I, **Yvette O. Nonato, MD**, hereby declare that the content for this activity, including any presentation of therapeutic options, is well-balanced, unbiased, and to the extent possible, evidence-based.

I have no financial relationships with commercial entities producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients relevant to the content I am planning, developing, presenting, or evaluating.
Conflict of Interest Disclosure
State of California

“References in this presentation to any specific commercial products, or the use of any firm or corporation name is for informational purposes only, and does not constitute endorsement, disparagement, or recommendation by the State of California, or their employees or agents.”

What is a pesticide?
PESTICIDE

(a) Any spray adjuvant.
(b) any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest as defined in Section 12754.5, which may infest or be detrimental to vegetation, man, animals, households, or be present in any agricultural or nonagricultural environment whatsoever.

Food and Agricultural Code (FAC) § 12753
3 CCR 6.000

What is a pest?
PEST means any of the following that is, or is liable to become, dangerous or detrimental to the agricultural or nonagricultural environment of the state:

(a) Any insect, predatory animal, rodent, nematode, or weed.
(b) Any form of terrestrial, aquatic, or aerial plant or animal, virus, fungus, bacteria, or other microorganism (except viruses, fungi, bacteria, or other microorganisms on or in living man or other living animals).
(c) Any insect that the director, by regulation, declares to be a pest.

Food and Agricultural Code (FAC) § 12754.5

Are these pesticides?
Health and Safety Code § 105200

- Any physician and surgeon
  - reasonable cause to believe,
  - patient is suffering from pesticide poisoning, or any disease, or condition

- Shall promptly report to the local health officer within 24 hours

- Failure to comply- civil penalty ($$)

Title 17 CCR

- § 2500(b) Duty of every health care provider, knowing of or in attendance on a case or suspected case, to report to the local health officer

- § 2500(c) The administrator shall be responsible for procedures to assure that reports are made to the local officer

- § 2800-2812 Pesticide-related illness or injury (known or suspected cases)**

** Failure to report is a citable
Medical Supervision Program (cholinesterase level monitoring)

**Title 3 CCR § 6728**
- Category I and II Organophosphate and Carbamate Pesticides
- Medical Supervisor (MS) and the Guidelines for Physicians
- Baseline, Periodic Monitoring ChE level depressions (80%, 70% and 60%)

**HSC § 105206**
- Agricultural Employers
- Contract with a Medical Supervisor (MS)
- Monitoring of the cholinesterase levels of workers
- Submission of ChE test results to DPR by reporting laboratories
- MS-Registered with OEHHA

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**Guidelines for Physicians**

- MS must be aware of the contents of the Guidelines for Physicians (GFP)
- MS must know the actions required for each level of ChE depression: 80%, 70% and 60%
Organophosphate and Carbamate Pesticides

<table>
<thead>
<tr>
<th>ORGANOPHOSPHATE</th>
<th>CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bensulide</td>
<td>II, III</td>
</tr>
<tr>
<td>Chlorpyrifos</td>
<td>II, III</td>
</tr>
<tr>
<td>Diazinon</td>
<td>II, III</td>
</tr>
<tr>
<td>Dichlorvos/DDVP</td>
<td>I</td>
</tr>
<tr>
<td>Dimethoate</td>
<td>II, III</td>
</tr>
<tr>
<td>Ethephon</td>
<td>I, III</td>
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<tr>
<td>Ethoprop</td>
<td>I</td>
</tr>
<tr>
<td>Malathion</td>
<td>II, III</td>
</tr>
<tr>
<td>Naled</td>
<td>I</td>
</tr>
<tr>
<td>S,S,S-Tributyl Phosphorothioate</td>
<td></td>
</tr>
<tr>
<td>Temephos</td>
<td>II, III</td>
</tr>
<tr>
<td>Tribufos</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARBAMATE</th>
<th>CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Iodo-2-Propynyl Butyl Carbamate</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Chlorpropham</td>
<td>I, III</td>
</tr>
<tr>
<td>EPTC</td>
<td>II, III</td>
</tr>
<tr>
<td>Formanitate HCl</td>
<td>I</td>
</tr>
<tr>
<td>Methiocarb</td>
<td>I</td>
</tr>
<tr>
<td>Methomyl</td>
<td>I, III</td>
</tr>
<tr>
<td>Oxamyl</td>
<td>I</td>
</tr>
<tr>
<td>Phenmedipharg</td>
<td>I, II</td>
</tr>
<tr>
<td>Propoxur</td>
<td>II, III</td>
</tr>
<tr>
<td>Sodium Dimethyl Dithio Carbamate</td>
<td>II, III</td>
</tr>
</tbody>
</table>

Some brands: Ortho Max, Spectracide, Drexel, Quali-Pro, Gowan, Cheminova

Some Brands: CVS Roach, Sergeant’s Gold Flea, Sentry Tick and Flea, Amdro, Lemur, Sevin

Symptoms of Cholinesterase Inhibition

- Salivation
- Lacrimation
- Urination
- Gastrointestinal
- Upset
- Emesis
- Diarrhea
- Urination
- Miosis
- Bradycardia
- Emesis
- Lacrimation
- Lethargy
- Salivation

