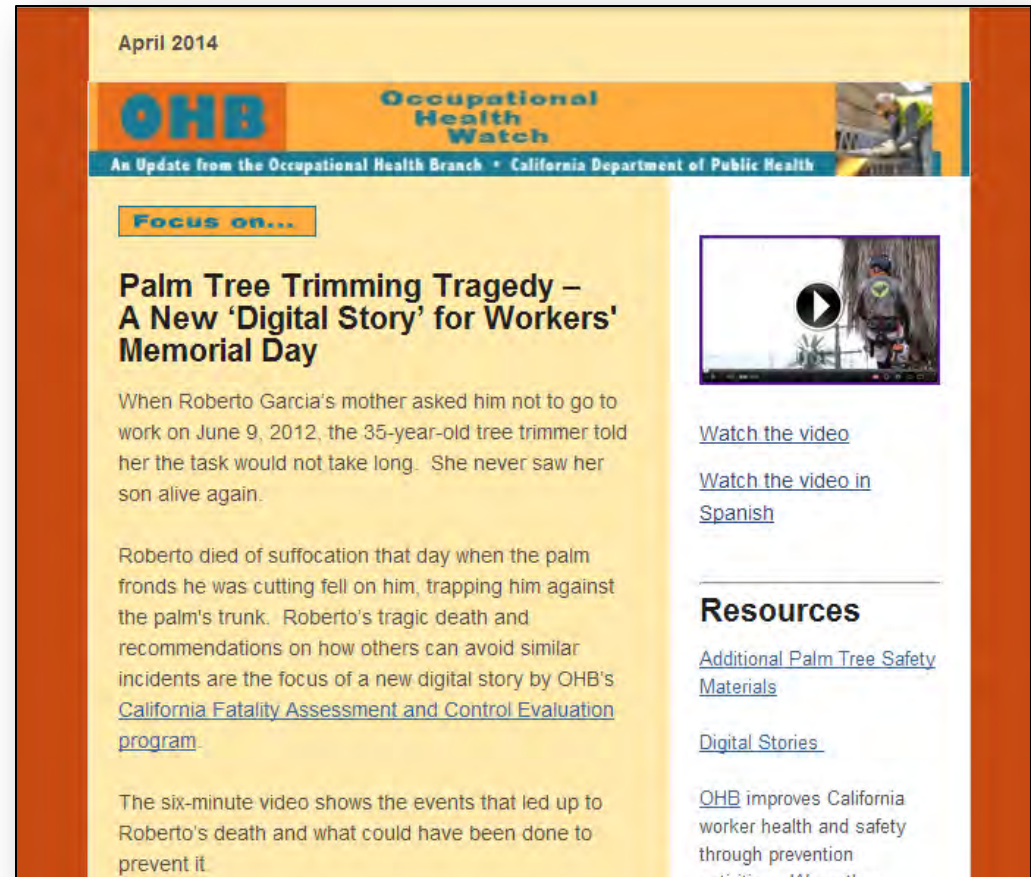
# Stay in touch with OHB

E-newsletter:

*Occupational Health  
Watch*

Subscribe:

[OHW@cdph.ca.gov](mailto:OHW@cdph.ca.gov)



April 2014

**OHB** Occupational Health Watch  
An Update from the Occupational Health Branch • California Department of Public Health


**Focus on...**

### Palm Tree Trimming Tragedy – A New ‘Digital Story’ for Workers’ Memorial Day

When Roberto Garcia’s mother asked him not to go to work on June 9, 2012, the 35-year-old tree trimmer told her the task would not take long. She never saw her son alive again.

Roberto died of suffocation that day when the palm fronds he was cutting fell on him, trapping him against the palm’s trunk. Roberto’s tragic death and recommendations on how others can avoid similar incidents are the focus of a new digital story by OHB’s [California Fatality Assessment and Control Evaluation program](#).

The six-minute video shows the events that led up to Roberto’s death and what could have been done to prevent it.



[Watch the video](#)

[Watch the video in Spanish](#)

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### Resources

[Additional Palm Tree Safety Materials](#)

[Digital Stories](#)

[OHB](#) improves California worker health and safety through prevention activities. [More info](#)

# Use our resources & services

- OHB website: [www.cdph.ca.gov/programs/OHB](http://www.cdph.ca.gov/programs/OHB)
- Workplace hazard helpline:  
1-866-282-5516 (toll-free in CA)
- Invite us to speak at your events



# Share your ideas

- What are the occupational health issues you think OHB should be working on?
- Which underappreciated chemical hazards are you most concerned about?
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