Most Common Cause of Death in Acute Organophosphate Poisoning is Respiratory Failure
Other than the Local Health Officer (LHO), Pesticide Illness Reports (PIR) are received through:

California Poison Control System: (800) 222-1222
Pesticide Illness Report Routing

**OCCUPATIONAL**

- Work Related
  - Doctor's First Report of Occupational Illness or Injury (DFROI)

**NON-OCCUPATIONAL**

- Pesticide Illness Report (PIR)
  - County Health Officer
  - County Agricultural Commissioner (CAC)

**Other Cases**

- Pesticide Episode Investigation Report (PEIR)
  - Department of Pesticide Regulation

**Physician**

**Patient**

**Pesticide-Related**

**Department of Industrial Relations**

**STATE OF CALIFORNIA**

**CDCP** Public Health

**Department of Public Health**

**April 17, 2019 / WOEMA Webinar Series**
Common Issues Noted on Pesticide Incident Reports (PIR)

1. Patient’s information **NOT** reported accurately or completely.

2. Substance or pesticide **NOT** fully identified/reported.

3. Activity of patient at time of exposure not obtained.

4. Onset of symptoms that develop following exposure not obtained – Immediate? Delayed?
Common Issues Noted on Pesticide Incident Reports:

5. Symptoms reported or the pesticides involved and ICD code do not match

Example:

CC: Pain on deep inspiration

HPI: 1 hour PTC, A 40-year-old man was spraying Lovely Rose Insect Killer (Active Ingredient Cypermethrin with EPA Reg No. 1234-56-AA) on his bedroom window sill to rid of ants. He did not read the label before using the product, and kept the windows and door of his room shut as he sprayed. He used up an entire 17 ounce aerosol spray can. A few minutes later, he developed DOB, and chest pain.

Objective: BLANK, not filled out (or SEE ADDENDUM)

ICD: T45.515A
Adverse Effect of Anticoagulants, Initial Encounter

Chemical or toxic compounds involved? NO was checked, yet herbicides and insecticides were mentioned in the HPI.

Diagnosis: “Symptomatic Post Exposure to Herbicides/Insecticides”

ICD Code: V70.5 (General Medical Exam)
Common Issues Noted on Pesticide Incident Reports:

6. Route of Exposure

7. Exact location of incident

8. Dual purpose products — “intent of use” was not reported.

Case 1: A 39-year-old janitor at a 5-star resort hotel, used bleach to whiten tile grout.

Case 2: A 14-month old boy drank milk and began vomiting...bleach.

Common Issues Noted on Pesticide Incident Reports:

9. Health Care Provider’s identity (complete name, academic degree), affiliation, and contact information NOT reported!

Ideally, these information should be complete:

Name: Sheldon Cooper, MD, MPH, DABT, PhD
Affiliation: Department of Occupational & Environmental Medicine
Big Bang University Medical Center
Address: 12345 Hollywood Boulevard
Wildomar, CA 92595
Telephone: (951) 123-4567
Email: Scooper@BBUMC.edu
but the pressing issue is...

Many healthcare providers
(physicians, PA’s, NP’s, nurses, Medical Assistants,
Medical Secretaries/Records staff, etc.)
are

NOT aware that

Pesticide Illness Reporting is a State Law
When with your patient, also obtain:

- Demographics
- What, when, where, why, how
- What product(S) is/are involved
- Product label or Safety Data Sheet (SDS)
- Substance cannot be identified—County Agricultural Commissioner (CAC)
- Dual purpose products: What is the intent of use?
Resources

DPR (916) 445-4222
https://www.cdpr.ca.gov/docs/whs/physician.htm

OEHHA (510) 622-3170
https://oehha.ca.gov/pesticides/pesticide-illness-surveillance-pesticide-illness-reporting

Poison Control Centers
(800) 222-1222
National Pesticide Information Center
(800) 858-7378
County Agricultural Commissioners Offices

Contact OEHHA for hard copies or go online at:
Pesticide Bloopers (Non-Fiction)

Pesticide Bloopers Case 1

Los Angeles, 28 March 2019. A 45-year-old woman believed that someone was maliciously poisoning her by adding rodenticide into a cream, and applied it on her underwear she wore that night. She experienced burning sensation and itching to the vaginal area.

(Dermal Exposure)
Pesticide Bloopers Case 2

Riverside, 2009. A 67-year-old man saw ants in his bathroom. He set off a bug bomb, and took a shower. When done, he opened the shower curtains while the fogger was still actively spewing. He inhaled the gas, and he developed coughing, difficulty breathing, chest tightness, nausea, vomiting, dizziness, headache, and eye irritation.

(Inhalational Exposure)

Pesticide Bloopers Case 3

Orange County, 2006. A 68-year-old man added ChE-inhibiting pesticide (from Africa) into meatballs, and fed it to the raccoons on his property. He placed the leftover uncooked meatballs in the freezer. Later, he had forgotten about the pesticide-laden meatballs, and had it for dinner. He was treated for organophosphate poisoning.

(Ingestion Exposure)
Thank you for participating in today’s webinar. At the conclusion of this call you will receive an email with a link to a post-webinar questionnaire. You will need to complete this questionnaire in order to receive CME for this webinar.

This webinar presentation can be downloaded at www.woema.org